Join Your Colleagues in Orlando for ACG 2008

The Premier GI Clinical Event of the Year!

Dear Colleagues,

Welcome to ACG 2008, ACG's Annual Scientific Meeting and Postgraduate Course, the premier GI clinical event of the year. The Postgraduate Course Directors and ACG's Educational Affairs Committee, along with Friday Course Directors, have brought together internationally-recognized experts and rising stars in the field. This year's program promises to deliver the latest clinical updates in gastroenterology and hepatology, plus discuss what is on the horizon that may impact your practice.

For the Postgraduate Course, a new session on Obesity has been added. In addition, educational programming for the Annual Scientific Meeting has also been devoted to this important topic. There is no end in site to the obesity epidemic but there is much we can learn regarding GI disorders complicated by obesity, medical management of obesity and surgical interventions and post-surgery complications. My work as ACG President this year has focused on obesity, and ACG has been actively involved in several initiatives. We will be announcing some of these initiatives during the meeting.

Again this year, ACG will offer Poster Rounds with the Experts. Each day of the poster sessions, well-known experts will lead attendees around to posters of interest. This is a great opportunity to discuss posters, garner insight from the expert, and make new contacts with other attendees in a low-key, relaxed atmosphere. Poster Rounds with the Experts runs from Sunday–Tuesday. You'll find more information included at ACG Registration.

Also this year, ACG will offer the second annual Allied Health Professionals Symposium on Sunday, 1:30 pm-5:15 pm. We invite you to join your support staff of physician assistants, nurse practitioners and nurses at the symposium. All attendees of the Allied Health Professionals Symposium are also invited to explore the Exhibit Hall at the end of the program.

Don't miss the social event of the meeting, the President's Reception, which will take place on Monday evening from 7:00 pm-9:00 pm in Osceola Ballroom C. This year's reception is sponsored by Eisai, Inc. ACG thanks Eisai for their support of this event.

In closing, I want to thank you for the opportunity to serve you this year. It has been my great pleasure to be the ACG President and I welcome everyone to the ACG 2008 Annual Scientific Meeting and Postgraduate Course.

Sincerely,

Amy E. Foxx-Orenstein, DO, FACG
ACG President

Schedule at a Glance

Thursday, October 2

Registration
City Hall Lobby
6:00 pm-8:00 pm

Friday, October 3

Continental Breakfast
Osceola Foyer
6:30 am-8:00 am

Registration
City Hall Lobby
6:30 am-8:00 pm

Pathology & Imaging in the Evaluation of Gastrointestinal Disease Course
Osceola Ballroom A
7:00 am-12:35 pm

Practice Management Course
Sun Ballroom A
7:50 am-4:45 pm

ASGE-Sponsored Endoscopy Course
Sun Ballroom C
8:05 am-5:40 pm

What's New in GI Pharmacology Course
Osceola Ballroom A
1:45 pm-4:45 pm

ACG Store
City Hall Lobby
2:00 pm-6:00 pm

Recertification Preparation and Update Course
Miami Room
6:00 pm-9:00 pm

Saturday, October 4

Continental Breakfast
Osceola Foyer
7:00 am-7:45 am

Registration
City Hall Lobby
7:00 am-5:15 pm

Postgraduate Course
Osceola Ballroom
7:50 am-5:00 pm

ACG Store
City Hall Lobby
8:00 am-4:30 pm

David Sun Lecture
Osceola Ballroom
10:00 am-10:30 am

Optional Learning Luncheons
(Ticket required. See ticket for room assignment.)
12:20 pm-1:35 pm

Career Opportunities for Women in GI Luncheon
Miami 1 Room
12:20 pm-1:35 pm

GI Jeopardy
Sun Ballroom C
5:15 pm-6:45 pm

Sunday, October 5

Continental Breakfast
Osceola Foyer
7:00 am-7:45 am

Registration
City Hall Lobby
7:00 am-6:30 pm

Postgraduate Course
Osceola Ballroom
7:50 am-5:00 pm

Auxiliary Registration/ Hospitality Suite
St. George 104 Room
8:00 am-12:00 noon

ACG Store
City Hall Lobby
8:00 am-4:30 pm

Job Forum
Gainesville Room
8:00 am-5:00 pm

Optional Learning Luncheons
(Ticket required. See ticket for room assignment.)
12:20 pm-1:35 pm

Trainees Luncheon
(Ticket required.)
Miami 1 Room
12:20 pm-1:35 pm

Allied Health Professionals Dessert Reception
Sanibel Room
1:30 pm-2:00 pm

Allied Health Professionals Symposium
Sanibel Room
2:00 pm-5:15 pm

Poster Sessions
Florida Exhibit Halls
3:30 pm-7:00 pm

Exhibit Hall Opens
Florida Exhibit Halls
3:30 pm-7:00 pm

NEW! FAQ Session – Functional Bowel Disorders
Florida Exhibit Halls
5:15 pm-5:45 pm

Trainees' Forum
Naples Room
5:15 pm-6:45 pm

NEW! FAQ Session – Colon
Florida Exhibit Halls
6:00 pm-6:30 pm

Alumni Receptions
Consult ACG Registration area for room locations.
6:00 pm-7:00 pm

Women and Minorities in GI Reception
St. George 102 Room
6:00 pm-7:00 pm

Monday, October 6

Registration
City Hall Lobby
7:00 am-5:15 pm

Auxiliary Registration/ Hospitality Suite
St. George 104 Room
8:00 am-12:00 noon

ACG Store
City Hall Lobby
8:00 am-4:30 pm

Job Forum
Gainesville Room
8:00 am-5:00 pm

Annual Meeting
Sun Ballroom
8:00 am-5:15 pm

Presidential Address
Sun Ballroom
9:00 am-9:25 am

Exhibit Hall
Florida Exhibit Halls
9:30 am-4:00 pm

Poster Sessions
Florida Exhibit Halls
10:30 am-4:00 pm

Lunch Break
Food available for purchase in Florida Exhibit Halls.
12:15 pm-2:00 pm

FAQ Session – Endoscopy
Florida Exhibit Halls
12:30 pm-1:00 pm

FAQ Session – Liver
Florida Exhibit Halls
1:15 pm-1:45 pm

***The American Journal of Gastroenterology* Lecture**
Sun Ballroom A
2:40 pm-3:20 pm

ACG Business Meeting
Sun Ballroom A
5:30 pm-6:00 pm

International Attendee Reception
Osceola Ballroom A
6:00 pm-7:00 pm

President's Reception
Osceola Ballroom C
7:00 pm-9:00 pm

Tuesday, October 7

Optional Breakfast Sessions
(Ticket required. See ticket for room assignment.)
6:45 am-8:30 am

Registration
City Hall Lobby
6:45 am-6:00 pm

Auxiliary Registration/ Hospitality Suite
St. George 104 Room
8:00 am-12:00 noon

ACG Store
City Hall Lobby
8:00 am-4:30 pm

Job Forum
Gainesville Room
8:00 am-5:00 pm

Annual Meeting
Sun Ballroom
8:30 am-6:00 pm

Exhibit Hall
Florida Exhibit Halls
9:30 am-4:00 pm

J. Edward Berk Distinguished Lecture
Sun Ballroom
10:00 am-10:30 am

Poster Sessions
Florida Exhibit Halls
10:30 am-4:00 pm

Lunch Break
Food available for purchase in Florida Exhibit Halls.
12:15 pm-2:00 pm

FAQ Session – IBD
Florida Exhibit Halls
12:30 pm-1:00 pm

FAQ Session – Esophagus
Florida Exhibit Halls
1:15 pm-1:45 pm

Emily Couric Memorial Lecture
Sun Ballroom A
2:00 pm-2:45 pm

Wednesday, October 8

Optional Breakfast Sessions
(Ticket required. See ticket for room assignment.)
6:45 am-8:30 am

Registration
City Hall Lobby
6:45 am-12:30 pm

Auxiliary Registration/ Hospitality Suite
St. George 104 Room
8:00 am-11:00 am

ACG Store
City Hall Lobby
8:00 am-11:15 am

Job Forum
Gainesville Room
8:00 am-11:15 am

Annual Meeting
Sun Ballroom
8:30 am-12:30 pm

Exhibit Hall
Florida Exhibit Halls
9:30 am-12:00 noon

David Y. Graham Lecture
Sun Ballroom A
10:15 am-10:45 am

ACG 2008
Thanks to Our Sponsors

ACG thanks the following sponsors of ACG 2008 exhibit hall events, networking events, meeting amenities and services, and meeting promotional material.

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New Procedures to Claim CME

NEW THIS YEAR

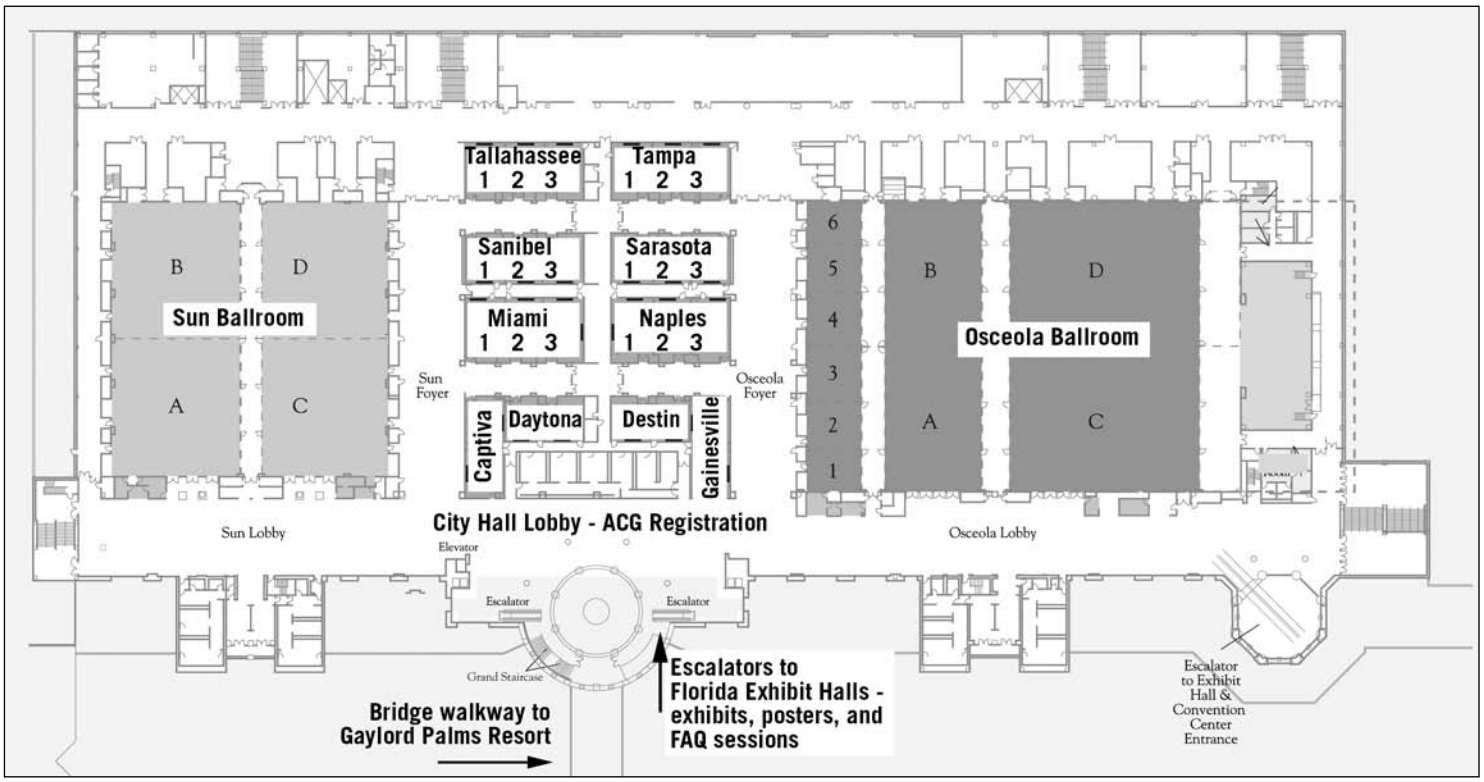
Attendees at ACG's educational activities in Orlando may claim CME in one of two ways:

1. Visit one of the CME kiosks located in the Gaylord Palms Hotel and Convention Center. Print your CME certificate, or email yourself a copy of the certificate to print later.

OR

2. From your own computer, visit the ACG website at www.acg.gi.org to complete your evaluation and print your certificate.

Convention Center Floor Plan



ACG Registration is in the CITY HALL LOBBY

Speaker Ready is in the CAPTIVA ROOM

Job Forum is in the GAINESVILLE ROOM

Press Room is in the DAYTONA ROOM

*Saturday & Sunday Optional Learning Lunches are in the Osceola 1 - 6 rooms, Sarasota 1 - 3 rooms, and Naples 1 - 3 rooms.

*Tuesday Optional Breakfasts will be in Osceola 1, Naples 1 - 3 rooms, and Sarasota 1 - 2 rooms.

*Wednesday Optional Breakfasts will be in the Osceola 1 - 4 rooms, and the Sarasota 1 - 3 rooms.

*specific room locations will be listed on event ticket.

Events in the SUN BALLROOM:
Practice Management Course (Friday)
ASGE Endoscopy Course (Friday)
Annual Scientific Meeting (Monday-Wednesday)

Events in the OSCEOLA BALLROOM:
Pathology & Imaging Course (Friday)
GI Pharmacology Course (Friday)
Postgraduate Course (Saturday & Sunday)
Presidential Reception (Monday)
Simultaneous Symposia (Tuesday)

Event Locations — Friday, October 3

			page
6:45 am–8:00 am	**Continental Breakfast**	**Outside course room**	
7:00 am–12:35 pm	**Pathology and Imagining in the Evaluation of GI Disease Course** Registration required. Visit ACG Registration to register, however, session may be sold out.	**Osceola Ballroom A**	36
7:50 am–4:45 pm	**Practice Management Course** Registration required. Visit ACG Registration to register, however, session may be sold out.	**Sun Ballroom A**	29
8:05 am–5:40 pm	**ASGE-sponsored Endoscopy Course** Registration required. Visit ACG Registration to register, however, session may be sold out.	**Sun Ballroom C**	32
1:45 pm–4:45 pm	**What's New in GI Pharmacology Course** Registration required. Visit ACG Registration to register, however, session may be sold out.	**Osceola Ballroom A**	38
6:00 pm–9:00 pm	**Recertification Preparation and Update Course** Registration required. Visit ACG Registration to register, however, session may be sold out.	**Miami Room**	34

Event Locations — Saturday, October 4

7:00 am–7:45 am	**Continental Breakfast**	**Osceola Foyer**	
7:50 am–5:00 pm	**Postgraduate Course**	**Osceola Ballroom**	41
10:00 am–10:30 am	**David Sun Lecture** The Future Direction of IBD Care – *William J. Sandborn, MD, FACG*	**Osceola Ballroom**	17
12:20 pm–1:35 pm	**Optional Learning Luncheons** $50 per session. Purchase tickets at ACG Registration; some sessions may be sold out.	**Room location listed on ticket**	41
12:20 pm–1:35 pm	**Career Opportunities for Women in GI Luncheon** Advanced registration required.	**Miami 1 Room**	15
5:15 pm–6:45 pm	**GI Jeopardy Competition** • All attendees are invited	**Sun Ballroom C**	16

Event Locations — Sunday, October 5

7:00 am–7:45 am	**Continental Breakfast**	**Osceola Foyer**	
7:50 am–5:00 pm	**Postgraduate Course**	**Osceola Ballroom**	42
12:20 pm–1:35 pm	**Optional Learning Luncheons** $50 per session. Purchase tickets at ACG Registration; some sessions may be sold out.	**Room location listed on ticket**	43
12:20 pm–1:35 pm	**Trainees Luncheon** $25 person. Visit ACG Registration to purchase ticket, however, event may be sold out.	**Miami 1 Room**	16
1:30 pm–5:15 pm	**ACG Allied Health Professionals Symposium** Registration required. Visit ACG Registration to register, however, session may be sold out.	**Sanibel Room**	27
3:30 pm–7:00 pm	**Exhibit Hall Opens • Poster Sessions Open**	**Florida Exhibit Halls**	61
5:15 pm–5:45 pm	**FAQ Session:** Functional Bowel Disorders	**Florida Exhibit Halls**	42
5:15 pm–6:45 pm	**Trainees Forum** • All Trainees are invited	**Naples Room**	16
6:00 pm–6:30 pm	**FAQ Session:** Colon	**Florida Exhibit Halls**	42
6:00 pm–7:00 pm	**Alumni Receptions** • Invitation required	**See registration desk**	15
6:00 pm–7:00 pm	**Women and Minorities in GI Reception** • All attendees are invited	**St. George 102 Room**	15

Event Locations — Monday, October 6

			page
8:00 am	**Opening Remarks**	**Sun Ballroom**	48
8:00 am–9:00 am	**President's Plenary Session**	**Sun Ballroom**	48
9:00 am–9:25 am	**Presidential Address** *Amy E. Foxx-Orenstein, DO, FACG*	**Sun Ballroom**	15
9:25 am–9:30 am	**Awards Program**	**Sun Ballroom**	48
9:30 am–10:30 am	**President's Plenary Session**	**Sun Ballroom**	48
10:30 am–11:00 am	**Coffee Break • Visit Exhibits**	**Florida Exhibit Halls**	444
11:00 am–12:15 pm	**Simultaneous Symposia 1** **1A:** Treatment of Hepatitis C: What's New? **1B:** ACG Guidelines: An Evidence Based Approach to IBS	 **Sun Ballroom C** **Sun Ballroom A**	 49 49
12:15 pm–2:00 pm	**Lunch Break • Visit Poster Session**	**Florida Exhibit Halls**	61
12:30 pm–1:00 pm	**FAQ Session:** Endoscopy	**Florida Exhibit Halls**	49
1:15 pm–1:45 pm	**FAQ Session:** Liver	**Florida Exhibit Halls**	49
2:00 pm–2:40 pm	**Simultaneous Plenary Sessions** **Session 1:** IBD **Session 2:** Pancreatic/Biliary	 **Sun Ballroom A** **Sun Ballroom C**	 49 49
2:40 pm–3:20 pm	***The American Journal of Gastroenterology*** **Lecture** Endoscopic Management of Obesity – *Christopher Thompson, MD, FACG* Reoperative Bariatric Surgery, When to and Not to – *Michael Sarr, MD*	**Sun Ballroom A**	17
3:20 pm–3:50 pm	**Break • Visit Exhibits**	**Florida Exhibit Halls**	444
3:50 pm–5:15 pm	**Simultaneous Symposia 2** **2A:** Colon Cancer Screening: Getting to Zero Mortality **2B:** Update in Biologic Therapies for IBD	 **Sun Ballroom A** **Sun Ballroom C**	 50 50
5:30 pm–6:00 pm	**Annual Business Meeting** • College Members and Fellows invited	**Sun Ballroom A**	15
6:00 pm–7:00 pm	**International Reception** • All International attendees are invited	**Osceola Ballroom A**	15
7:00 pm–9:00 pm	**President's Reception** • All attendees are invited	**Osceola Ballroom C**	15

Event Locations — Tuesday, October 7

			page
6:45 am–8:30 am	**Optional Breakfast Sessions** $40 per session. Purchase tickets at ACG Registration; some sessions may be sold out.	**Room location listed on ticket**	50
8:30 am–10:00 am	**Plenary Session:** Esophagus/IBD	**Sun Ballroom**	51
10:00 am–10:30 am	**J. Edward Berk Distinguished Lecture** Advances in Colonoscopy: New Platforms, New Techniques, New Imaging Technology: What Do They Mean? *Douglas K. Rex, MD, FACG*	**Sun Ballroom**	17
10:30 am–11:00 am	**Coffee Break • Visit Exhibits**	**Florida Exhibit Halls**	444
11:00 am–12:15 pm	**Simultaneous Symposia 3**		
	3A: CT Colonography: Current Controversies	**Sun Ballroom C**	51
	3B: The Hepatology Consult	**Sun Ballroom A**	52
	3C: The Problematic Pancreas	**Osceola Ballroom C**	52
12:15 pm–2:00 pm	**Lunch Break • Visit Poster Session**	**Florida Exhibit Halls**	61
12:30 pm–1:00 pm	**FAQ Session:** IBD	**Florida Exhibit Halls**	52
1:15 pm–1:45 pm	**FAQ Session:** Esophagus	**Florida Exhibit Halls**	52
2:00 pm–2:45 pm	**Emily Couric Memorial Lecture** Why Has Adenocarcinoma Moved from the Stomach to the Esophagus and Where Does Sex Come In to It All? *Kenneth E.L. McColl, MD*	**Sun Ballroom A**	17
2:45 pm–4:15 pm	**Simultaneous Plenary Sessions**		
	Session 1: Colon / Functional Bowel Disorders / Pediatrics	**Sun Ballroom A**	52
	Session 2: Endoscopy / Stomach	**Sun Ballroom C**	53
4:15 pm–4:45 pm	**Break • Visit Exhibits**	**Florida Exhibit Halls**	444
4:45 pm–6:00 pm	**Simultaneous Symposia 4**		
	4A: Current Issues in GI Bleeding	**Sun Ballroom A**	53
	4B: Dysplasia Dilemmas in IBD	**Sun Ballroom C**	53
	4C: Obesity: What's the Big Deal?	**Osceola Ballroom C**	53

Event Locations — Wednesday, October 8

6:45 am–8:30 am	**Optional Breakfast Sessions** $40 per session. Purchase tickets at ACG Registration; some sessions may be sold out.	**Room location listed on ticket**	54
8:30 am–10:15 am	**Simultaneous Plenary Sessions**		
	Session 1: Liver	**Sun Ballroom A**	54
	Session 2: Outcomes / Colorectal Cancer Prevention / Small Intestine	**Sun Ballroom C**	55
10:15 am–10:45 am	**David Y. Graham Lecture** Colon Ischemia: Respice, Adspice, Prospice *Lawrence J. Brandt, MD, MACG*	**Sun Ballroom A**	17
10:45 am–11:15 am	**Coffee Break • Visit Exhibits**	**Florida Exhibit Halls**	444
11:15 am–12:30 pm	**Simultaneous Symposia 5**		
	5A: What's New and Old in Barrett's Esophagus	**Sun Ballroom A**	56
	5B: The Gut Microbiota: Friend and Foe	**Sun Ballroom C**	56
12:30 pm	**Meeting Adjourns**		

General Information

General Information
The 73rd Annual Scientific Meeting of the American College of Gastroenterology will be conducted on Monday, Tuesday and Wednesday, October 6–8, 2008, in conjunction with the Annual Postgraduate Course on Saturday and Sunday, October 4–5, 2008, at the Gaylord Palms Resort & Convention Center in Orlando, Florida. The optional Annual Practice Management Course will be held on Friday, October 3 for a full day of practice management tips. Four additional optional programs will be held on Friday, October 3: (1) a half-day Pathology and Imaging course, (2) a full-day ASGE-sponsored endoscopy course, (3) a half-day GI Pharmacology course, and (4) a half-day course focusing on recertification preparation. There will also be an optional program on Sunday, October 5, the Allied Health Professionals Symposium.

Registration *(City Hall Lobby)*
Registration will be open in the City Hall Lobby of the Gaylord Palms Resort & Convention Center during the following hours:

Thursday, October 2	6:00 pm - 8:00 pm
Friday, October 3	6:30 am - 8:00 pm
Saturday, October 4	7:00 am - 5:15 pm
Sunday, October 5	7:00 am - 6:30 pm
Monday, October 6	7:00 am - 5:15 pm
Tuesday, October 7	6:45 am - 6:00 pm
Wednesday, October 8	6:45 am - 12:30 pm

Meeting Materials
Meeting materials (including name badges and optional event tickets) will be available for pick-up on-site at the ACG Registration Desk beginning at 6:00 pm on Thursday, October 2 in the City Hall Lobby.

Cancellation
Written notice of cancellation and requests for refunds must be received by the College's office by September 21, 2008. After this date, no refunds will be possible. Registration cancellations are not accepted by telephone. An explanation must be provided in writing.

Annual Scientific Meeting *(Sun Ballroom)*
There is no registration fee for ACG Members (including FACG and MACG), Residents/Trainee/Candidate Members, and Allied Health Members. In addition, Non-Member Residents/Trainees will have their registration fee waived if they provide a letter from their Program Director indicating they are currently in training. Guests/Non-Member Physicians/Exhibitors are required to submit a registration fee. Non-Member Allied Health Professionals are also required to submit a registration fee. Tickets for the optional breakfast sessions on Tuesday and Wednesday may be purchased for $40. Please visit the ACG Registration Desk in the City Hall Lobby to purchase tickets. All registrants of the Annual Scientific Meeting will receive a copy of the meeting syllabus. Attendees of the optional Breakfast Sessions will receive a syllabus which includes the presentations for all breakfast sessions. For course details, see page 48.

Annual Postgraduate Course *(Osceola Ballroom)*
A comprehensive syllabus with a separate self-assessment examination will be included. The Postgraduate Course again offers registrants the opportunity to participate in the optional Learning Luncheon programs. There are a limited number of participants who may attend each Learning Luncheon. There is a separate charge of $50 per ticket for the Learning Luncheons. Please visit the ACG Registration Desk in the City Hall Lobby to purchase tickets. For course details, see page 41.

Optional Friday Courses – Friday, October 3
Optional Sunday Course – Sunday, October 5
Details for optional Friday and Sunday courses begin on page 27.

Accreditation
The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The American College of Gastroenterology designates these educational activities for a maximum as noted below of *AMA PRA Category 1 Credits™*. Each physician should claim credit commensurate with the extent of their participation in the activity.

Annual Scientific Meeting	*16.25*
Postgraduate Course	*13.5*
Practice Management Course	*6.75*
Pathology and Imaging Course	*.5*
What's New in GI Pharmacology?	*.3*
Recertification Course	*3*
Allied Health Professionals Symposium	*3*

Exhibit Hall *(Florida Exhibit Halls)*
The science and technology of medicine is ever changing and advancing the practice of gastroenterology. Showcasing these latest advances in technology and therapeutics is the ACG 2008 Exhibit Hall where more than 150 companies will display and demonstrate their products and services. With the variety of exhibitors expected to participate, there are certain to be displays of interest for all attendees. Companies who exhibit include pharmaceuticals manufacturers, medical instrument suppliers, research companies, technology companies, publishers, non-profit organizations, recruiters and many others.

Exhibit Hall Scavenger Hunt. Again this year ACG will offer the Exhibit Hall Scavenger Hunt. The vast amount of new information available in the Hall is reason enough to visit, but attendees now have the opportunity to be entered into a drawing to win fabulous prizes by visiting certain areas of the Hall. The Exhibit Hall will be open from Sunday, October 5 to Wednesday, October 8. Don't miss the chance to benefit your practice by exploring what the Exhibit Hall has to offer, and have some fun while doing so! Exhibit Hall hours are:

Sunday, October 5	3:30 pm-7:00 pm
Monday, October 6	9:30 am-4:00 pm
Tuesday, October 7	9:30 am-4:00 pm
Wednesday, October 8	9:30 am-12:00 noon

The ACG Store *(City Hall Lobby)*
Postgraduate Course and Annual Meeting syllabi, as well as other educational materials will be available for purchase at the ACG Store. ACG logo items, such as jackets, golf shirts, mugs, and mouse pads will also be available. ACG Store hours are:

Friday, October 3 . . . . . 2:00 pm-6:00 pm
Saturday, October 4 . . . . . 8:00 am-4:30 pm
Sunday, October 5 . . . . . 8:00 am-4:30 pm
Monday, October 6 . . . . . 8:00 am-4:30 pm
Tuesday, October 7 . . . . . 8:00 am-4:30 pm
Wednesday, October 8 . . . . . 8:00 am-11:15 am

Americans With Disability Act (ADA)
Attendees at the ACG Annual Scientific Meeting and Postgraduate Course who need additional reasonable accommodations or who have special needs should contact the ACG office no later than September 15, 2008.

On-Site Child Care Information
Attendees interested in child care should sign up directly with the Gaylord Palms Resort & Convention Center which has an on-site daycare center. For information, contact La Petite Kids Station at 1-866-KIDS-STATION or 407-586-2505.

The Scientific Poster Sessions *(Florida Exhibit Halls)*
The Scientific Poster Programs will be conducted in the Exhibit Hall of the Gaylord Palms Resort & Convention Center during the following hours:

Sunday, October 5 . . . . . 3:30 pm-7:00 pm
Monday, October 6 . . . . . 10:30 am-4:00 pm
Tuesday, October 7 . . . . . 10:30 am-4:00 pm

Speaker Ready Room *(Captiva Room)*
All faculty members are requested to check in their slides at least 60 minutes prior to the opening of the session in which they are to speak. The Speaker Ready Room will be open beginning on Thursday, October 2 from 6:00 pm – 8:00 pm, on Friday, October 3 from 6:00 am – 9:00 pm, on Saturday, October 4 through Monday, October 6 from 7:00 am – 5:00 pm, on Tuesday, October 7 from 5:30 am – 6:00 pm and on Wednesday, October 8 from 5:30 am – 12:30 pm.

Press Room *(Daytona Room)*
The Press Room will be open on the following days: Sunday, October 5 from 3:00 pm – 5:00 pm; Monday, October 6 and Tuesday, October 7 from 7:00 am – 5:00 pm; and Wednesday, October 8 from 8:00 am – 12:30 pm. Authors are requested to check the Press Board for interviews. No announcements will be made in the Scientific Sessions.

ASGE Learning Center *(Florida Exhibit Halls)*
The American College of Gastroenterology is once again pleased to have the opportunity to include at its 2008 Annual Scientific Meeting highlights from the ASGE Learning Center. This program will be available in the Exhibit Hall at the Gaylord Palms Resort & Convention Center and will be open on Sunday, October 5 from 3:30 pm – 7:00 pm, on Monday, October 6 and Tuesday, October 7 from 9:30 am – 4:00 pm, and on Wednesday, October 8 from 9:30 am – 12:00 noon.

ACG Internet Café
Stay in touch with the home and office—visit the ACG 2008 Internet Café. E-mail family and colleagues back home and surf the web. The Internet Café is located in the Exhibit Hall, Booth #711.

ACG thanks UCB, Inc. for their support of the ACG Internet Café.

ONLINE Self-Assessment Test
Beginning Monday, October 6, the ONLINE Self-Assessment Test will be available for purchase. The online version of the popular print resource from ACG allows you to answer questions at your own pace. Start and stop the exam as often as you need. Your work is saved each time you access the online test. The test is organized by organ system and includes more than 300 multiple-choice questions. The test tracks your responses, indicates correct answers with detailed discussion and supporting references, and provides your overall/category scores. Complete the test and earn a maximum of 12 *AMA PRA Category 1 Credits™*. In addition, even after you've finished the test you can continue to go back and review, re-read, and check on linked references for further study. $75 for members; $100 for non-members. For more information and to purchase, visit www.acg.gi.org.

ACG's Self-Assessment Program for Maintenance of Certification
ACG is pleased to announce that the American Board of Internal Medicine has approved ACG's Self-Assessment Program (SAP) for credit in the ABIM Maintenance of Certification (MOC) program. ABIM diplomates enrolled in the MOC program who successfully complete the program will be awarded 20 self-evaluation of medical knowledge points by ABIM. ACG's web-based module, a comprehensive educational program dedicated to providing clinical updates in specific topic areas in Gastroenterology, is comprised of 60 case-based, multiple-choice questions. Upon completion, users are able to access detailed explanations and linked references to other educational resources, and earn up to 4 *AMA PRA Category 1 Credits*™.

There are now two modules in ACG's SAP-MOC program available for MOC credit: ACG's Self-Assessment Program for Maintenance of Certification–1st edition (2006), and ACG's Self-Assessment Program for Maintenance of Certification–2nd edition (2008).

Each edition contains 60 unique questions. Twenty self-evaluation of medical knowledge points are awarded by ABIM for successful completion of each module. ACG Member: $60 each module/Non-member: $80 each module. For more information and to purchase, visit www.acg.gi.org.

CD-ROMs
Takeda Pharmaceuticals North America, Inc. is proud to sponsor the ACG 2008 Abstracts on CD-ROM. The Abstracts on CD-ROM contains all abstracts in the plenary and poster sessions. You may pick up your complimentary copy at the ACG Exhibit Booth, #611, from Sunday through Wednesday. Limited quantities available. First come, first serve. ACG thanks Takeda for their support of the Abstracts on CD-ROM.

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Praveen K. Roy, MD (2009) Albuquerque, NM
William Sanchez, MD (2008) Rochester, MN
Theodore W. Schafer, MD (2009) Coronado, CA
Felice Schnoll-Sussman, MD (2009) New York, NY
Jeremy Spector, MD (2008) Providence, RI
Jayant A. Talwalkar, MD, MPH, FACG (2008) Rochester, MN
Ira A. Tepler, MD, FACG (2009) New Rochelle, NY

Pediatric Gastroenterology Committee
Chair: Benjamin D. Gold, MD, FACG (2008) Atlanta, GA
Denesh K. Chitkara, MD (2009) Rahway, NJ
Steven J. Czinn, MD, FACG (2009) Baltimore, MD
Marla C. Dubinsky, MD (2009) Los Angeles, CA
Ben J. Elizondo, MD (2010) San Antonio, TX
Jonathan S. Evans, MD, FACG (2009) Jacksonville, FL
Ivor D. Hill, MD, FACG (2009) Winston-Salem, NC
James F. Markowitz, MD, FACG (2008) New Hyde Park, NY
Dinesh S. Pashankar, MD (2010) New Haven, CT
Vasundhara Tolia, MD, FACG (2009) Southfield, MI
Harland S. Winter, MD, FACG (2009) Boston, MA

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H. Richard Allen, MD (2010) South Hill, VA
Steven L. Brint, MD, FACG (2010) Ocoee, FL
Lawrence B. Cohen, MD, FACG (2009) New York, NY
Stephen E. Deal, MD, FACG (2008) Charlotte, NC
Daniel C. DeMarco, MD, FACG (2010) Dallas, TX
Ira L. Flax, MD, FACG (2010) Houston, TX
Satinder S. Gill, MD (2010) Lansdowne, VA
Neil R. Greenspan, MD, FACG (2008) Providence, RI
Joshua A. Katz, MD (2009) Rockville, MD
Srinadh Komanduri, MD (2010) Chicago, IL
James S. Leavitt, MD, FACG (2009) Miami, FL
Victor Levy, MD, FACG (2009) New York, NY
Edward V. Loftus, Jr., MD, FACG (2008) Rochester, MN
Gil Y. Melmed, MD (2009) Los Angeles, CA
Klaus Mergener, MD, PhD, FACG (2009) Seattle, WA
Ece A. Mutlu, MD (2008) Chicago, IL
Jeffry L. Nestler, MD (2008) Hartford, CT
Chalmers M. Nunn, Jr., MD (2008) Lynchburg, VA
Peter M. Pardoll, MD, MACG (2009) Treasure Island, FL
Jay R. Prakash, MD, FACG (2010) Riverdale, GA
Ingram M. Roberts, MD, FACG (2008) Bridgeport, CT
Harry E. Sarles, Jr., MD, FACG (2009) Garland, TX
Thomas M. Shehab, MD, FACG (2010) Ypsilanti, MI
Karen L. Woods, MD, FACG (2009) Houston, TX

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Chair: John M. Inadomi, MD, FACG (2009) San Francisco, CA
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William R. Brugge, MD, FACG (2009) Boston, MA
Lin Chang, MD (2009) Los Angeles, CA
John T. Cunningham, MD, FACG (2009) Tucson, AZ
Kleanthis G. Dendrinos, MD (2010) Boston, MA
Kenneth R. DeVault, MD, FACG (2009) Jacksonville, FL
Steven A. Edmundowicz, MD (2009) Saint Louis, MO
Philip M. Ginsburg, MD (2010) Hamden, CT
Kelvin Hornbuckle, MD (2009) Norfolk, VA
Costas H. Kefalas, MD, FACG (2009) Akron, OH
Timothy R. Koch, MD, FACG (2009) Fairfax Station, VA
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Anthony J. Lembo, MD (2009) Boston, MA
John J. O'Brien, MD (2009) Omaha, NE
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Henry P. Parkman, MD, FACG (2009) Philadelphia, PA
Kumaravel S. Perumalsamy, MD (2010) Lancaster, CA
Ganapathy A. Prasad, MD (2010) Rochester, MN
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Richard E. Sampliner, MD, MACG (2009) Tucson, AZ
Amnon Sonnenberg, MD, MSc, FACG (2009) Portland, OR
John J. Vargo, II, MD, MPH, FACG (2009) Pepper Pike, OH

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Marcelo F. Vela, MD, FACG (2009) Charleston, SC
Nizar N. Zein, MD (2009) Cleveland, OH
Marc J. Zuckerman, MD, FACG (2010) El Paso, TX

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Matthew J. McKinley, MD, FACG (2009) Lake Success, NY
Richard E. Moses, DO, JD (2009) Philadelphia, PA
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Suriya V. Sastri, MD, FACG (2010) Willowbrook, IL

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Luis A. Balart, MD, MACG (2009) New Orleans, LA
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Alyse R. Bellomo, MD (2008) Montebello, NY
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Michael E. Cox, MD, FACG (2009) Baltimore, MD
Walter J. Coyle, MD, FACG (2009) San Diego, CA
Barney J. Guyton, MD (2008) Tupelo, MS
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Aparna Kulkarni, MD (2009) Sugarland, TX
Brian E. Lacy, MD, PhD, FACG (2010) Lebanon, NH
W. Park McGehee, MD, FACG (2010) Opelika, AL
Girish Mishra, MD, MS (2008) Winston-Salem, NC
Patricia L. Raymond, MD, FACG (2010) Chesapeake, VA
Beth Schorr-Lesnick, MD, FACG (2010) Yonkers, NY
March E. Seabrook, MD, FACG (2010) West Columbia, SC
Patrick E. Young, MD (2010) Bethesda, MD

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Chair: Michael F. Vaezi, MD, PhD, FACG (2008) Nashville, TN
Kenneth R. DeVault, MD, FACG (2009) Jacksonville, FL
Gareth S. Dulai, MD (2009) Downey, CA
John C. Fang, MD (2010) Salt Lake City, UT
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Stephen B. Hanauer, MD, FACG (2008) Chicago, IL
Asher Kornbluth, MD (2009) New York, NY
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Anil Minocha, MD, FACG (2010) Shreveport, LA
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Nicholas J. Talley, MD, PhD, FACG (2008) Jacksonville, FL
Jayant A. Talwalkar, MD, MPH, FACG (2010) Rochester, MN
Nimish Vakil, MD, FACG (2009) Waukesha, WI
Rowen K. Zetterman, MD, MACG (2009) Omaha, NE

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Amitabh Chak, MD, FACG (2009) Cleveland, OH
Naga P. Chalasani, MD, FACG (2009) Indianapolis, IN
William D. Chey, MD, FACG (2010) Ann Arbor, MI
Denesh K. Chitkara, MD (2010) Rahway, NJ
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Michael D. Crowell, PhD, FACG (2009) Scottsdale, AZ
Frank A. Hamilton, MD, MPH, MACG (2010) Bethesda, MD
Ali Keshavarzian, MD, FACG (2009) Chicago, IL
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Uri Ladabaum, MD (2010) San Francisco, CA
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Michael J. Levy, MD (2008) Rochester, MN
Gary R. Lichtenstein, MD, FACG (2008) Philadelphia, PA
Girish Mishra, MD, MS (2010) Winston-Salem, NC
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Douglas J. Robertson, MD (2010) White River Junction, VT
Hemant K. Roy, MD (2009) Evanston, IL
David T. Rubin, MD, FACG (2010) Chicago, IL
Mark W. Russo, MD, MPH (2009) Charlotte, NC
James M. Scheiman, MD, FACG (2010) Ann Arbor, MI
Bo Shen, MD, FACG (2010) Cleveland, OH
Roy M. Soetikno, MD (2008) Union City, CA
Brennan M. Spiegel, MD, FACG (2009) Los Angeles, CA
Subbaramiah Sridhar, MD, FACG (2010) Augusta, GA
Richard K. Sterling, MD, FACG (2009) Richmond, VA
Scott M. Tenner, MD, MPH, FACG (2010) Roslyn, NY
John J. Vargo, II, MD, MPH, FACG (2010) Pepper Pike, OH

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Chair: Ronald D. Szyjkowski, MD, FACG (2009) Syracuse, NY
Douglas G. Adler, MD, FACG (2010) Salt Lake City, UT
Vasu Appalaneni, MD (2008) Dayton, OH
Courtney E. Barancin, MD (2010) Madison, WI
Brian P. Bosworth, MD (2008) New York, NY
Lawrence J. Brandt, MD, MACG (2009) Bronx, NY
Qiang Cai, MD, PhD, FACG (2009) Atlanta, GA
Prabhleen Chahal, MD (2009) Rochester, MN
Sherman M. Chamberlain, MD, FACG (2010) Augusta, GA
Larry E. Clark, MD (2010) Lynchburg, VA
Erina N. Foster, MD (2010) Sacramento, CA
Seth A. Gross, MD (2010) Norwalk, CT
Christine Y. Hachem, MD (2009) Saint Louis, MO
David J. Hass, MD (2010) Hamden, CT
Kevin A. Karls, MD (2010) Fishers, IN
Amulya Konda, MD (2010) Troy, MI
Smruti R. Mohanty, MD, MS (2010) Chicago, IL
Nolan E. Perez, MD (2009) Harlingen, TX
Michael F. Picco, MD, PhD (2008) Jacksonville, FL
Michele C. Pulling, MD (2010) Seattle, WA
William Sanchez, MD (2008) Rochester, MN
Jonathan D. Siegel, MD (2010) Theodore, AL
Jason M. Swoger, MD (2009) Rochester, MN
Ganesh R. Veerappan, MD (2010) Columbia, MD
Andrew W. Yen, MD (2010) Orange, CA
Renee L. Young, MD (2008) Omaha, NE

Women in Gastroenterology Committee
Chair: Sunanda V. Kane, MD, FACG (2008) Rochester, MN
Faten Aberra, MD (2010) Philadelphia, PA
Maria T. Abreu, MD (2010) Miami, FL
Alyn L. Adrain, MD, FACG (2009) Providence, RI
Lynne B. Ahn, MD (2009) Hopkinton, MA
Jamie S. Barkin, MD, MACG (2010) Miami Beach, FL
Laura K. Bianchi, MD (2009) Evanston, IL
Sita S. Chokhavatia, MD, FACG (2010) Paramus, NJ
Shamina Dhillon, MD (2009) Oakhurst, NJ
Erina N. Foster, MD (2008) Sacramento, CA
Lucinda A. Harris, MD, FACG (2010) Scottsdale, AZ
Marsha H. Kay, MD, FACG (2009) Cleveland, OH
Kavita R. Kongara, MD (2009) Mineola, NY
Ece A. Mutlu, MD (2010) Chicago, IL
Naomi L. Nakao, MD, FACG (2010) New York, NY
Amy S. Oxentenko, MD (2009) Rochester, MN
Swati Pawa, MD (2010) Mount Clemens, MI
Alissa M. Quin, MD (2010) San Diego, CA
Nancy S. Reau, MD (2010) Manteno, IL
Buffie M. Reid, MD (2010) Richmond, VA
Chinyu Su, MD (2009) Philadelphia, PA
Tara Talwar, MD (2010) Saint Louis, MO
Anne Travis, MD (2009) West Newton, MA
Renuka Umashanker, MD (2008) Hamden, CT
Amy R. Woods, MD (2010) Foley, AL

There are numerous opportunities at ACG 2008 to network with your peers. Here are a few of the events taking place this year at ACG 2008.

ACG Presidential Address

ACG Presidential Address
Monday, October 6
9:00 am – 9:25 am • Sun Ballroom

Amy Foxx-Orenstein, DO, FACG, ACG President, will address attendees during the Presidential Address to mark the beginning of the Annual Meeting. The President uses this opportunity to welcome members, highlight ACG's accomplishments over the past year, and bid farewell as she passes leadership of the ACG on to the President-Elect.

Receptions

Allied Health Professionals Symposium Dessert Reception
Sunday, October 5
1:30 pm – 2:00 pm • Sanibel Room

All attendees who registered for the Allied Health Professionals Symposium are invited to attend.

Women and Minorities in Gastroenterology Reception
Sunday, October 5
6:00 pm – 7:00 pm • St. George 102 Room

All those interested in the issues facing women and minorities in the GI field are invited to attend.

International Reception
Monday, October 6
6:00 pm – 7:00 pm • Osceola Ballroom A

All International attendees are invited to attend and enjoy cocktails and hors d'oeuvres while meeting colleagues.

President's Reception
Monday, October 6
7:00 pm – 9:00 pm • Osceola Ballroom C

The President's Reception is a light-hearted, social gathering open to all meeting attendees. Join us for refreshments and a chance to network and mingle with your fellow professionals.

Alumni Receptions
Every year, several Alumni Receptions are planned for alumni of various medical schools. Invited attendees will receive an invitation by mail from their alumni group.

Additional Events

Career Opportunities for Women in GI Luncheon
Saturday, October 4
12:20 pm-1:35 pm • Miami 1 Room

The Women in Gastroenterology Committee is hosting a program geared towards medical students and residents who are facing difficult decisions in the future of their medical careers. Female gastroenterologists from a variety of medical backgrounds will address the issues of being a female subspecialist, balancing career and family, and opportunities for women in medicine and more specifically, gastroenterology. Advanced registration is required and space is limited. Please contact Maria Susano in the ACG office at 301-263-9000 for more information.

ACG Annual Business Meeting
Monday, October 6
5:30 pm-6:00 pm • Sun Ballroom A

All ACG Members and Fellows (FACG) are encouraged to attend the College's Annual Business Meeting, where College business will be discussed and voted on. The meeting will be held on Monday, October 6 from 5:30 pm–6:00 pm, immediately following that day's Annual Scientific Session.

Women's Networking, Negotiating and Leadership Skills Workshop
Friday, October 3
4:00 pm-9:15 pm • Naples 3 Room

The Women in Gastroenterology Committee is hosting a program geared to Senior GI Fellows and Junior Faculty discussing networking, negotiation and leadership skills for women. Advanced registration is required and space is limited. Please contact Maria Susano in the ACG office at 301-263-9000 for more information.

ACG Auxiliary
Sunday – Tuesday, 8:00 am-12:00 noon
Wednesday, 8:00 am-11:00 am
Room: St. George 104

The ACG Auxiliary will provide a Hospitality Suite for spouses during the ACG Annual Meeting, offering a place to relax and unwind, review tour and visitor information, or just chat with friends. Registration for Auxiliary members will also be available in the suite.

All Auxiliary members are invited to attend the Auxiliary Board Meeting on Sunday, October 5 at 7:00 am in St. George 106. The Auxiliary will also offer a special tour for adults and children. Please visit the ACG Physician Registration Desk at the Gaylord Palms Resort & Convention Center for more information about the Auxiliary and the tour.

Special Events

GI Jeopardy: Buzz In for Your Training Program

Saturday, October 4
5:15 pm–6:45 pm • Sun Ballroom C

ACG's favorite quiz show, GI Jeopardy, will be back again in 2008. To become a contestant, you must be a fellow-in-training, but all are welcome to attend the competitive final round, a spirited GI version of the television classic. The competition begins in July with a preliminary round open to all GI training programs. Groups of fellows will take a 45-question online test on a variety of GI organs and diseases. The top five scoring programs will then be invited to send two-person teams to compete in front of a live audience at the 2008 ACG Annual Postgraduate Course. Travel expenses for the teams will be covered by ACG. Last year's GI Jeopardy finalists were supported by more than 300 lively audience members giving the event a real game show atmosphere. Visit the Trainees' section of the ACG website for further details on how to participate. A reception will immediately follow the competition.

Trainees' Luncheon: Finding the Gastroenterology Practice That is Right for You

Sunday, October 5
12:20 pm–1:35 pm • Miami 1 Room

Before you enter your first year of practice, learn from the experiences of two physicians who completed their training in 2005. Dr. Blanche Fung-Liu with Nassau Gastroenterology Associates in New York and Dr. Amy Oxentenko with Mayo Clinic Rochester will discuss quality of life issues, prioritizing busy schedules, private practice vs. academics and how to work part-time.

A separate fee of $25 is required for this event and space is limited. Visit the ACG Registration Desk for registration information.

Trainees' Forum: Scoping Out Your Future: Finding a Job and Transitioning into Practice

Sunday, October 5
5:15 pm–6:45 pm • Naples Room

If you're looking for tools to find the right job environment after graduation, the annual Trainees' Forum may be just what you need. The program will include presentations by experienced physicians from both private practice and academia, and recent graduates who will provide insights into the process of finding a job, obtaining advanced fellowship training beyond 3 year GI fellowships, negotiating a contract, and balancing work and life issues. Available to all trainees in gastroenterology and hepatology at no charge. Don't miss out on this important information; it can help you take control of your career. Light hors d'oeuvres and beverages will be served.

Job Forum: Where Candidates and Employers Meet

Sunday – Tuesday, October 5–7, 8:00 am–5:00 pm *and*
Wednesday, October 8, 8:00 am–11:15 am • Gainesville Room

Looking for a job? ACG's Job Forum offers valuable networking opportunities. With so many GI professionals convening in Orlando, the ACG Annual Scientific Meeting provides an ideal setting for applicants to share their credentials with employers and to review position openings across the country. The Job Forum includes a mechanism for the exchange of CVs and a message service to connect employers and job candidates.

David Sun Lecture

The Future Direction of IBD Care
Saturday, October 4
10:00 am – 10:30 am • Osceola Ballroom

This year's David Sun Lecture has been awarded to **William J. Sandborn, MD, FACG**, who will present "The Future Direction of IBD Care." Held during the Annual Postgraduate Course, The David Sun Lectureship in Postgraduate Education was established by Mrs. Sun in memory of her husband, Dr. David Sun, an outstanding gastroenterologist and investigator. The Lecturer, with a distinguished background in gastroenterology or an allied field, is chosen by the Course Directors of the Postgraduate Program subject to the approval of the Educational Affairs Committee and the Board of Trustees. All who are registered for the Postgraduate Course are invited to attend.

The American Journal of Gastroenterology Lecture

Endoscopic Management of Obesity
Christopher C. Thompson, MD, FACG
Reoperative Bariatric Surgery, When to and Not to
Michael Sarr, MD
Monday, October 6
2:40 pm – 3:20 pm • Sun Ballroom A

With obesity on the rise, gastroenterologists are faced with new challenges as more patients are seeking surgical treatment options for obesity and as the field of treatment options expands. While bariatric surgery is one option in treating obesity, it is not without complications. The *Journal* lecture will feature two highly regarded experts on the subject. Each will present the latest clinical findings and what is on the horizon. This event is sponsored by ACG and Wiley-Blackwell Publishing, co-publishers of *The American Journal of Gastroenterology*. You can view previous *AJG* lectures and learn more about the upcoming lecture by visiting www.amjgastro.com.

J. Edward Berk Distiguished Lecture

Advances in Colonoscopy: New Platforms, New Techniques, New Imaging Technology: What Do They Mean?
Tuesday, October 7
10:00 am – 10:30 am • Sun Ballroom

This year's J. Edward Berk Distinguished Lecture has been awarded to **Douglas K. Rex, MD, FACG**, who will present "Advances in Colonoscopy: New Platforms, New Techniques, New Imaging Technology: What Do They Mean?" Awarded to individuals prominent in gastroenterology or a related area, the J. Edward Berk Distinguished Lecturer is nominated by the President and the appointment is subject to approval by the Board of Trustees. The lectureship was established in recognition of the significant contributions made by J. Edward Berk, MD, MACG, to clinical gastroenterology during his long and distinguished clinical and academic career. A nationally and internationally renowned physician and teacher, Dr. Berk also served as ACG President from 1975-1976. All who are registered for the Annual Meeting are encouraged to attend.

Emily Couric Memorial Lecture

Why Has Adenocarcinoma Moved from the Stomach to the Esophagus and Where Does Sex Come in to it All?
Tuesday, October 7
2:00 pm – 2:45 pm • Sun Ballroom A

Kenneth E.L. McColl, MD has been designated to deliver the Emily Couric Memorial Lecture. The title of his presentation will be "Why Has Adenocarcinoma Moved from the Stomach to the Esophagus and Where Does Sex Come in to it All?" This lecture was developed by the ACG, the Virginia Gastroenterological Society and the Old Dominion Society of Gastroenterology Nurses and Associates to honor Virginia State Senator Emily Couric who died of pancreatic cancer in October of 2001. Senator Couric was a strong advocate for health care issues, particularly in her instrumental work to pass the nation's first legislation mandating health insurance coverage for colorectal cancer screening. All who are registered for the Annual Meeting are encouraged to attend.

David Y. Graham Lecture

Colon Ischemia: Respice, Adspice, Prospice
Wednesday, October 8
10:15 am – 10:45 am • Sun Ballroom A

Lawrence J. Brandt, MD, MACG, is being honored this year as presenter of the David Y. Graham Lecture, "Colon Ischemia: Respice, Adspice, Prospice" The presenter is chosen by the President and is subject to approval by the Board of Trustees. This named lectureship was established in 2004 in recognition of the many contributions to clinical gastroenterology made by David Y. Graham, MD, MACG. The lectureship was made possible through a donation by Otsuka Pharmaceutical Co., Inc., and Meretek Diagnostics, Inc. All who are registered for the Annual Meeting are encouraged to attend.

Special Lectures and Awards

2008 ACG MASTERS RECIPIENTS

Edgar Achkar, MD, FACG
Richard P. MacDermott, MD, FACG
George W. Meyer, MD, FACG
Christina M. Surawicz, MD, FACG

J. EDWARD BERK DISTINGUISHED LECTURERS
formerly ACG Distinguished Lecture

2008 Douglas K. Rex, MD, FACG: Advances in Colonoscopy: New Platforms, New Techniques, New Imaging Technology: What Do They Mean?
2007 M. Brian Fennerty, MD, FACG: Alice in Wonderland: The Endoscopist of the Future and the Gastrointestinal Mucosa Through the 'New' Looking Glass
2006 Joel E. Richter, MD, MACG: Eosinophilic Esophagitis: New Disease or Old Friend in Disguise?
2005 Bruce R. Bacon, MD, FACG: Hereditary Hemochromatosis – What We Have Learned Since the Discovery of HFE
2004 Brian Saunders, MBBS, MD, MRCP: Colonoscopy in Evolution
2003 Eamonn M.M. Quigley, MD, FACG: Demystifying Motility; Gut Motor Dysfunction in Clinical Practice
2002 Roger Williams, CBE, MD: Improved Treatments for Decompensated Liver Disease Including Liver Support Devices
2001 Richard P. MacDermott, MD, FACG: Immunology and Therapy of IBD
2000 Lawrence J. Brandt, MD, MACG: Patients' Attitudes and Apprehensions About Endoscopy: Calming Troubled Waters
1999 Marcia Angell, MD: Evaluating Media Stories of Health Risk
1998 Kees Huibregtse, MD: The Endoscopic Approach to Benign Bile Duct Strictures and Leaks
1997 David Wingate, MD: Small Bowel Motility – Out of the Closet and into the Clinic
1996 Guido Tytgat, MD: Conditions Mimicking Crohn's Disease
1995 David Y. Graham, MD, MACG: Peptic Ulcer Disease: The Rest of the Story
1994 Eugene R. Schiff, MD, FACG: Long Term Treatment of Chronic Viral C Hepatitis
1993 Jerome Kassirer, MD, FACG: Making Decisions with Patients: Fixing the Flaws
1992 Willis C. Maddrey, MD, FACG: Chronic Hepatitis – 1992
1991 Robert H. Blank, MD: Rationing Medicine: Hard Choices in the 1990's
1990 Vay Liang Go, MD: Brain-Gut Interaction: Relevance to Clinical Gastroenterology
1989 Professor Dame Sheila Sherlock: Liver Disease – The Next Decade
1988 Thomas Almy, MD (Hon.): The Gastroenterologist and The Graying of America
1987 John Fordtran, MD, FACG (Hon.): Recent Insights into the Pathogenesis of Chronic Diarrhea
1986 Henry D. Janowitz, MD, FACG: The Natural History of Inflammatory Bowel Disease and Therapeutic Decisions
1985 Norton J. Greenberger, MD, FACG (Hon.): Pathophysiological Approach to the Patient with a Diarrheal Disorder
1984 Henri Sarles, MD: Management of Pain in Chronic Pancreatitis
1983 Denis P. Burkitt, MD: The Role of Fibre in the Prevention of Common Intestinal Disease
1982 Howard A. Spiro, MD, FACG: From Parsnips to Pomegranates – A Look Back at Gastroenterology
1981 Basil I. Hirschowitz, MD, FACG: Clinical Perspectives of Gastric Secretion
1980 Charles E. Code, MD, FACG (Hon.): The InterDigestive Gastrointestinal Housekeeper
1979 Baruch S. Blumberg, MD, FACG (Hon.): The Relation Between HBsAG and Hepatic Carcinoma
1978 Charles S. Lieber, MD, FACG: Alcohol and the Liver: Progress Through 1978
1977 Joseph B. Kirsner, MD, FACG (Hon.): The Biomedical Problems Presented by Inflammatory Bowel Disease
1976 Basil C. Morson, MD, FACG (Hon.): Biopsy of the Colon and Rectum in Inflammatory Disease
1975 Thomas C. Chalmers, MD, FACG (Hon.): What Should Distinguish a Gastroenterologist?
1974 Lloyd M. Nyhus, MD, FACG (Hon.): New Frontiers in Treatment of Duodenal Ulcer
1973 Henry L. Bockus, MD, FACG (Hon.): The Doctor Image
1972 Henry Colcher, MD, FACG: Gastrointestinal Endoscopy, 1972
1971 Irving M. Arias, MD, FACG (Hon.): Jaundice–1972
1970 Hans Popper, MD, FACG (Hon.): The Problem of Hepatitis
1969 Richard H. Marshak, MD, FACG: Ulcerative Granulomas and Ischemic Colitis
1968 David A. Dreiling, MD, FACG: Basic Mechanism in Pancreatic Secretion

BAKER PRESIDENTIAL LECTURESHIP

2003 Loren A. Laine, MD, FACG: Reducing NSAID-Induced GI Injury: Keeping the Gastroenterologist Home at Night
2002 David A. Lieberman, MD, FACG: Colonoscopy for Cancer Screening and Surveillance: Do We Have the Resources to Do Both?
2001 Bruce R. Bacon, MD, FACG: Hereditary Hemochromatosis: Implication of Gene Discovery on Pathophysiology and Clinical Practice
2000 Nicholas J. Talley, MD, FACG: Irritable Bowel Syndrome 2000: New Concepts, New Therapies, New Hope
1999 Sum P. Lee, MD, FACG: A Tale of Two Oppossums and a Discussion on Gallstones
1998 Willis C. Maddrey, MD, MACG: Reflections on the Emergence of Hepatology
1997 Joseph B. Kirsner, MD: The Impact of Research on Clinical Gastroenterology During the 20th Century
1996 Barry J. Marshall, MD, FACG: *H. pylori* in the Year 2000
1995 Donald O. Castell, MD, FACG: Reflections of an Esophagologist
1994 Peter A. Banks, MD, FACG: Acute Necrotizing Pancreatitis
1993 Daniel Present, MD, FACG: Immunosuppressive Therapy for IBD
1992 Sidney J. Winawer, MD, FACG: The Prevention of Colorectal Cancer: Progress and Prospects
1991 Lawrence J. Brandt, MD, FACG: Colitis in the Elderly
1990 Paul D. Webster, III, MD, FACG: Pancreatic Function and Disease at the Cellular Level
1989 David B. Sachar, MD, FACG: Inflammatory Bowel Disease: Back to the Future
1988 Melvin Schapiro, MD, FACG: The Community Hospital Gastroenterologist: Survival of the Species
1987 James L. Achord, MD, FACG: Nutrition, Alcohol and the Liver
1986 H. Worth Boyce, Jr., MD, FACG: Peroral Esophageal Dilation: Historical Perspective and Current Applications
1985 Jerome D. Waye, MD, FACG: The Colon Polyp – Promises, Problems, Prospects
1984 Burton I. Korelitz, MD, FACG: Pregnancy, Fertility and IBD
1983 David Y. Graham, MD, FACG: The Role of the Clinical Gastroenterologist in Research
1982 Bergein E. Overholt, MD, FACG: Socioeconomic and Political Future of Gastroenterology
1981 Frank P. Brooks, MD, FACG: Cortical Control of Gastrointestinal Function
1980 Richard G. Farmer, MD, FACG: Factors in the Long-Term Prognosis of Patients with Inflammatory Bowel Disease
1979 Charles S. Lieber, MD, FACG: Potentiation of Drug-Induced Liver Injury by Chronic Alcohol Consumption
1978 John T. Galambos, MD, FACG: Surgery, Enzyme Kinetics and a Way of Life
1977 Francisco Villardel, MD, FACG: Cytological Diagnosis of Digestive Cancer
1976 William M. Lukash, MD, FACG: Experiences of a White House Physician
1974 F. Warren Nugent, MD, FACG: Crohn's Colitis Comes of Age

DAVID SUN LECTURESHIP IN POSTGRADUATE EDUCATION

2008 William J. Sandborn, MD, FACG: The Future Direction of IBD Care
2007 H. Worth Boyce, Jr., MD, MACG: Esophageal Dilation: A Perspective of 45 Years of Experience: Pearls, Perils and Pitfalls
2006 Anthony N. Kalloo, MD, FACG: Natural Ofifice Transgastric Endoscopic Surgery: Dawn of a New Era
2005 Douglas K. Rex, MD, FACG: Optimizing the Impact and Safety of Colonoscopy in Colon Cancer Prevention
2004 Richard L. Sampliner, MD, FACG: Current Controversies in Barrett's Esophagus
2003 Lawrence J. Brandt, MD, MACG: Superior Mesenteric Arterial Emboli and Acute Mesenteric Ischemia: An Update
2002 Christina M. Surawicz, MD, FACG: The Differential Diagnosis of Colitis
2001 Lawrence R. Schiller, MD, FACG: Chronic Diarrhea
2000 Teresa Wright, MD: Hepatitis C in the Next Decade
1999 Stephen B. Hanauer, MD, FACG: New Therapies for the Treatment of IBD
1998 David Y. Graham, MD, MACG: Treatment of *H. pylori* – 1998
1997 Rowen K. Zetterman, MD, FACG: Alcoholic Liver Disease
1996 Rodger Haggitt, MD, FACG: Dysplasia in Ulcerative Colitis: A 20-Year Odyssey
1995 David Skinner, MD: Esophageal Surgery – 1995

1994 Thomas Starzl, MD: Gastrointestinal Organ Transplantation for the 1990s – An Outcome Analysis. Can We Afford the Technology in the Era of Cost Containment?
1993 Cyrus E. Rubin, MD, FACG: Small Bowel Pathology
1992 Peter Cotton, MD, FACG: Malignant Obstructive Jaundice: A Real Challenge
1991 Sum P. Lee, MD, FACG: Pathophysiology of Gallstone Formation: Romancing the Stone
1990 Marvin Sleisenger, MD: GI Diseases in the Immunocompromised Host
1989 Laszlo Safrany, MD, FACG: Bile Ducts, Common Duct Stones, and Pancreatitis
1988 Scott J. Boley, MD: Colon Ischemia – The First 25 Years
1987 William Y. Chey, MD, FACG: Ulcerogenic Tumor Syndrome in 1987
1986 David H. Van Thiel, MD, FACG: Liver Transplant – The Role of the Gastroenterologist
1985 James W. Freston, MD, FACG: The Therapy of Peptic Ulcer Disease: Where are We?
1984 Henri Sarles, MD: Pathogenesis of Alcoholic Chronic Pancreatitis – A Secretory Concept
1983 Thomas C. Chalmers, MD, FACG: The Clinical Trial
1982 Sidney J. Winawer, MD, FACG: Surveillance of GI Cancer
1981 Paul D. Webster, III, MD, FACG: Acute and Chronic Pancreatitis
1980 Paul Sherlock, MD, FACG: Current Concepts of the Epidemiology and Etiology of Colorectal Cancer
1979 I. N. Marks, MD, FACG: Crossroads in Peptic Ulcer Therapy
1978 Rosalyn S. Yalow, PhD: Radioimmunoassay in Gastroenterology
1977 J. Edward Berk, MD, FACG: New Dimensions in the Laboratory Diagnosis of Pancreatic Disease

THE AMERICAN JOURNAL OF GASTROENTEROLOGY LECTURE

2008 Christopher C. Thompson, MD, FACG: Endoscopic Management of Obesity; and **Michael Sarr, MD: Reoperative Bariatric Surgery, When to and Not to**
2007 Anthony N. Kalloo, MD, FACG, & Jeffrey L. Ponsky, MD, FACG: NOTES: Just Because We Can, Should We?
2006 David A. Johnson, MD, FACG, Robert E. Schoen, MD, MPH & Gregory S. Cooper, MD, FACG: Colon Cancer Screening: When to Start and Stop
2005 Stephen B. Hanauer, MD, FACG & William J. Sandborn, MD, FACG: Steroid-Refractory Severe Acute Ulcerative Colitis: Infliximab or Cyclosporine
2004 Arthur Boudreaux, MD, Douglas K. Rex, MD, FACG & Gregory Zuccaro, Jr., MD, FACG: The Use of Anesthesia in Endoscopy – A Critical Examination
2003 David Y. Graham, MD, MACG & Jay L. Goldstein, MD, FACG: Emerging Data on NSAIDs, GI Complications and Implications for Your Practice

DAVID Y. GRAHAM LECTURE

2008 Lawrence J. Brandt, MD, MACG: Colon Ischemia: Respice, Adspice, Prospice
2007 Walter L. Peterson, MD, FACG: Evidence Based Medicine: What Does it Mean for Gastroenterology—Present and Future?
2006 Amnon Sonnenberg, MD, MSc, FACG: The "Incredibly Simple" Solution to the Cohort Phenomenon of Peptic Ulcer
2005 Francis K.L. Chan, MD: Use of NSAIDs in a COX-2 Restricted Environment
2004 David Y. Graham, MD, MACG: *Helicobacter pylori* and Gastric Cancer: The Problem – The Solution

EMILY COURIC ANNUAL LECTURE

2008 Kenneth E.L. McColl, MD: Why has Adenocarcinoma Moved from the Stomach to the Esophagus and Where Does Sex Come In To It All?
2007 Peter A. Banks, MD, MACG: Pancreatic Cancer: Present Understanding and Future Prospects
2006 Douglas K. Rex, MD, FACG: What is Needed to Transform Colonoscopy into a Truly Protective Strategy Against Colorectal Cancer?

Detailed information about ACG 2008 award recipients is provided in the awards brochure distributed with your registration materials.

AUXILIARY LECTURES

1982 Heidrun Rotterdam, MD: Contribution of Gastrointestinal Biopsy to an Understanding of Gastrointestinal Disease
1981 Eleanor E. Deschner, MD: Early Proliferative Changes in Gastro-intestinal Cancer
1980 Dame Sheila Sherlock, MD: Primary Biliary Cirrhosis
1979 Elizabeth Barrett-Connor, MD: Traveler's Disease
1978 Margot Shiner, MD: Contribution of Electron Microscopy to Our Knowledge of Small Intestinal Diseaseease

BERK/FISE CLINICAL ACHIEVEMENT AWARD

(formerly the ACG Clinical Achievement Award)

2008
2007 Joel E. Richter, MD, MACG
2006 Seymour Katz, MD, MACG
2005 David B. Sachar, MD, MACG
2004 Alvin M. Zfass, MD, MACG
2003 Arthur H. Aufses, Jr., MD, MACG
2002 Cyrus Rubin, MD, FACG
2001 Jerome D. Waye, MD, MACG
2000 Bergein Overholt, MD, MACG
1999 Lawrence J. Brandt, MD, MACG
1998 Leslie H. Bernstein, MD, FACG
1997 Sidney J. Winawer, MD, MACG
1996 Burton I. Korelitz, MD, MACG
1995 David Y. Graham, MD, MACG
1994 Howard Spiro, MD, FACG
1993 F. Warren Nugent, MD, FACG
1992 Henry D. Janowitz, MD, FACG
1991 John T. Galambos, MD, FACG
1990 Leon Schiff, MD, FACG
1989 James L. A. Roth, MD, FACG
1988 J. Edward Berk, MD, MACG
1987 Leonidas Berry, MD, FACG

THE SAMUEL S. WEISS AWARD FOR OUTSTANDING SERVICE TO THE AMERICAN COLLEGE OF GASTROENTEROLOGY

2006 William D. Carey, MD, MACG
2005 David Y. Graham, MD, MACG
2004 Edgar Achkar, MD, FACG
2002 Lawrence J. Brandt, MD, MACG
2001 Joel E. Richter, MD, MACG
2000 Seymour Katz, MD, FACG
1998 Rowen K. Zetterman, MD, FACG
1997 Arthur H. Aufses, Jr., MD, MACG
1996 Arvey I. Rogers, MD, MACG
1995 Jerome D. Waye, MD, MACG
1994 J. Edward Berk, MD, MACG
1993 Arthur Lindner, MD, MACG
1992 Franz Goldstein, MD, MACG
1991 James L. Achord, MD, MACG
1990 Robert L. Berger, MD, FACG
1989 Angelo E. DaGradi, MD, MACG
1987 Joseph E. Walther, MD, MACG
1986 Richard L. Wechsler, MD, FACG
1984 John P. Papp, MD, MACG
1982 Daniel Weiss, B.S., M.A.
1980 David A. Dreiling, MD, MACG
1978 Henry Colcher, MD, MACG
1976 Murrel H. Kaplan, MD, FACG
1974 Robert R. Bartunek, MD, FACG
1972 Milton J. Matzner, MD, FACG

MINORITY HEALTH CARE

This award recognizes an ACG Member or Fellow whose work in the areas of clinical investigation or clinical practice has improved the digestive health of minorities or other underserved populations of the United States.

2008
2007 LaSalle D. Leffall, Jr., MD, FACG

ACG 2008 Paper & Poster Awards

2008 ACG Auxiliary Award Recipient

Accuracy of EUS, EBUS, and Combined EUS/EBUS for Lung Cancer Evaluation in Patients with a Negative CT of the Mediastinum
Laith Jamil, MD, Noelia Cubero de Frutos, MD, Kanwar Gill, MD, Seth Gross, MD, Jorge Pascual, MD, Massimo Raimondo, MD, FACG, Timothy Woodward, MD, Julia Crook, PhD, John Odell, MD, Michael Wallace, MD, MPH, FACG, Mayo Clinic, Jacksonville, FL
Paper 10, page 122.

2008 ACG Governors Award Recipients for Excellence in Clinical Research

Complete Barrett's Eradication Endoscopic Mucosal Resection (CBE-EMR): An Effective Treatment Modality for High Grade Dysplasia (HGD) and Intramucosal Carcinoma (IMC) – An American Single Center Experience
J.S. Chennat, V.J. Konda, A.S. Ross, A. Herreros de Tejada, I. Waxman, CERT (Center for Endoscopic Research and Therapeutics), Department of Medicine, University of Chicago Medical Center, Chicago, IL; A. Noffsinger, J. Hart, Department of Surgical Pathology, University of Chicago Medical Center, Chicago, IL; M. Ferguson, M.C. Posner, Department of Surgery, University of Chicago Medical Center, Chicago, IL
Paper 1, page 119.

Family History of Chronic Pancreatitis is Associated with an Increased Risk for Developing Chronic Pancreatitis
Randall Brand, MD, FACG, Dhiraj Yadav, University of Pittsburgh Medical Center, Pittsburgh, PA; Robert Hawes, MD, FACG, Medical University of South Carolina, Charleston, SC; Michelle Anderson, MD, A. Alfred Taubman Health Care Center, Ann Arbor, MI; Peter A. Banks, MD, MACG, Brigham & Women's Hospital, Boston, MA; Michelle Bishop, MD, Mayo Clinic Jacksonville, Jacksonville, FL; John Baillie, MB, ChB, FACG, Wake Forest University Baptist Medical Center, Winston-Salem, NC; Stuart Sherman, MD, FACG, Indiana University Hospital, Indianapolis, IN; Michael Goldberg, MD, FACG, Evanston Northwestern Health Care, Evanston, IL; James DiSario, MD, FACG, University Utah, Salt Lake City, UT
Paper 3, page 119.

Complications Associated with Double Balloon Enteroscopy
Lauren Gerson, MD, Stanford University, Stanford, CA; Michael Chiorean, MD, University of Indiana, Indianapolis, IN; Jeffrey Tokar, MD, Oleh Haluszka, MD, Fox Chase Cancer Center, Philadelphia, PA; Anton Decker, MD, Jonathan Leighton, MD, FACG, Mayo Clinic, Scottsdale, AZ; David Cave, MD, FACG, University of Massachusetts, Boston, MA; Doumit Bou-Haidar, MD, Alvin Zfass, MD, MACG, Medical College of Virginia, Richmond, VA; Daniel Mischkin, MD, Boston University Medical Center, Boston, MA
Paper 4, page 120.

Evaluation of the Efficacy of Amitriptyline in Children with Abdominal Pain of Non-Organic Origin
Miguel Saps, MD, Children's Memorial Hospital, Chicago, IL; Nader Youssef, MD, FACG, Goryeb Children's Hospital at Atlantic Health, Morristown, NJ; Adrian Miranda, MD, Medical College of Milwaukee, Milwaukee, WI; Samuel Nurko, MD, Children's Hospital, Boston, MA; Jose Cocjin, MD, Children's Mercy Hospital, Kansas City, MO; Carlo DiLorenzo, MD, Nationwide Children's Hospital, Columbus, OH
Paper 37, page 129.

Is it Cost-Effective to Treat Minimal Hepatic Encephalopathy to Prevent Traffic Accidents? A Decision Analysis
Jasmohan Bajaj, MD, MBBS, MS, Kia Saeian, MD, MS, FACG, Nicholas Pajewski, MS, Steven Pinkerton, PhD, Medical College of Wisconsin, Milwaukee, WI
Paper 48, page 132.

** Also a 2008 ACG Presidential Poster Award Recipient.*

2008 ACG International Award Recipient

Herbal Extract Hpml-004 in Active Ulcerative Colitis: A Randomized Comparison with Sustained Release Mesalamine
Tom Tang, MD, MBA, Hutchison MediPharma, Shanghai, China; William Sandborn, MD, FACG, Mayo Clinic, Rochester, MN; Stephan Targan, MD, Cedars-Sinai Medical Institute, Los Angeles, CA; Zhaoshen Li, MD, Chanhai Hospital, Second Military Medical University, Shanghai, China; Crystal Xu, MD, Xiaoqiang Yan, PhD, Hutchison MediPharma, Shanghai, China
Paper 16, page 123.

2008 Lawlor Resident Award Recipient

A Validated Gluten Free Diet Adherence Survey for Adults with Celiac Disease
Shailaja Jamma, MD, Daniel Leffler, MD, MS, Melinda Dennis, RD, MS, Jessica Edwards-George, PhD, Suma Magge, MD, Detlef Schuppan, MD, PhD, Ciaran Kelly, MD, Beth Israel Deaconess Medical Center, Boston, MA; Earl Cook, PhD, Harvard School of Public Health, Boston, MA
Paper 65, page 137.

2008 ACG Obesity Award Recipient

Increased Soluble FAS and FAS Ligand Levels in Patients with Nonalcoholic Steatohepatitis
Tamali Bhattacharyya, MD, MS, Lisa Yerian, MD, Michael Berk, MD, Arthur McCullough, MD, FACG, Ariel Feldstein, MD, Cleveland Clinic, OH
Paper 51, page 133.

2008 ACG/AstraZeneca Clinical Vignette Award Recipients

*The Use of Percutaneous Endoscopic Gastrostomy for Nutrition Support in Pregnancy Associated with Hyperemesis Gravidarum
Matthew Tsushima, MD, Michael Walter, MD, Snorri Olaffson, MD, Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA
Poster 150, page 178.

*Hypocupremia: A Rare Cause of Gastrojejunal Bypass-Associated Myeloneuropathy and Anemia
Eric Choi, MD, Williamson Strum, MD, Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA
Poster 600, page 290.

2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipients

Potential Savings for Federal Funding of a Colorectal Cancer Screening Program in Uninsured Patients
Nison Badalov, MD, Ian Wall, MD, Jack Braha, MD, Robin Baradarian, MD, Jai Mirchandani, MD, Kadirawel Iswara, MD, FACG, Jianjun Li, MD, FACG, Maimonides Medical Center, Brooklyn, NY; Michael Kantrowitz, MD, New York College of Osteopathic Medicine, Old Westbury, NY; Scott Tenner, MD, MPH, FACG, State University of New York, Brooklyn, NY
Paper 7, page 121.

Effect of Midodrine on Natriuretic Response to Furosemide in Non-Azotemic Cirrhotics with Ascites: A Randomized, Double-Blind, Placebo-Controlled, Cross-Over Study
Vijay Laxmi Misra, MD, Raj Vuppalanchi, MD, David Jones, MD, Mitch Hamman, MD, Paul Kwo, MD, Naga Chalasani, MD, FACG, Indiana University School of Medicine, Indianapolis, IN
Paper 12, page 122.

Management of Acute Pancreatitis: A Survey of Internal Medicine and General Surgery Residents
Sameer Barkatullah, MD, Srinadh Komanduri, MD, MS, Rush University Medical Center, Chicago, IL
Paper 20, page 124.

Season Variation in the Diagnosis of Eosinophilic Esophagitis: A Case-Control Analysis
Evan Dellon, MD, Wood Gibbs, MD, Tara Rubinas, MD, Karen Fritchie, MD, John Woosley, MD, Nicholas Shaheen, MD, FACG, University of North Carolina, Chapel Hill, NC
Paper 24, page 125.

Prospective Double Blinded Comparison of Computed Virtual Chromoendoscopy and Confocal Microscopy for Diagnosing Colorectal Neoplasia
Anna Buchner, MD, PhD, Marwan Ghabril, MD, Murli Krishna, MD, Herbert Wolfsen, MD, FACG, Michael Wallace, MD, MPH, FACG, Mayo Clinic, Jacksonville, FL
Paper 32, page 128.

Molecular Markers of Rapidly Growing Tumors: Another Piece to the Puzzle
Mustafa Arain, MD, Shehla Sheikh, MD, Bharat Thaygarajan, MD, University of Minnesota, Minneapolis, MN; John Bond, MD, Aasma Shaukat, MD, VA Medical Center, Minneapolis, MN
Paper 34, page 128.

National Survey of Physicians' Perception on the Cause, Complication, and the Management of Gastroparesis
Lauren Briley, MD, Steven Harrell, MD, MSPH, John Wo, MD, University of Louisville, Louisville, KY
Paper 46, page 132.

Searching for Celiac Disease in the Urban Jungle: Yield of Small Bowel Biopsies in Patients with Iron Deficiency Anemia in a Diverse Urban Population
Syed Mohammed Jafri, MD, Disha Awasthi, MBBS, Anand Madan, MD, FACP, Gastroenterology, University of Texas Health Science Center, Houston, TX
Poster 66, page 157.

Is High-Definition Manometry a Comprehensive Test of Anal Sphincter Function: Comparative Study with Manometry and Ultrasound
Kasaya Tantiphlachiva, MD, Jessica Paulson, BS, Ashok Attaluri, MD, Satish Rao, MD, PhD, FRCP, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA, Division of Colorectal Surgery, Chulalongkorn University, Bangkok, Thailand
Poster 688, page 313.

*Age at Menarche and Longitudinal Growth in Pediatric-Onset Inflammatory Bowel Disease
Nancy McGreal, MD, Dezheng Huo, MD, PhD, Rosenberg Harry, BS, Megan Toth, MPH, Matthew Tierney, MS, Barbara Kirschner, MD, Health Studies, Pediatric Gastroenterology, University of Chicago, Chicago, IL
Poster 735, page 326.

2008 ACG/Centocor IBD Abstract Award Recipients

The Evolution of Crohn's Disease (CD) Behavior in a Population-Based Cohort
Kelvin Thia, MBBS, William Sandborn, MD, FACG, William Harmsen, MS, Alan Zinsmeister, PhD, Edward Loftus, MD, FACG, Mayo Clinic, Rochester, MN
Paper 27, page 126.

Evaluation of Ct Enterography (CTE), Biomarkers, and Clinical Symptoms for the Non-Invasive Prediction of Active Inflammation in Patients with Crohn's Disease
David Bruining, MD, Joel Fletcher, MD, Hassan Siddiki, MBBS, James Huprich, MD, Jeff Fidler, MD, William Sandborn, MD, FACG, Jayawant Mandrekar, PhD, William Harmsen, MS, Edward Loftus, MD, FACG, Mayo Clinic, Rochester, MN
Paper 28, page 127.

Utilization of Cervical Testing Among Women with Inflammatory Bowel Disease
Millie Long, MD, MPH, Carol Porter, BS, Robert Sandler, MD, MPH, Michael Kappelman, MD, MPH, Gastroenterology and Hepatology, University of North Carolina-Chapel Hill, Chapel Hill, NC, Cecil G. Sheps Center for Health Services Research, Pediatric Gastroenterology and Hepatology, University of North Carolina-Chapel Hill, Chapel Hill, NC
Poster 299, page 214.

The Effect of Delayed Diagnosis of Inflammatory Bowel Disease on Disease Management and Course
Ugonna Iroku, MD, MHS, Brian Bosworth, MD, Ellen Scherl, MD, FACP, College of Physicians and Surgeons, Columbia University, New York, NY, Weill Medical College of Cornell University, New York, NY
Poster 305, page 216.

Risk Factors Associated with Crohn's Disease Recurrence in Neo-Terminal Ileum After Diverting Ileostomy
Naim Alkhouri, MD, Bo Shen, MD, Rocio Lopez, MS, Andrew King, BS, Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH, Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH
Poster 661, page 306.

2008 ACG/Naomi Nakao Gender Based Research Award Recipient

Smoking and Colorectal Neoplasia: Women Require Less Tobacco Exposure for Similar Increased Risk as Compared to Men
Joseph Anderson, MD, University of Connecticut, Farmington, CT; Zvi Alpern, MD, Stony Brook University, Stony Brook, NY
Paper 6, page 120.

2008 ACG/Olympus Award Recipients

Quality of Colonoscopy in Routine Clinical Practice: A Population-Based Analysis
Cynthia Ko, MD, MS, Jason Dominitz, MD, MHS, William Kreuter, MPA, Laura-Mae Baldwin, MD, MPH, University of Washington, Seattle, WA
Paper 62, page 136.

Over- and Under-use of Screening Colonoscopy in a Population-Based Cohort
Jessica Bazick, Medical Student, Case Western Reserve University, Cleveland, OH; Gregory Cooper, MD, FACG, University Hospitals, Cleveland, OH
Paper 63, page 136.

*Colon Cancer Not Prevented by Colonoscopy
Rohit Gupta, MS, Brian Brownlow, BS, Robert Domnick, BS, Gavin Harewood, MD, Michael Steinbach, PhD, Vipin Kumar, PhD, Piet de Groen, MD, Internal Medicine & Gastroenterology, Mayo Clinic, Rochester, MN, Computer Science and Engineering, University of Minnesota, Minneapolis, MN, Information Technology, Mayo Clinic, Rochester, MN, Gastroenterology, Beaumont Hospital, Dublin, Ireland
Poster 364, page 232.

2008 ACG/Olympus Colorectal Cancer Prevention Award Recipient

Miss Rates of Findings on Colonoscopy after Computed Tomographic Colonography (Ctc): Correlation with Polyp Histology
Ruben Acosta, MD, Evan May, MD, Brooks Cash, MD, FACG, National Naval Medical Center, Bethesda, MD; Mark Riddle, MD, Naval Medical Research Center, Bethesda, MD; Ganesh Veerappan, MD, Walter Reed Army Medical Center, Washington, DC
Paper 5, page 120.

2008 ACG/Radhika Srinivasan Gender-Based Research Award

Gender-Related Variation in Lower Esophageal Sphincter Pressure and Esophageal Body Function
Kenneth Vega, MD, Tracy Langford-Legg, RN, M. Mazen Jamal, MD, Division of Gastroenterology, University of Florida / Jacksonville, Jacksonville, FL, Division of Gastroenterology, Long Beach VA Medical Center, Long Beach, CA
Poster 379, page 236.

ACG 2008 Paper & Poster Awards

2008 ACG Presidential Poster Award Recipients

Is Immunofluoresence Staining for Eosinophil Derived Neurotoxin Useful in the Diagnosis of Eosinophilic Esophagitis?
Jeffrey Alexander, MD, Gail Kephart, MS, Karthik Ravi, MD, David Neumann, MD, Hirohito Kita, MD, Nicholas Talley, MD, PhD, Gastroenterology, Mayo Clinic Rochester, Rochester, MN
Poster 1, page 139.

The Expression of Epidermal Growth Factor Receptor in *H. pylori* Infected Intestinal Metaplasia and Gastric Cancer
Noriko Nakajima, MD, PhD, Yoko Ito, MS, Soichiro Ota, MD, Shun Kobayashi, MD, Kiyoshi Yokoyama, MD, PhD, Akitake Uno, MD, PhD, Noriko Kinukawa, MD, PhD, Norimichi Nemoto, MD, PhD, Mitsuhiko Moriyama, MD, PhD, Department of Pathology, Department of Gastroenterology & Hepatology, Nihon University School of Medicine, Tokyo, Japan
Poster 25, page 146.

Do U.S. Regions with the Highest Rates of Obesity Have the Highest Frequency of Hospital Discharges for Pancreatic Adenocarcinoma? An Analysis of U.S. Secular Trends
Benjamin Young, MD, Alphonso Brown, MD, MSClinEpi, Beth Israel Deaconess Medical Center, Boston, MA
Poster 44, page 151.

Interaction Between Psychiatric and Autoimmune Disorders in Celiac Disease Patients in the United States
Sagar Garud, MD, MPH, Daniel Leffler, MD, MS, Melinda Dennis, RD, MS, Shailaja Jamma, MD, Jessica Edwards-George, PhD, Diana Saryan, BS, Ciaran Kelly, MD, Gastroenterology, Beth Israel Deaconess Medical Center, Boston, MA
Poster 63, page 156.

Comparison of Pathology and Location of Findings Between Capsule Endoscopy (CE) and Single Balloon Assisted Enteroscopy (SBAE) in Patients with Occult Gastrointestinal Bleeding
Madhusudhan Sanaka, MD, Anuja Choure, MD, Janice Santisi, RN, Milan Dodig, MD, Rocio Lopez, MS, Bennie Upchurch, MD, John Vargo, MD, Gastroentrology, Internal Medicine, Cleveland Clinic, Cleveland, OH
Poster 76, page 159.

Does Fatigue Play a Role in Hepatic Encephalopathy-Associated Driving Impairment?
Jasmohan Bajaj, MD, Muhammad Hafeezullah, MD, Yelena Zadvornova, MD, Eric Martin, MD, Kia Saeian, MD FACG, Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI
Poster 78, page 159.

Efficacy and Safety of Long-Term Oral Administration of Pioglitazone for Treatment of Nonalcoholic Fatty Liver Disease
Masahiro Matsushita, MD, Yurimi Takahashi, MD, Yoshimasa Kobayashi, MD, Gastroenterology, Haibara General Hospital, Makinohara, Japan, 2nd Division Department of Internal Medicine, Hamamatsu University School of Medicine, Hamamatsu, Japan
Poster 95, page 164.

Digital Image Analysis of Endoscopic Images of Diminutive Polyps: Differentiating Adenomatous Polyps from Hyperplasic Polyps
Ananya Das, MD, Feng Li, MD, Suryakanth Gurudu, MD, Mayo Clinic, Scottsdale, AZ
Poster 113, page 168.

Screening Colonoscopy Performed by Gastroenterologists and a Nurse Practitioner: A Single Center Experience
Michele Limoges-Gonzalez, RN, MSN, ANP, Amar Al-Juburi, MD, Nirmal Mann, MD, David Tseng, BS, Lorenzo Rossaro, MD, University of California, Davis, Folsom, CA
Poster 254, page 201.

Predicting Postoperative Mortality from Comorbidity Indices in Administrative Databases Among Inflammatory Bowel Disease Patients
Gilaad Kaplan, MD, MPH, James Hubbard, MSc, Remo Panaccione, MD, Abdel Aziz Shaheen, MD, MPH, Geoffrey Nguyen, MD, PhD, Shane Devlin, MD, Robert Myers, MD, Department of Medicine, Division of Gastroenterology, University of Calgary, Calgary, AB, Canada
Poster 285, page 210.

Predictive Value of Capsule Endoscopy for the Diagnosis of Crohn's Disease in a Symptomatic Population
Melissa Tukey, MD, Douglas Pleskow, MD, Adam Cheifetz, MD, Alan Moss, MD, Gastroenterology, Internal Medicine, Beth Israel Deaconess Medical Center, Boston, MA
Poster 287, page 210.

A Study on the Association Between Self-Reported Functional Gastrointestinal Symptoms and Travelers' Diarrhea Among U.S. Troops Deployed to Southwest Asia and the Middle East
Mark Riddle, MD, DrPH, Brooks Cash, MD, FACG, John Sanders, MD, MPH&TM, Shannon Putnam, PhD, Adam Armstrong, DO, MSPH, David Tribble, MD, DrPH, Enteric Diseases Department, Naval Medical Research Center, Silver Spring, MD, Uniformed Services University of the Health Sciences, Bethesda, MD, Naval Medical Research Center Detachment, Lima, Peru, US Naval Medical Research Unit No. 2, Jakarta, Indonesia, US Naval Medical Research Unit No. 3, Cairo, Egypt
Poster 325, page 221.

Rome Criteria for Irritable Bowel Syndrome (IBS) Should Be a Quantitative Trait and Not a Qualitative Trait
Yuri Saito-Loftus, MD, MPH, Ann Almazar-Elder, BS, Joseph Larson, BS, Elizabeth Atkinson, MS, Nicholas Talley, MD, PhD, Department of Internal Medicine, Department of Health Sciences Research, Division of Biostatistics, Enteric Neuroscience Program, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN
Poster 327, page 222.

Novel Structural & Functional Imaging of the Colonic Mucosa Using Structured Light Illumination Sectioning Endomicroscopy (SLISE)
Aaron Bartoo, PhD, Silvia Santos, MS, Jerome Mertz, PhD, Satish Singh, MD, Medicine-Gastroenterology, Boston University School of Medicine, Boston, MA, Biomedical Engineering, Boston University College of Engineering, Boston, MA
Poster 333, page 224.

Clinical Outcomes of Children with IBD with Unfavorable Thiopurine Metabolism: Effect of Allopurinol
Ninfa Candela, MD, Elizaveta Iofel, MD, Libia Moy, MD, Toba Weinstein, MD, Jeremiah Levine, MD, James Markowitz, MD, Pediatric Gastroenterology and Nutrition, Schneider Children's Hospital, North Shore-LIJ Health System, New Hyde Park, NY
Poster 359, page 230.

Overweight Children and Parental Perceptions
Rona Levy, MSW, PhD, MPH, Nancy Sherwood, PhD, Shelby Langer, PhD, Robert Reid, MD, PhD, Sheri Ballard, BA, School of Social Work, University of Washington, Seattle, WA, Epidemiology, University of Minnesota, Minneapolis, MN, Preventive Care, Group Health, Seattle, WA
Poster 360, page 230.

An Updated Look at Colorectal Carcinoma Incidence and Stage Disease in Virginia and the U.S.
Raj Majithia, MD, David Johnson, MD, FACG, Dana Freeman, MD, Danilo Pilocarpio, DO, Gastroenterology, Eastern Virginia Medical School, Norfolk, VA
Poster 372, page 234.

Evaluation of Symptom Association with GERD: Is There Consensus Among the Experts?
Neeraj Sharma, MD, Amit Agrawal, MD, Radu Tutuian, MD, Marcelo Vela, MD, MSCR, Donald Castell, MD, Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC, Gastroenterology, University Hospital of Zurich, Zurich, Switzerland
Poster 378, page 235.

Is Two-Channel Synchronized, Multipoint Gastric Electrical Pacing (MGP) Able to Control Upper GI Symptoms and Improve Gastric Emptying in Patients with Severe Diabetic Gastroparesis?
Irene Sarosiek, MD, Jameson Forster, MD, Kathy Roeser, BS, Richard McCallum, MD, Surgery, Internal Medicine, Kansas University Medical Center, Kansas City, KS
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Same-Day Combined EUS / ERCP to Investigate Biliary and Pancreatic Disorders: Better Together
Samer Charbel, MD, James Kimberly, MD, Jason Conway, MD, MPH, John Gilliam, MD, John Baillie, MB, ChB, Girish Mishra, MD, MS, Gastroenterology, Wake Forest University, Winston-Salem, NC
Poster 415, page 244.

A Retrospective Analysis of the Safety of Outpatient Percutaneous Liver Biopsy in Patients with Von Willebrand Disease
P. Patrick Basu, MD, Krishna Rayapudi, MD, Jose Esteves, MD, Robert Brown, MD, MPH, Department of Gastroenterology and Hepatology, New York Hospital-Queens, New York, NY, Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY, Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY
Poster 453, page #255.

Efficacy of Rifaximin as Long-Term Maintenance Therapy for Refractory Crohn's Disease
Warren Finkelstein, MD, The Gastroenterology Group of New Jersey, Glen Ridge, NJ
Poster 549, page 278.

Oral or Intravenous Proton Pump Inhibitor in Patients with Peptic Ulcer Bleeding After Successful Endoscopic Epinephrine Injection—A Prospective Randomized Comparative Trial
Yao-Chun Hsu, MD, Tzeng-Huey Yang, MD, Wei-Lun Hsu, MD, Huei-Tang Wu, MD, Hwai-Jeng Lin, MD, Division of Gastroenterology, Department of Internal Medicine, Lotung Poh-Ai Hospital, Yilan, Taiwan
Poster 630, page 298.

Improved Bone Mass After Ileal Pouch-Anal Anastomosis for Patients with Ulcerative Colitis
Hong Lu, MD, PhD, Rocio Lopez, MS, Bo Shen, MD, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH
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Factors Associated with Conversion of an Ulcerative Colitis Diagnosis to Crohn's Disease
Ari Wiesen, MD, Seymour Katz, MD, MACG, Blanche Fung Liu, MD, David Oustecky, MD, Camille Sommers, MD, Natan Krohn, MD, Gastroenterology, Long Island Jewish Medical Center, Glen Oaks, NY
Poster 657, page 305.

No Evidence for Association of Tegaserod with Cardiovascular Adverse Ischemic Events (CVIE) in Routine Clinical Practice
John Seeger, PharmD, DrPH, Jeanne Loughlin, MS, Elena Rivero, MD, MPH, David Earnest, MD, Sherry Quinn, MA, Jiaqing Huang, MD, PhD, Peter Rueegg, MD, Eslie Dennis, MD, MBChB, FCP(SA), Jeffrey Kralstein, MD, i3 Drug Safety, Waltham, MA, Novartis Farmaceutica SA, Barcelona, Spain, Novartis Pharmaceuticals Corporation, East Hanover, NJ, Novartis Pharma AG, Basel, Switzerland
Poster 692, page 314.

National and Regional Conformity to the 2007 ACG / AASLD Practice Guidelines for Prevention and Management of Gastroesophageal Varices and Variceal Hemorrhage in Cirrhosis
Emily Carey, DO, Jamile Wakim-Fleming, MD, Rocio Lopez, MS, MPH, William Carey, MD, Internal Medicine, MetroHealth Medical Center, Cleveland, OH, Hepatology, Cleveland Clinic Foundation, Cleveland, OH
Poster 830, page 350.

Reversal of Protein-Losing Enteropathy After Liver Transplantation in a Child with Idiopathic Familial Neonatal Hepatitis
Naim Alkhouri, MD, Christine Carter-Kent, MD, Vera Hupertz, MD, Bijan Eghtesad, MD, John Fung, MD, PHD, Kadakkal Radhakrishnan, MD, Department of General Surgery, Liver Transplant Center, Pediatric Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH
Poster 891, page 365.

Klatskin-like Biliary Sarcoidosis
John Petersen, DO, FACG, FACP, Borland-Groover Clinic, Jacksonville, FL
Poster 988, page 388.

Renal Effects of Long Term 5-ASA
Harshna Patel, MD, Aiala Brar, PhD, Khursheed Jeejeebhoy, MD, Department of Public Health, Department of Medicine, University of Toronto, Toronto, ON, Canada, Department of Medicine, Department of Gastroenterology, St. Michael's Hospital, University of Toronto, Toronto, ON, Canada
Poster 1029, page 398.

The Utility and Safety of Endoscopic Resection for Nodular Lesions Detected After Endoscopic Ablation of Esophageal Dysplasia and Carcinoma
Chakri Panjala, MD, Seth Gross, MD, Massimo Raimondo, MD, Michael Wallace, MD, Timothy Woodward, MD, Herbert Wolfsen, MD, Gastroenterology, Mayo Clinic Jacksonville, Jacksonville, FL
Poster 1077, page 411.

Special Tours & Auxiliary Events

The ACG Auxiliary will provide a Hospitality Suite in the St. George 104 room for spouses during the ACG Annual Meeting, offering a place to relax and unwind, review tour and visitor information, or just chat with friends. Registration for Auxiliary members will also be available in the suite. All Auxiliary members are invited to attend the Auxiliary Board Meeting on Sunday, October 5 from 7:00 am–8:00 am in the St. George 106 room. The Auxiliary will also offer a special tour for adults and children. Please visit the ACG Physician Registration Desk at the Gaylord Palms Resort & Convention Center for more information about the Auxiliary and the tour.

Auxiliary Schedule at a Glance

SUNDAY, October 5

Physician Registration
City Hall Lobby
7:00 am - 6:30 pm

Auxiliary Board Meeting
St. George 106 Room
7:00 am - 8:00 am

Auxiliary Registration/ Hospitality Suite
St. George 104 Room
8:00 am - 12:00 noon

MONDAY, October 6

Physician Registration
City Hall Lobby
7:00 am - 5:15 pm

Auxiliary Registration/ Hospitality Suite
St. George 104 Room
8:00 am - 12:00 noon

Auxiliary Luncheon
St. George 106 Room
12:00 noon - 1:30 pm
Auxiliary Members only

President's Reception
Osceola Ballroom C
7:00 pm - 9:00 pm

TUESDAY, October 7

Physician Registration
City Hall Lobby
6:45 am - 6:00 pm

Hospitality Suite
St. George 104 Room
8:00 am - 12:00 noon

***TOUR: Ageless Airboat**
see description at right
1:30 pm - 5:30 pm

WEDNESDAY, October 8

Physician Registration
City Hall Lobby
6:45 am - 12:30 pm

Hospitality Suite
St. George 104 Room
8:00 am - 11:00 am

Breakfast will be available from 8:00 am to 11:00 am Sunday through Wednesday in the Auxiliary Hospitality Suite.

*Tour tickets will be distributed at Physician Registration.

ACG Auxiliary Tour:

Ageless Airboat Tour

Tuesday, October 7, 1:30 pm – 5:30 pm
$71 per person

The ACG Auxiliary is sponsoring a spouse tour during ACG 2008 in Orlando. This educational excursion takes you into the seldom-visited heart of natural Florida! Experience beautiful protected wetland hammocks, walk through ancient flatwoods, and travel by airboat into pristine sections of fresh water marshes and up river into the bald-cypress swamp, home of the Florida alligator, American bald eagle and a huge assortment of wildlife. You'll fall in love with the original beauty of old Florida. Here in the "outback," the day's experiences start at the Tosohatchee "Florida Trail," an Eco-system that boarders the marsh. Certified Eco-guides will take you on a short 30-45 minute hike into the heart of this pristine wilderness before we arrive at the 100 year old outpost, a turn of the century fish camp. After complimentary refreshments of alligator tail and soft drinks, we will board airboats to experience the American Heritage River and its abundant wildlife. Each airboat has its own guide and a Coast Guard licensed boat captain. This is a soft adventurous tour without the dirt or danger.

Space is limited!

On-site registrations will be accepted on a space-available basis. Visit the Tour Counter at the Gaylord.

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7464 North Shore Road
Norfolk, VA 23505
757-440-7749

President Elect
Kathy Sarles
210 Boisenberry Drive
Garland, TX 75044
972-496-2669

1st VP/Convention Chair
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8 Copperwood Road
Medfield, MA 02052
508-359-6038

2nd VP/Membership Chair
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210 Boisenberry Drive
Garland, TX 75044
972-496-2669

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San Antonio, TX 78230
210-479-7075

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Aline Kundrotas
2646 Lakehills Street
San Antonio, TX 78251
210-592-7937

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8121 Wyngate Circle
Newburgh, IN 47630
812-490-6597

Parliamentarian
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300 Cliffside Drive
San Antonio, TX 78231
210-492-9861

Historian, Publicity
Leilani Katz
1403 Royal Oak Drive
Blue Bell, PA 19422
215-542-7762

New Member Liaison
Shoba Bass
P.O. Box 1934
Colleyville, TX 76034
469-955-6342

The field of clinical gastroenterology continues to experience an enormous ever increasing array of options and advancements affecting many elements of managing GI disorders. These advancements apply to both diagnostic and treatment options, including pharmacological agents and enhancements to technology options for diagnosis and interventions. The busy gastroenterology clinician must remain on top of these advancements, must be knowledgeable about every diagnostic and treatment option that is available for managing each of their patients, as well as learn, understand and effectively utilize these technology advancements made available to them.

The pressure to include new and ever changing administrative requirements by policymakers and payors continues to create unique challenges for the gastroenterology clinician. Additionally, patients are increasingly more educated when they walk into their physician's office—even if all of the information they have is not of the highest quality. The result for busy clinicians is a significant set of challenges that make this knowledge and understanding of the full array of state of the art science and treatment options more important than ever. While the traditional goals of thorough diagnostics and sound therapeutic options continue to remain in place, the place for outcomes measurement and turning these findings into evidence-based care continues to grow.

The reimbursement limitation and work force challenges that have been apparent in recent years have continued unabated. For GI clinicians and their practices, the imperative is to find more efficient ways to gain the latest therapeutic knowledge and institute it without compromising the highest quality of patient care. Notwithstanding research indicating that different venues present significantly different safety profiles for patients, over the past several years, a host of large payors have attempted to step in and substitute judgment regarding the appropriate venue for treatment and procedures. Unfortunately, these changes have been made largely based on financial considerations and without the input of clinicians or against their recommendations. The risk of inconsistent outcomes as a result of these changes is an area of concern and the latest data regarding safety and technical developments will be critical to assuring continued high quality patient care. This attempt to substitute judgment of the clinician is not limited to issues such as venue for care delivery. There have been efforts focused on details such as which sedatives can or should be used or even which equipment or accessories should be used for various procedures. The multi-faceted pressures of new and increasing scientific developments, pressures from payors and policymakers and demands by patients with ever greater amounts of information of various levels of quality mandate that clinical gastroenterologists find ways to constantly reevaluate the treatments used and mechanisms for delivery in their practices, regardless of the specific practice setting, to guarantee that each individual patient obtains the treatment and services that are the best possible options for their specific needs.

The emphasis of ACG's educational efforts focuses on these advancements in treatment and diagnostic options, as well as the policies, procedures, and guidelines the GI clinician faces in the overall management of their practice. Certain GI disorders have seen an increasing prevalence over the past years, while prevalence of others has not drastically changed, or some areas might have seen a decline. And certain conditions consistently provide clinicians a more challenging case to manage than other conditions. The CME educational program goal is to heighten the knowledge of clinicians and other health care professionals involved in GI patient care in all areas of GI treatments and management options, with an emphasis on the identified conditions where prevalence is increasing and patient management proves to be a known challenge. Attention is also placed on advanced and improved endoscopic techniques and practice management tools which can increase a GI clinician's efficiency and effectiveness in their daily practice.

Obtaining the most timely diagnosis through screening for myriad gastroenterological diseases and conditions so that appropriate interventions, treatments and disease management can begin in the most timely fashion possible is imperative. This specifically includes encouraging screening and surveillance for colon cancer, liver diseases including liver cancer, the various forms of hepatitis and NAFLD, other GI cancers, GERD, eosinophilic esophagitis, Barrett's esophagus, peptic ulcer disease, acute and chronic pancreaticobiliary conditions and screening surveillance of the family of inflammatory bowel diseases.

Colon cancer is the third most commonly diagnosed cancer among both men and women. But colon cancer incidence rates have declined over the last two decades and survival rates have increased. This is very likely due to increased colorectal cancer screening and surveillance, which allows physicians to detect and remove potential or cancerous polyps. Although these trends are moving in a positive direction, the need to increase screening rates even higher and to provide gastroenterologists with the most effective and efficient means to conduct the screening and surveillance continue to be very important issues. Providing and quantifying indicators defining a quality colonoscopy, especially in light of findings on the prevalence of flat lesions, is a need that affects the gastroenterologist each time they perform a screening colonoscopy.

As the survival rate from the full range of gastroenterological cancers across the board improves, the need to keep educating the clinicians who will be following post-surgical patients increases. This important, evolving educational need must be met in a way that touches on the impact of various forms of cancer to the overall health of the patient's GI tract.

One condition that has drastically increased in prevalence in the U.S. is obesity, increasing from less than 15% in the 1960s to over 30% in 2004. It has been predicted that if the rates continue at their current pace, by 2015, 75% of adults will be overweight or obese. Therefore, not only are treatment and management options for obese patients imperative for clinicians to be well educated, but patient education is a necessity to improve compliance and to achieve desired treatment results. Post-surgical management and treatment options of bariatric surgery patients have become increasingly imperative and requested by clinicians as has the latest information on what GI conditions are tied to or made worse by obesity.

An area of GI that continues to see more significant developments in pharmacological therapy options is inflammatory bowel disease. The GI clinician must be fully aware of the latest developments in biologics therapy and administration and patient management options in this area as well as advances that are being made in genetics as it relates to testing and diagnosis. The post-surgical management process and treatment options for these IBD patients continues to be a topic of interest and one where the clinician faces challenges often due to the complexity of the condition.

The GI clinician is frequently faced with challenges related to liver disorders. Often the GI relies on the expertise of the hepatologist to assist in the management of these patients, but the gastroenterologist must be able to offer the best quality of care and treatment options to patients with liver disease, including hepatitis B and C, NAFLD, hepatic encephalopathy, cirrhosis, and other autoimmune liver diseases. With increased incidence of hepatitis C and data showing fewer patients are in treatment with hepatologists, physician education is extremely important in this area.

Recognizing that pancreaticobiliary diseases are amongst the most difficult to treat, education on identification, treatment and management of various forms of pancreatitis, pancreatic cysts and biliary disorders is critical to obtaining the best patient outcomes.

Developments in understanding the underlying causes of motility disorders continue to move forward at a rapid pace as the amount of clinical research in this area expands. In some cases, the result has been that effective treatments have become available for a variety of manifestations of these disorders. Understanding the latest science in the area of motility is critical to opening the door to treatment for a large group of patients who have been among the most difficult to treat. Evaluating the role of enteric flora, bacteria, and inflammation in motility disorders will help determine the appropriate course of action and play a critical role in managing an often challenging condition. Exposure to the latest data will assist in the identification of the incidence of disorders such as celiac sprue and other nutritional disorders and identification of new treatments, both pharmacological and device based, for well known but difficult to treat problems such as gastroparesis, cyclical vomiting and irritable bowel syndrome.

GI bleeding remains one of the most common and most challenging issues confronted by the clinical gastroenterologist. Be it the result of pain management techniques or cardiac care or patients with chronic liver disease or even occult bleeding of unknown origins, the clinician must be up to date on the latest information on strategies and techniques to identify, prevent and treat bleeding all through the GI tract. This will include providing accurate, practical information directly to patients and referring physicians.

Gastroesophageal reflux disease (GERD) affects at least 5-7% of the global population. The diagnosis, symptom recognition, treatment options, and surveillance are extremely important factors for the GI clinician to know, understand, and put into practice in order to provide these patients the best quality care and to prevent further complications. Other esophageal conditions such as Barrett's esophagus, eosinophilic esophagitis, dyspepsia, peptic ulcer disease, and *H. pylori* are all areas where disease management—symptoms, diagnostic tools, treatment options, complications—all need to be well understood by the GI clinician and put into practice each time the situation presents. It is with these esophageal conditions and many other identified GI conditions where published practice guidelines should be explained and available to the GI clinician for their explicit understanding and to enhance their ability to most effectively manage each of their patients and each GI condition those patients are faced with.

The constant technological advancements that are seen in endoscopic and other technologies employed in GI procedures creates a need to communicate the latest strategies for dealing with everything from patients with altered anatomy to identification and removal of large and difficult polyps using endoscopic technology to the developing practice of natural orifice transluminal endoscopic surgery. In addition to using the same technology in a more efficient manner, developments of new technologies permit the gastroenterologist to observe areas that have not traditionally been viewable, such as the small bowel. The development of CT colonography, or virtual colonoscopy, requires the GI clinician to fully understand the positive characteristics as well as the significant limitations of the technology as well as how to perform the procedure, and how to read, interpret and act upon the findings. Clinicians in a variety of practice settings are able to learn and integrate new therapies into their practice regime using technologies they are already using and able to learn and use the technological advancements to provide cutting edge services to their patients.

The demand for increased practice efficiency across all settings continues to drive the search for practical tools to positively impact care delivery and patient outcomes. Through the use of evidence based approaches to treatment and rational public health policy, clinicians need to identify new and innovative ways to deliver care across the community. The ever expanding access to information on a real time basis by both physicians and patients provides unique challenges to the healthcare delivery system. When this is combined with the pressures associated with increased spending on the healthcare delivery system that does not reward spending more time with patients and ever decreasing reimbursement for GI, the importance of top quality education of physicians and patients cannot be overstated.

FACULTY DISCLOSURES

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. Individuals participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship held within the past 12 months that may pose a potential commercial bias. Conflicts of interest will be identified and resolved prior to the beginning of the activity. ACG also requires presenters to disclose to participants any uses of drugs or devices mentioned in their presentations that are off-label or investigational.

2007-2008 ACG Board of Trustees Disclosure Declaration

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. The Accreditation Council for Continuing Medical Education requires CME providers to demonstrate that everyone who is in a position to control the content of an education activity has disclosed all relevant financial relationships with any commercial interest to the provider. Oversight of all educational programming content is conducted by the ACG Board of Trustees through a review and approval process. Board of Trustees members have noted the following relationships.

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Dr. Cattau has indicated no relevant financial relationships.

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Dr. Lyles has indicated no relevant financial relationships.

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Dr. Sarles has indicated no relevant financial relationships.

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Dr. Wong has indicated no relevant financial relationships.

ACG ALLIED HEALTH PROFESSIONALS SYMPOSIUM

Collaborating for Excellent Patient Care

Sunday, October 5, 2008 • 1:30 pm – 5:15 pm • Room: Sanibel

Course Co-Directors: *Jean-Paul Achkar, MD, FACG and Lisa S. Sylvest, RN, BSN*

Members/Fellows (includes Allied Health Members):	**$0**
Non-Members registered for any other ACG course:	**$0**
Non-Members not registered for any other ACG course:	**$75**

ACG will offer a three-hour symposium designed specifically with allied health professionals in mind. Leading experts will speak on hot topics in GI. Before the symposium (1:30-2:00), join colleagues for a special dessert reception. Afterwards, make your way to the Exhibit Hall to see the latest in technology and therapeutics, and visit the Poster Session for a lively dialogue with clinicians and researchers involved in new advances in the diagnosis and treatment of gastroenterological diseases. ACG members may attend the symposium for free. Non-Members who are also registered for any other ACG 2008 course may attend the symposium for free. Any Non-Member who has not registered for any other ACG 2008 course will pay $75.

Course Description

Allied health professionals caring for patients with digestive diseases will be able to increase their knowledge about the current status of diagnostic tests and evidenced based treatments for some of the most common and chronic GI disorders including Chronic Hepatitis C, Celiac Disease, Inflammatory Bowel Disease, Irritable Bowel Syndrome and the Patient with Dysphagia. In addition, they will understand the current surveillance recommendation for patients with various types of colon polyps. Using a fun and interesting case based approach, this symposium is designed for nurses, physician assistants, nurse practitioners and other allied health professionals interested in the latest information on diagnostic gastroenterology and state of the art treatment of gastroenterologic illnesses. Physicians are strongly encouraged to attend this symposium with their allied health personnel, as the optimal management of patients with digestive diseases often requires a dedicated and knowledgeable "team" of health care providers.

Accreditation

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 3 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

This program has been reviewed and is approved for a maximum of three hours of AAPA Category I CME credit by the Physician Assistant Review Panel. Physician assistants should claim only those hours actually spent participating in the CME activity. This program was planned in accordance with AAPA's CME Standards for Live Programs and for Commercial Support of Live Programs.

This continuing nursing education activity was approved by the Society of Gastroenterology Nurses and Associates, Inc., an accredited approver of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity is approved for 3 contact hours.

AGENDA

1:30 pm	**Welcome Dessert Reception**
2:00 pm	**Treatment of Hepatitis C: A Team Approach** ***What Treatments and Endpoints Should We Be Using?*** *Mitchell L. Shiffman, MD, FACG* ***Follow-up and Monitoring of Treatment – A PA's Perspective*** *Sarah Hubbard, PA*
2:40 pm	**Surveillance Issues in Patients with Colon Polyps** *Carol A. Burke, MD, FACG*
3:00 pm	**Celiac Disease** *Ciaran P. Kelly, MD*
3:20 pm	**Q & A**
3:30 pm	**Break**
3:45 pm	**Immunomodulator Therapy for IBD: A Team Approach** ***What Treatments and Endpoints Should We Be Using?*** *Timothy T. Nostrant, MD, FACG* ***Follow-up and Monitoring of Treatment – A Nurse's Perspective*** *Lisa S. Sylvest, RN, BSN*
4:25 pm	**The New IBS Guidelines – What the Practitioner Needs to Know** *William D. Chey, MD, FACG*
4:45 pm	**Approach to the Patient with Dysphagia** *Sami R. Achem, MD, FACG*
5:05 pm	**Q&A/Meeting Wrap-up**
5:15 pm	**Adjourn**

Program Objectives

At the conclusion of this program, participants will be able to:

- Describe the goals of hepatitis C treatment
- Determine the follow up care and monitoring needed for patients on hepatitis C treatment. Describe the benefit of frequent patient contact.
- Identify the classifications of colonic polyps and incorporate into patient care decision-making for appropriate follow up
- Name the common studies ordered as part of the evaluation of patients with suspected celiac disease. List treatment options for celiac disease
- Explain the benefits and risks of immunomodulators in the treatment of inflammatory bowel disease
- Summarize the follow up care and monitoring needed for patients on immunomodulators. Assess future strategies to improve patient care
- Review the new ACG guidelines for an evidence based approach to treatment of irritable bowel syndrome. Analyze common studies ordered as part of the IBS evaluation
- Identify common causes of dysphagia. Describe a systematic approach to evaluation of patients presenting with dysphagia

ACG ALLIED HEALTH PROFESSIONALS SYMPOSIUM

Collaborating for Excellent Patient Care

Sunday, October 5, 2008 • 1:30 pm – 5:15 pm • Room: Sanibel

Course Co-Directors: *Jean-Paul Achkar, MD, FACG and Lisa S. Sylvest, RN, BSN*

Faculty Listing and Disclosure Information

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Faculty have noted the following relationships related to their Allied Health Professionals Symposium presentations.

Sami R. Achem, MD, FACG
Professor of Medicine, Mayo College of Medicine, Mayo Clinic, Jacksonville, FL
Dr. Achem has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Carol A. Burke, MD, FACG
Director, Center for Colon Polyps & Cancer, Cleveland Clinic Foundation, Cleveland, OH
Dr. Burke has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

William D. Chey, MD, FACG
Professor of Medicine, University of Michigan Medical Center, Ann Arbor, MI
Consultant: Novartis, Procter & Gamble, Salix, Prometheus, Takeda
Speaker's Bureau: Procter & Gamble, Salix, Prometheus, Takeda

Sarah Hubbard, PA
Physician Assistant, Hepatology, VCU Medical Center, Richmond, VA
Speaker's Bureau: Roche, Schering-Plough

Ciaran P. Kelly, MD
Associate Professor of Medicine, Beth Israel Deaconess Medical Center/GI Division, Boston, MA
Consultant and Scientific Advisor: Alvine
Research Grant Support: Alba

Timothy T. Nostrant, MD, FACG
Professor of Medicine, University of Michigan, Ann Arbor, MI
Speaker's Bureau/Consultant: Centocor, Procter & Gamble, Salix, Elan, UCB, Abbott

Mitchell L. Shiffman, MD, FACG
Professor of Medicine, Virginia Commonwealth University Medical Center, Richmond, VA
Speaker/Grant: Roche, Schering-Plough
Consultant: Roche

Lisa S. Sylvest, RN, BSN
Clinical Care Coordinator, University of Michigan, Ann Arbor, MI
Ms. Sylvest has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Investigational Use Disclosure

ACG's disclosure policy maintains that if any unapproved or off-label use of a product is to be referenced in a CME program, the faculty member is required to disclose that the product is either investigational or it is not labeled for the usage being discussed. The following faculty members have indicated they may reference an off-label use in their Allied Health Symposium presentation(s).

Ms. Hubbard - use of erythropoetin and filgrastim growth factor in hepatitis C therapy

Dr. Shiffman - peginterferon and ribaviron in the treatment of hepatitis C

Allied Health Symposium Planning Committee Disclosure

Jean-Paul Achkar, MD, FACG
Cleveland Clinic Foundation, Cleveland, OH
Dr. Achkar has indicated no relevant financial relationships.

Jeannie R. Flinko, RN
Allegheny Specialty Practice Network, Pittsburgh, PA
Ms. Flinko has indicated no relevant financial relationships.

Jacqueline A.F. Schexnyder, NP
Alexandria Gastroenterology Associates, Alexandria, LA
Ms. Schexnyder has indicated no relevant financial relationships.

Lisa S. Sylvest, RN, BSN
University of Michigan, Ann Arbor, MI
Ms. Sylvest has indicated no relevant financial relationships.

Jennifer G. Zone, PA-C
Crozer Gastroenterology Associates, Upland, PA
Ms. Zone has indicated no relevant financial relationships.

Practice Management Course

Friday, October 3, 2008 • 7:50 am – 4:45 pm • Room: Sun Ballroom A

Course Co-Directors: *Stephen E. Deal, MD, FACG, Chalmers M. Nunn, Jr., MD, MMM and Ece A. Mutlu, MD*

Members/Fellows:	**$225**
Resident/Trainee/ Candidate Members:	**$0*/$150**
Allied Health Members:	**$150**
Non-Members:	**$275**
Practice Managers:	**$150**

Course Description

Learn the latest in practice management to build efficiency and drive profitability in your practice by attending the 21st Annual Practice Management Course. Course Directors Stephen E. Deal, MD, FACG, Chalmers M. Nunn, Jr., MD, MMM, and Ece A. Mutlu, MD, have organized a course that focuses on efficient practices and updates in areas of interest to the clinical gastroenterologist.

The ACG Practice Management Course will feature several physicians who are running successful practices. Q & A sessions will give attendees the opportunity to ask questions of the faculty and round table discussions will give attendees the opportunity to discuss challenges faced in practice and a sharing of ideas amongst colleagues.

Program Description

Delivery of high quality patient care can be enhanced through use of efficient practice management. Improving practice efficiency through the judicious use of sound, patient-friendly business practices is made more critical with the increasing financial pressures placed on medical practices in all settings. The Practice Management Course's fundamental objective is to improve the efficiency and sound business practices upon which the clinical GI practitioner's practice is based, in ways that will enhance the prospects for quality patient experience and most favorable outcomes. The course uses a proven model of didactic sessions and smaller break-out sessions to deliver this information to attendees, as well as an interactive lunch session with ACG's practice management experts. Course topics will be of interest to both the clinical gastroenterologist and the practice manager. The general session will focus on the addition of new services to the GI practice such as AEC, CT colonography and pathology labs, as well as legal issues affecting the gastroenterologist from employment to managed care contracting. The afternoon will consist of breakout sessions selected by attendees to provide an opportunity to discuss specific issues and concepts in a smaller group setting so attendees can leave the course with practical suggestions to improve delivery of care. Topics will include incorporating clinical research into the GI practice, coding and reimbursement, and infusion services.

Program Objectives

Upon completion of this program attendees will:

- Discuss how to develop a successful ambulatory endoscopy center (AEC) despite declining reimbursement
- Determine whether the addition of CT colonography, office-based infusion or pathology lab services are of benefit to their practice and the patients they serve
- Examine the tools available to the clinician for incorporating clinical research into their practice
- Review the legal issues affecting today's gastroenterology practice, including how to avoid unnecessary legal mistakes with professional and office staff, Stark and anti-kickback statutes, hospital relationships, practice integration and managed care contracting
- Improve their coding skills through a better understanding of coding guidelines to achieve appropriate reimbursement and better patient care

Faculty

Stephen E. Deal, MD, FACG, Course Co-Director
Chalmers M. Nunn, Jr., MD, MMM, Course Co-Director
Ece A. Mutlu, MD, Course Co-Director
R. Bruce Cameron, MD, FACG
Daniel C. DeMarco, MD, FACG
Andrew D. Feld, MD, JD, FACG
Jeffrey R. Medoff, MD, FACG
Klaus Mergener, MD, PhD, FACG
Colin Roskey, JD
Harry E. Sarles, Jr., MD, FACG
Barry Tanner, CPA

Accreditation

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 6.75 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

* ACG Resident/Trainee and Candidate Members ONLY. ACG will waive the usual $150 Resident/Trainee/Candidate Member Practice Management Course registration fee only if registration is received and processed by September 12, 2008. The $150 fee will apply to any registration received and/or processed after September 12.

Practice Management Course

Friday, October 3, 2008 • 7:50 am – 4:45 pm • Room: Sun Ballroom A

Course Co-Directors: *Stephen E. Deal, MD, FACG, Chalmers M. Nunn, Jr., MD, MMM and Ece A. Mutlu, MD*

7:00 am **Continental Breakfast** (Room: Sun Ballroom B)

8:00 am **Welcome Announcements**
Stephen E. Deal, MD, FACG
Chalmers M. Nunn, Jr., MD, MMM
Ece A. Mutlu, MD

8:00 am **Should You Consider Adding Services to Your Practice?**
- **Maintaining a Successful AEC with Declining CMS Reimbursement**
  Barry Tanner, CPA, President and CEO, Physicians Endoscopy
- **CT Colonography**
  Klaus Mergener, MD, PhD, FACG
- **Pathology Lab**
  Harry E. Sarles, Jr., MD, FACG
- **Panel Q & A**

10:00 am **Break**

10:30 am **Case Studies in Legal Issues Affecting the Gastroenterologist**
Andrew D. Feld, MD, JD, FACG and Colin Roskey, JD
- Employment case studies as this relates to professional and office staff
- Stark and anti-kickback statutes and how these affect hospital relationships as well as ownership of CT, pathology and anesthesia
- Legal issues affecting practice integration and managed care contracting
- Protection of assets

12:30 pm **Lunch – Round Table Discussion**
(Room: Sun Ballroom B)
Greatest Challenges Faced by Your Practice

1:45 pm **Breakout Sessions**
A. Incorporating Research in Your Practice
(Room: Sanibel)
Jeffrey R. Medoff, MD, FACG
B. Coding and Reimbursement
(Room: Miami)
R. Bruce Cameron, MD, FACG and Daniel C. DeMarco, MD, FACG
C. Infusion Services
(Room: Sun A)
Ece A. Mutlu, MD

2:45 pm **Break**

3:00 pm **Breakout Sessions Repeat**

4:00 pm **General Session: Q & A with all Course Faculty**

4:45 pm **Course Adjourns**

Practice Management Course

Friday, October 3, 2008 • 7:50 am – 4:45 pm • Room: Sun Ballroom A

Course Co-Directors: *Stephen E. Deal, MD, FACG, Chalmers M. Nunn, Jr., MD, MMM and Ece A. Mutlu, MD*

Faculty Listing and Disclosure Information

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship or other relationship held within the past 12 months that may pose a potential commercial bias and to assist in resolving any conflict of interest that may arise from the relationship. The intent of this disclosure is not to prevent a speaker with a relevant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion.

Faculty have noted the following relationships related to their Practice Management Course presentations.

R. Bruce Cameron, MD, FACG
Clinical Professor, Case Western Reserve University, Chagrin Falls, OH
Dr. Cameron has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Stephen E. Deal, MD, FACG
Carolina Digestive Health Associates, Charlotte, NC
Dr. Deal has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Daniel C. DeMarco, MD, FACG
Digestive Health Associates of Texas, Dallas, TX
Dr. DeMarco has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Andrew D. Feld, MD, JD, FACG
Clinical Professor, University of Washington, Spokane, WA
Dr. Feld has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Jeffrey R. Medoff, MD, FACG
Medoff Medical, Greensboro, NC
Dr. Medoff has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Klaus Mergener, MD, PhD, FACG
Digestive Health Specialists, Seattle, WA
Dr. Mergener has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Ece A. Mutlu, MD
Assistant Professor of Medicine, Rush University Medical Center, Chicago, IL
Consultant: Elan, Centocor, Abbott, Salix, UCB, Otsuka
Advisory Board: Elan

Chalmers M. Nunn, Jr., MD, MMM
Centra Health, Inc. Lynchburg General Hospital, Lynchburg, VA
Dr. Nunn has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Colin Roskey, JD
Counsel, Alston & Bird, Washington, DC
Mr. Roskey has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Harry E. Sarles, Jr., MD, FACG
Digestive Health Associates of Texas, Garland, TX
Dr. Sarles has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Barry Tanner, CPA
Physicians Endoscopy, Doylestown, PA
Mr. Tanner has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

ASGE-SPONSORED ENDOSCOPY COURSE

Monumental Changes in Endoscopic Practice and Technology: Tooling Up for Tomorrow

Friday, October 3, 2008 • 8:05 am – 5:40 pm • Room: Sun Ballroom C

Course Co-Directors: *John A. Martin, MD, and Vanessa M. Shami, MD*

Members/Fellows:	**$250**
Resident/Trainee/Candidate Members:	**$150**
Allied Health Members:	**$150**
Non-Member Physician/Exhibitor/Guest:	**$350**
Non-Member Resident/Trainee:	**$200**
All Other Non-Members:	**$250**

Course Description

In a time of exponential change in gastrointestinal endoscopy, continuing adaptation of clinical practice to technological advances is crucial. Knowledge of the endoscopic literature regarding new diagnostic procedures as well as cutting-edge endoscopic therapeutic techniques is essential to be able to offer the best possible care to patients and to adapt to challenges that face endoscopists. To assure that attendees are expertly equipped to continue to deliver optimal patient care, this course will explore and instill an understanding of the latest data and literature on the full spectrum of diagnostic endoscopy, and introduce new concepts and challenges that accompany novel interventional procedures.

Intended Audience

This course has been specifically designed for practitioners in gastro-intestinal endoscopy, especially gastroenterologists, gastrointestinal surgeons, gastrointestinal nurses, and fellows in training. This course is equally relevant to those in private practice and academic practice.

Program Objectives

At the conclusion of this course, participants should be able to:
At the conclusion of this course, participants should be able to:

- Discuss the latest trends in endoscopic practice
- Describe new imaging techniques and technologies
- Review outcomes in endoscopy and translate them into best clinical practice
- Apply new endoluminal therapies for Barrett's esophagus and early cancer
- Identify cutting-edge endoscopic techniques and their impact on the community endoscopist

Accreditation

The American Society for Gastrointestinal Endoscopy (ASGE) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

ASGE designates this educational activity for a maximum of 9.25 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Course Co-Directors

John A. Martin, MD, Northwestern University, Chicago, IL
Vanessa M. Shami, MD, University of Virginia Health Systems, Charlottesville, VA

Faculty

Neena Abraham, MD, MSCE, FASGE, Michael E. DeBakey VA Medical Center, Baylor College of Medicine, Houston, TX
Steven A. Edmundowicz, MD, FASGE, Washington University School of Medicine, Saint Louis, MO
Michel Kahaleh, MD, FASGE, University Of Virginia Health Systems, Charlottesville, VA
John L. Petrini, MD, FASGE, Sansum Clinic, Santa Barbara, CA
Patrick R. Pfau, MD, University of Wisconsin Medical School, Madison, WI
Nicholas J. Shaheen, MD, MPH, University of North Carolina, School of Medicine, Chapel Hill, NC
Prateek Sharma, MD, University of Kansas Medical Center, Kansas City, MO
Peter D. Stevens, MD, Columbia University, New York, NY
Irving Waxman, MD, The University of Chicago, Chicago, IL
Louis-Michel Wong Kee Song, MD, Mayo Clinic, Rochester, MN

For more information contact:

ASGE, 1520 Kensington Road, Oak Brook, IL 60523
Tel: 630-573-0600 Fax: 630-573-0691
E-mail: education@asge.org Web: www.asge.org

If you need any auxiliary aids or services identified in the American with Disabilities Act (e.g., assistive listening devices or Braille materials), please contract ASGE, 1520 Kensington Road, Suite 202, Oak Brook, IL 60523, telephone: 630-573-0600.

ASGE-SPONSORED ENDOSCOPY COURSE

Monumental Changes in Endoscopic Practice and Technology: Tooling Up for Tomorrow

Friday, October 3, 2008 • 8:05 am – 5:40 pm • Room: Sun Ballroom C

Course Co-Directors: *John A. Martin, MD, and Vanessa M. Shami, MD*

AGENDA

What's New in Diagnostic Endoscopy

8:05 am **Image-Enhanced Colonoscopy: What's New in Lower GI Imaging for Polyps, Dysplasia, Cancer, and IBD**
Prateek Sharma, MD

8:25 am **Capsule: Available Pills to Swallow**
Speaker TBA

8:45 am **Enteroscopy: Is More Better?**
Patrick R. Pfau, MD

Predicting Trends in Endoscopic Practice

9:05 am **Sedation and Anesthesia in Endoscopy: What's Available Now and in the Future**
John L. Petrini, MD, FASGE

9:25 am **Screening Colonoscopy: Is the T. Rex of Endoscopy Really on the Brink of Extinction?**
Patrick R. Pfau, MD

9:45 am **AECs: Is There a Future?**
John L. Petrini, MD, FASGE

10:05 am **Questions and Answers**

10:25 am **Break**

Outcomes, Nutrition, & New Imaging Technologies

10:40 am **Historical Perspective: What Outcomes Studies Have Done To Change What We Do in Endoscopy**
Neena S. Abraham, MD, MSCE, FASGE

11:00 am **Outcomes in Endoscopy: How Can Research Inform the Assessment of Quality in Endoscopy?**
Nicholas J. Shaheen, MD, MPH

11:20 am **Interventional Nutrition: TPN vs Enteral Feeding—Where are We in 2008?**
Michel Kahaleh, MD, FASGE

11:40 am **The Future in Endoscopic Imaging: What's Coming Tomorrow**
Louis-Michel Wong Kee Song, MD

12:00 noon **Questions and Answers**

Lunch Discussion

12:15 pm **Trouble: Getting Out, and Staying Out**
Vanessa M. Shami, MD
John L. Petrini, MD, FASGE

What's New in Endoluminal Therapeutics

1:30 pm **EMR + ESD: The State of Mucosal Resection in the United States**
Irving Waxman, MD, FASGE

1:50 pm **Breathing on My Turf: Who Owns Endobronchial Ultrasound and What's the Future of the GI Endosonographer in the Chest?**
Vanessa M Shami, MD

2:10 pm **Endoluminal Stents: Even the Indications are Expanding**
Steven A. Edmundowicz, MD, FASGE

2:30 pm **Therapeutic EUS: Has it Lived Up to its Promise?**
Vanessa M Shami, MD

Barrett's Esophagus

2:50 pm **Who to Treat: Is All Barrett's Bad?**
Prateek Sharma, MD

3:10 pm **How to Treat: Resect, Ablate, or Operate?**
Irving Waxman, MD, FASGE

GI Bleeding

3:30 pm **Hemostasis: What's New, Including Clips, Cautery, and Glue**
John A. Martin, MD

3:50 pm **Questions and Answers / Break**

What's New in ERCP

4:05 pm **New Techniques and Technologies in Direct Peroral Cholangiopancreatoscopy: Mother-Baby Endoscopy All Grown Up**
John A. Martin, MD

4:25 pm **You Did What???: Scoping Your Way into Pseudocysts and Necromas**
Michel Kahaleh, MD, FASGE

4:45 pm **Stones Revisited: Do We Really Need the Lithotripter Anymore?**
Steven A. Edmundowicz, MD, FASGE

NOTES

5:05 pm **NOTES in the Human Body: Is it for Real? What Will be the Impact for the Community Endoscopist?**
Peter D. Stevens, MD

5:25 pm **Questions and Answers**

5:40 pm **Adjourn**

Recertification Preparation and Update Course

Friday, October 3, 2008 • 6:00 pm – 9:00 pm • Room: Miami Room

Course Director: *Brooks D. Cash, MD, FACG*

Registration fee: $100

Course Description

The challenges of quality patient care and optimal patient outcomes seem to increase exponentially from year to year through a combination of increased demand and burgeoning information/treatment options relating to disease guidelines, disease management recommendations, and introduction of new pharmacotherapeutic agents and devices. The clinical gastroenterologist needs to build on his/her educational foundation regarding GI anatomy and disease states that lead to their board certification and recertification while distilling the essence of new information and integrating it into their day-to-day practice. The requirement for recertification has posed an educational challenge for board certified gastroenterologists who are trying to manage their practice with their educational needs. This program is designed for physicians studying for their recertification exam who seek to increase their comfort level with the nature of the information they will be required to know as they take the exam.

Using ACG's second module developed under the leadership of Philip O. Katz, MD, FACG, and approved for self-evaluation credit toward ABIM Maintenance of Certification, faculty comprised of gastroenterologists with expertise in selected areas will review some of the types of question topics and scientific rationale needed to achieve awareness of/command over and be prepared to answer to be successful in specific recertification component areas.

Self-Evaluation Module:

ACG's Self-Assessment Program for Maintenance of Certification, 2nd edition (2008)

Required in Conjunction with the 2008 ACG Recertification Preparation Course

Earn 20 self-evaluation of medical knowledge points toward your ABIM Maintenance of Certification. ACG's online *Self-Assessment Program* is a 60-question module developed by ACG. When you complete the program, you will earn a maximum of 4 Category 1 CME credits.

ACG member price: $60 **Non-member price: $80**

Program Objectives

Upon completion of this program attendees will:

- Learn the scope of the substantive areas in organ systems and disease management that they will need to be fully conversant in to successfully complete the exam
- Obtain a clear understanding of the most effective test taking approaches

Accreditation

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 3 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Attendee Requirements

Registrants are required to purchase the ACG's Self-Assessment Program for Maintenance of Certification, 2nd edition (2008), ($60 for ACG members; $80 nonmembers).

Once registered, participants will be contacted regarding how to purchase the required module. Attendees enrolled in the ABIM's MOC program who successfully complete the ACG module will be awarded 20 self-evaluation of medical knowledge points by ABIM.

Faculty

Course Director – Brooks D. Cash, MD, FACG
Martin L. Freeman, MD, FACG
Brian E. Lacy, MD, PhD, FACG
Lawrence R. Schiller, MD, FACG
Anne Travis, MD
Atif Zaman, MD, FACG

For more information on how to purchase the module, see General Information on page 9.

Recertification Preparation and Update Course

Friday, October 3, 2008 • 6:00 pm – 9:00 pm • Room: Miami Room

Course Director: *Brooks D. Cash, MD, FACG*

Faculty Listing and Disclosure Information

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship or other relationship held within the past 12 months that may pose a potential commercial bias and to assist in resolving any conflict of interest that may arise from the relationship. The intent of this disclosure is not to prevent a speaker with a relevant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion.

Faculty have noted the following relationships related to their Recertification Course presentations.

Brooks D. Cash, MD, FACG
Associate Professor of Medicine, National Naval Medical Center, Bethesda, MD
Dr. Cash has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Martin L. Freeman, MD, FACG
Professor of Medicine, University of Minnesota, Minneapolis, MN
Consultant (unpaid): Hobbs Medical
Fellowship Support: Cook, BSCI
Research Support: Cook, BSCI

Brian E. Lacy, MD, PhD, FACG
Associate Professor of Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH
Scientific Advisory Board/Grant (investigator initiated):Takeda
Scientific Advisory Board/Grant (investigator initiated): Novartis

Lawrence R. Schiller, MD, FACG
Digestive Health Associates of Texas, Dallas, TX
Consultant: Novartis, Takeda

Anne C. Travis, MD
Associate Director, Gastroenterology Fellowship Program, Brigham and Women's Hospital, Boston, MA
Speakers Bureau: Given Imaging

Atif Zaman, MD, FACG
Associate Professor of Medicine, Oregon Health and Science University, Portland, OR
Dr. Zaman has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Annual Postgraduate Course • What's New in GI Pharmacology Course • Pathology and Imaging Course

Friday through Sunday, October 3–5, 2008

THREE-DAY BOARD REVIEW

Designed as a board review for the young specialist preparing for the exam, the Three-Day Board Review includes the Pathology & Imaging in the Evaluation of Gastrointestinal Disease Course, the What's New in GI Pharmacology Course, and the Annual Postgraduate Course. This collection of courses is designed to provide a comprehensive update in basic science and help prepare attendees for specific topics covered in the exam. Additionally, through the Postgraduate Course, you will learn better ways to integrate the newest tools in diagnosis with the latest therapeutic/treatment alternatives to achieve optimal outcomes, improve your awareness and ability to incorporate patient care decision-making issues relating to common and not-so-common GI patient conditions, and enhance your overall capacity to frame effective disease management strategies in your practice. When you sign up for the Three-Day Board Review, you will automatically be enrolled in the three designated courses. See the Registration Form on page 91 for complete pricing information.

Program Description

With the ever increasing demands to remain abreast of the many new and emerging advancements in the field of gastroenterology and the volume of patients continuing to increase as the population ages, the clinical gastroenterologist is more challenged than ever to deliver the best patient care in each situation they encounter. Research in a multitude of gastroenterology and hepatology areas continues to progress at a rapid pace. The outcome of advances in technology, diagnostic modalities, and therapeutic options has had a positive impact on the management of many GI diseases and this impact can be expected to grow as we move into the future. Scientific education, based on critical foundational knowledge and clinical skills, the communication of practical methods for treatment, and the ability to integrate the newest tools in diagnosis with the latest therapeutic/treatment options are key necessities for the GI clinician to deliver top quality patient care. The ACG Postgraduate Course will provide updates on a variety of important gastroenterology and hepatology subjects, including IBD, obesity, pancreaticobiliary topics, esophageal disorders, functional disorders, colorectal cancer, hepatitis B and C, NAFLD, acute and chronic liver disease, GI bleeding, and endoscopic techniques. Expert faculty will deliver scientific presentations in a variety of formats. Didactic lectures, followed by interactive question and answer sessions, learning luncheons in case-based and tutorial formats, and a choice of exciting breakout sessions on the latest topics in GI and liver clinical care will be offered.

The program is designed primarily for clinicians in GI/hepatology as well as physician assistants, nurse practitioners and other advanced practice healthcare professionals interested in an aggressive but scientifically sound approach to the management of GI and liver illnesses.

Accreditation – Postgraduate Course

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 13.5 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Program Objectives

Upon completion of this program, attendees will:

- Assimilate current evidence on pharmacologic and biologic treatments for IBD and determine where and when each should be used, keeping in mind their safety profiles. Recognize when surgical intervention is required, understand which surgical options are available, and determine appropriate post-surgical management options. Assess the future direction that the care of IBD patients will take and how this is likely to affect the overall management of these conditions.
- Identify how enteric nervous system activity affects GI symptoms. Explain the role of bacteria and inflammation in functional gastrointestinal disorders. Formulate a proper diagnostic and treatment plan for patients with dyspepsia, based on symptoms presented and on evidence from published studies.
- Apply colon cancer screening and surveillance guidelines into clinical practice. Address the risks and issues associated with HNPCC and FAP. Formulate a treatment plan for the patient presenting with chronic constipation or chronic diarrhea.
- Address challenges faced when managing eosinophilic esophagitis, Barrett's esophagus, and GERD.
- Discuss treatment options and wide-ranging implications when treating inflammatory bowel disease in special populations — pediatrics, the pregnant patient, and the elderly patient.
- Analyze the advancements affecting GI cancer screening modalities, including technological and endoscopic advances, radiographic advances and laboratory advances.
- Assess the increasing prevalence of obesity and the challenge GI clinicians face in the treatment of these patients and the complications that accompany the condition. Focus on the post-operative complications and long term management of bariatric surgery patients.
- Compare current treatment strategies for hepatitis B and C with emerging therapies. Assimilate evidence-based data on NAFLD and determine what steps to take in managing the NAFLD patient. Describe the extrahepatic manifestations of acute and chronic liver disease. Explore the cause and effect relationships among metabolic syndrome, obesity and liver disease.
- Discuss the current understanding of the pathophysiology of pancreatitis. Formulate a management approach for pancreatic cystic lesions. Identify and manage post-cholecystectomy complications.
- Review the etiology and diagnostic approach to various forms of GI bleeding, therefore determining the appropriate course of action for their management.
- Learn techniques to maximize ERCP effectiveness and minimize risks when performing this often challenging procedure.
- Evaluate new and emerging endoscopic techniques, including endoscopic ablation, double balloon enteroscopy, and capsule endoscopy.
- Identify success factors for effective and efficient endoscopy suite management. Compare and contrast sedation alternatives and consider their medicolegal implications. Incorporate specific and measurable indicators that define a quality colonoscopy.

Pathology and Imaging in the Evaluation of GI Disease Course

Friday, October 3, 2008 • 7:00 am – 12:35 pm • Room: Osceola Ballroom A

Course Co-Directors: *David A. Greenwald, MD, FACG and John F. Reinus, MD, FACG*

Members/Fellows:	**$150**
Resident/Trainees/Candidate Members:	**$110**
Allied Health Members:	**$125**
All Non-Members:	**$175**

Course Description

ACG's Pathology and Imaging in the Evaluation of Gastrointestinal Disease Course includes four mini-sessions, each devoted to new developments and old problems of special interest to the clinical gastroenterologist in pathology and imaging in a specific portion of the GI tract. A popular biennial offering of the College, this year's course expands the mini-session concept to include a combination lecture by a pathologist and a radiologist with the addition of endoscopic correlate images. The course faculty are recognized experts in their fields and pioneers in the development of new technologies and clinical paradigms.

Program Objectives

At the conclusion of this course, participants should be able to:

- Describe current concepts relevant to radiology and pathology in the evaluation and treatment of patients with gastrointestinal disease
- Evaluate findings of radiologic exams related to gastrointestinal disorders of the esophagus, stomach, small bowel, large intestine, liver, gallbladder and pancreas
- Identify both basic and advanced pathology findings in patients with gastrointestinal illnesses through close examinination of representative photomicrographs
- Correlate typical radiology and pathology findings with endoscopic images reflective of both the normal and abnormal physiology and pathophysiology

Accreditation

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 5 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Agenda

7:00 am	**Pathology and Imaging of the Small Bowel and Pancreas** Pathologist: *David Lewin, MD* Radiologist: *Alec Megibow, MD*
8:05 am	**Q&A**
8:20 am	**Pathology and Imaging of the Liver** Pathologist: *Romil Saxena, MD* Radiologist: *Alvin C. Silva, MD*
9:25 am	**Q&A**
9:40 am	**Break**
10:00 am	**Pathology and Imaging of the Esophagus and Stomach** Pathologist: *Robert E. Petras, MD* Radiologist: *Perry J. Pickhardt, MD*
11:05 am	**Q&A**
11:20 am	**Pathology and Imaging of the Colon** Pathologist: *Leslie H. Sobin, MD* Radiologist: *Angela D. Levy, COL, MC, USA*
12:25 pm	**Q&A**
12:35 pm	**Adjourn**

Pathology and Imaging in the Evaluation of GI Disease Course

Friday, October 3, 2008 • 7:00 am – 12:35 pm • Room: Osceola Ballroom A

Course Co-Directors: *David A. Greenwald, MD, FACG and John F. Reinus, MD, FACG*

Faculty Listing and Disclosure Information

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship or other relationship held within the past 12 months that may pose a potential commercial bias and to assist in resolving any conflict of interest that may arise from the relationship. The intent of this disclosure is not to prevent a speaker with a relevant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion.

Faculty have noted the following relationships related to their Pathology and Imaging Course presentations.

Angela D. Levy, COL, MC, USA
Associate Professor of Radiology, Uniformed Services University, Bethesda, MD
Dr. Levy has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

David Lewin, MD
Professor of Pathology, Director of GI Pathology, Medical University of South Carolina, Charleston, SC
Dr. Lewin has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Alec Megibow, MD
Professor of Radiology, NYU Medical Center School of Medicine, New York, NY
Dr. Megibow has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Robert E. Petras, MD
Director of Gastrointestinal Pathology, AmeriPath, Inc., Oakwood Village, OH
Dr. Petras has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Perry J. Pickhardt, MD
Associate Professor of Radiology, University of Wisconsin Medical School, Madison, WI
Dr. Pickhardt has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Romil Saxena, MD, FRCPath
Associate Professor, Indiana University School of Medicine, Indianapolis, IN
Dr. Saxena has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Alvin C. Silva, MD
Assistant Professor of Radiology, Mayo Clinic Scottsdale, Scottsdale, AZ
Dr. Silva has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Leslie H. Sobin, MD
Chief, Gastrointestinal Pathology, Armed Forces Institute of Pathology, Washignton, DC
Dr. Sobin has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

What's New in GI Pharmacology Course

Friday, October 3, 2008 • 1:45 pm – 4:45 pm • Room: Osceola Ballroom A

Course Director: *Philip O. Katz, MD, FACG*

Members/Fellows:	**$150**
Resident/Trainees/Candidate Members:	**$110**
Allied Health Members:	**$125**
All Non-Members:	**$175**

Course Description

There is an ever-increasing demand on a physician's time to keep up with the expanding list of pharmacologic treatments of GI and liver disorders. ACG's What's New in Pharmacology Course provides an intensive review of key GI pharmacology, including comparisons and contrasts between conventional and emerging pharmacological treatment options. A comprehensive review of hot topic areas such as eosinophilic esophagitis, IBD, hepatic encephalopathy, NSAIDs, functional bowel disorders, and GI medications in pregnancy will be conducted in didactic presentations from expert faculty. The program is designed primarily for clinicians in GI/hepatology as well as physician assistants, nurse practitioners and other advanced practice healthcare professionals interested in the latest information on state of the art treatment of these illnesses. This course is an essential component of the three-day Board Review.

Program Objectives

At the conclusion of this course, participants should be able to:

- Describe current and emerging therapeutic strategies for patients diagnosed with eosinophilic esophagitis
- Select management strategies to minimize the gastroenterological risks associated with NSAID use
- Review the evidence regarding the efficacy and safety profile of current pharmacologic and biologic therapies in the management of IBD
- Identify the most effective pharmacological treatment options for the management of predominant symptoms of functional bowel disorders
- Evaluate pharmacological therapies for the management of hepatic encephalopathy
- Determine available pharmacological therapies that are safe and effective, and those to be avoided, for treatment of GI disorders in the pregnant patient

Agenda

1:45 pm **Eosinophilic Esophagitis: Current Therapies and Future Directions**
Joel E. Richter, MD, MACG

2:15 pm **NSAIDs: The Good, the Bad, the Ugly**
James M. Scheiman, MD, FACG

2:45 pm **What's New for IBD**
Sunanda V. Kane, MD, MSPH, FACG

3:15 pm **Pharmacological Management of Symptoms in the Functional Bowel Disorders**
Lawrence R. Schiller, MD, FACG

3:45 pm **Management of Hepatic Encephalopathy: Starvation Diet No Longer Required**
Mitchell L. Shiffman, MD, FACG

4:15 pm **GI Medications in Pregnancy**
Philip O. Katz, MD, FACG

4:45 pm **Adjourn**

Accreditation

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 3 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

What's New in GI Pharmacology Course

Friday, October 3, 2008 • 1:45 pm – 4:45 pm • Room: Osceola Ballroom A

Course Director: *Philip O. Katz, MD, FACG*

Faculty Listing and Disclosure Information

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship or other relationship held within the past 12 months that may pose a potential commercial bias and to assist in resolving any conflict of interest that may arise from the relationship. The intent of this disclosure is not to prevent a speaker with a relevant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion.

Faculty have noted the following relationships related to their GI Pharmacology Course presentations.

Sunanda V. Kane, MD, MSPH, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Consultant: Abbott, Centocor, Elan, UCB
Research Support: Elan, UCB

Philip O. Katz, MD, FACG
Chairman, Division of Gastroenterology, Albert Einstein Medical Center, Philadelphia, PA
Honoraria for Lectures: AstraZeneca, Santarus, TAP
Consultant: AstraZeneca, Horizon Therapeutics, Prometheus, TAP

Joel E. Richter, MD, MACG
Chairman, Department of Medicine, Temple University School of Medicine, Philadelphia, PA
Speaker's Bureau: AstraZeneca, TAP

James M. Scheiman, MD, FACG
Professor of Medicine, University of Michigan, Ann Arbor, MI
Consultant: AstraZeneca, Novartis, Pfizer, Bayer, Horizon Therapeutics, TAP
Speaker's Honoraria: AstraZeneca

Lawrence R. Schiller, MD, FACG
Clinical Professor, University of Texas Southwestern, Dallas, TX
Consultant: Takeda/Sucampo, Procter & Gamble, Prometheus Labs, Novartis
Speaker's Bureau: Takeda/Sucampo, Procter & Gamble, Prometheus Labs, Novartis
Advisory Board: Prometheus Labs, Takeda/Sucampo, McNeil Labs

Mitchell L. Shiffman, MD, FACG
Professor of Medicine, Virginia Commonwealth University Medical Center, Richmond, VA
Speaker: Salix

Investigational Use Disclosure

ACG's disclosure policy maintains that if any unapproved or off-label use of a product is to be referenced in a CME program, the faculty member is required to disclose that the product is either investigational or it is not labeled for the usage being discussed. The following faculty members have indicated they may reference an off-label use in their Pharmacology Course presentation.

Dr. Katz - medication use in pregnancy
Dr. Richter - treatment of eosinophilic esophagitis
Dr. Scheiman - use of PPI's to lower risk of GI bleeding
Dr. Schiller - antidepressants, probiotics, antibiotics for functional syndromes
Dr. Shiffman - use of rifaximin

Annual Postgraduate Course

Saturday and Sunday, October 4 and 5, 2008 • Room: Osceola Ballroom

Course Co-Directors: *Neena S. Abraham, MD, FACG, Brooks D. Cash, MD, FACG and Stephen C. Hauser, MD, FACG*

SATURDAY, October 4, 2008

7:50 am – 5:00 pm

Session 1A: Inflammatory Bowel Disease

(Osceola Ballroom)

Moderator: *Maria T. Abreu, MD*

7:50 am **Introduction**
Neena S. Abraham, MD, FACG
Brooks D. Cash, MD, FACG
Stephen C. Hauser, MD, FACG

8:00 am **Our Current Understanding of IBD**
Stephan R. Targan, MD

8:20 am **Non-biologic Therapies: Where Do They Stand?**
Asher Kornbluth, MD

8:40 am **Identifying the Time and Place for Biologics**
Maria T. Abreu, MD

9:00 am **Surgery and the IBD Patient: Appropriate Case Selection and Surgical Options**
Sunanda V. Kane, MD, MSPH, FACG

9:20 am **Panel Q & A**

9:40 am **BREAK**

10:00 am **David Sun Lecture – The Future Direction of IBD Care**
William J. Sandborn, MD, FACG
See page 4 for more information.

Session 1B: Functional GI Disorders: Diagnosis and Management (Osceola Ballroom)

Moderator: *William D. Chey, MD, FACG*

10:30 am **Reconciling Enteric Neuromuscular Activity with GI Symptoms**
Pankaj J. Pasricha, MD

10:50 am **Role of Bacteria and Inflammation in Functional GI Disorders**
Eamonn M.M. Quigley, MD, FACG

11:10 am **Dyssynergic Defecation and Brain Gut Interactions**
Satish S.C. Rao, MD, PhD, FACG

11:30 am **Dyspepsia and Vomiting**
William D. Chey, MD, FACG

11:50 am **Panel Q & A**

12:10 pm **BREAK FOR LEARNING LUNCHEONS**
(See listing on this page.)

Saturday Learning Luncheons – "Case-Based Advice from the Experts"

12:20 pm – 1:35 pm

Cost is $50 per person/per luncheon. Separate registration is required. If you have not registered, visit the ACG Registration Desk.

1. **Use of Stents in the GI Tract**
   Anthony N. Kalloo, MD, FACG
2. **Advanced Polypectomy Techniques**
   Jerome D. Waye, MD, MACG
3. **Evaluation of Abnormal Liver Enzymes**
   Mitchell L. Shiffman, MD, FACG
4. **Management of Ascites**
   Rowen K. Zetterman, MD, MACG
5. **Chronic Care of Patients with IBD**
   David T. Rubin, MD, FACG
6. **Management of Barrett's Esophagus: Screening, Surveillance and Ablation**
   Prateek Sharma, MD, FACG and
   Nicholas J. Shaheen, MD, MPH, FACG
7. **Chemoprevention of Colon Cancer: The Role of the Gastroenterologist**
   Robert Carroll, MD
8. **Management of Chronic Pancreatitis**
   Peter A. Banks, MD, MACG
9. **Evaluation and Treatment of Gastroparesis**
   Henry P. Parkman, MD, FACG
10. **Liver Disease and Pregnancy**
    Stephen C. Hauser, MD, FACG
11. **Optimizing ERCP Efficiency and Effectiveness**
    Grace H. Elta, MD, FACG
12. **Breath Testing: Who, When, Why and How?**
    Mark Pimentel, MD and
    Eamonn M.M. Quigley, MD, FACG

Session 1C: Colon (Osceola Ballroom)
Moderator: *Carol A. Burke, MD, FACG*

1:45 pm **Screening and Surveillance for Colorectal Cancer**
Douglas K. Rex, MD, FACG

2:05 pm **HNPCC/FAP**
Carol A. Burke, MD, FACG

2:25 pm **Outpatient Evaluation of Chronic Diarrhea**
Lawrence R. Schiller, MD, FACG

2:45 pm **Outpatient Evaluation of Chronic Constipation**
Brian E. Lacy, MD, PhD, FACG

3:05 pm **Panel Q & A**

3:25 pm **BREAK**

3:45 pm–5:00 pm **SIMULTANEOUS SYMPOSIA**

Symposium A – Burning Esophageal Issues
(Osceola Ballroom A)
Moderator: *Roy K.H. Wong, MD, FACG*

3:45 pm **Eosinophilic Esophagitis**
Joel E. Richter, MD, MACG

4:10 pm **Conundrums in Barrett's Esophagus**
Roy K.H. Wong, MD, FACG

4:35 pm **Diagnosis and Management of ENRD/NERD**
Stuart J. Spechler, MD, FACG

Symposium B – IBD in Special Populations
(Sun Ballroom A)
Moderator: *Sunanda V. Kane, MD, MSPH, FACG*

3:45 pm **Pediatric IBD**
Marla C. Dubinsky, MD

4:10 pm **IBD and Pregnancy**
Sunanda V. Kane, MD, MSPH, FACG

4:35 pm **IBD in the Elderly**
Maria T. Abreu, MD

Symposium C – Advances in Colorectal Cancer Screening (Osceola Ballroom C)
Moderator: *Brooks D. Cash, MD, FACG*

3:45 pm **Endoscopic Advances**
Douglas K. Rex, MD, FACG

4:10 pm **Radiographic Advances**
David A. Johnson, MD, FACG

4:35 pm **Laboratory Advances**
Brooks D. Cash, MD, FACG

5:00 pm **Adjourn**

SUNDAY October 5, 2008
7:50 am – 5:00 pm

Session 2A: Obesity (Osceola Ballroom)
Moderator: *Amy E. Foxx-Orenstein, DO, FACG*

7:50 am **Introduction**
Neena S. Abraham, MD, FACG
Brooks D. Cash, MD, FACG
Stephen C. Hauser, MD, FACG

8:00 am **The Expanding Science of Obesity**
Amy E. Foxx-Orenstein, DO, FACG

8:20 am **GI Complications of Obesity**
Hashem B. El-Serag, MD, MPH

8:40 am **Medical Management of Obesity**
Mark T. DeMeo, MD, FACG

9:00 am **Surgical Management of Obesity and Post-operative Complications**
Peter T. Hallowell, MD

9:20 am **Panel Q & A**

9:40 am **BREAK**

Session 2B: Liver (Osceola Ballroom)
Moderator: *Stephen C. Hauser, MD, FACG*

10:00 am **Hepatitis B: Where Are We in 2008 and Where Are We Going?**
Mitchell L. Shiffman, MD, FACG

10:20 am **Hepatitis C: Therapy and Outcomes**
Norah Terrault, MD, MPH

10:40 am **Chronic Diseases of the Biliary Tract**
Naga P. Chalasani, MD, FACG

11:00 am **Extrahepatic Manifestations of Acute and Chronic Liver Disease**
Rowen K. Zetterman, MD, MACG

11:20 am **Panel Q & A**

11:40 am **State of the Art Lecture:**
NAFLD – State of the Art and State of the Nation
Michael R. Charlton, MD

12:00 noon **BREAK FOR LEARNING LUNCHEONS**
(See listing on next page.)

NEW THIS YEAR

VISIT THE EXHIBIT HALL TO HEAR

Sunday Afternoon FAQ Sessions

ACG has added 2 additional FAQ Sessions this year, both of which will take place in the Exhibit Hall on Sunday.

Functional Bowel Disorders (5:15 pm to 5:45 pm)
Nicholas J. Talley, MD, PhD, FACG

Colon (6:00 pm to 6:30 pm)
Douglas K. Rex, MD, FACG

Sunday Learning Luncheons – "In-depth Tutorials"

12:20 pm – 1:35 pm

Cost is $50 per person/per luncheon. Separate registration is required. If you have not registered, visit the ACG Registration Desk.

13. **Colorectal Cancer Screening and Surveillance**
    Philip S. Schoenfeld, MD, MSEd, MScEpi, FACG
14. ***H. pylori*: Is It Still Important?**
    Nicholas J. Talley, MD, PhD, FACG
15. **Celiac Sprue**
    Ciaran P. Kelly, MD
16. **Intestinal Ischemia: Cases and Discussion**
    Lawrence J. Brandt, MD, MACG
17. **Neuroendocrine Tumors: Evaluation and Treatment**
    M. Michael Wolfe, MD, FACG
18. **GISTs**
    Douglas O. Faigel, MD, FACG
19. **Acute Pancreatitis**
    Scott M. Tenner, MD, MPH, FACG
20. **Mechanisms and Treatment of Chronic Functional Abdominal Pain**
    Lin Chang, MD
21. **Chronic Diarrhea**
    Lawrence R. Schiller, MD, FACG
22. **Evaluation of Liver Masses**
    Lewis R. Roberts, MB, ChB, PhD, FACG
23. **Complementary and Alternative Medicine in IBD**
    Kenneth R. McQuaid, MD, FACG
24. **Evaluation and Management of Dysphagia**
    Philip O. Katz, MD, FACG

Session 2C: Pancreaticobiliary (Osceola Ballroom)

Moderator: *William R. Brugge, MD, FACG*

1:45 pm **Pathophysiologic Basis of Pancreatitis**
Darwin L. Conwell, MD

2:05 pm **Endoscopic Management of Acute and Chronic Pancreatitis**
Glen A. Lehman, MD, FACG

2:25 pm **Management of Pancreatic Cysts and Cystic Masses**
William R. Brugge, MD, FACG

2:45 pm **Post-cholecystectomy Complications: Pathogenesis and Management**
Grace H. Elta, MD, FACG

3:05 pm **Panel Q & A**

3:25 pm **Break**

3:45 pm – 5:00 pm **SIMULTANEOUS SESSIONS**

Symposium D: Management of Gastrointestinal Bleeding (Sun Ballroom A)

Moderator: *Neena S. Abraham, MD, FACG*

3:45 pm **Peptic Ulcer Disease**
Loren A. Laine, MD, FACG

4:10 pm **AVMs, Diverticulae and Hemorrhoids**
James M. Scheiman, MD, FACG

4:35 pm **Obscure Gastrointestinal Bleeding: Diagnosis and Management**
Neena S. Abraham, MD, FACG

Symposium E: ERCP Tricks of the Trade

(Sun Ballroom B)

Moderator: *John Baillie, MB, ChB, FACG*

3:45 pm **Dealing with the Difficult Cannulation**
John Baillie, MB, ChB, FACG

4:10 pm **Pancreatic and Biliary Stenting: Indications and Advances**
Todd H. Baron, MD

4:35 pm **Pancreatic and Biliary Duct Endoscopy**
J. David Horwhat, MD, FACG

Symposium F: Evolving Endoscopic Techniques

(Osceola Ballroom C)

Moderator: *Prateek Sharma, MD, FACG*

3:45 pm **Endoscopic Ablation: Thermal, Light or Cut? A Review of the Evidence**
Prateek Sharma, MD, FACG

4:10 pm **Double Balloon Enteroscopy: Indications and Efficacy**
Lauren B. Gerson, MD

4:35 pm **Capsule Endoscopy: What's the Future Hold and Should I Buy the Equipment?**
Felice Schnoll-Sussman, MD

Symposium G: Maximizing Endoscopic Practice

(Osceola Ballroom A)

Moderator: *John L. Petrini, MD, FACG*

3:45 pm **Keys to Success for an Efficient Endoscopy Suite**
John L. Petrini, MD, FACG

4:10 pm **Sedation Alternatives and Monitoring During Endoscopy: Medicolegal Implications**
Andrew D. Feld, MD, JD, FACG

4:35 pm **Measuring and Documenting Endoscopic Quality Indicators**
Irving M. Pike, MD, FACG

Annual Postgraduate Course

Saturday and Sunday, October 4 and 5, 2008 • Room: Osceola Ballroom

Course Co-Directors: *Neena S. Abraham, MD, FACG, Brooks D. Cash, MD, FACG and Stephen C. Hauser, MD, FACG*

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Faculty have noted the following relationships related to their Postgraduate Course presentations.

Neena S. Abraham, MD, FACG
Assistant Professor of Medicine, Baylor College of Medicine, Houston, TX
Dr. Abraham has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Maria T. Abreu, MD
Chief, Division of Gastroenterology, University of Miami, Miami, FL
Consultant/Speaker: Salix, Procter & Gamble, Abbott, Prometheus, UCB

John Baillie, MB, ChB, FACG
Professor of Internal Medicine, Wake Forest University, Health Sciences, Winston-Salem, NC
Consultant: ConMed

Peter A. Banks, MD, MACG
Professor of Medicine, Harvard Medical School, Boston, MA
Dr. Banks has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Todd H. Baron, MD
Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Speaker: Cook, ConMed, Olympus

Lawrence J. Brandt, MD, MACG
Professor of Medicine, Albert Einstein College of Medicine, Bronx, NY
Dr. Brandt has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

William R. Brugge, MD, FACG
Director, GI Endoscopy Unit, Massachusetts General Hospital, Boston, MA
Dr. Brugge has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Carol A. Burke, MD, FACG
Director, Center for Colon Polyps & Cancer, Cleveland Clinic Foundation, Cleveland, OH
Research/Steering Committee: Pfizer

Robert E. Carroll, MD
Associate Professor of Medicine, University of Illinois at Chicago, Chicago, IL
Dr. Carroll has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Brooks D. Cash, MD, FACG
Associate Professor of Medicine, National Naval Medical Center, Bethesda, MD
Dr. Cash has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Naga P. Chalasani, MD, FACG
Associate Professor of Medicine, Indiana University, Indianapolis, IN
Dr. Chalasani has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Lin Chang, MD
Associate Professor of Medicine, UCLA Division of Digestive Diseases, Los Angeles, CA
Research Grant: GSK, Prometheus
Consultant: GSK, Prometheus, Takeda, Salix

Michael R. Charlton, MD
Professor of Medicine, Mayo Clinic, Rochester, MN
Dr. Charlton has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

William D. Chey, MD, FACG
Professor of Medicine, University of Michigan Medical Center, Ann Arbor, MI
Consultant/Speaker's Bureau: Axcan, Novartis, Procter & Gamble, Santarus, TAP, Takeda

Darwin L. Conwell, MD
Associate Professor of Medicine, Brigham and Women's Hospital, Boston, MA
Dr. Conwell has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Mark T. DeMeo, MD, FACG
Associate Professor of Medicine, Rush University Medical Center, Chicago, IL
Dr. DeMeo has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Marla C. Dubinsky, MD
Assistant Professor of Pediatrics, David Geffen School, of Medicine at UCLA, Cedars-Sinai Medical Center, Los Angeles, CA
Grant Support: Centocor
Consultant: Prometheus

Hashem B. El-Serag, MD, MPH
Associate Professor of Medicine, Houston VA Medical Center, Houston, TX
Dr. El-Serag has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Grace H. Elta, MD, FACG
Professor of Medicine, University of Michigan, Ann Arbor, MI
Dr. Elta has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Douglas O. Faigel, MD, FACG
Associate Professor of Medicine, Oregon Health Sciences University, Portland, OR
Consultant: Olympus

Andrew D. Feld, MD, JD, FACG
Clinical Associate Professor, University of Washington, Group Health Cooperative, Seattle, WA
Advisory Board: Ethicon Endosurgery

Amy E. Foxx-Orenstein, DO, FACG
Associate Professor of Medicine, Mayo Clinic, Rochester, MN
Dr. Foxx-Orenstein has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Lauren B. Gerson, MD
Associate Professor, Stanford University, Stanford, CA
Grant Support: Fujinon
Speaker's Bureau: Fujinon, Given Imaging

Peter T. Hallowell, MD
Assistant Professor, University Hospitals of Cleveland, Cleveland, OH
Dr. Hallowell has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Stephen C. Hauser, MD, FACG
Assistant Professor of Medicine, Mayo Clinic, Rochester, MN
Dr. Hauser has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

John D. Horwhat, MD, FACG
Director of Clinical Services, Walter Reed Army Medical Center, Rockville, MD
Dr. Horwhat has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

David A. Johnson, MD, FACG
Professor of Medicine, Eastern Virginia School of Medicine, Norfolk, VA
Dr. Johnson has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Anthony N. Kalloo, MD, FACG
Director, Gastroenterology & Hepatology, Johns Hopkins Hospital, Baltimore, MD
Dr. Kalloo has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Sunanda V. Kane, MD, MSPH, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Consultant: Abbott, Centocor, Elan, UCB
Research Support: Elan, UCB

Philip O. Katz, MD, FACG
Chair, Division of Gastroenterology, Albert Einstein Medical Center, Philadelphia, PA
Honoraria for Lectures: AstraZeneca, Santarus, TAP
Consultant: AstraZeneca, Horizon Therapeutics, Prometheus, TAP

Ciaran P. Kelly, MD, FACG
Associate Professor of Medicine, Beth Israel Deaconess Medical Center/ GI Division, Boston, MA
Consultant and Scientific Advisor: Alvine
Research Grant Support: Alba

Asher Kornbluth, MD
Associate Clinical Professor of Medicine, Mount Sinai School of Medicine, New York, NY
Grant or Research Support: Procter & Gamble, Salix, Centocor, Abbott, UCB, BMS, Osiris
Consultant/Scientific Advisor: Procter & Gamble, Salix, Shire, Centocor, Given Imaging, Prometheus, UCB, Elan Pharmaceuticals
Speaker's Bureau/Honoraria: Procter & Gamble, Salix, Prometheus, Abbott, UCB, Shire, Elan Pharmaceuticals

Brian E. Lacy, MD, PhD, FACG
Associate Professor of Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH
Educational Grant (investigator initiated)/Speaker's Bureau: Takeda

Loren A. Laine, MD, FACG
Professor of Medicine, USC School of Medicine, Los Angeles, CA
Research Support: TAP
Consultant: AstraZeneca, Novartis, Horizon, Santarus, Pozen
Data Safety Monitoring Board: Pfizer

Glen A. Lehman, MD, FACG
Professor of Medicine and Radiology, Indiana University Medical Center, Indianapolis, IN
Dr. Lehman has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Kenneth R. McQuaid, MD, FACG
Professor of Clinical Medicine, University of California at San Francisco, San Francisco, CA
Dr. McQuaid has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Henry P. Parkman, MD, FACG
Associate Professor of Medicine, Temple University, Philadelphia, PA
Advisory Board: SmartPill, Tranzyne

Pankaj J. Pasricha, MD
Chief, Division of Gastroenterology & Hepatology, Stanford University, Stanford, CA
Dr. Pasricha has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

John L. Petrini, MD, FACG
Clinical Associate Professor of Medicine, University of Southern California, Los Angeles, CA
Dr. Petrini has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Irving M. Pike, MD, FACG
Gastrointestinal & Liver Specialists of Tidewater, PLLC, Virginia Beach, VA
Dr. Pike has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Mark Pimentel, MD
Assistant Professor of Medicine, UCLA Geffen School of Medicine, Los Angeles, CA
Grant: Novartis
Grant/Research: Lilly
Consultant: Salix (Cedars has licensing arrangement with Salix)

Eamonn M.M. Quigley, MD, FACG
Professor of Medicine, National University of Ireland at Cork, Cork, Ireland
Dr. Quigley has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Satish S.C. Rao, MD, PhD, FACG
Professor of Medicine, University of Iowa Hospitals & Clinics, Iowa City, IA
Research Grant: SmartPill
Consultant/Advisory Board: SmartPill, Novartis, Takeda Pharmaceuticals, Forest Laboratories, Procter & Gamble
Speaker's Bureau: AstraZeneca, Novartis, Takeda Pharmaceuticals North America, Sucampo Pharmaceuticals

Douglas K. Rex, MD, FACG
Professor of Medicine, Indiana University Hospital, Indianapolis, IN
Speaker's Bureau: TAP, CB Fleet, Salix, Olympus
Research Support: Olympus, CB Fleet, Salix, MGI Pharma, Given Imaging
Scientific Advisory Boards: Given Imaging, Avantis Medical Systems, CB Fleet, Salix, GI View, American BioOptics

Joel E. Richter, MD, MACG
Chairman, Department of Medicine, Temple University School of Medicine, Philadelphia, PA
Speaker's Bureau: AstraZeneca, TAP

ACG's 2008 Postgraduate Course — Faculty Listing

Lewis R. Roberts, MB, ChB, PhD, FACG
Associate Professor of Medicine, Mayo Clinic, Rochester, MN
Dr. Roberts has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

David T. Rubin, MD, FACG
Associate Professor of Medicine, University of Chicago School of Medicine, Chicago, IL
Grant Support: Given Imaging, Procter & Gamble, Prometheus, Salix
Consultant: Abbott Immunology, Axcan Pharma, Given Imaging, Procter & Gamble, Prometheus, Salix, Shire, UCB, Inc.

William J. Sandborn, MD, FACG
Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Consultant: Procter & Gamble, Shire, Salix, Centocor, Abbott, UCB, Inc., Elan
Research Support: Procter & Gamble, Shire, Centocor, Abbott, UCB, Inc., Elan

James M. Scheiman, MD, FACG
Professor of Medicine, University of Michigan, Ann Arbor, MI
Consultant: AstraZeneca, Novartis, Pfizer, Bayer, Horizon Therapeutics, TAP
Speaker's Bureau: AstraZeneca

Lawrence R. Schiller, MD, FACG
Digestive Health Associates of Texas, Dallas, TX
Dr. Schiller has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Philip S. Schoenfeld, MD, MSEd, MScEpi, FACG
Associate Professor, University of Michigan, Ann Arbor, MI
Dr. Schoenfeld has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Felice Schnoll-Sussman, MD
Assistant Professor of Medicine, Weill Medical College of Cornell University, New York, NY
Speaker's Bureau: Given Imaging

Nicholas J. Shaheen, MD, MPH, FACG
Associate Professor of Medicine and Epidemiology, University of North Carolina, Chapel Hill, NC
Consultant: AstraZeneca, CSA Medical, TAP
Speaker's Bureau: AstraZeneca
Grant Support: Barrx Medical, CSA Medical, Procter & Gamble, TAP

Prateek Sharma, MD, FACG
Professor of Medicine, University of Kansas School of Medicine, Kansas City, MO
Grant: Olympus, Barrx

Mitchell L. Shiffman, MD, FACG
Professor of Medicine, Virginia Commonwealth University Medical Center, Richmond, VA
Consultant: Gilead, Roche
Speaker: Bristol-Myers, Gilead, Roche
Grant: Gilead, Roche

Stuart J. Spechler, MD, FACG
Chief, Division of Gastroenterology, Dallas VA Medical Center, Dallas, TX
Grant: AstraZeneca, Takeda, Barrx Medical

Nicholas J. Talley, MD, PhD, FACG
Professor of Medicine, Mayo Clinic Jacksonville, Jacksonville, FL
Consultant: AccreditEd, Addex Pharmaceuticals, SA, Annanberg Center, Astellas Pharma, Inc. US, AstraZeneca R&D Lund, Axcan Pharma, Callisto Pharmaceuticals, Conexus, Dynogen, F-Network, Ferring Pharmaceuticals, Inc., Interactive Forum, Inc., Lexicon Genetics, Inc., McNeil Consumer, Medscape from WebMD, Metabolic Pharma, MGI Pharma, Microbia, Inc., Novartis, Oakstone Publishing, Optum HC, Procter & Gamble, Salix
Financial Support: Novartis, Takeda, GlaxoSmithKline, Dynogen, Tioga

Stephan R. Targan, MD
Director, Inflammatory Bowel Disease Center & Division of Gastroenterology, Cedars-Sinai Medical Center, Los Angeles, CA
Board of Directors: Prometheus
Consultant: Elan, Procter & Gamble, Prometheus

Scott M. Tenner, MD, MPH, FACG
Associate Professor of Medicine, State University of New York, Health Sciences Center, Brooklyn, NY
Dr. Tenner has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Norah A. Terrault, MD
Associate Professor, UCSF-Division of Gastroenterology, San Francisco, CA
Grant Support: Roche Pharmaceuticals, Human Genome Sciences, Vertex Pharmaceuticals, Schering-Plough, Pharmassett, Conatus, Novartis, Gilead, Siemens Diagnostics
Consultant: Siemens Diagnostics

Jerome D. Waye, MD, MACG
Clinical Professor, Mt. Sinai School of Medicine, New York, NY
Dr. Waye has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

M. Michael Wolfe, MD, FACG
Chief, Section of Gastroenterology, Boston University School of Medicine, Boston Medical Center Section of Gastroenterology, Boston, MA
Dr. Wolfe has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Roy K.H. Wong, MD, FACG
Chief of Gastroenterology, Walter Reed Army Medical Center, Washington, DC
Speaker's Bureau: TAP

Rowen K. Zetterman, MD, MACG
Professor of Medicine, University of Nebraska Medical Center, Omaha, NE
Dr. Zetterman has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Investigational Use Disclosures

ACG's disclosure policy maintains that if any unapproved or off-label use of a product is to be referenced in a CME program, the faculty member is required to disclose that the product is either investigational or it is not labeled for the usage being discussed. The following faculty members have indicated they may reference an off-label use in their PG Course presentation(s).

- Dr. Brandt – Use of aminosalicylates for diverticulitis prevention
- Dr. Chang – Use of tricyclic antidepressants, SSRI, SSNRI for chronic abdominal pain, IBS
- Dr. Dubinsky – Use of 6–MP, methotrexate in IBD
- Dr. Hallowell – Endoscopic stent for leaks
- Dr. Kane – Use of prednisone, azathioprine in IBD
- Dr. Kelly – Oral budesonide in celiac disease
- Dr. Laine – PPIs for GI bleeding
- Dr. Parkman – Use of domperidone in the treatment of gastroparesis
- Dr. Richter – Treatment of eosinophilic esophagitis
- Dr. Rubin – Chemoprevention of cancer in IBD with aminosalicylates
- Dr. Schnoll–Sussman – Colon capsule

Support
The American college of Gastroenterology acknowledges an educational grant in support of the Postgraduate Course from Procter & Gamble.

Annual Scientific Meeeting

Monday – Wednesday, October 6 through 8, 2008 • Room: Sun Ballroom

Program Description

The field of gastroenterology and hepatology continues to see advancements in multiple areas relating to diagnostic measures, therapeutic options and technology. In order to provide appropriate and top-quality patient care, the clinician is challenged to stay abreast of the changes and advancements affecting the management of many gastrointestinal and liver disease states. Throughout this three day annual meeting you will be exposed to updates in a variety of topics including IBD, hepatitis B and C, colorectal cancer screening, endoscopic techniques and GI bleeding, diverticular disease, Barrett's esophagus, GERD, IBS and motility disorders, obesity and bariatric surgery, and pancreatic conditions.

Twelve scientific plenary symposia will allow attendees to hear lecture presentations from experts and to participate in interactive question and answer sessions with the faculty. In addition, 13 optional scientific breakfast sessions will be offered, including 2 sessions that are in an "Ask the Experts" format structured to review complex IBD cases and to review the updated Barrett's esophagus guidelines.

The program is designed primarily for physicians in gastroenterology and hepatology as well as physician assistants, nurse practitioners and other advanced practice healthcare professionals interested in the latest information on state of the art treatment of these illnesses.

Program Objectives

Upon completion of this program attendees will:

- Assimilate evidence supporting the role of biologics in the treatment of Crohn's disease and assess the safety issues to the patient. Consult with IBD experts on the management of complicated IBD cases and gain the panel's perspective on different therapeutic options and at what time to intervene with these options. Recognize when surgical intervention is required in patients with severe Crohn's disease and ulcerative colitis and understand the post-surgical management of these patients. Identify the course of action with dysplasia in IBD, incorporating endoscopic techniques, surveillance guidelines, and management options.
- Evaluate current and emerging therapeutic options for hepatitis B and C and autoimmune liver diseases. Incorporate current practice guidelines, including diagnostic approaches, treatment options, and surveillance recommendations for these prevalent liver diseases. Provide effective inpatient and outpatient consults for the common problems encountered by chronic liver disease patients.
- Review the colorectal cancer screening guidelines and criteria, updates, controversies, and the importance of these guidelines. Incorporate into practice the indicators that define a quality colonoscopy. Define serrated polyps and identify the risk for malignancy in such polyps. Develop an algorithm for evaluating patients with multiple polyps. Identify the role of CT colonography, the essential aspects of performing CT colonography and the critical elements of reading and follow-up of findings.
- Evaluate the role of capsule endoscopy in occult GI bleeding. Develop a practical strategy to diagnosing and treating different causes of GI bleeding. Integrate new and existing technologies into clinical practice, including single and double balloon enteroscopy, and evaluate which procedure is best suited for each case. Identify and formulate strategies to reduce the bleeding risk while performing endoscopic procedures and strategies to recognize and appropriately manage gastrointestinal endoscopic emergencies.
- Evaluate medical and endoscopic intervention for diverticular disease and identify indications for surgery and surgical options for diverticular disease.
- Differentiate the 2002 practice guidelines for the diagnosis, surveillance and treatment of Barrett's esophagus from the updated 2008 published guidelines and ask questions to the authors of the guidelines. Incorporate updated information regarding the risk of cancer in patients with Barrett's esophagus and discuss the appropriate screening and surveillance methods. Deliberate the benefits and risks of EMR in patients with mucosal abnormalities.
- Evaluate current evidence to determine the value of diagnostic tests including impedance in GERD. Develop a strategy for managing the refractory GERD patient. Determine the relationship between and the impact of GERD and sleep disturbances and formulate a plan to manage the affected patient.
- Review the new ACG guidelines for an evidence-based approach to irritable bowel syndrome, incorporating into clinical practice the diagnostic tests and therapeutic options available. Evaluate the role enteric flora play in motility disorders and based on these findings, determine the utility of antibiotics and probiotics for these conditions.
- Assess the complications and therapeutic challenges of obesity. Recognize the long term nutritional deficiencies in the bariatric surgery patient. Incorporate new techniques to evaluate symptoms and modify the approach to the management of GI symptoms in the bariatric surgery patient using an understanding of anatomic and physiologic changes.
- Identify manifestations of autoimmune pancreatitis, develop a rationale for management of pancreatic cystic lesions, and expand knowledge and use of available techniques for risk reduction in ERCP. Assimilate ACG guidelines for acute pancreatitis, incorporate diagnostic criteria and appropriate therapeutic options into clinical practice, understand the complications of pancreatitis and determine the best suitable course of action. Incorporate appropriate diagnostic and therapeutic options into practice for chronic pancreatitis and review controversies in the diagnosis and treatment of chronic pancreatitis.
- From an international perspective, evaluate the GERD Asian Pacific Guidelines and their worldwide impact, analyze ways to reduce the impact of hepatocellular carcinoma on morbidity and mortality, and explore the relation between *H. pylori* and gastric cancer including the international prevalence and possibilities of reducing its worldwide impact.

Accreditation

The American College of Gastroenterology is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American College of Gastroenterology designates this educational activity for a maximum of 16.25 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

MONDAY, October 6, 2008

8:00 am – 5:15 pm

7:00 am-5:15 pm **Registration** (City Hall Lobby)

8:00 am **Opening Remarks** (Sun Ballroom)
Amy E. Foxx-Orenstein, DO, FACG
ACG President

8:00 am-9:00 am **PLENARY SESSION**

President's Plenary Session (Sun Ballroom)
Moderators: *Amy E. Foxx-Orenstein, DO, FACG*
Jean-Paul Achkar, MD, FACG

1. Complete Barrett's Eradication Endoscopic Mucosal Resection (CBE-EMR): An Effective Treatment Modality for High Grade Dysplasia (HGD) and Intramucosal Carcinoma (IMC) – An American Single Center Experience
★ 2008 ACG Governors Award Recipient for Excellence in Clinical Research
J.S. Chennat, V.J. Konda, A.S. Ross, A. Herreros de Tejada, I. Waxman, CERT (Center for Endoscopic Research and Therapeutics), Department of Medicine, University of Chicago Medical Center, Chicago, IL; A. Noffsinger, J. Hart, Department of Surgical Pathology, University of Chicago Medical Center, Chicago, IL; M. Ferguson, M.C. Posner, Department of Surgery, University of Chicago Medical Center, Chicago, IL

2. Open-Label Use of Domperidone in Patients with Gastroparesis and Small Bowel Dysfunction
John Wo, MD, Allison Woosley, MD, Jennifer Eversmann, MD, Cindi Rountree, MD, Steven Harrell, MD, Division of Gastroenterology/Hepatology, University of Louisville, Louisville, KY

3. Family History of Chronic Pancreatitis is Associated with an Increased Risk for Developing Chronic Pancreatitis
★ 2008 ACG Governors Award Recipient for Excellence in Clinical Research
Randall Brand, MD, FACG, Dhiraj Yadav, University of Pittsburgh Medical Center, Pittsburgh, PA; Robert Hawes, MD, FACG, Medical University of South Carolina, Charleston, SC; Michelle Anderson, MD, A. Alfred Taubman Health Care Center, Ann Arbor, MI; Peter A. Banks, MD, MACG, Brigham & Women's Hospital, Boston, MA; Michelle Bishop, MD, Mayo Clinic Jacksonville, Jacksonville, FL; John Baillie, MB, ChB, FACG, Wake Forest University Baptist Medical Center, Winston-Salem, NC; Stuart Sherman, MD, FACG, Indiana University Hospital, Indianapolis, IN; Michael Goldberg, MD, FACG, Evanston Northwestern Health Care, Evanston, IL; James DiSario, MD, FACG, University of Utah, Salt Lake City, UT

4. Complications Associated with Double Balloon Enteroscopy
★ 2008 ACG Governors Award Recipient for Excellence in Clinical Research
Lauren Gerson, MD, Stanford University, Stanford, CA; Michael Chiorean, MD, University of Indiana, Indianapolis, IN; Jeffrey Tokar, MD, Oleh Haluszka, MD, Fox Chase Cancer Center, Philadelphia, PA; Anton Decker, MD, Jonathan Leighton, MD, FACG, Mayo Clinic, Scottsdale, AZ; David Cave, MD, FACG, University of Massachusetts, Boston, MA; Doumit Bou-Haidar, MD, Alvin Zfass, MD, MACG, Medical College of Virginia, Richmond, VA; Daniel Mishkin, MD, Boston University Medical Center, Boston, MA

5. Miss Rates of Findings on Colonoscopy after Computed Tomographic Colonography (CTC): Correlation with Polyp Histology
★ 2008 ACG/Olympus Colorectal Cancer Prevention Award Recipient
Ruben Acosta, MD, Evan May, MD, Brooks Cash, MD, FACG, National Naval Medical Center, Bethesda, MD; Mark Riddle, MD, Naval Medical Research Center, Bethesda, MD; Ganesh Veerappan, MD, Walter Reed Army Medical Center, Washington, DC

6. Smoking and Colorectal Neoplasia: Women Require Less Tobacco Exposure for Similar Increased Risk as Compared to Men
★ 2008 ACG/Naomi Nakao Gender Based Research Award Recipient
Joseph Anderson, MD, University of Connecticut, Farmington, CT; Zvi Alpern, MD, Stony Brook University, Stony Brook, NY

9:00 am-9:25 am **Presidential Address** (Sun Ballroom)
Amy E. Foxx-Orenstein, DO, FACG
Introduced by:
Eamonn M.M. Quigley, MD, FACG
ACG President-Elect

9:25 am-9:30 am **Awards Program** (Sun Ballroom)

9:30 am-10:30 am **PLENARY SESSION**

President's Plenary Session (Sun Ballroom)
Moderators: *Eamonn M.M. Quigley, MD, FACG*
Jean-Paul Achkar, MD, FACG

7. Potential Savings for Federal Funding of a Colorectal Cancer Screening Program in Uninsured Patients
★ 2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient
Nison Badalov, MD, Ian Wall, MD, Jack Braha, MD, Robin Baradarian, MD, Jai Mirchandani, MD, Kadirawel Iswara, MD, FACG, Jianjun Li, MD, FACG, Maimonides Medical Center, Brooklyn, NY; Michael Kantrowitz, MD, New York College of Osteopathic Medicine, Old Westbury, NY; Scott Tenner, MD, MPH, FACG, State University of New York, Brooklyn, NY

8. Infliximab for Prevention of Crohn's Disease (CD) Recurrence After Ileal Resection
Miguel Reguiero, MD, Wolfgang Schraut, MD, PhD, Leonard Baidoo, MD, University of Pittsburgh Medical Center, Pittsburgh, PA; Kevin Kip, PhD, University of South Florida College of Nursing, Tampa, FL; Antonia Sepulveda, MD, PhD, University of Pennsylvania School of Medicine, Philadelphia, PA; Scott Plevy, MD, University of North Carolina School of Medicine, Chapel Hill, NC

9. Yield of Diagnostic Testing in Patients with Suspected Irritable Bowel Syndrome (IBS): A Prospective, U.S. Multicenter Trial
Brooks Cash, MD, FACG, Dong Lee, MD, Mylena Truesdale, MD, Cathy Dykes, MD, National Naval Medical Center, Bethesda, MD; Mark Riddle, MD, Naval Medical Research Center, Bethesda, MD; Richard Saad, MD, Borko Nojkov, MD, William Chey, MD, FACG, University of Michigan, Ann Arbor, MI

10. Accuracy of EUS, EBUS, and Combined EUS/EBUS for Lung Cancer Evaluation in Patients with a Negative CT of the Mediastinum
★ ***2008 ACG Auxiliary Award Recipient***
Laith Jamil, MD, Noelia Cubero de Frutos, MD, Kanwar Gill, MD, Seth Gross, MD, Jorge Pascual, MD, Massimo Raimondo, MD, FACG, Timothy Woodward, MD, Julia Crook, PhD, John Odell, MD, Michael Wallace, MD, MPH, FACG, Mayo Clinic, Jacksonville, FL

11. Efficacy of the Probiotic VSL#3 in Children with Irritable Bowel Syndrome. An International, Randomized, Placebo-Controlled, Double-Blind, Cross-Over Trial
Stefano Guandalini, MD, University of Chicago, Chicago, IL; Andrea Chiaro, MD, Claudio Romano, MD, University of Messina, Messina, Italy; Valeria Labalestra, MD, University of Rome "La Sapienza," Rome, Italy; Sarath Gopalan, MD, CRNSS, New Delhi, India; Roberto Berni Canani, MD, University Federico II, Naples, Italy

12. Effect of Midodrine on Natriuretic Response to Furosemide in Non-Azotemic Cirrhotics with Ascites: A Randomized, Double-Blind, Placebo-Controlled, Cross-Over Study
★ ***2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient***
Vijay Laxmi Misra, MD, Raj Vuppalanchi, MD, David Jones, MD, Mitch Hamman, MD, Paul Kwo, MD, Naga Chalasani, MD, FACG, Indiana University School of Medicine, Indianapolis, IN

10:30 am-11:00 am Coffee Break – Visit Exhibits (Exhibit Hall)

11:00 am-12:15 pm SIMULTANEOUS SYMPOSIA SESSION 1

Symposium 1A: Treatment of Hepatitis C: What's New? (Sun Ballroom C)
Moderator: *K. Rajender Reddy, MD, FACG*

1. **Response Guided Therapy for Hepatitis C: The Evolving Paradigm**
   Mitchell L. Shiffman, MD, FACG
2. **Ribavirin: It's Not Going Away**
   K. Rajender Reddy, MD, FACG
3. **Who Will Benefit from the Newer Agents?**
   Ira M. Jacobson, MD, FACG

Symposium 1B: ACG Guidelines: An Evidence Based Approach to IBS (Sun Ballroom A)
Moderator: *Philip S. Schoenfeld, MD, MSEd, MScEpi, FACG*

1. **Utility of Diagnostic Tests**
   William D. Chey, MD, FACG
2. **Treatment of IBS – Diarrhea**
   Philip S. Schoenfeld, MD, MSEd, MScEpi, FACG
3. **Treatment of IBS – Constipation**
   Nicholas J. Talley, MD, PhD, FACG

12:15 pm-2:00 pm Lunch Break

12:15 pm-2:00 pm Poster Session (Exhibit Hall)

12:30 pm-1:00 pm FAQ Session: Endoscopy (Exhibit Hall)
Chris E. Forsmark, MD, FACG

1:15 pm-1:45 pm FAQ Session: Liver (Exhibit Hall)
Eugene R. Schiff, MD, MACG

2:00 pm-2:40 pm SIMULTANEOUS PLENARY SESSIONS

Plenary Session 1: IBD (Sun Ballroom A)
Moderators: *Stephen B. Hanauer, MD, FACG*
Francis A. Farraye, MD, MSc, FACG

13. Endoscopic Mucosal Improvement in Patients with Active Crohn's Disease Treated with Certolizumab Pegol: First Results of the Music Clinical Trial
Jean-Frederic Colombel, MD, CHU Lille, Lille, France; Xavier Hebuterne, MD, CHU Nice, Nice, France

14. Safety of Infliximab and Other Crohn's Disease Therapies: Treat™ Registry Data with 24,575 Patient-Years of Follow-Up
Gary Lichtenstein, MD, FACG, University of Pennsylvania, Philadelphia, PA; R. Cohen, MD, University of Chicago, Chicago, IL; B. Feagan, MD, the London Clinical Trials Research Group, London, Ontario, Canada; W. Sandborn, MD, FACG, Mayo Clinic, Rochester, MN; B. Salzberg, MD, Atlanta Gastroenterology Associates, Atlanta, GA; D. Chen, PhD, M. Turner, PhD, D. Mink, PhD, ICON Clinical Research, San Francisco, CA; D. Broussard, MD, R. Diamond, MD, Centocor, Inc., Horsham, PA

15. Immunomodulators are Associated with Avoidance of First Surgery Among Patients with Non-Penetrating Non-Stricturing Crohn's Disease
Michael Picco, MD, PhD, Ignacio Zubiaurre, MD, Mohamed Adluni, RPh, John Cangemi, MD, Donna Shelton, ARNP, Mayo Clinic, Jacksonville, FL

16. Herbal Extract HPML-004 in Active Ulcerative Colitis: A Randomized Comparison with Sustained Release Mesalamine
★ ***2008 ACG International Award Recipient***
Tom Tang, MD, MBA, Hutchison MediPharma, Shanghai, China; William Sandborn, MD, FACG, Mayo Clinic, Rochester, MN; Stephan Targan, MD, Cedars-Sinai Medical Institute, Los Angeles, CA; Zhaoshen Li, MD, Chanhai Hospital, Second Military Medical University, Shanghai, China; Crystal Xu, MD, Xiaoqiang Yan, PhD, Hutchison MediPharma, Shanghai, China

Plenary Session 2: Pancreatic / Biliary (Sun Ballroom C)
Moderators: *Peter A. Banks, MD, MACG*
Martin L. Freeman, MD, FACG

17. The Effect of Chronic Pancreatitis on Employment: Results of a Multicenter Study
Timothy Gardner, MD, Abigail Kennedy, BS, Brian Lacy, MD, PhD, FACG, Dartmouth-Hitchcock Medical Center, Lebanon, NH; Andres Gelrud, MD, Mayar A.L. Mohajer, MD, Mary Krotchen, MD, University of Cincinnati, Cincinnati, OH; Peter Banks, MD, MACG, Brigham and Women's Hospital, Boston, MA; Santhi Vege, FACG, Mayo Clinic, Rochester, MN; Brian Lacy, MD, PhD, FACG, Dartmouth-Hitchcock Medical Center, Lebanon, NH

18. Autoimmune Pancreatitis in the Midwest U.S. Population: Should We Rely on Elevated Serum IgG4 for Establishing the Diagnosis?
Seth Moore, MD, Oscar Cummings, MD, Kumar Sandrasegaran, MD, Mohammad Al-Haddad, MD, John DeWitt, MD, Stuart Sherman, MD, FACG, Nick Zyromski, MD, Thomas Howard, MD, Lee McHenry, MD, Indiana University, Indianapolis, IN

19. The Role of EUS-Assisted Biliary Drainage After Failed ERCP
YeonSuk Kim, MD, Gacheon Medical School, Incheon, South Korea; Kapil Gupta, MD, MPH, Shawn Mallery, MD, Rebecca Li, MD, Timothy Kinney, MD, Anhtung Chau, MD, Kamran Safdar, MD, Martin Freeman, MD, FACG, University of Minnesota Hennepin County Medical Center, Minneapolis, MN

20. Management of Acute Pancreatitis: A Survey of Internal Medicine and General Surgery Residents
★ ***2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient***
Sameer Barkatullah, MD, Srinadh Komanduri, MD, MS, Rush University Medical Center, Chicago, IL

2:40 pm-3:20 pm ***The American Journal of Gastroenterology*** **Lecture** (Sun Ballroom A)
"Endoscopic Management of Obesity"
Christopher C. Thompson, MD, FACG

"Reoperative Bariatric Surgery, When to and Not to"
Michael Sarr, MD
See page 17 for more information.

3:20 pm-3:50 pm **Break/Visit Exhibits** (Exhibit Hall)

3:50 pm-5:15 pm **SIMULTANEOUS SYMPOSIA SESSION 2**

Symposium 2A: Colon Cancer Screening: Getting to Zero Mortality (Sun Ballroom A)
Moderator: *Douglas K. Rex, MD, FACG*

1. **New CRC Screening Criteria: Current Controversies**
   Douglas K. Rex, MD, FACG
2. **How Good are You?: Quality Indicators**
   David A. Lieberman, MD, FACG
3. **When Colonoscopy Gets Tough: How I Do It**
   Jerome D. Waye, MD, MACG

Symposium 2B: Update in Biologic Therapies for IBD (Sun Ballroom C)
Moderator: *Stephen B. Hanauer, MD, FACG*

1. **Which Anti-TNF Agent Should I Use?**
   Stephen B. Hanauer, MD, FACG
2. **Where Does Natalizumab Fit in?**
   William J. Sandborn, MD, FACG
3. **Are Biologics Safe?**
   Corey A. Siegel, MD

5:30 pm-6:00 pm **Annual Business Meeting** (Sun Ballroom A)
College Members and Fellows invited

6:00 pm-7:00 pm **International Reception** (Osceola Ballroom A)
All International attendees are invited

7:00 pm-9:00 pm **President's Reception** (Osceola Ballroom C)
All attendees are invited

TUESDAY, October 7, 2008

6:45 am – 6:00 pm

BREAKFAST SESSIONS

6:45 am-8:30 am

Cost is $40 per person/per session. If you have not registered, visit the ACG Registration Desk.

Breakfast Session A: The Spectrum of Diverticular Disease
Moderator: *Lawrence R. Schiller, MD, FACG*

1. **Colitis and Diverticulosis: Innocent Relationship or Etiologic Association?**
   Lawrence J. Brandt, MD, MACG
2. **Diverticular Disease: The Gastroenterologist's Perspective**
   Lawrence R. Schiller, MD, FACG
3. **Diverticular Disease: The Surgeon's Perspective**
   Dana R. Sands, MD

Breakfast Session B: My Aching Gut—Long Term Management After Bariatric Surgery
Moderator: *Michael G. Sarr, MD*

1. **Nutritional Deficiencies**
   Andrew Ukleja, MD
2. **Evaluation of Common GI Symptoms**
   Michael G. Sarr, MD
3. **Evaluating and Managing the Excluded Stomach**
   Todd H. Baron, MD

Breakfast Session C: Toys and Tools: Playing it Safe
Moderator: *David A. Greenwald, MD, FACG*

1. **Enteroscopy: Single or Double?**
   Simon K. Lo, MD, FACG
2. **Anticoagulants, Antiplatelet Agents in Endoscopy**
   David A. Greenwald, MD, FACG
3. **Halo, Cryo or EMR?**
   Virender K. Sharma, MD, FACG

Breakfast Session D: The New Barrett's Guidelines: Ask the Experts What They Mean
Moderator: *Richard E. Sampliner, MD, MACG*
Panelists: *Richard E. Sampliner, MD, MACG, Nicholas J. Shaheen, MD, MPH, FACG, and Kenneth K. Wang, MD, FACG*

Breakfast Session E: IBD Talk: Stump the Experts – Case Presentations
Moderator: *Jean-Paul Achkar, MD, FACG*
Panelists: *Stephen B. Hanauer, MD, FACG, Asher Kornbluth, MD, Gary R. Lichtenstein, MD, FACG, and Edward V. Loftus, Jr., MD, FACG*

Breakfast Session F: Hepatitis B
Moderator: *Paul Y. Kwo, MD*

1. **Are the Virological and Biochemical Thresholds for Treatment Failing?**
   Paul Y. Kwo, MD
2. **The Treatment Approach that Minimizes Resistance**
   Eugene R. Schiff, MD, MACG
3. **Making Sense of the New Data: Who Is at Risk for Hepatocellular Cancer?**
   Morris Sherman, MB, BCh, PhD, FACG

6:45 am-6:00 pm **Registration** (City Hall Lobby)

8:30 am-10:00 am **PLENARY SESSION**

Esophagus / IBD (Sun Ballroom)
Moderators: *Philip O. Katz, MD, FACG*
Sunanda V. Kane, MD, MSPH, FACG

21. Long Term Outcomes and Factors Predictive of Recurrence Following Endoscopic Therapy of Mucosal Esophageal Adenocarcinoma
Ganapathy Prasad, MD, MS, Rami Radreddine, MD, Navtej Buttar, MD, Louis Wongkeesong, MD, Lori Lutzke, LPN, Lynn Borkenhagen, RN, FNP, Kelly Dunagan, LPN, Kenneth Wang, MD, FACG, Mayo Clinic, Rochester, MN

22. Survival Analysis of Multi-Center Clinical Trial Using Endoscopy (END) and Endoscopic Ultrasound (EUS) Guided Fine Needle Injection (FNI) of Anti-Tumor Agent (Tnferade™ Biologic) in Patients with Locally Advanced Esophageal Cancer
Kenneth Chang, MD, FACG, UCI Medical Center, Orange, CA; Neil Senzer, MD, Mary Crowley Medical Research Center, Dallas, TX; Roy Soetikno, MD, VA Palo Alto and Stanford University, Palo Alto, CA; Stephen Swisher, MD, MD Anderson Cancer Center, Houston, TX; Tony Reid, MD, University of California, San Diego, CA; Ann Mauer, MD, Everett Vokes, MD, University of Chicago, Chicago, IL; Harlan Pinto, MD, Stanford University; Amitabh Chak, MD, FACG, University Hospitals of Cleveland, Cleveland, OH; Arlene Forastiere, MD, Johns Hopkins University, Baltimore, MD

23. Gastroesophageal Reflux During Sleep – Sleepless Nights Are Common
Larissa Allen, MD, Ronnie Fass, MD, FACG, Neuroenteric Clinical Research Group, Southern Arizona VA Health Care System, Tucson, AZ; Ibraheem Mizyed, MD, University of Arizona Health Sciences Center, Tucson, AZ; Jeannette Powers, BS, Anita Gasiorowska, MD, Isaac Malagon, MD, Bridget Moty, Student, Marcy Willis, RN, Neuroenteric Clinical Research Group, Southern Arizona VA Health Care System, Tucson, AZ

24. Season Variation in the Diagnosis of Eosinophilic Esophagitis: A Case-Control Analysis
★ ***2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient***
Evan Dellon, MD, Wood Gibbs, MD, Tara Rubinas, MD, Karen Fritchie, MD, John Woosley, MD, Nicholas Shaheen, MD, FACG, University of North Carolina, Chapel Hill, NC

25. A New Therapy for Eosinophilic Esophagitis in Adults: Efficacy of Budesonide – Rincinol Gel for 6 Weeks in Patients with Dysphagia
David Neumann, MD, Glenn Alexander, MD, Gianrico Farrugia, MD, Karthik Ravi, MD, Roger Warndahl, PharmD, Jeffrey Alexander, MD, Mayo Clinic, Rochester, MN; Nicholas Talley, MD, PhD, FACG, Mayo Clinic, Jacksonville, FL

26. Once-Daily 1.5-g Granulated Mesalamine Effectively Maintains Remission in Patients with Ulcerative Colitis who Switch from Different 5-ASA Formulations
Gary Lichtenstein, MD, FACG, University of Pennsylvania School of Medicine, Philadelphia, PA; Kunal Merchant, PhD, Audrey Shaw, PhD, James Yuan, PhD, Enoch Bortey, PhD, William Forbes, PharmD, Salix Pharmaceuticals, Morrisville, NC

27. The Evolution of Crohn's Disease (CD) Behavior in a Population-Based Cohort
★ ***2008 ACG/Centocor IBD Abstract Award Recipient***
Kelvin Thia, MBBS, William Sandborn, MD, FACG, William Harmsen, MS, Alan Zinsmeister, PhD, Edward Loftus, MD, FACG, Mayo Clinic, Rochester, MN

28. Evaluation of CT Enterography (CTE), Biomarkers, and Clinical Symptoms for the Non-Invasive Prediction of Active Inflammation in Patients with Crohn's Disease
★ ***2008 ACG/Centocor IBD Abstract Award Recipient***
David Bruining, MD, Joel Fletcher, MD, Hassan Siddiki, MBBS, James Huprich, MD, Jeff Fidler, MD, William Sandborn, MD, FACG, Jayawant Mandrekar, PhD, William Harmsen, MS, Edward Loftus, MD, FACG, Mayo Clinic, Rochester, MN

Late-Breaking Abstract — see page 423 for full abstract
29. SONIC: A Randomized, Double-Blind, Controlled Trial Comparing Infliximab and Infliximab plus Azathioprine to Azathioprine in Patients with Crohn's Disease Naive to Immunomodulators and Biologic Therapy
W.J. Sandborn, MD, P. Rutgeerts, MD, W. Reinisch, MD, G.J. Mantzaris, MD, A. Kornbluth, MD, D. Rachmilewitz, MD, S. Lichtiger, MD, G. D'Haens, MD, C.J. van der Woude, MD, R.H. Diamond, MD, D. Broussard, MD, R. Hegedus, MD, J.F. Colombel, MD, Mayo Clinic, Rochester, MN, U. Hospital, Gasthuisberg, Leuven, Belgium, U. Hospital Vienna, Vienna, Austria, Evangelismos Hospital, Athens, Greece, Mt. Sinai Medical Center, New York, NY, Shaare Zedek Medical Center, Jerusalem, Israel, Imelda Ziekenhuis, Bonheiden, Belgium, Erasmus MC, Rotterdam, Netherlands, Centocor, Inc., Horsham, PA, Centre Hospitalier Universitaire de Lille, France

10:00 am-10:30 am **J. Edward Berk Distinguished Lecture** (Sun Ballroom)
"Advances in Colonoscopy: New Platforms, New Techniques, New Imaging Technology: What Do They Mean?"
Douglas E. Rex, MD, FACG
Introduced by:
Amy E. Foxx-Orenstein, DO, FACG
ACG President
See page 17 for more information.

10:30 am-11:00 am **Coffee Break/Visit Exhibits** (Exhibit Hall)

11:00 am-12:15 pm **SIMULTANEOUS SYMPOSIA SESSION 3**

Symposium 3A: CT Colonography: Current Controversies
(Sun Ballroom C)
Moderator: *Roy K.H. Wong, MD, FACG*

1. **Can We Train the Gastroenterologist to Do CT Colonography?**
   Brooks D. Cash, MD, FACG
2. **Reading the CT Colonography: What Do You Report and What Do You Recommend for Follow Up? (Debate)**
   Roy K.H. Wong, MD, FACG and
   David A. Johnson, MD, FACG
3. **Panel Discussion**

Symposium 3B: The Hepatology Consult (Sun Ballroom A)
Moderator: *Mark W. Russo, MD, MPH*

1. **If You Have Liver Disease, Consult Your Doctor Before Using This Medication: What Do You Say to the Patient?**
   Mark W. Russo, MD, MPH
2. **Management Options for Patients with Minimal Hepatic Encephalopathy**
   Jasmohan S. Bajaj, MBBS, MD
3. **Perioperative Risk Assessment of the Patient with Cirrhosis: When They Have to Go to the Operating Room**
   Vijay H. Shah, MD, FACG

Symposium 3C: The Problematic Pancreas (Osceola Ballroom C)
Moderator: *Brenda J. Hoffman, MD, FACG*

1. **Autoimmune Pancreatitis**
   Suresh T. Chari, MD
2. **What Do You Do Once You Find a Pancreatic Cyst?**
   Brenda J. Hoffman, MD, FACG
3. **Pancreatic Stents in Practice**
   Martin L. Freeman, MD, FACG

12:15 pm-2:00 pm **Lunch Break**

12:15 pm-2:00 pm **Poster Session** (Exhibit Hall)

12:30 pm-1:00 pm **FAQ Session: IBD** (Exhibit Hall)
Maria T. Abreu, MD

1:15 pm-1:45 pm **FAQ Session: Esophagus** (Exhibit Hall)
Donald O. Castell, MD, MACG

2:00 pm-2:30 pm **Emily Couric Memorial Lecture**
(Sun Ballroom A)
"Why Has Adenocarcinoma Moved From the Stomach to the Esophagus and Where Does Sex Come in to It All?"
Kenneth E.L. McColl, MD
Sponsored by the ACG, the Virginia Gastroenterological Society and the Old Dominion Society of Gastroenterology Nurses and Associates
Introduced by:
Amy E. Foxx-Orenstein, DO, FACG
See page 17 for more information.

2:45 pm-4:15 pm **SIMULTANEOUS PLENARY SESSIONS**

Plenary Session 1: Colon / Functional Bowel Disorders / Pediatrics (Sun Ballroom A)
Moderators: *Nicholas J. Talley, MD, PhD, FACG*
Carol A. Burke, MD, FACG

30. Effect of Combination Lubiprostone and Senna on Gastrointestinal Transit and Bowel Function in Humans
Amy Foxx-Orenstein, DO, FACG, Davinder Sandhu, MBBCh, Kim Jensen, Michael Camilleri, MD, FACG, Kari Baxter, MD, Duane Burton, MD, Alan Zinsmeister, PhD, Mayo Clinic, Rochester, MN

31. Demographic and Pathologic Evaluation of 2,139 Patients with Sessile Serrated Adenomas in a One-Year Period
Richard Lash, MD, Christopher Schuler, MD, Robert Genta, MD, FACG, Caris Diagnostics, Irving, TX

32. Prospective Double Blinded Comparison of Computed Virtual Chromoendoscopy and Confocal Microscopy for Diagnosing Colorectal Neoplasia
★ 2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient
Anna Buchner, MD, PhD, Marwan Ghabril, MD, Murli Krishna, MD, Herbert Wolfsen, MD, FACG, Michael Wallace, MD, MPH, FACG, Mayo Clinic, Jacksonville, FL

33. Endoscopic Resection of Large Colorectal Lesions in the United States in a Referral Center Is a Dominant Strategy — Long-Term Efficacy and Cost Analysis Results
Tonya Kaltenbach, MD, MS, Kenneth Binmoeller, MD, Venkat Kalindindi, MD, Roy Soetikno, MD, MS, California Pacific Medical Center—Interventional Endoscopy Services, San Francisco, CA

34. Molecular Markers of Rapidly Growing Tumors: Another Piece to the Puzzle
★ 2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient
Mustafa Arain, MD, Shehla Sheikh, MD, Bharat Thaygarajan, MD, University of Minnesota, Minneapolis, MN; John Bond, MD, Aasma Shaukat, MD, VA Medical Center, Minneapolis, MN

35. Linaclotide Significantly Improved Abdominal Pain, Constipation and Global Assessments in Adults with Irritable Bowel Syndrome with Constipation: Results from a Large Twelve-Week, Randomized, Double-Blind, Placebo-Controlled Study
Jeffrey Johnston, MD, James MacDougall, PhD, Bernard Lavins, MD, Donald Fitch, MPH, Mollie Baird, MPH, Caroline Kurtz, PhD, Mark Currie, PhD, Ironwood Pharmaceuticals, Cambridge, MA; Anthony Lembo, MD, Beth Israel Deaconess Medical Center, Boston, MA

36. Development of a Diagnostic Test for Irritable Bowel Syndrome
Augusto Lois, PhD, Derrick Wang, PhD, Derren Barken, PhD, Leonard Eggleston, BS, Jim Tolley, BA, Susan Carroll, PhD, Bruce Neri, PhD, Prometheus Pharmaceuticals, San Diego, CA

37. Evaluation of the Efficacy of Amitriptyline in Children with Abdominal Pain of Non-Organic Origin
★ 2008 ACG Governors Award Recipient for Excellence in Clinical Research
Miguel Saps, MD, Children's Memorial Hospital, Chicago, IL; Nader Youssef, MD, FACG, Goryeb Children's Hospital at Atlantic Health, Morristown, NJ; Adrian Miranda, MD, Medical College of Milwaukee, Milwaukee, WI; Samuel Nurko, MD, Children's Hospital, Boston, MA; Jose Cocjin, MD, Children's Mercy Hospital, Kansas City, MO; Carlo DiLorenzo, MD, Nationwide Children's Hospital, Columbus, OH

38. A Prospective School Study on the Epidemiology of Functional Gastrointestinal Disorders in Children
Miguel Saps, MD, Children's Memorial Hospital, Chicago, IL; Roopa Seshadri, PhD, Northwestern University's Feinberg School of Medicine, Chicago, IL; Marcelo Sztainberg, PhD, Northeastern Illinois University, Chicago, IL; Gilda Schaffer, PsyD, Northern Illinois Psychological Services, Northbrook, IL; Beth Marshall, BA, Children's Memorial Hospital, Chicago, IL; Carlo DiLorenzo, MD, Nationwide Children's Hospital, Columbus, OH

Plenary Session 2: Endoscopy/Stomach (Sun Ballroom C)
Moderators: *Anthony N. Kalloo, MD, FACG*
David A. Johnson, MD, FACG

39. The Effects of High Definition (HD), Electronic Magnification (EM), White Light (WL) and Narrow Band Imaging (NBI) on the Detection of Adenomatous, Hyperplastic and Non-Neoplastic Polyps at Screening Colonoscopy
Francisco Ramirez, MD, FACG, Carl T. Hayden VA Medical Center, Phoenix, AZ

40. The Third Eye Retroscope Improves Detection of Polyps During Colonoscopy — A Prospective Efficacy Evaluation
Douglas Rex, MD, FACG, William Kessler, MD, Indiana University Medical Center, Indianapolis, IN; Russell Heigh, MD, David Fleischer, MD, Mayo Clinic, Scottsdale, AZ; Leslie Aldrich, MD, University of Michigan, Ann Arbor, MI; Jiayi Li, MD, Sanjay Ramrakhiani, MD, Camino Medical Group and El Camino Hospital, Mountain View, CA; Dayna Early, MD, Washington University, St. Louis, MO; Robert Bresalier, MD, MD Anderson Cancer Center, Houston, TX; Jerome Waye, MD, MACG, Mount Sinai Medical Center, New York, NY

41. Less Respiratory Depression with Patient Versus Anesthesiologist Controlled Sedation: A Prospective, Randomized, Controlled Trial in Patients Undergoing Elective Colonoscopy Using Propofol-Remifentanil
Jeff Mandel, MD, MS, Gary Lichtenstein, MD, FACG, David Metz, MD, Gregory Ginsberg, MD, Michael Kochman, MD, University of Pennsylvania School of Medicine, Philadelphia, PA

42. Capnography Prevents Hypoxemia During Elective ERCP and EUS: Results of Randomized Controlled Trial
Mohammed Qadeer, MD, MPH, John Vargo, MD, MPH, FACG, John Dumot, DO, Tyler Stevens, MD, Mansour Parsi, MD, Madhusudan Sanaka, MD, Sung Jang, MD, Rocio Lopez, MS, MPH, Gregory Zuccaro, MD, FACG, Cleveland Clinic, Cleveland, OH

43. Safe and Rapid Intubation of the Distal Small Bowel Using the Discovery SB™ Overtube Device During Small Bowel Enteroscopy: Results of the Spiral Enteroscopy Training Initiative
Jonathan Buscaglia, MD, Kerry Dunbar, MD, Patrick Okolo, MD, MPH, Johns Hopkins University School of Medicine, Baltimore, MD; Joel Judah, MD, University of Florida School of Medicine, Gainesville, FL; Jesus Pangtay, MD, Clinica De Diagnosticos Pangtay, Tampico, Tamaulipas, Mexico; Peter Draganov, MD, FACG, University of Florida School of Medicine, Gainesville, FL

44. Management of Post-ERCP Perforation: Experience from Over 4,100 ERCPs
Devi Mukkai Krishnamurty, MBBS, Sumit Kapoor, MBBS, MPH, Patrick Okolo, MBBS, MPH, Fredric Eckhauser, MD, Anthony Kalloo, MD, FACG, Sanjay Jagannath, MD, Johns Hopkins University School of Medicine, Baltimore, MD

45. Omeprazole Can Prevent the Gastroduodenal Mucosal Injury Associated with Combined Use of Clopidogrel and Aspirin
Byron Cryer, MD, FACG, Southwestern Medical School, Dallas, TX; Pablo Lapuerta, MD, John Jermano, RN, MPH, Cogentus Pharmaceuticals, Menlo Park, CA; Frank Lanza, MD, FACG, Baylor College of Medicine, Houston, TX; Philip Miner, MD, FACG, Oklahoma Foundation for Digestive Research, Oklahoma City, OK; Howard Schwartz, MD, Miami Research Associates, Miami, FL; Daniel Azarnoff, MD, D.L. Azarnoff Associates LLC, Burlingame, CA; Mark Goldsmith, MD, Cogentus Pharmaceuticals, Menlo Park, CA

46. National Survey of Physicians' Perception on the Cause, Complication, and the Management of Gastroparesis
★ 2008 ACG/AstraZeneca Senior Fellow Abstract Award Recipient
Lauren Briley, MD, Steven Harrell, MD, MSPH, John Wo, MD, University of Louisville, Louisville, KY

47. Fundic Gland Polyps Occur in *H. pylori*-free Stomachs and Are Not Associated with Increased Prevalence of Colonic Adenoma or Carcinoma
Richard Lash, MD, Cristian Robiou, MD, Robert Genta, MD, FACG, Caris Diagnostics, Irving, TX

4:15 pm-4:45 pm **Break**

4:45 pm-6:00 pm **SIMULTANEOUS SYMPOSIA SESSION 4**

Symposium 4A: Current Issues in GI Bleeding
(Sun Ballroom A)
Moderator: *John R. Saltzman, MD, FACG*

1. **Inject, Burn or Clip?**
   John R. Saltzman, MD, FACG
2. **Pitfalls to Capsule Endoscopy in Occult GI Bleeding**
   Douglas O. Faigel, MD, FACG
3. **Lower GI Bleeding Revisited**
   Lisa L. Strate, MD, FACG

Symposium 4B: Dysplasia Dilemmas in IBD (Sun Ballroom C)
Moderator: *Francis A. Farraye, MD, MSc, FACG*

1. **Natural History and Management of Flat and Polypoid Dysplasia**
   Francis A. Farraye, MD, MSc, FACG
2. **New Endoscopic Techniques**
   Bret A. Lashner, MD, FACG
3. **Dysplasia: Clinician's Dilemma, Pathologist's Nightmare**
   Robert D. Odze, MD

Symposium 4C: Obesity: What's the Big Deal?
(Osceola Ballroom C)
Moderator: *Amy E. Foxx-Orenstein, DO, FACG*

1. **Appetite Regulation: Curb Your Enthusiasm**
   Amy E. Foxx-Orenstein, DO, FACG
2. **Foie Gras (NAFLD): Too Much of a Good Thing?**
   Naga P. Chalasani, MD, FACG
3. **Choosing the Right Cut: The Role of Endoscopy and Surgery in Treatment**
   Anthony N. Kalloo, MD, FACG

WEDNESDAY, October 8, 2008

6:45 am – 12:30 pm

BREAKFAST SESSIONS

6:45 am-8:30 am

Cost is $40 per person/per session. If you have not registered, visit the ACG Registration Desk.

Breakfast Session G: Polyp Paradigms
Moderator: *Sapna Syngal, MD, FACG*

1. **Serrated Polyps and Their Clinical Implications**
   Michael J. O'Brien, MD, FACG
2. **Clinical and Molecular Workup of a Patient with Multiple Polyps**
   Sapna Syngal, MD, FACG
3. **Advanced Adenomas: Fact or Fiction**
   Robert E. Petras, MD, FACG

Breakfast Session H: Evolving Approaches to Pancreaticobiliary Disease
Moderator: *Scott M. Tenner, MD, MPH, FACG*

1. **Medical Management of Acute Pancreatitis**
   Scott M. Tenner, MD, MPH, FACG
2. **Diagnosis and Management of Chronic Pancreatitis**
   Joe Romagnuolo, MD
3. **Difficult Biliary Access**
   Kapil Gupta, MD and Timothy Kinney, MD

Breakfast Session I: New Frontiers in GERD
Moderator: *Philip O. Katz, MD, FACG*

1. **Role of Multichannel Intraluminal Impedance and pH (MII-pH) Monitoring in the Evaluation of GERD**
   Marcelo F. Vela, MD, MSCR, FACG
2. **Endoscopic Treatment: Driven Science or Science Driven**
   Julia J. Liu, MD, FACG
3. **GERD and Sleep: Strangers in the Night**
   Ronnie Fass, MD, FACG
4. **Refractory GERD: Land Beyond PPI**
   Philip O. Katz, MD, FACG

Breakfast Session J: Endoscopic Emergencies – Snooze or Cruise
Moderator: *Waqar A. Qureshi, MD, FACG*

1. **Cholangitis**
   Waqar A. Qureshi, MD, FACG
2. **Upper GI Foreign Bodies**
   Milton T. Smith, MD, FACG
3. **Colonic Obstruction/Pseudo Obstruction**
   Michael D. Saunders, MD

Breakfast Session K: Autoimmune Liver Diseases
Moderator: *Kris V. Kowdley, MD, FACG*

1. **Autoantibodies in Liver Disease: Making Sense of the Overlap Syndromes**
   Norman Gitlin, MD, FACG
2. **Autoimmune Hepatitis: Is it Treatment for Life or Can You Stop Treatment?**
   Steven L. Flamm, MD
3. **Cholestatic Liver Disease – PBC/PSC: When to Biopsy, When to Image, and How to Manage**
   Kris V. Kowdley, MD, FACG

Breakfast Session L: Positioning Therapeutic Options for IBD
Moderator: *Brian G. Feagan, MD*

1. **Severe UC: Salvage Medical Therapy vs. Straight to the OR**
   Edward V. Loftus, Jr., MD, FACG
2. **Crohn's: Does Mucosal Healing Matter?**
   Brian G. Feagan, MD
3. **Perianal Disease: Challenges and Therapies**
   Joshua A. Katz, MD

Breakfast Session M: International Session — The Impact of Diseases Worldwide
Moderator: *Manoop S. Bhutani, MD, FACG*

1. **GERD: Asian Pacific Guidelines and Its Impact Worldwide**
   Eamonn M.M. Quigley, MD, FACG
2. **Hepatocellular Carcinoma Worldwide: How Can We Reduce Its Impact on Morbidity and Mortality?**
   Lewis R. Roberts, MB ChB, PhD, FACG
3. ***H. pylori* and Stomach Cancer: International Prevalence and How We Can Reduce Its Impact Worldwide**
   Nicholas J. Talley, MD, PhD, FACG

6:45 am-12:30 pm **Registration**

8:30 am-10:15 am **SIMULTANEOUS PLENARY SESSIONS**

Plenary Session 1: Liver (Sun Ballroom A)
Moderators: *William D. Carey, MD, MACG*
Mitchell L. Shiffman, MD, FACG

48. Is it Cost-Effective to Treat Minimal Hepatic Encephalopathy to Prevent Traffic Accidents? A Decision Analysis
★ 2008 ACG Governors Award Recipient for Excellence in Clinical Research
Jasmohan Bajaj, MD, MBBS, MS, Kia Saeian, MD, MS, FACG, Nicholas Pajewski, MS, Steven Pinkerton, PhD, Medical College of Wisconsin, Milwaukee, WI

49. Characteristics of Patients with Idiosyncratic Drug Induced Liver Injury (DILI) Who Receive Systemic Corticosteroids: Initial Results from the U.S. DILI Network Prospective Study
Naga Chalasani, MD, FACG, Indiana University School of Medicine, Indianapolis, IN; Robert Fontana, MD, University of Michigan, Ann Arbor, MI; Timothy Davern, MD, University of California, San Francisco, CA; Herbert Bonkovsky, MD, FACG, Carolina Medical Center, Charlotte, NC; James Rochon, MD, Duke Clinical Research Institute, Raleigh, NC; Jose Serrano, MD, NIDDK, Bethesda, MD; Paul Watkins, MD, University of North Carolina, Chapel Hill, NC

50. A Prospective Study of the Utility of Lectin-Reactive Alpha-Fetoprotein (AFP-L3%) in Developing Hepatocellular Carcinoma (HCC)
Richard Sterling, MD, MSc, FACG, Richard Stravitz, MD, Velimir Luketic, MD, FACG, Michael Fuchs, MD, Arun Sanyal, MD, Mitchell Shiffman, MD, FACG, Virginia Commonwealth University, Richmond, VA

51. Increased Soluble FAS and FAS Ligand Levels in Patients with Nonalcoholic Steatohepatitis
★ ***2008 ACG Obesity Award Recipient***
Tamali Bhattacharyya, MD, MS, Lisa Yerian, MD, Michael Berk, MD, Arthur McCullough, MD, FACG, Ariel Feldstein, MD, Cleveland Clinic, OH

52. Outcome of Transjugular Intrahepatic Portosystemic (TIPS) in Older Patients: A Comparable Analysis with Younger Age Group
Adnan Muhammad, MD, Kiran Rao, MD, Arun Samanta, MD, FACG, Sohail Contractor, MD, Maliha Ahmad, MD, Baburao Koneru, MD, Dorian Wilson, MD, Adrian Fisher, MD, University of Medicine and Dentistry, Newark, NJ

53. Risk Factors (RFS), Novel Genotypes, and Treatment Outcomes in Southeast Asians (SEAS) with Chronic Hepatitis C
Nghia Nguyen, BA, Philip Vutien, BA, Long Nguyen, BA, Nghiem Ha, BS, Pacific Health Foundation, San Jose, CA; Huy Trinh, MD, Ruel Garcia, MD, Huy Nguyen, MD, Khanh Nguyen, Brian Levitt, MD, San Jose Gastroenterology, San Jose, CA; Mindie Nguyen, MD, MAS, Stanford University Medical Center, Palo Alto, CA

54. Hepatic Progenitor Cells: Their Possible Role in Recurrent HCV and Allograft Loss
Seth Sclair, Medical Student, M. Isabel Fiel, MD, Hai-Shan Wu, PhD, John Doucette, PhD, Costica Aloman, MD, Thomas Schiano, MD, Mount Sinai School of Medicine, New York, NY

55. What is the Prevalance of Celiac Disease Among U.S. Patients with Primary Sclerosing Cholangitis?
Alastair Smith, MB, ChB, Judith Gentile, RN, ANP, Duke University Medical Center, Durham, NC

Late-Breaking Abstract — see page 423 for full abstract
56. A Randomized Controlled Comparison of Warm Water Infusion in Lieu of Air Insufflation vs. Air Insufflation for Aiding Colonoscopy Insertion in Sedated Patients Undergoing Colorectal Cancer (CRC) Screening and Surveillance
J. Leung, MD, FACG, S. Mann, MD, FACG, R. Siao-Salera, RN, K. Ransibrahmanakul, MD, B. Lim, MD, H. Cabrera, RN, P. Barredo, LVN, R. Gutierrez, RN, F. Leung, MD, FACG, Section of Gastroenterology, Sacramento VA Medical Center, VA Northern California Health Care System, Mather and Sepulveda ACC, VAGLA Health Care System, LA, California

Plenary Session 2: Outcomes / Colorectal Cancer Prevention / Small Intestine (Sun Ballroom C)

Moderators: *Lawrence R. Schiller, MD, FACG*
Nicholas J. Shaheen, MD, MPH, FACG

57. Efficacy of a Probiotic Fermented Drink of Lactobacillus Acidophilus and Lactobacillus Casei in the Reduction of Antibiotic-Associated Diarrhea
Joe Dylewski, MD, St. Mary's Hospital, Montreal, Quebec, Canada; Yves Pesant, MD, Recherche Medicale, St. Jerome, Quebec, Canada; Magdy Elkashab, MD, North York General Hospital, Toronto, Ontario, Canada; Pascal Rochette, MD, Hopital Laval, Quebec, Quebec, Canada; Andre Poirier, Centre Hospitalier Regional, Trois Rivieres, Quebec, Canada; Doria Grimard, MD, Hopital Hotel Dieu de Chicoutimi, Chicoutimi, Quebec, Canada; Andrew Worster, MD, Hamilton General Hospital, Hamilton, Ontario, Canada; John Sampalis, PhD, JSS Medical Research, Montreal, Quebec, Canada

58. Weekend Versus Weekday Admission and Mortality From Gastrointestinal Hemorrhage due to Peptic Ulcer Disease
Robert Myers, MD, Abdel Aziz Shaheen, MD, MPH, Gilaad Kaplan, MD, MPH, University of Calgary, Calgary, Alberta, Canada

59. Pregnancy Outcomes in Women Exposed to Adalimumab: The Otis Autoimmune Diseases in Pregnancy Project
Diana Johnson, MS, Kenneth Lyons Jones, MD, Christina Chambers, PhD, MPH, University of California San Diego, La Jolla, CA

60. Outcome in Two Hundred and Twenty-Two Patients Undergoing Colonoscopy / Polypectomy on Uninterrupted Clopidogrel Therapy
Mandeep Singh, MD, Nilesh Mehta, MD, Uma Murthy, MD, FACG, Vivek Kaul, MD, FACG, Asma Arif, MD, VA Medical Center, Syracuse, NY; Nancy Newman, MS, SUNY Upstate Medical University, Syracuse, NY

61. Colorectal Cancer (CRC) Screening with Optical Colonoscopy (OC) vs. CT Colonography (CTC): A Cost Effectiveness Analysis
Mohammed Qadeer, MD, MPH, Carol Burke, MD, FACG, Cleveland Clinic, Cleveland, OH; Jessica Jensen, MPH, Aggrey Mukose, MBChB, MS, Mendel Singer, PhD, Case Western Reserve University, Cleveland, OH

62. Quality of Colonoscopy in Routine Clinical Practice: A Population-Based Analysis
★ ***2008 ACG/Olympus Colorectal Cancer Prevention Award Recipient***
Cynthia Ko, MD, MS, Jason Dominitz, MD, MHS, William Kreuter, MPA, Laura-Mae Baldwin, MD, MPH, University of Washington, Seattle, WA

63. Over- and Under-use of Screening Colonoscopy in a Population-Based Cohort
★ ***2008 ACG/Olympus Colorectal Cancer Prevention Award Recipient***
Jessica Bazick, Medical Student, Case Western Reserve University, Cleveland, OH; Gregory Cooper, MD, FACG, University Hospitals, Cleveland, OH

64. Treatment Out to 1 Year with a GLP-2 Analog, Teduglutide, Safely Reduces Parenteral Nutrition (PN) Needs in Pn-Dependent Short Bowel Syndrome (SBS) Patients
Richard Gilroy, MD, University of Kansas Medical Center, Kansas City, KS; Johane Allard, MD, Toronto General Hospital, Toronto, Ontario, Canada; Palle Bekker Jeppesen, MD, Rigshospitalet, Copenhagen, Denmark; Douglas Seidner, MD, Vanderbilt University Medical Center, Nashville, TN; Marek Pertkiewicz, MD, Medical University of Warsaw, Warsaw, Poland; Lyn Howard, MD, Albany Medical Center, Albany, NY; Stephen O'Keefe, MD, University of Pittsburgh Medical Center, Pittsburgh, PA; Nancy McGraw, NPS Pharmaceuticals, Bedminster, NJ; Bernard Messing, Hopital Beaujon, Clichy, France; Khursheed Jeejeebhoy, MD, St. Michael's Hospital, Toronto, Ontario, Canada

65. A Validated Gluten Free Diet Adherence Survey for Adults with Celiac Disease
★ ***2008 Lawlor Resident Award Recipient***
Shailaja Jamma, MD, Daniel Leffler, MD, MS, Melinda Dennis, RD, MS, Jessica Edwards-George, PhD, Suma Magge, MD, Detlef Schuppan, MD, PhD, Ciaran Kelly, MD, Beth Israel Deaconess Medical Center, Boston, MA; Earl Cook, PhD, Harvard School of Public Health, Boston, MA

10:15 am-10:45 am **David Y. Graham Lecture** (Sun Ballroom A)
"Colon Ischemia: Respice, Adspice, Prospice"
Lawrence J. Brandt, MD, MACG

Introduced by:
Amy E. Foxx-Orenstein, DO, FACG
See page 17 for more information.

10:45 am-11:15 am **Coffee Break/Visit Exhibits** (Exhibit Hall)

11:15 am-12:30 pm SIMULTANEOUS SYMPOSIA SESSION 5

Symposium 5A: What's New and Old in Barrett's Esophagus (Sun Ballroom A)
Moderator: *Nicholas J. Shaheen, MD, MPH, FACG*

1. **New Definition: Is Intestinal Metaplasia Dead?**
   Robert D. Odze, MD
2. **Screening and Surveillance: Is There Anything New?**
   Nicholas J. Shaheen, MD, MPH, FACG
3. **How to Remove Those Unsightly Bumps, EMR**
   Kenneth K. Wang, MD, FACG

Symposium 5B: The Gut Microbiota: Friend and Foe
(Sun Ballroom C)
Moderator: *Eamonn M.M. Quigley, MD, FACG*

1. **Diagnostic Evaluation of the Enteric Flora**
   Eamonn M.M. Quigley, MD, FACG
2. **An Evidence Based Approach to the Use of Probiotics**
   John K. DiBaise, MD, FACG
3. **An Evidence Based Approach to the Use of Antibiotics**
   Mark Pimentel, MD

12:30 pm ANNUAL SCIENTIFIC MEETING ADJOURNS

Annual Scientific Meeeting

Monday – Wednesday, October 6 through 8, 2008 • Room: Sun Ballroom

Faculty Listing and Disclosure Information

It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship or other relationship held within the past 12 months that may pose a potential commercial bias and to assist in resolving any conflict of interest that may arise from the relationship. The intent of this disclosure is not to prevent a speaker with a relevant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion.

Faculty have noted the following relationships related to their Annual Meeting presentations.

Jean-Paul Achkar, MD, FACG
Staff Physician, Department of Gastroenterology, Cleveland Clinic, Cleveland, OH
Speaker's Bureau: Prometheus

Jasmohan S. Bajaj, MBBS, MD
Assistant Professor, Medical College of Virginia, Richmond, VA
Dr. Bajaj has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Peter A. Banks, MD, MACG
Professor of Medicine, Harvard Medical School, Boston, MA
Dr. Banks has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Todd H. Baron, MD
Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Speaker: Olympus
Research Grant: Fujinon

Manoop S. Bhutani, MD, FACG
Professor of Medicine, University of Texas MD Anderson Cancer Center, Houston, TX
Dr. Bhutani has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Lawrence J. Brandt, MD, MACG
Professor of Medicine, Albert Einstein College of Medicine, Bronx, NY
Dr. Brandt has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Carol A. Burke, MD, FACG
Director, Center for Colon Polyps & Cancer, Cleveland Clinic Foundation, Cleveland, OH
Dr. Burke has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

William D. Carey, MD, MACG
Professor of Medicine, Cleveland Clinic, Cleveland, OH
Dr. Carey has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Brooks D. Cash, MD, FACG
Associate Professor of Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD
Dr. Cash has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Naga P. Chalasani, MD, FACG
Associate Professor of Medicine, Indiana University, Indianapolis, IN
Consultant: Takeda, Pfizer
Research Support: Sanofi

Suresh T. Chari, MD
Professor of Medicine, College of Medicine, Mayo Clinic, Rochester, MN
Dr. Chari has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

William D. Chey, MD, FACG
Professor of Medicine, Director GI Physiology Lab, University of Michigan Medical Center, Ann Arbor, MI
Dr. Chey has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

John K. DiBaise, MD, FACG
Professor of Medicine, Mayo Clinic Scottsdale, Scottsdale, AZ
Dr. DiBaise has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Douglas O. Faigel, MD, FACG
Associate Professor of Medicine, Oregon Health Sciences University, Portland, OR
Consultant: Olympus

Francis A. Farraye, MD, MSc, FACG
Clinical Director, Section of Gastroenterology, Boston Medical Center, Boston, MA
Speaker's Bureau/Advisory Board: Procter & Gamble, Salix, Shire

Ronnie Fass, MD, FACG
Professor of Medicine, University of Arizona, Tucson, AZ
Research/Speaker/Consultant: AstraZeneca
Consultant/Research: Eisai

Brian G. Feagan, MD
Director, London Clinical Trials Research Group, Robarts Research Institute, London, Ontario, Canada
Grant/Research Support: Schering-Plough, Otsuka Millennium, Tillotts, Abbott, Protein Design Labs, Boehringer Engelheim, Novartis, Centocor, Berlex, Synta, Schering Canada, Elan/Biogen, UCB Pharma, BMS, Procter & Gamble, Napo Pharma
Consultant: Synta, Millennium, Schering Canada, Celltech, Centocor, Elan/Biogen, Janssen-Ortho, Protein Design Labs, ISIS, Teva Pharmaceuticals, Santarus, Schering-Plough, Bristol-Myers Squibb, Celgene, Combinatorx, UCB Pharma, Napo Pharma, Abbott, Procter & Gamble, Osiris, Berlex, AstraZeneca, GeneLogic, Cerimon Pharm, Tioga Pharm, Serono, Genentech, Tillotts
Speaker's Bureau: AstraZeneca
Scientific Advisory Board: Protein Design Labs, AstraZeneca, Elan/Biogen, Celltech, Synta, Schering Canada, Celgene

Steven L. Flamm, MD
Associate Professor, Northwestern University Feinberg School of Medicine, Chicago, IL
Dr. Flamm has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Chris E. Forsmark, MD, FACG
Professor of Medicine Division of Gastroenterology, Hepatology, and Nutrition, University of Florida, Gainesville, FL
Dr. Forsmark has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Amy E. Foxx-Orenstein, DO, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Dr. Foxx-Orenstein has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Martin L. Freeman, MD, FACG
Professor of Medicine, University of Minnesota, Minneapolis, MN
Fellowship Support: Cook Endoscopy, Boston Scientific, Hobbs Medical

Norman Gitlin, MD, FACG
Atlanta Gastroenterology Associates, Atlanta, GA
Dr. Gitlin has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

David A. Greenwald, MD, FACG
Associate Division Director, Montefiore Medical Center, Bronx, NY
Dr. Greenwald has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Kapil Gupta, MD
Assistant Professor of Medicine, University of Minnesota, Minneapolis, MN
Dr. Gupta has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Stephen B. Hanauer, MD, FACG
Professor of Medicine, University of Chicago, Chicago, IL
Consultant: Abbott Labs, AstraZeneca, Bristol Myers Squibb, Centocor, Chemocentryx, Elan, Ferring, Genentech, GSK, McNeil, Millenium, Novartis, Otsuka, Procter & Gamble, Prometheus, Salix, Shire, UCB Pharma (Celltech)
Clinical Research: Abbott Labs, Bristol Myers Squibb, Centocor, Chemocentryx, Elan, Ferring, Genentech, Otsuka, Procter & Gamble, Prometheus, Salix, Shire, UCB Pharma (Celltech)
Speaker: Centocor, Ferring, Procter & Gamble, Prometheus, Salix, UCB Pharma (Celltech)

Brenda J. Hoffman, MD, FACG
Professor of Medicine, MUSC Health Gastroenterology and Hepatology, Charleston, SC
Research Support: Wilson Cook, Olympus America

Ira M. Jacobson, MD, FACG
Vincent Astor Professor of Clinical Medicine, Weill Medical College of Cornell University, New York, NY
Grant/Research Support: Intermune, Schering, Valeant, Coley, Gilead, Vertex, GlobeImmune, Idenix, Human Genome Sciences, Novartis
Consultant/Advisor: Idenix, Bristol Myers Squibb, Novartis, Gilead, Coley, Valeant, Schering, Intermune, Pfizer, Glaxo, Vertex, GlobeImmune, Human Genome Sciences, Merck, Nucleonics, Dynavax, Boehringer Ingelheim, XTL Pharmaceutical
Speaker's Bureau: Schering, Gilead, Bristol Myers Squibb, Idenix

David A. Johnson, MD, FACG
Professor of Medicine & Chief of Gastroenterology, Eastern Virginia School of Medicine, Norfolk, VA
Dr. Johnson has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Anthony N. Kalloo, MD, FACG
Director, Gastroenterology & Hepatology, Johns Hopkins Hospital, Baltimore, MD
Equity Holder: Apollo Endoscopy

Sunanda V. Kane, MD, MSPH, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Dr. Kane has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Joshua A. Katz, MD
Director, Montgomery Colorectal Surgery, LLC, Rockville, MD
Dr. Katz has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Philip O. Katz, MD, FACG
Chairman, Division of Gastroenterology, Albert Einstein Medical Center, Philadelphia, PA
Honoraria for Lectures: AstraZeneca, Santarus, TAP
Consultant: AstraZeneca, Horizon Therapeutics, Prometheus, TAP

Timothy P. Kinney, MD
Assistant Professor of Medicine, University of Minnesota Medical School, Minneapolis, MN
Dr. Kinney has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Asher Kornbluth, MD
Associate Clinical Professor of Medicine, Mt. Sinai School of Medicine, New York, NY
Grant/Research Support: Procter & Gamble, Salix, Centocor, Abbott, UCB, BMS, Osiris
Consultant/Scientific Advisor: Procter & Gamble, Salix, Shire, Centocor, Given Imaging, Prometheus, UCB, Elan Pharmaceuticals
Speaker's Bureau/Honoraria: Procter & Gamble, Salix, Prometheus, Abbott, UCB, Shire, Elan Pharmaceuticals

Kris V. Kowdley, MD, FACG
Professor of Medicine, University of Washington, Seattle, WA
Grant Support/Speaker's Bureau: Axcan

Paul Y. Kwo, MD
Associate Professor of Clinical Medicine, Indiana University Department of Medicine, Indianapolis, IN
Consultant: Novartis
Speaker's Bureau: Novartis, Gilead
Research Support: BMS

Bret A. Lashner, MD, FACG
Director, Center for Inflammatory Bowel Disease, Cleveland Clinic Foundation, Cleveland, OH
Dr. Lashner has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Gary R. Lichtenstein, MD, FACG
Professor of Medicine, Hospital of the University of Pennsylvania, Philadelphia, PA
Consultant: Abbott Corporation, Axcan Corp., Centocor, Inc., Elan, Procter & Gamble, Prometheus Laboratories, Inc., Protein Design Labs, Salix Pharmaceuticals, Schering-Plough, Shire Pharmaceuticals, Smith Kline Beecham Corp., UCB, Wyeth
Research: Abbott Corporation, Bristol Myers Squibb, Inc., Centocor, Inc., Millenium Pharmaceuticals, Procter & Gamble, Protein Design Labs, Salix Pharmaceuticals, UCB, Wyeth
Speaker's Bureau: Abbott Corporation, Centocor, Inc., Procter & Gamble, Salix Pharmaceuticals, Schering-Plough

David A. Lieberman, MD, FACG
Professor of Medicine, Division of Gastroenterology, Portland VA Medical Center, Portland, OR
Dr. Lieberman has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Julia J. Liu, MD, FACG
Assistant Professor, University of Alberta Hospital, Edmonton, Alberta, Canada
Dr. Liu has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Simon K. Lo, MD, FACG
Director, GI Endoscopy, Cedars Sinai Medical Center, Los Angeles, CA
Consultant: Olympus America

Edward V. Loftus, Jr., MD, FACG
Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Research Support: Abbott, UCB, Schering Plough, Procter & Gamble, PDL Biopharma
Consultant: Abbott, UCB, Procter & Gamble, PDL Biopharma

Kenneth E.L. McColl, MD
Professor of Gastroenterology, University of Glasgow, Glasgow, Scotland
Dr. McColl has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Michael J. O'Brien, MD, FACG
Professor of Medicine, Boston University Medical Campus, Boston, MA
Dr. O'Brien has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Robert D. Odze, MD
Chief, Gastrointestinal Pathology, Brigham & Women's Hospital, Boston, MA
Dr. Odze has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Robert E. Petras, MD, FACG
Director of Gastrointestinal Pathology, AmeriPath, Inc., Oakwood Village, OH
Dr. Petras has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Mark Pimentel, MD
Assistant Professor of Medicine, UCLA Geffen School of Medicine, Los Angeles, CA
Grant: Novartis
Grant/Research: Lilly
Consultant: Salix
(Cedars has licensing arrangement with Salix)

Eamonn M.M. Quigley, MD, FACG
Professor of Medicine and Human Physiology, National University of Ireland at Cork, Cork, Ireland
Dr. Quigley has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Waqar A. Qureshi, MD, FACG
Associate Professor of Medicine, Baylor College of Medicine, Houston, TX
Dr. Qureshi has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

K. Rajender Reddy, MD, FACG
Medical Director, Liver Transplantation, Hospital of the University of Pennsylvania, Philadelphia, PA
Advisor (Ad-Hoc)/Speaker/Investigator: Roche

Douglas K. Rex, MD, FACG
Professor of Medicine, Indiana University Hospital, Indianapolis, IN
Speaker's Bureau: TAP, CB Fleet, Salix, Olympus
Research Support: Olympus, CB Fleet, Salix, MGI Pharma, Given Imaging
Scientific Advisory Boards: Given Imaging, Avantis Medical Systems, CB Fleet, Salix, GI View, American BioOptics

Lewis R. Roberts, MB, ChB, PhD, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Dr. Roberts has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Joseph Romagnuolo, MD
Associate Professor, Medical University of South Carolina, Charleston, SC
Consultant/Research Support: Olympus

Mark W. Russo, MD, MPH
Associate Professor of Medicine, Carolinas Medical Center, Charlotte, NC
Dr. Russo has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

John R. Saltzman, MD, FACG
Director of Endoscopy, Brigham and Women's Hospital, Boston, MA
Dr. Saltzman has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Richard E. Sampliner, MD, MACG
Professor of Medicine, University of AZ Health Sciences Center, Tucson, AZ
Research Support: Barrx

William J. Sandborn, MD, FACG
Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Consultant/Research Support: Elan, Centocor, Abbott Laboratories, UCB
Consultant: Millenium, Genentech

Dana R. Sands, MD
Director of the Colorectal Physiology Center, Cleveland Clinic Florida, Weston, FL
Dr. Sands has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Michael G. Sarr, MD
Professor of Surgery, Mayo Clinic College of Medicine, Rochester, MN
Dr. Sarr has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Michael D. Saunders, MD
Clinical Associate Professor, University of Washington Medical Center, Seattle, WA
Dr. Saunders has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Eugene R. Schiff, MD, MACG
Director of the Center for Liver Diseases, University of Miami, Miami, FL
Consultant: Dynavax Technologies Corp.
Scientific Advisory Board: Abbott, Anadys Pharmaceuticals, Bayer, Bristol Myers Squibb, Conatus, Gilead, GlobeImmune, Merck, Novartis/Idenix, Pfizer, Roche Molecular, Schering-Plough, Vertex Pharmaceuticals
Data Monitoring Board: Johnson and Johnson, Pfizer, Salix, Sanofi Aventis, Wyeth
Grant/Research Support: Abbott, BeringerIngelheim, Bristol Myers Squibb, Conatus, Debio Pharm, Gilead, GlobeImmune, Idenix, LABCORE, Merck, Novartis/Idenix, Pfizer, Roche Diagnostics, Roche Molecular, Roche Pharmaceuticals, Salix, Schering-Plough, Vertex Pharamceuticals, Wyeth

Lawrence R. Schiller, MD, FACG
Clinical Professor, University of Texas Southwestern, Dallas, TX
Dr. Schiller has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Philip S. Schoenfeld, MD, MSEd, MScEpi, FACG
Associate Professor of Medicine, University of Michigan, Ann Arbor, MI
Consultant/Advisory Committee: Salix
Partner: MD-Evidence

Vijay H. Shah, MD, FACG
Associate Professor of Medicine, Mayo Clinic, GI Research Unit, Rochester, MN
Dr. Shah has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Nicholas J. Shaheen, MD, MPH, FACG
Associate Professor of Medicine and Epidemiology, University of North Carolina, Chapel Hill, NC
Consultant/Speaker's Bureau: AstraZeneca, TAP
Grant Support: Barrx Medical, CSA Medical, Procter & Gamble

Virender K. Sharma, MD, FACG
Professor of Medicine, Mayo Clinic Scottsdale, Scottsdale, AZ
Research Grant: Barrx

Morris Sherman, MD, PhD, FACG
Associate Professor of Medicine, Toronto General Hospital, Toronto, ON, Canada
Dr. Sherman has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Mitchell L. Shiffman, MD, FACG
Professor of Medicine, Virginia Commonwealth University Medical Center, Richmond, VA
Consultant/Speaker/Grant/Research: Roche
Grant/Research/Speaker: Schering-Plough

Corey A. Siegel, MD
Assistant Professor of Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH
Consultant: UCB, Abbott, Elan
Speaker for CME activities: UCB, Abbott

Milton T. Smith, MD, FACG
Staff Gastroenterologist, Walter Reed Army Medical Center, Washington, DC
Dr. Smith has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Lisa L. Strate, MD, FACG
Assistant Professor, Harborview Medical Center, Seattle, WA
Dr. Strate has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Sapna Syngal, MD, MPH, FACG
Associate Professor of Medicine, Harvard Medical School, Dana Farber Cancer Institute, Boston, MA
Dr. Syngal has indicated that she has no relationship which, in the context of her presentation, could be perceived as a potential conflict of interest.

Nicholas J. Talley, MD, PhD, FACG
Professor of Medicine, Mayo Clinic, Jacksonville, FL
Consultant: AccreditEd, Addex Pharmaceuticals, SA, Annanberg Center, Astellas Pharma, Inc. US, AstraZeneca R&D Lund, Axcan Pharma, Callisto Pharmaceuticals, Conexus, Dynogen, F-Network, Ferring Pharmaceuticals, Inc., Interactive Forum, Inc., Lexicon Genetics, Inc., McNeil Consumer, Medscape from WebMD, Metabolic Pharma, MGI Pharma, Microbia, Inc., Novartis, Oakstone Publishing, Optum HC, Procter & Gamble, Salix
Financial Support: Novartis, Takeda, GlaxoSmithKline, Dynogen, Tioga

Scott M. Tenner, MD, MPH, FACG
Director, Medical Education and Research, Maimonides Medical Center, SUNY, Brooklyn, NY
Dr. Tenner has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Christopher C. Thompson, MD, FACG
Director of Developmental Endoscopy, Brigham and Women's Hospital; Instructor in Medicine, Harvard Medical School, Boston, MA
Dr. Thompson has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Andrew Ukleja, MD
Assistant Professor of Medicine, Cleveland Clinic Florida, Weston, FL
Dr. Ukleja has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Marcelo F. Vela, MD, MSCR, FACG
Assistant Professor, Medical University of South Carolina, Charleston, SC
Dr. Vela has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Kenneth K. Wang, MD, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Research Support: Barrx, Fujinon, Olympus

Jerome D. Waye, MD, MACG
Clinical Professor, Mt. Sinai School of Medicine, New York, NY
Dr. Waye has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Roy K.H. Wong, MD, FACG
Chief of Gastroenterology, Walter Reed Army Medical Center, Washington, DC
Dr. Wong has indicated that he has no relationship which, in the context of his presentation, could be perceived as a potential conflict of interest.

Investigational Use Disclosure
ACG's disclosure policy maintains that if any unapproved or off-label use of a product is to be referenced in a CME program, the faculty member is required to disclose that the product is either investigational or it is not labeled for the usage being discussed. The following faculty members have indicated they may reference an off-label use in their Annual Meeting presentation(s).

Dr. Bajaj - use of lactulose, probiotics in the management of hepatic encephalopathy
Dr. Brandt - use of aminosalicylates for diverticulitis prevention
Dr. Chalasani - thiazolidione, CB antagonist in NAFLD
Dr. Farraye - use of 5ASA's, folic acid and ursodiol as chemopreventive agents
Dr. P. Katz - PPI dosing in GERD
Dr. Kowdley - use of urso for PSC
Dr. Kwo - tenofovir in HBV treatment
Dr. Sandborn - MLN-0002, anti-beta 7 antibody in ulcerative colitis and Crohn's disease
Dr. Saunders - use of neostigmine for acute pseudo-obstruction
Dr. Schoenfeld - probiotics, loperamide, nortriptyline & rifaximin for treatment of diarrhea-predominant IBS
Dr. Shiffman - peginterferon and ribavirin in hepatitis C therapy
Dr. Siegel - azathioprine, 6MP for Crohn's and ulcerative colitis
Dr. Smith - friction fit adapter (variceal ligator kit) for meat extractions

ACG 2007-2008 Planning Committee

Disclosure of Potential Conflicts of Interest
It is the policy of the American College of Gastroenterology to ensure objectivity, balance, independence, transparency, and scientific rigor in all its sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are required to disclose to ACG any relevant financial relationship or other relationship held within the past 12 months that may pose a potential commercial bias and to assist in resolving any conflict of interest that may arise from the relationship. The intent of this disclosure is not to prevent a speaker with a relevant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion.

The 2007-2008 Annual Meeting Planning Committee Members have noted the following relationships.

Jean-Paul Achkar, MD, FACG, Chair
Staff Physician, Department of Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH
Dr. Achkar has indicated no relevant financial relationships.

Brian P. Bosworth, MD
Assistant Professor of Medicine, Weill Cornell Medical Center-NY Presbyterian Hospital, New York, NY
Spouse is attorney for Schering-Plough.

John K. DiBaise, MD, FACG
Professor of Medicine, Mayo Clinic Scottsdale, Scottsdale, AZ
Consultant: Salix
Research Grants: Salix, NPS, SmartPill

Ronnie Fass, MD, FACG
Professor of Medicine, Southern Arizona VA Health Care System, Tucson, AZ
Consultant: GSK, Dynnogen, Eisai, TAP, Xenoport, Vecta
Grant: Wyeth, TAP, Ocera, AstraZeneca

Martin L. Freeman, MD, FACG
Professor of Medicine, Hennepin County Medical Center, Minneapolis, MN
Consultant (unpaid): Hobbs Medical
Fellowship Support: Cook, BSCI
Research Support: Cook, BSCI

Timothy B. Gardner, MD
Assistant Professor, Department of Medicine, Dartmouth Medical School, Director of Pancreatic Disorders, Section of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH
Dr. Gardner has indicated no relevant financial relationships.

Brenda J. Hoffman, MD, FACG
Professor of Medicine, Medical University of South Carolina, Charleston, SC
Dr. Hoffman has indicated no relevant financial relationships.

Joshua A. Katz, MD
Director, Montgomery Colorectal Surgery, LLC, Rockville, MD
Salary: Director of physiology studies at Shady Grove Adentist Hospital

Paul Kwo, MD
Associate Professor of Clinical Medicine, Indiana University, Indianapolis, IN
Grant Support, Consultant: Vertex, Novartis, Schering, Celgene

Brian E. Lacy, MD, PhD, FACG
Associate Professor of Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH
Scientific Advisory Board/Grant (investigator initiated):Takeda, Novartis

Julia J. Liu, MD, FACG
Assistant Professor, University of Alberta Hospital, Edmonton, AB, Canada
Dr. Liu has indicated no relevant financial relationships.

G. Richard Locke, III, MD, FACG
Professor of Medicine, Mayo Clinic, Rochester, MN
Scientific Advisory Board/Research Grant: Boehringer
Research Funding: Takeda, P&G, Medtronic, Novartis, TAP

Robert D. Odze, MD
Chief, Gastrointestinal Pathology, Brigham & Women's Hospital, Boston, MA
Dr. Odze has indicated no relevant financial relationships.

Waqar Qureshi, MD, FACG
Associate Professor of Medicine, Baylor College of Medicine, Houston, TX
Dr. Qureshi has indicated no relevant financial relationships.

Francisco Ramirez, MD, FACG
Professor of Clinical Medicine, University of Arizona, Phoenix, AZ
Dr. Ramirez has indicated no relevant financial relationships.

K. Rajender Reddy, MD, FACG
Medical Director, Liver Transplantation, Hospital of the University of Pennsylvania, Philadelphia, PA
Consultant (ad hoc), Investigator: Roche
Consultant: Gilead

Philip S. Schoenfeld, MD, MSEd, MScEpi, FACG
Associate Professor, University of Michigan, Ann Arbor, MI
Speakers Bureau: Novartis, Wyeth, Takeda
Consultant: Salix, Novartis, Takeda, AGI Therapeutics, Shire
Partner: MD-Evidence

David A. Schwartz, MD
Assistant Professor of Medicine, Vanderbilt University Medical Center, Nashville, TN
Speakers Bureau: P&G, Abbott, Centocor, Salix, UCB, Prometheus, Shire
Consultant: Abbott, Cellerix
Grant Support: P&G, Abbott, UCB

Kenneth Wang, MD, FACG
Associate Professor of Medicine, Mayo Clinic College of Medicine, Rochester, MN
Research Grant: Fujinon

Sunday, October 5, 2008
3:30 pm — 7:00 pm
Authors will be present from 3:30 pm – 4:30 pm

Monday, October 6, 2008
10:30 am — 4:00 pm
Authors will be present from 12:15 pm – 2:00 pm

Tuesday, October 7, 2008
10:30 am — 4:00 pm
Authors will be present from 12:15 pm – 2:00 pm

SUNDAY, OCTOBER 5, 2008

ESOPHAGUS

P1. Is Immunofluoresence Staining for Eosinophil Derived Neurotoxin Useful in the Diagnosis of Eosinophilic Esophagitis?
★ *2008 ACG Presidential Poster Award Recipient*
Jeffrey Alexander, MD, Gail Kephart, MS, Karthik Ravi, MD, David Neumann, MD, Hirohito Kita, MD, Nicholas Talley, MD, Gastroenterology, Mayo Clinic Rochester, Rochester, MN

P2. Manometric Placement of Bravo Capsule and Its Impact on Day to Day Discrepancy in Measurement of Esophageal Acid Exposure
Shahin Ayazi, MD, Farzaneh Banki, MD, Jessica Leers, MD, Arzu Oezcelik, MD, Emmanuele Abate, MD, Daniel Liebertz, BS, BA, Steven DeMeester, MD, John Lipham, MD, Jeffrey Hagen, MD, Tom DeMeester, MD, Surgery, University of Southern California, Los Angeles, CA

P3. Bravo® Catheter-Free pH Monitoring: Normal Values, Concordance, Optimal Diagnostic Thresholds and Accuracy
Shahin Ayazi, MD, John Lipham, MD, Giuzeppe Portale, MD, Jessica Leers, MD, Arzu Oezcelik, MD, Emmanuele Abate, MD, Farzaneh Banki, MD, Steven DeMeester, MD, Jeffrey Hagen, MD, Tom DeMeester, MD, Surgery, University of Southern California, Los Angeles, CA

P4. Intraepithelial Eosinophil Infiltration in Patients with GERD: Correlation with Dysphagia
Shahin Ayazi, MD, Jeffrey Hagen, MD, Parviz Gholami, MD, Andrew Tang, MD, Steven DeMeester, MD, John Lipham, MD, Farzaneh Banki, MD, Parakrama Chandrasoma, MD, Tom DeMeester, MD, Michael Kline, MD, Pathology, Medicine, Surgery, University of Southern California, Los Angeles, CA

P5. Long Term Outcomes and Predictors of Progression in Barrett's Esophagus and Indefinite Dysplasia
Shalini Achra, MBBS, Ganapathy Prasad, MD, MS, Yuvnish Bhardwaj, MBBS, Rami Baddreddine, MD, Navtej Buttar, MD, Kelly Dunagan, LPN, Lori Lutzke, LPN, Lynn Borkenhagen, RN, FNP, Kenneth Wang, MD, Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P6. A Novel Endoesophageal Magnetic Device to Prevent Gastroesophageal Reflux
Mauro Bortolotti, MD, Annamaria Grandis, VD, Giosuè Mazzero, MD, Department of Veterinary Morphophysiology and Animal Productions, Internal Medicine and Gastroenterology, University of Bologna, Bologna, Italy

P7. The Prevalence of Gastroesophageal Reflux in Patients with Paradoxical Vocal Fold Motion
John Boger, MD, Joyce Gurevich-Uvena, MA CCC-SLP, Eric Frizzel, MD, William Norris, MD, Corinne Maydonovitch, BS, Joseph Perry, MD, Jeffrey Laczek, MD, Roy Wong, MD, Walter Reed Army Medical Center, Washington, DC

P8. High Resolution Esophageal Manometry (HRM): Topographical Mapping of Esophageal Motor Function in Scleroderma
Paula Dionisio, MD, W. Griffing, MD, Heidi Garcia, PA-C, John DiBaise, MD, George Burdick, MD, Virender Sharma, MD, Michael Crowell, PhD, Rheumatology, Gastroenterology, Mayo Clinic Scottsdale, Scottsdale, AZ

P9. Post 9/11 GERD: A New Entity
Roshini Rajapaksa, MD, Quinyi Cheng, PHD, Mengling Liu, PHD, Maria-Elena Fernandez-Beros, PHD, Joan Reibman, MD, Medicine, NYU School of Medicine, New York, NY

P10. Are Troublesome GERD-Related Symptoms Reflecting Characteristics of the Disease or the Patient?
Enrique Rey, MD, Javier Zapardiel, MD, Mercedes Munoz, MD, Eduardo Sobreviela, PhD, Gastroenterology Unit, H.C.U Clinico San Carlos, Madrid, Spain, Medical Department, AstraZeneca Spain, Madrid, Spain, Biometric Unit, Quintiles Iberia, Madrid, Spain

P11. When Esophageal Rings are Present but Eosinophils are Sparse: Is Degranulation a Factor?
William Cobell, MD, Ann Georgelas, MS, Gerald Gleich, MD, Kristin Leiferman, MD, Frederic Clayton, MD, Kristen Thomas, BS, John Fang, MD, Kathryn Peterson, MD, MSci, Pathology, Dermatology, Gastroenterology, University of Utah, Salt Lake City, UT

P12. Relationships Between Inhibition of Gastric and Esophageal Acidity in GERD Patients Being Treated with a Proton Pump Inhibitor
Jerry Gardner, MD, Sheldon Sloan, MD, Malcolm Robinson, MD, Philip Miner, MD, Science for Organizations, Mill Valley, CA, Janssen Pharmaceutica, Titusville, NJ, Oklahoma Foundation for Digestive Research, Oklahoma City, OK

P13. Abnormal GERD Parameters During Ambulatory pH Monitoring (pHM) Predict Therapeutic Success in Noncardiac Chest Pain (NCCP)
Vladimir Kushnir, MD, Michael Hersh, MD, Gregory Sayuk, MD, MPH, C. Prakash Gyawali, MD, MRCP, Gastroenterology, Washington University School of Medicine, St. Louis, MO

P14. Effects of Intraduodenal Nutrient Infusion on CCK Levels, LES Pressure, and Gastroesophageal Reflux (GER)
Brian Lacy, PhD, MD, FACG, Lisa Paquette, RN, Maurice Kelley, MD, Jocelyn Carter, MD, Julia Weiss, MS, Medicine, Division of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH, Community & Family Medicine, Dartmouth Medical School, Hanover, NH

P15. Efficacy and Safety of Radiofrequency Ablation for Barrett's Esophagus with High Grade Dysplasia: The Washington University Experience
Aarti Oza, BA, MD, Dayna Early, MD, Steven Edmundowicz, MD, Internal Medicine, Division of Gastroenterology, Washington University, St. Louis, MO

P16. How Much Additional Procedure Time is Required to Obtain Multiple Mucosal Surveillance Biopsies in Patients with Barrett's Esophagus?
Andrew Rackoff, MD, Steven Kucera, MD, Sabo Tanimu, MD, Daohai Yu, PhD, Weiwei Zhu, MS, James Barthel, MD, Division of Digestive Diseases, University of South Florida, Tampa, FL, Division of Gastrointestinal Oncology, Moffitt Cancer Center, Tampa, FL

P17. Barrett Esophagus is Associated with a Lower Prevalence of *H. pylori* Gastritis and a Higher Prevalence of Reactive Gastropathy
Ghazwan Sharabi, MD, Christopher Schuler, MD, Robert Genta, MD, Pathology, Caris Diagnostics, Irving, TX

P18. Lower Rates of Healing of Erosive Esophagitis (EE) in Nonwhite GERD Patients
Prateek Sharma, MD, Hashem El-Serag, MD, MPH, David Johnson, MD, John Monyak, PhD, Marta Illueca, MD, University of Kansas Medical Center, Kansas City, MO, Baylor College of Medicine, Houston, TX, Eastern Virginia Medical School, Norfolk, VA, AstraZeneca LP, Wilmington, DE

P19. Accuracy of Endoscopic Ultrasound for Nodal Staging of Early Esophageal Cancer
Falguny Bhavan, MD, Dustin Shackleton, MD, Sarah Rodriguez, MD, Christopher Corless, MD, Douglas Faigel, MD, Department of Pathology, Department of Gastroenterology, Oregon Health & Sciences University, Portland, OR

P20. A Global, Evidence-Based Consensus on the Definition of Pediatric Gastroesophageal Reflux Disease (GERD)
Benjamin Gold, MD, Philip Sherman, MD, FRCP(C), FAAP, Emory University School of Medicine, Atlanta, GA, The Hospital for Sick Children, Toronto, ON, Canada

P21. Placebo-Controlled Trial of 2 Doses of TAK-390MR, a PPI with Novel Dual Delayed Release Technology, as Maintenance Treatment for Patients with Healed Erosive Esophagitis (EE)
Colin Howden, MD, Lois Larsen, PhD, Robert Palmer, MPH, M. Claudia Perez, MD, Division of Gastroenterology, Northwestern University, Chicago, IL, Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL

P22. ERBB Pathways in Barrett's Esophagus and Esophageal Adenocarcinoma
Vani Konda, MD, John Hart, MD, Amy Noffsinger, MD, Irving Waxman, MD, Marc Bissonnette, MD, Center for Endoscopic Research and Therapeutics, Pathology, Gastroenterology, University of Chicago, Chicago, IL

P23. Esophageal Eosinophilia and History of Atopy in Patients with Erosive Esophagitis
Mary Kovalak, MD, Kristen Thomas, BS, Mae Go, MD, Kathryn Peterson, MD, University of Utah, Salt Lake City, UT, Gastroenterology, VA Medical Center, Salt Lake City, UT

P24. TAK-390MR Maintains Relief of Gastroesophageal Reflux Disease (GERD) Symptoms and Improvements in Quality of Life in GERD Patients with Healed Erosive Esophagitis
Reema Mody, PhD, MBA, Lois Larsen, PhD, Maria Perez, MD, Betsy Pilmer, RN, BSN, Omar Dabbous, MD, MPH, TAP Pharmaceuticals Products Inc., Lake Forest, IL, Abbott, Abbott Park, IL

STOMACH

P25. The Expression of Epidermal Growth Factor Receptor in *H. pylori* Infected Intestinal Metaplasia and Gastric Cancer
★ *2008 ACG Presidential Poster Award Recipient*
Noriko Nakajima, MD, PhD, Yoko Ito, MS, Soichiro Ota, MD, Shun Kobayashi, MD, Kiyoshi Yokoyama, MD, PhD, Akitake Uno, MD, PhD, Noriko Kinukawa, MD, PhD, Norimichi Nemoto, MD, PhD, Mitsuhiko Moriyama, MD, PhD, Department of Pathology, Department of Gastroenterology & Hepatology, Nihon University School of Medicine, Tokyo, Japan

P26. The Expression of HER2 in *Helicobacter pylori* Infected Intestinal Metaplasia and Gastric Cancer
Noriko Nakajima, MD, PhD, Yoko Ito, MS, Soichiro Ota, MD, Shun Kobayashi, MD, Kiyoshi Yokoyama, MD, PhD, Akitake Uno, MD, PhD, Noriko Kinukawa, MD, PhD, Norimichi Nemoto, MD, PhD, Mitsuhiko Moriyama, MD, PhD, Department of Pathology, Department of Gastroenterology & Hepatology, Nihon University School of Medicine, Tokyo, Japan

P27. The Addition of Liquid Gastric Emptying to a Solid Gastric Emptying Study Increases Detection of Gastroparesis
Harvey Ziessman, MD, Patrick Okolo, MD, Gerard Mullin, MD, Chander Ankit, MD, Gastroenterology, Nuclear Medicine, Johns Hopkins University, Baltimore, MD

P28. Chronic Proton Pump Inhibitor Therapy Increases Fundic Gland Polyps: How Much is Too Much?
Mazer Ally, MD, Ganesh Veerappan, MD, Timothy Duncan, MD, Joseph Perry, MD, Corinne Maydonovitch, BS, Eric Osgard, MD, Roy Wong, MD, Medicine, Gastroenterology Service, Walter Reed Army Medical Center, Washington, DC

P29. A Simple Formula to Identify Patients with Advanced Stage Gastric Adenocarcinoma
Eric Choi, MD, Masood Mansour, MD, Williamson Strum, MD, Gastroenterology and Hepatology, and Internal Medicine, Scripps Clinic, La Jolla, CA

P30. A Randomized, Single-Blind, Placebo-Controlled, One-Week, Pilot Study of the Effect of Naproxen 500 mg BID, Aspirin 81 mg Daily, Celecoxib 200 mg Daily, or Clopidogrel 75 mg Daily on the Healing of Gastroduodenal Lesions
Andrew Dikman, BA, Shefali Sanyal, BA, Caroline von Althann, BA, Jay Desai, MD, Carol Bodian, DrPH, Andrew Brooks, PhD, Neville Bamji, MD, Lawrence Cohen, MD, Kenneth Miller, MD, James Aisenberg, MD, Anesthesiology, Medicine (Gastroenterology), Mount Sinai School of Medicine, New York, NY, Environmental and Occupational Health Science Institute, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, NJ

P31. Detection of *H. pylori* from Patients with PPIs Treatment
Xiangwen Meng, MD, PhD, Marc Scheer, MD, Tat-Kin Tsang, MD, ENH Research Institute, Evanston Northwestern Healthcare, Evanston, IL, Medicine, Northwestern University Feinberg School of Medicine, Evanston, IL

P32. Prevalence of *Helicobacter pylori* Infection in Gastric Biopsy Specimens: A National Study
Christopher Schuler, MD, Richard Lash, MD, M. Saboorian, MD, Robert Genta, MD, Caris Diagnostics, Irving, TX

P33. The Cost-Effectiveness of High-Dose Intravenous Esomeprazole in Peptic Ulcer Bleeding—A U.S. Cost Perspective
Alan Barkun, MD, Vivian Adam, MD, Joseph Sung, MD, Ernst Kuipers, MD, Joachim Mössner, MD, Dennis Jensen, MD, Robert Stuart, MD, James Lau, MD, Helena Granstedt, MSc, Tore Lind, MD, Division of Gastroenterology, McGill University Health Center, Montreal, QC, Canada, Institute of Digestive Diseases, Chinese University of Hong Kong, Shatin, Hong Kong, China, Department of Gastroenterology and Hepatology, Erasmus MC University Medical Center, Rotterdam, Netherlands, Medizinische Klinik und Poliklinik II, University of Leipzig, Leipzig, Germany, David Geffen School of Medicine at UCLA and CURE Digestive Diseases Research Center, Los Angeles, CA, Glasgow Royal Infirmary, Glasgow, United Kingdom, AstraZeneca R&D, Mölndal, Sweden

P34. LEND (Levofloxacin, Esomeprazole, Nitazoxanide and Doxycycline) for the Treatment of Previously Non-Responsive *Helicobacter pylori*
P. Patrick Basu, MD, Krishna Rayapudi, MD, Jose Esteves, MD, Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY

P35. Percutaneous Endoscopic Gastrostomy (PEG) Tube Placement in Patients on Antiplatelet Agents: Is There an Increased Risk of Bleeding?
Rahssan Friend, DO, Adedamola Lufadeju, MD, Richard Menin, MD, Philip Katz, MD, Medicine, Albert Einstein Medical Center, Philadelphia, PA

P36. Self Reported Practice Patterns Among High Volume Prescribers of *Hp* Eradication Therapies
Stephen George, PharmD, MS, Nimish Vakil, MD, Conexus, Tampa, FL, Medicine, Marquette University, Milwaukee, WI

P37. Patients at Risk for Gastrointestinal Bleeding Infrequently Receive Proton Pump Inhibitor Therapy at Discharge: A Single Center Experience
Adam Levy, MD, Philip Katz, MD, Department of Medicine, Division of Gastroenterology, Albert Einstein Medical Center, Philadelphia, PA

P38. PIES (Predictors of Improvement After Electrical Stimulation) in Gastroparesis
Narendra Siddaiah, MD, William Johnson, PhD, Robert Schmieg, MD, Stephen Weeks, MD, Jay Salameh, MD, Thomas Abell, MD, Surgery, Epidemiology and Biostatistics, Medicine, Digestive Diseases, University of Mississippi Medical Center, Jackson, MS

P39. Usefulness and Discriminant Value of Rome III Questionnaire in Dyspeptic Patients without Anti-Secretory Therapy
Shahab Abid, MD, FACG, Shaheryar Siddiqui, MBBS, Wasim Jafri, MD, FACG, Medicine, Aga Khan University, Karachi, Pakistan

PANCREATIC / BILIARY

P40. Biliary Tract Candidiasis: Insights into a Rising Disease Entity
Philipp Lenz, MD, Beate Conrad, MD, Torsten Kucharzik, MD, Wolfgang Fegeler, MD, Hansjörg Ullerich, MD, Ekkehard Hilker, MD, Achim Heinecke, MD, Wolfram Domschke, MD, Dirk Domagk, MD, Department of Medicine B, University of Muenster, Muenster, Germany

P41. Adiponectin Polymorphisms and Serum Adiponectin Levels in Severe Acute Pancreatitis
Arun Sharma, MD, Venkata Muddana, MD, Janette Lamb, PhD, David Whitcomb, MD, PhD, Georgios Papachristou, MD, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA

P42. The Diagnosis of Acinar Cell Carcinoma (ACC) of the Pancreas via Endoscopic Ultrasound Guided Fine Needle Aspiration (EUS-FNA): A New Approach
David Yamini, MD, Jane Tongson-Ignacio, MD, Kenneth Chang, MD, John Lee, MD, Raman Muthusamy, MD, Pathology, Medicine/ Gastroenterology, University of California, Irvine, Orange, CA

P43. Feasibility of Endoscopic Intra-Ductal Balloon Cryotherapy in the Bile Duct Using a Swine Model
John David Horwhat, MD, William Norris, MD, Patrick Young, MD, Walter Reed Army Medical Center, Washington, DC, Department of Medicine, National Naval Medical Center, Bethesda, MD

P44. Do U.S. Regions with the Highest Rates of Obesity Have the Highest Frequency of Hospital Discharges for Pancreatic Adenocarcinoma? An Analysis of U.S. Secular Trends
★ *2008 ACG Presidential Poster Award Recipient*
Benjamin Young, MD, Alphonso Brown, MD, MSClinEpi, Beth Israel Deaconess Medical Center, Boston, MA

P45. Glycemic Control in Patients Post Total Pancreatectomy (TP) for Intraductal Papillary Mucinous Neoplasm (LPMN)
Laith Jamil, MD, John Stauffer, MD, Shon Meek, MD, Kanwar Gill, MD, Massimo Raimondo, MD, Timothy Woodward, MD, Ana Maria Chindris, MD, Justin Nguyen, MD, Kirk Martin, MD, Michael Wallace, MD, MPH, Endocrinology, Surgery, Gastroenterology, Mayo Clinic, Jacksonville, FL

P46. Radial vs. Linear EUS in Evaluation of Suspected Pancreatic Cancer. Is It Sufficient to Use Linear EUS Alone?
Laith Jamil, MD, Kanwar Gill, MD, Seth Gross, MD, Julia Crook, PhD, Massimo Raimondo, MD, Timothy Woodward, MD, Michael Wallace, MD, MPH, Biostatistics, Gastroenterology, Mayo Clinic, Jacksonville, FL

P47. Does Rate of Growth Differentiate Between Mucinous and Non-Mucinous Pancreatic Cysts?
Ketan Kulkarni, MD, Neal Schamberg, MD, Roberto Gonzalez, MD, Savreet Sarkaria, MD, Mark Pochapin, MD, Felice Schnoll-Sussman, MD, Division of Gastroenterology and Hepatology, Weill Cornell Medical Center, New York-Presbyterian Hospital, New York, NY

P48. Elevated Serum Creatinine as a Marker of Pancreatic Necrosis in Acute Pancreatitis
Venkata Muddana, MD, David Whitcomb, MD, PhD, Asif Khalid, MD, Adam Slivka, MD, PhD, Georgios Papachristou, MD, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA

P49. Antibiotic Prophylaxis Reduces the Infectious Complications and Mortality in Severe Acute Pancreatitis: Practical Review and Meta-Analysis of 12 Trials
Rubayat Rahman, MD, Faisal Bukeirat, MD, Yevgeniy Ostrinsky, MD, Digestive Diseases, West Virginia University, School of Medicine, Morgantown, WV

P50. Poster Withdrawn

P51. Actual Incidence of Acute Pancreatitis in Cystic Tumor of Pancreas
Jeong Kyun Seo, MD, Ji Kon Ryu, MD, Sang Hyub Lee, MD, Joo Kyung Park, MD, Ki Young Yang, MD, Yong-Tae Kim, MD, Yong Bum Yoon, MD, Department of Internal Medicine, Liver Research Institute, Seoul National University College of Medicine, Seoul, South Korea, Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, South Korea

P52. Evaluation of Intrahepatic Chemotherapy Induced Sclerosing Cholangitis by Endoscopic Therapy: Incidence and Outcome Analysis
Trupti Shinde, MD, Sankar Alaguguraswamy, MD, Mark Roh, MD, Abhijit Kulkarni, MD, Surgical Oncology, Gastroenterology, Medicine, Allegheny General Hospital, Pittsburgh, PA

P53. Despite Aggressive Hydration, Hematocrit and Urinary Trypsinogen Activation Peptide (U-TAP) Predict Severity Early in Patients with Acute Pancreatitis
Ian Wall, DO, Nison Badalov, MD, Jack Braha, DO, Konstantin Vaizman, MD, Anita Torok, MD, Peretz Lock, DO, Jianjun Li, MD, FACG, Kadirawel Iswara, MD, FACG, Scott Tenner, MD, MPH, FACG, Gastroenterology, Maimonides Medical Center, Brooklyn, NY, Medicine / Gastroenterology, State University of New York, Brooklyn, NY

P54. Pancreatic Stent-Induced Ductal Injury: Clinical Presentation and Outcomes of Endoscopic Therapy
Yan Bakman, MD, Martin Freeman, MD, Pancreas and Biliary Center, Division of Gastroenterology, Department of Internal Medicine, University of Minnesota, Minneapolis, MN

P55. Patient Characteristics or Type of Biliary Anastomosis with or without T-Tube Placement Does Not Influence Biliary Complication Rate After Liver Transplantation
Tarek Abu-Rajab Tamimi, MD, Mansour Parsi, MD, Saurabh Agrawal, MD, Madhusudhan Sanaka, MD, Rocio Lopez, MS, Nizar Zein, MD, Quantitative Health Sciences, Digestive Disease Institute, Internal Medicine Institute, Cleveland Clinic, Cleveland, OH

P56. Large Cell Width Expandable Metal Stents for Endoscopic Bilateral Stent Within Stent Placement of Malignant Hilar Biliary Obstruction
Prabhleen Chahal, MD, Todd Baron, MD, Bret Petersen, MD, Mark Topazian, MD, Christopher Gostout, MD, Gastroenterology, Mayo Clinic, Rochester, MN

P57. Gabexate for Prevention of Post-ERCP Pancreatitis: A Meta-Analysis
Abhishek Choudhary, MD, Matthew Bechtold, MD, Srinivas Puli, MD, Mainor Antillon, MD, Wilson Pais, MD, Mohamed Othman, MD, Praveen Roy, MD, Division of Gastroenterology, University Hospital of Missouri, Columbia, MO, Division of Gastroenterology, University of New Mexico, Albuquerque, NM

P58. Outcomes of Interventional ERCP in Hereditary Pancreatitis
John Dever, MD, Shayan Irani, MD, Richard Kozarek, MD, Gastroenterology, Internal Medicine, Virginia Mason Medical Center, Seattle, WA

P59. Long-Term Follow-up of Pancreatic Necrosis with CT Scan: Will the Pancreas Regenerate?
Matthew Lohse, BA, David Hough, MB, ChB, Santhi Vege, MB, ChB, PhD, Radiology, Gastroenterology and Hepatology, College of Medicine, Mayo Clinic, Rochester, MN

P60. Role of Endoscopic Ultrasonography and a Trial of Tricyclic Antidepressants in Patients with Suspected Sphincter of Oddi Dysfunction III
Savio Reddymasu, MD, Shailender Singh, MD, Melissa Oropeza-Vail, RN, Mojtaba Olyaee, MD, Kansas University Medical Center, Kansas City, KS

P61. Occlusion Rate and Complications of Plastic Biliary Stents in Patients Undergoing Neoadjuvant Chemoradiotherapy for Pancreatic Cancer Associated with Biliary Obstruction
Brian Boulay, MD, MPH, Stuart Gordon, MD, Section of Gastroenterology & Hepatology, Dartmouth-Hitchcock Medical Center, Lebanon, NH

P62. Prevalance of Acute Pancreatitis in Sickle Cell Disease
Sirisha Jasti, MD, Vonzell Williams, MD, Arunan Vamadevan, MD, Peter Gillette, MD, Frank Gress, MD, Hematology / Oncology, Gastroenterology, Medicine, SUNY Downstate Medical Center, Brooklyn, NY

SMALL INTESTINE / UNCLASSIFIED

P63. Interaction Between Psychiatric and Autoimmune Disorders in Celiac Disease Patients in the United States
★ *2008 ACG Presidential Poster Award Recipient*
Sagar Garud, MD, MPH, Daniel Leffler, MD, MS, Melinda Dennis, RD, MS, Shailaja Jamma, MD, Jessica Edwards-George, PhD, Diana Saryan, BS, Ciaran Kelly, MD, Gastroenterology, Beth Israel Deaconess Medical Center, Boston, MA

P64. Teduglutide, a GLP-2 Analog Enhances Intestinal Structure in Short Bowel Syndrome (SBS) Patients Dependent on Parenteral Nutrition (PN)
Kelly Tappenden, PhD, Marek Pertkiewicz, MD, Richard Gilroy, MD, Johane Allard, MD, Marek Kunecki, MD, Hans Sauerwein, MD, Nancy McGraw, Palle Bekker Jeppesen, MD, Bernard Messing, MD, University of Illinois, Urbana, IL, Medical University of Warsaw, Warsaw, Poland, University of Kansas Medical Center, Kansas City, KS, Toronto General Hospital, Toronto, ON, Canada, Pirogow Hospital, Lodz, Poland, Academic Medical Center, Amsterdam, Netherlands, NPS Pharmaceuticals, Bedminster, NJ, Rigshospitalet, Copenhagen, Denmark, Hopital Beaujon, Clichy, France

P65. Histopathologic Manifestations of Microscopic Colitis in Celiac Disease
Jun Yang, MD, Jianfeng Cheng, MD, PhD, Bhagat Govind, MD, Peter Green, MD, FACG, Department of Medicine, Sound Shore Medical Center, New Rochelle, NY, Columbia University, New York, NY

P66. Searching for Celiac Disease in the Urban Jungle: Yield of Small Bowel Biopsies in Patients with Iron Deficiency Anemia in a Diverse Urban Population
★ *2008 ACG / AstraZeneca Senior Fellow Award Recipient*
Syed Mohammed Jafri, MD, Disha Awasthi, MBBS, Anand Madan, MD, FACP, Gastroenterology, University of Texas Health Science Center, Houston, TX

P67. No-Show Rate of Accepted Posters at the Annual ACG Meeting, 2007
Nirmal Mann, MD, MS, PhD, DSc, Kanat Ransibrahamnkul, MD, Gastroenterology, University of California Davis, Folsom, CA

P68. The Association Between *H. pylori* Infection and Migraine: Systematic Evaluation of 1084 Cases with Qualitative Meta-Analysis
Nirmal Mann, MD, MS, PhD, DSc, Gastroenterology, University of California Davis, Folsom, CA

P69. *Clostridium difficile* Infection: Not Only for Colon Anymore!
Amulya Konda, MD, Laith Jamil, MD, Michael Duffy, MD, FACG, Gastroenterology and Hepatology, William Beaumont Hospital, Royal Oak, MI, Gastroenterology and Hepatology, Mayo Clinic, Jacksonville, FL

P70. Digestive Disease Disparities in the Prevalence and Screening of Hispanic Population in Omaha, Nebraska
Harry Lazarte, MD, Chakravarthi Pureti, MD, Helen Fasanya, MD, John O'Brien, MD, Gastroenterology, Creighton University, Omaha, NE

P71. Survival of Patients with Small Bowel Neuroendocrine Tumors
Kalpesh Patel, MD, Sheryl Serbowicz, BS, Steven Itzkowitz, MD, Noam Harpaz, MD, PhD, Michelle Kim, MD, MSc, Division of Gastroenterology, Mount Sinai School of Medicine, New York, NY

P72. A Retrospective Study of Small Intestinal Bacterial Overgrowth in Patients with Bloating
William Cobell, MD, Kristen Hilden, MS, Ashok Tuteja, MD, John Fang, MD, School of Medicine, Division of Gastroenterology, University of Utah, Salt Lake City, UT

P73. Are Marsh Patients Really Celiac Patients?
Claudio Cortelezzi, MD, Marco Parravicini, MD, Giuseppe Chianese, MD, Marcella Lombardini, MD, Sergio Segato, MD, Gastroenterology Unit, Azienda Ospedaliera Macchi, Varese, Italy

P74. Prostaglandin Receptor Activation Properties of Lubiprostone
John Cuppoletti, PhD, Danuta Malinowska, PhD, Ryuji Ueno, MD, PhD, Molecular and Cellular Physiology, University of Cincinnati, Cincinnati, OH, Sucampo Pharmaceuticals, Inc, Bethesda, MD

P75. Enteroscopy with Real Time Viewer: The First 100 Cases
Guilherme Macedo, MD, PhD, FACG, Artur Machado, MD, Susana Lopes, MD, Raquel Gonçalves, MD, Carla Rolanda, MD, Pedro Pereira, MD, Mario Marcelino, MD, Gastroenterology Unit, H S. Marcos, Braga, Portugal

P76. Comparison of Pathology and Location of Findings Between Capsule Endoscopy (CE) and Single Balloon Assisted Enteroscopy (SBAE) in Patients with Occult Gastrointestinal Bleeding
★ *2008 ACG Presidential Poster Award Recipient*
Madhusudhan Sanaka, MD, Anuja Choure, MD, Janice Santisi, RN, Milan Dodig, MD, Rocio Lopez, MS, Bennie Upchurch, MD, John Vargo, MD, Gastroentrology, Internal Medicine, Cleveland Clinic, Cleveland, OH

P77. Duodenal Intraepithelial Lymphocytosis: A Distinct Condition with a Seasonal Incidence?
Christopher Schuler, MD, Guy Lindberg, MD, Robert Genta, MD, Caris Diagnostics, Irving, TX

LIVER

P78. Does Fatigue Play a Role in Hepatic Encephalopathy-Associated Driving Impairment?
★ *2008 ACG Presidential Poster Award Recipient*
Jasmohan Bajaj, MD, Muhammad Hafeezullah, MD, Yelena Zadvornova, MD, Eric Martin, MD, Kia Saeian, MD, FACG, Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI

P79. Poster Withdrawn

P80. Long-Term Outcome of Chronic Hepatitis B Patients Initially Treated with Adefovir Dipivoxil in a Community Practice
Nghiem Ha, BS, Nghi Ha, BS, Ruel Garcia, MD, Huy Trinh, MD, Huy Nguyen, MD, Khanh Nguyen, MD, Brian Levitt, MD, Nghia Nguyen, BA, Mindie Nguyen, MD, MAS, Pacific Health Foundation, San Jose, CA, San Jose Gastroenterology, San Jose, CA, GI and Hepatology, Stanford University Medical Center, Palo Alto, CA

P81. Increasing Intra-Abdominal Pressure Increases Hepatic Venous Pressure Gradient (HVPG) in Cirrhotic Patients
Pankaj Jain, MD, Ashish Kumar, MD, DM, Praveen Sharma, MD, DM, Shiv Sarin, MD, DM, Gastroenterology, G B Pant Hospital, New Delhi, India

P82. Risk Score for Predicting the Lack of Response to Antiviral Treatment in Patients with Chronic Hepatitis C Virus Infection
Ibrahim Hanouneh, MD, Mustafa Steven Ascha, Medical Student, Ariel Feldstein, MD, Rocio Lopez, MS, Nizar Zein, MD, Quantitative Health Sciences, Pediatric Gastroenterology and Cell Biology, Gastroenterology and Hepatology, Internal Medicine, The Cleveland Clinic, Cleveland, OH

P83. Hepatitis B Virus Gene Mutation and Its Clinical Significance in Human Liver Diseases
Premashis Kar, MD, DM, Abdul Malik, PhD, Akhtar Husain, PhD, Bhudev Das, PhD, Ranjana Gondal, MD, Manash Sarma, MSc, Medicine, Maulana Azad Medical College, New Delhi, India, Bioscience, Jamia Millia Islamia, New Delhi, India, Institute of Cytology and Preventive Oncology (ICMR), Noida, India, Department of Pathology, G.B. Pant Hospital, New Delhi, India

P84. Epidemiology and Outcome of Hepatitis B in a U.S. Community
W. Ray Kim, MD, Sumeet Asrani, MD, Joanne Benson, BA, Jan Petz, RN, Division of Biostatistics, Division of Gastroenterology and Hepatology, Mayo Clinic College of Medicine, Rochester, MN

P85. Spontaneous ALT Flares in Asymptomatic HBeAg Negative Chronic Hepatitis B Virus Infected Patients Presenting with Normal ALT
Manoj Kumar, MD, DM, Ranjit Chauhan, MSc, PhD, Nitin Gupta, MD, Syed Hissar, MBBS, Puja Sakhuja, MD, Shiv Sarin, MD, DM, Pathology, Gastroenterology, GB Pant Hospital, New Delhi, India

P86. Statin Enhances Cisplatin Induced Effect on Hepatoma Cell Lines
David Roberts, MD, Teddy Bader, MD, William Berry, BS, Shripathi Sureban, PhD, Shrikant Anant, PhD, Digestive Diseases Section, University of Oklahoma, Oklahoma City, OK

P87. Impact of Screening for Hepatocellular Carcinoma on Survival
David Roberts, MD, Teddy Bader, MD, Christopher Aston, PhD, Digestive Diseases, Internal Medicine, University of Oklahoma Health Sciences Center, Veterans Affairs Medical Center, Oklahoma City, OK, General Clinical Research Center, Department of Pediatrics, University of Oklahoma Health Sciences Center, Oklahoma City, OK

P88. Response to Hepatitis A/B Vaccine Alone or in Combination in Patients with Chronic Hepatitis C Virus (HCV) and Advanced Fibrosis
Richard Sterling, MD, MSc, Seth Kramer, MPH, Charlotte Hofmann, RN, Paula Smith, RN, BSN, Mitchell Shiffman, MD, Virginia Commonwealth University, Richmond, VA

P89. Impact of Indication for Admission on Hospital Outcomes Among Patients Awaiting Liver Transplantation
Jason Williams, MD, Antonia Maninang, NP, Andrew Samuelson, MD, Maureen Morgan, MD, Ahmad Kamal, MD, Aijaz Ahmed, MD, Division of Gastroenterology and Hepatology, Liver Transplant Program, Stanford University School of Medicine, Stanford, CA, Division of Gastroenterology, Santa Clara Valley Medical Center, San Jose, CA

P90. Prevalence of Vitamin D Deficiency in Chronic Liver Disease
Jihad Arteh, MD, MBBS, Sri Lakshmi Narra, MD, MBBS, Satheesh Nair, MD, MBBS, Internal Medicine, Gastroenterology, University of Tennessee, Memphis, TN

P91. Clinical Significance of Serum Levels of Vascular Endothelial Growth Factor and Basic Fibroblast Growth Factor in Hepatocellular Carcinoma
Yogesh Chawla, MD, DM, Balkrishan Sharma, MSc, MPhil, Nitin Saini, MSc, PhD, Radhika Srinivasan, MD, PhD, Anuradha Chakraborty, MSc, PhD, Ajay Duseja, MD, DM, Radhakrishan Dhiman, MD, DM, Naveen Kalra, MD, Arunanshu Behera, MS, Hepatology, PGIMER, Chandigarh, India, ExpeRadiGeneral Surgery, Radiology, Experimental Medicine & Biotechnology, Cytology, Chandigarh, India

P92. Is the NASH CRN Histological Scoring System for the NAFLD Generalizable? Expert Hepatopathologist vs. Community General Pathologist
Ravi Juluri, MD, Raj Vuppalanchi, MD, John Olson, MD, Mark Van Natta, MHS, Oscar Cummings, MD, Naga Chalasani, MD, Medicine, Gastroenterology, Indiana University, Indianapolis, IN, Pathology, Witham Health Services, Lebanon, IN, Center for Clinical Trials, The Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD

P93. Serum Concentration-Dependent Hepatotoxicity in Individuals Receiving Oral Salsalate
Ravi Juluri, MD, Samir Gupta, MD, Raj Vuppalanchi, MD, Medicine, Gastroenterology, Indiana University, Indianapolis, IN

P94. Increased Risk of Prediabetes in Noncirrhotic Chronic Hepatitis C Patients with Persistently Normal Alanine Aminotransaminase Levels; 5-Year Follow-up Study
Seung Won Lee, Fellow, Yong Kyun Cho, Professor, Jung Won Yun, Fellow, Hong Joo Kim, Professor, Jung Ho Park, Professor, Dong Il Park, Professor, Chong Il Sohn, Professor, Woo Kyu Jeon, Professor, Byung Ik Kim, Professor, Internal Medicine, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea

P95. Efficacy and Safety of Long-Term Oral Administration of Pioglitazone for Treatment of Nonalcoholic Fatty Liver Disease
★ *2008 ACG Presidential Poster Award Recipient*
Masahiro Matsushita, MD, Yurimi Takahashi, MD, Yoshimasa Kobayashi, MD, Gastroenterology, Haibara General Hospital, Makinohara, Japan, 2nd Division Department of Internal Medicine, Hamamatsu University School of Medicine, Hamamatsu, Japan

P96. Standard Ultrasound Examination of the Liver Does Not Correlate with APRI Score or Histological Level of Fibrosis in a Population with Hepatitis C
Sashidhar Sagi, MD, Praveen Guturu, MD, Roger Soloway, MD, Ned Snyder, MD, Shu-Yuan Xiao, MD, Pathology, Internal Medicine, University of Texas Medical Branch, Galveston, TX

P97. Acute Renal Failure in Hospitalized Patients with Chronic HCV Infection: An Etiological and Prognostic Evaluation
Sanjaya Satapathy, MD, DM, Chandra Sekhar Lingisetty, MD, Shobhana Chaudhari, MD, FACP, Ashok Chaudhari, MD, Susan Williams, MD, Liver Diseases, Mount Sinai Hospital Medical Center, New York, NY, Gastroenterology, Medicine, New York Medical College/Metropolitan Hospital, New York, NY

P98. Acute, Clinically Evident Hepatitis C Virus Infection and Liver Injury: A Clinico-Pathological Summary of Five Patients
Alastair Smith, MB, ChB, Rebecca Burbridge, MD, Judith Gentile, ANP, Cynthia Guy, MD, Pathology, Medicine, Duke University, Durham, NC

P99. Fulminant Autoimmune Hepatitis Induced by Infliximab Therapy: A Rare Case Report
Sanjaya Satapathy, MD, DM, Costica Aloman, MD, Stephen Ward, MD, Yvette Lam, MD, Peter Ells, MD, M. Isabel Fiel, MD, Juan Del Rio Martin, MD, Thomas Schiano, MD, Liver Diseases, Mount Sinai School of Medicine, New York, NY, Gastroenterology, Medicine, State University of New York/Stony Brook University Hospital, Long Island, NY, Pathology, Mount Sinai School of Medicine, New York, NY, Liver Transplantation, Recanati-Miller Transplantation Institute, New York, NY

P100. Silencing of Stearoyl-CoA Desaturase Inhibits Proliferation and Induces Apoptosis in Human Hepatocellular Carcinoma
Samiksha Bansal, MD, Michael Berk, MS, John Fung, MD, PhD, Ariel Feldstein, MD, Cell Biology, General Surgery, Cleveland Clinic, Cleveland, OH

P101. Hepatitis B Knowledge, Attitudes, and Susceptibility in an Immigrant Caribbean Community
Fritz Francois, MD, MS, John Frederick, MD, Neil Joseph, BA, Stanley John, MD, Greta Elysee, BA, Mariano Rey, MD, Medicine, New York University School of Medicine, New York, NY, Medicine, George Washington School of Medicine, Washington, DC

P102. Pilot Study of the Effects of Interferon, With or Without an Angiotensin-2 Receptor Antagonist, on the Expression of Fibrosis-Related Genes in the Liver of Patients with Chronic Hepatitis C
John Gross, MD, Greg Gores, MD, Stephanie Johnson, RN, Mayo Clinic, Rochester, MN

P103. Outcomes in 46 Pts with Type 1 Hepatorenal Synd (HRS-1) Treated with Midodrine and Octreotide (MIDO/OCTR): Correlation with Underlying Liver Disease and Patient Demographics
Yasmin Karim, MD, Eashen Liu, MD, James Lewis, MD, Department of Gastroenterology, Georgetown University Hospital, Washington, DC

P104. Increased Risk of Hepatocellular Carcinoma Among Hispanics with Hepatitis C
Maryam Kashi, DO, Roger Sanchez, BS, Robert Page, PA-C, Paul Brock, PA, Ana Herrera, MD, MPH, Gary Chisholm, MS, Anastacio Hoyumpa, MD, Epidemiology and Biostatistics, Gastroenterology and Nutrition, University of Texas Health Science Center at San Antonio, San Antonio, TX, San Antonio Metropolitan Health District, San Antonio, TX

P105. Systemic Inflammatory Response Syndrome (SIRS) and Cirrhosis: Association with Sepsis and High Short Term Mortality
Kaushal Madan, MD, DM, Soumya Mahapatra, MBBS, Smruti Mishra, MD, Ashish Kumar, MD, DM, Ramchander Soni, MD, Hitender Garg, MD, Shiv Sarin, MD, DM, Hepatology, Institute of Liver and Biliary Sciences, New Delhi, India, Gastroenterology, G.B. Pant Hospital, New Delhi, India

P106. Increased MRNA Expression of CCL22 in Hepatocellular Carcinoma with Infiltration of Foxp3+ Regulatory T Cell
Noboru Mitsuhashi, MD, PhD, Fumio Kimura, MD, PhD, Hiroaki Shimizu, MD, PhD, Hiroyuki Yoshidome, MD, PhD, Masayuki Ohtsuka, MD, PhD, Atsushi Kato, MD, PhD, Hideyuki Yoshitomi, MD, PhD, Katsunori Furukawa, MD, PhD, Dan Takeuchi, MD, PhD, Masaru Miyazaki, MD, PhD, Section for Medical Nanotechniques, Research Center for Frontier Medical Engineering, Chiba University, Chiba, Japan, Department of General Surgery, Graduate School of Medicine, Chiba University, Chiba, Japan

P107. Fibrosing Cholestatic Hepatitis C and Viral Clearance in the Post Transplant Setting: A Report of 3 Cases
Sumana Moole, MD, Thomas Riley, MD, John Liang, MD, Ian Schreibman, MD, Division of Gastroenterology, Hershey Medical Center, Hershey, PA

P108. Outcomes of Chest Tube Insertion for Hepatic Hydrothorax
Eric Orman, MD, Anna Lok, MD, Department of Internal Medicine, University of Michigan, Ann Arbor, MI

P109. A Study of Non Compliance with Hepatitis Vaccine in Patients with Chronic Hepatitis B or Hepatitis C
Calvin Pan, MD, Mount Sinai Services at Elmhurst Hospital, Mount Sinai School of Medicine, Flushing, NY

P110. Prevalence of HCV and Risk of HCV Acquisition in Hepatitis C Screening Programs in Asian Community in New York City
Calvin Pan, MD, Ke Qin Hu, MD, Catherine Ding, BS, Eddie Cheung, MD, Mount Sinai Services at Elmhurst Hospital, Mount Sinai School of Medicine, Flushing, NY, Gastroenterology and Hepatology, University of California, Irvine, Orange, CA, Stony Brook University, Long Island, NY, Gastroenterology and Hepatology, University of California Davis School of Medicine, Davis, CA

P111. Single U.S. Center Experience with Daily High Dose Consensus Interferon and Ribavirin in Hepatitis C Patients who are Resistant to PEG-Interferon and Ribavirin
Kenneth Rothstein, MD, Ramesh Koka, MD, Holly Hargrove, PA, Angel Fernandez, MD, Shailender Singh, MD, Victor Araya, MD, Santiago Munoz, MD, Hepatology, Albert Einstein Medical Center, Philadelphia, PA

P112. Successful Treatment of Hepatitis C with Subsequent Remission of Waldenstrom's Macroglobulinemia: A Case for Another Extrahepatic Manifestation of Hepatitis C
Kenneth Rothstein, MD, David Denny, MS3, Olufunmilayo Olugbesan, MD, Ricardo Restrepo, MD, John Leighton, MD, Oncology, Hepatology, and Medicine, Albert Einstein Medical Center, Philadelphia, PA

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P113. Digital Image Analysis of Endoscopic Images of Diminutive Polyps: Differentiating Adenomatous Polyps from Hyperplasic Polyps
★ 2008 ACG Presidential Poster Award Recipient
Ananya Das, MD, Feng Li, MD, Suryakanth Gurudu, MD, Mayo Clinic, Scottsdale, AZ

P114. Identification of Protein Biomarkers Associated with Lymph Node Metastasis in Colorectal Cancer
Ying Lin, MD, Jeffrey Lee, MD, Paul Meeh, MS, Christopher Farrell, BS, Phillip Buckhaults, PhD, Robert Podolsky, PhD, Robert Schade, MD, William Dynan, PhD, IMMAG, Medical College of Georgia, Augusta, GA, Department of Pathology, Medical College of Georgia & VAMC, Augusta, GA, South Carolina Cancer Center & Department of Pathology & Microbiology, University of South Carolina, Columbia, SC, Department of Medicine, CBGM, Medical College of Georgia, Augusta, GA

P115. Oral Cyclic Guanosine Monophosphate (CGMP) Desensitizes Colonic Afferents in an Animal Model of Experimental Colitis
Elena Ustinova, PhD, Alexander Bryant, PhD, Tammi Reza, Mark Currie, PhD, Michael Pezzone, MD, PhD, Medicine, University of Pittsburgh, Pittsburgh, PA, Ironwood Pharmaceuticals, Inc., Cambridge, MA

P116. 'Time to Change': Utilization of Monitor Mounted Timers to Improve Withdrawal Time During the Performance of Colonoscopy
Kirsten Weiser, MD, MPH, Arifa Toor, MD, Peter Anderson, MD, Maren Flynn, BA, Lynn Butterly, MD, Douglas Robertson, MD, MPH, Karen Homa, PhD, Gastroenterology, Dartmouth Hitchcock Medical Center, Lebanon, NH

P117. Sessile Serrated Adenomas: Demographic, Clinical and Endoscopic Characteristics in a Patient Population
Suryakanth Gurudu, MD, Evelyn Heigh, BS, Russell Heigh, MD, Giovanni De Petris, MD, Jonathan Leighton, MD, Shabana Pasha, MD, Isaac Malagon, BS, Ananya Das, MD, Mayo Clinic Arizona, Scottsdale, AZ, Arizona State University, Phoenix, AZ

P118. Wheat Dextrin, Psyllium, and Inulin Produce Distinct Short-Chain Fatty Acid (SCFA) Profiles, Fermentation Patterns, and Gas Volumes in Vitro
Derek Timm, BS, Maria Stewart, MS, Alberto Paredes-Diaz, PhD, Ashok Hospattankar, MS, PhD, Vincenzo Savarino, MD, Joanne Slavin, PhD, Food Science and Nutrition, University of Minnesota, St. Paul, MN, Medical Affairs, Novartis Consumer Health, Parsippany, NJ, Internal Medicine, Gastroentrology Unit, Genoa, Italy

P119. Risk Factors of Patients Who have Only Protruded Adenomas Versus Those with Only Flat Adenomas
Joseph Anderson, MD, Benjamin Stein, MD, Charles Kahi, MD, Ramona Rajapakse, MD, Zvi Alpern, MD, Gastroenterology, University of Connecticut, Farmington, CT, Gastroenterology, Stony Brook University, Stony Brook, NY, Gastroenterology, Indiana University, Indianapolis, IN

P120. Body Weight is an Independent Risk Factor for Calcium Phosphate Nephropathy with Sodium Phosphate Colonoscopy Preparation. A Simulation Study
Eli Ehrenpreis, MD, Kranthi Varala, BS, Bruce Hannon, PhD, Gastroenterology, Evanston/Northwestern Healthcare, Highland Park, IL, Geography, University of Illinois, Urbana-Champaign, IL

P121. Comparison of GI Transit Parameters in Functional/Idiopathic Versus Constipation Predominant Irritable Bowel Syndrome (IBS) Patients Assessed by Wireless pH/Pressure Recording Capsule
Irene Sarosiek, MD, Satish Rao, MD, Henry Parkman, MD, Braden Kuo, MD, William Chey, MD, John DiBaise, MD, Richard Saad, MD, Jerzy Sarosiek, MD,PhD, Jack Semler, PhD, Richard McCallum, MD, Internal Medicine, Kansas University Medical Center, Kansas City, KS, SmartPill Corporation, Inc., Buffalo, NY, Multicenter Clinical Trial, SmartPill Team, Buffalo, NY

P122. The Characteristics of Small and Diminutive Colorectal Polyps in Caucasians and African Americans
Sheetal Sharma, MD, Nisheeth Verma, MD, Wallace Wang, MD, Soren Gandhi, BS, Gloria Guptill, BS, Veena Nannegari, MD, Amee Mapara-Shah, MD, Gregg Brodsky, MD, Seth Richter, MD, Division of Gastroenterology, Department of Internal Medicine, Albany Medical Center, Albany, NY, Albany Medical College, Albany, NY

P123. Prospective Evaluation of Mismatch Repair Protein Expression in Primary Colorectal Cancer
Christopher South, MD, Martha Yearsley, MD, Heather Hampel, MD, Wendy Frankel, MD, Division of Human Genetics, Department of Pathology, Division of Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH

P124. MUC2 and MUC5AC Expression in Aberrant Crypt Foci
Michael Vincent Tablang, MD, Christopher Flynn, MD, Joel Levine, MD, PhD, Thiruchandurai Rajan, MD, PhD, Colon Cancer Prevention Program, Pathology, Internal Medicine, University of Connecticut Health Center, Farmington, CT

P125. The Yield of Repeat Colonoscopy for a Positive Fecal Occult Blood Test (FOBT) After a Prior "Cleared" Colonoscopy
Brindusa Truta, MD, Francisco Ramirez, MD, FACG, Carl T. Hayden VA Medical Center, Phoenix, AZ

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Waqar Ahmad, MD, Muhammad Hasan, MD, Barbara Williamson, RN, William Tierney, MD, Internal Medicine, Oklahoma University Health Sciences Center, Oklahoma City, OK

P127. Polyethylene Glycol (PEG) vs. Sodium Phosphate (NAP) for Bowel Preparation: A Meta-Analysis of Randomized Controlled Trials by Treatment Arm
Ravi Juluri, MD, George Eckert, MAS, Thomas Imperiale, MD, Medicine, Indiana University School of Medicine, Indianapolis, IN

P128. Polyethylene Glycol (PEG) vs. Sodium Phosphate (NAP) for Colonoscopy Preparation: A Meta-Analysis of Randomized Controlled Trials
Ravi Juluri, MD, George Eckert, MAS, Thomas Imperiale, MD, Medicine, Indiana University School of Medicine, Indianapolis, IN

P129. Fecal Incontinence in Working Women
Susan McCormick, MD, Stephanie Del Tufo, College Student, Otto Lin, MD, Gastroenterology, Virginia Mason Medical Center, Seattle, WA

P130. The Metastatic Lymph Node Ratio (LNR) is a Powerful Predictor of Survival and Recurrence in Colon and Rectal Cancer
Emilio Mignanelli, MBBS, Victor Fazio, MD, Elena Manilich, MS, Ravi Kiran, MBBS, MS, Matthew Kalady, MD, Ian Lavery, MD, Colon and Rectal Surgery, Cleveland Clinic Foundation, Cleveland, OH

P131. Self-Expandable Metal Stents are Effective and Useful in the Management of Malignant Colorectal Obstruction
Carlos Noronha Ferreira, MBBS, Antonio Marques, MD, Rui Palma, MD, David Serra, MD, Jose Velosa, MD, PhD, Estela Monteiro, MD, PhD, Serviço de Gastrenterologia e Hepatologia, Hospital de Santa Maria, Lisboa, Portugal, Serviço de Gastrenterologia, Hospital da Luz, Lisboa, Portugal

P132. Community Microarray for Quantitative Analysis of Human Intestinal Microflora
Oleg Paliy, PhD, Harshavardhan Kenche, BSc, Frank Abernathy, PhD, Sonia Michail, MD, Boonshoft School of Medicine, Wright State University, Dayton, OH, Gastroenterology, Dayton Children's Hospital, Dayton, OH

P133. Normal Distributions of Colorectal Anatomy in a General Adult Population: Detailed Assessment Using CT Colonography
Mouen Khashab, MD, Perry Pickhardt, MD, David Kim, MD, Douglas Rex, MD, Department of Internal Medicine, Division of Gastroenterology, Indiana University Medical Center, Indianapolis, IN, Department of Radiology, University of Wisconsin, Madison, WI

P134. *Clostridium difficile* Infection: A Community-Based Epidemiological Study
Scott Aronson, MD, Patricia Kammer, Darrell Pardi, MD, Miles and Shirley Fiterman Center for Digestive Diseases, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P135. Patterns of Involvement in 350 Cases of Biopsy-Proven Ischemic Colitis
Matthew Blaszka, MD, Lawrence Brandt, MD, MACG, Montefiore Medical Center, New York, NY

P136. Retrospective Analysis of Complications and Risk Factors in Colonic Snare Polypectomies
Edson da Silva, MD, Alexandre Pelosi, MD, Glaucia de Freitas, MD, Proctology, Hospital dos Servidores do Estado do Rio de Janeiro, Rio de Janeiro, Brazil, Endoscopy, Casa de Portugal, Rio de Janeiro, Brazil

P137. How Good is the Quality of Colonoscopy Preparation Under Monitored Anesthesia Care (MAC)?
Sahil Mittal, MD, Sashidhar Sagi, MD, G. Raju, Internal Medicine, University of Texas Medical Branch, Galveston, TX

P138. Is *Clostridium difficile* Infection (CDI) More Difficult to Eradicate in Patients with Diverticulosis?
Andy Thanjan, MD, William Southern, MD, Neeraj Anand, MD, Sonia Yoon, MD, Lawrence Brandt, MD, MACG, Internal Medicine, Division of Gastroenterology, Albert Einstein College of Medicine, Bronx, NY, Montefiore Medical Center, Bronx, NY

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Danny Yen, MD, Surinder Mann, MD, University of California, Davis, Sacramento, CA

P140. Appendicitis: A Rare Complication of Screening Colonoscopy
Danny Yen, MD, Surinder Mann, MD, Virmeet Singh, MD, University of California, Davis, Sacramento, CA, VA Mather Medical Center, Sacramento, CA

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Joseph Yarze, MD, FACG, Michael Chase, MD, Charles Lowe, MD, Edward Orris, MD, Gastroenterology Associates of Northern New York, Glens Falls, NY, Department of Medicine, Glens Falls Hospital, Glens Falls, NY, Albany Gastroenterology Consultants, Albany, NY

P142. Hepatitis C-Related Sustained Virologic Response After an Ultra-Short, Attenuated Course of Antiviral Therapy
Joseph Yarze, MD, FACG, Gastroenterology Associates of Northern New York, Glens Falls, NY

P143. Prolonged Retention of Endoscopically Placed Hemoclips in a Pediatric Patient—A Case Report
Matthew Wyneski, MD, Orhan Atay, MD, Marsha Kay, MD, Vera Hupertz, MD, Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH

P144. Post-Stomal Pyoderma Gangrenosum—A Rare Extraintestinal Manifestation of Crohn's Disease in a Pediatric Patient
Matthew Wyneski, MD, Naim Alkhouri, MD, Lori Mahajan, MD, Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH

P145. An Unusual Cause for GI Bleed
Sharmeel Wasan, MD, Christopher Huang, MD, Gastroenterology, Boston Medical Center, Boston, MA

P146. Shortness of Breath in a Patient with Crohn's Disease
Sharmeel Wasan, MD, Ansu Mammen Noronha, MD, Carl O'Hara, MD, Francis Farraye, MD, MSc, Pathology, Gastroenterology, Boston Medical Center, Boston, MA

P147. Superficial Angiomyxoma Presenting as an Intra-Luminal Rectal Polyp: A Newly Described Type of Colonic Neoplasia
Ian Wall, DO, Nison Badalov, MD, Neli Farazmand, RPAC, Muhammad Abdullah, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Pratap Gadangi, MD, Department of Medicine, Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY, Department of Surgery, Coney Island Hospital, Brooklyn, NY

P148. Hepatocellular Carcinoma in a Previously Non-Cirrhotic Patient with Celiac Disease 26 Months After Successful Eradication of HCV
Ian Wall, DO, Nison Badalov, MD, Jack Braha, DO, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Michael Bernstein, MD, Department of Internal Medicine, Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY, Department of Internal Medicine, Division of Gastroenterology, Coney Island Hospital, Brooklyn, NY

P149. A Rare Case of Budd-Chiari Syndrome with Inferior Vena Cava Obstruction in a Patient with Sickle Cell Trait
Matthew Tsushima, MD, Deborah Anghesom, MD, Bruce Runyon, MD, Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA

P150. The Use of Percutaneous Endoscopic Gastrostomy for Nutrition Support in Pregnancy Associated with Hyperemesis Gravidarum
★ *2008 ACG Presidential Poster Award Recipient*
★ *2008 ACG/AstraZeneca Clinical Vignette Award Recipient*
Matthew Tsushima, MD, Michael Walter, MD, Snorri Olaffson, MD, Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA

P151. Is Plummer-Vinson Syndrome a Form of Celiac Disease?
Hui Hing Jack Tin, MD, Kadirawel Iswara, MD, FACG, Jianjun Li, MD, FACG, Scott Tenner, MD, MPH, FACG, Internal Medicine, Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P152. Anorectal Tuberculosis Mimicking Anal Carcinoma
Hui Hing Jack Tin, MD, Anita Torok, MD, Yarnel Lafortune, PA, Scott Tenner, MD, MPH, Pratap Gadangi, MD, Surgery, Coney Island Hospital, Brooklyn, NY, Internal Medicine-Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P153. Significant Iron Overload in an H63D Hemochromatosis Heterozygote with Chronic Hepatitis C Infection
Lakshminarayan Sooraj, MD, MPH, Mary Atten, MD, Bashar Attar, MD, PhD, FACG, Victoria Angelova, MD, Benjamin Go, MD, Gastroenterology and Hepatology, Cook County-John H. Stroger Hospital, Rush University, Chicago, IL

P154. Small Fibrovascular Polyp of Esophagus—A Diagnostic Challenge
Lakshminarayan Sooraj, MD, MPH, Melchor Demetria, MD, Bashar Attar, MD, PhD, Division of Gastroenterology and Hepatology, Cook County-John H. Stroger Jr. Hospital, Rush University, Chicago, IL

P155. Dicloxacillin-Induced Mixed Cholestatic Liver Injury: Treatment with Ursodiol
Amer Skopic, DO, James Lewis, MD, Gastroenterology, National Naval Medical Center, Bethesda, MD, Gastroenterology, Georgetown University Hospital, Washington, DC

P156. A Rare Successful Outcome of Uncommon Malignancy: Primary Gastric Small-Cell Carcinoma
Amer Skopic, DO, Dong Lee, MD, Gastroenterology, National Naval Medical Center, Bethesda, MD

P157. Sodium Phosphate Colonoscopy Preparation Unmasking Celiac Disease
Muhammad Siddiqui, MD, Charles Berkelhammer, MD, FACG, Internal Medicine, University of Illinois, Oak Lawn, IL

P158. Superficially Ulcerating Lymphoma of Distal Esophagus Mimicking Erosive Reflux Esophagitis
Muhammad Siddiqui, MD, Charles Berkelhammer, MD, FACG, Internal Medicine, University of Illinois, Oak Lawn, IL

P159. Feasibility of Non-Fluoroscopic Esophageal Stent Placement: A Case Report
Sohail Shaikh, MD, Kavitha Tipirneni, DO, Joseph DePasquale, MD, Gastroenterology, Seton Hall University, South Orange, NJ

P160. Constellation of Uveitis, Sacroileitis, and Arthropathy Anteceding Crohn's Disease
Sohail Shaikh, MD, Chintan Modi, MD, Hamid Shaaban, MD, Robert Spira, MD, Gastroenterology, Seton Hall University, South Orange, NJ

P161. Unusual Complication of Salem Sump Tube
Nan Sandar, MD, Jeremiah Kurz, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY, Gastroenterology, St. Barnabas Hospital, Bronx, NY

P162. Pancreatitis and Cholecystitis from Gastrostomy Tube
Nan Sandar, MD, Mahesh Krishnaiah, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY, Gastroenterology, Lutheran Medical Center, Brooklyn, NY

P163. Angiodysplasia: Life Threatening Bleeding in the Young
Nan Sandar, MD, Sharique Nazir, MD, Philip Xiao, MD, Mohammed Aladdin, MD, Alan Go, MD, FACS, Sury Anand, MD, Interventional Radiology, Pathology, Surgery, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY

P164. Chylous Ascites Due to Mycobacterium Avium Intracellulare Complex (MAC) Peritonitis
Nan Sandar, MD, Mojdeh Momeni, MD, Jeremiah Kurz, MD, Michelle Dahdouh, MD, Frederick Fallick, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY, Infectious Disease Department, Gastroenterology, St. Barnabas Hospital, Bronx, NY

P165. The Other Campylobacter Species: Can Campylobacter Fetus also be Linked to Gastrointestinal Manifestations?
Ritu Saha, MD, Jessica Widmer, DO, Eugene Sullivan, MD, Gastroenterology, Hepatology and Nutrition, Winthrop University Hospital, Mineola, NY

P166. Early Enteral Feeding and Anticoagulation in Pylephlebitis with Hepatic Dysfunction
Ritu Saha, MD, Timothy Wong, MD, Gastroenterology, Hepatology and Nutrition, Winthrop University Hospital, Mineola, NY

P167. Rumination Syndrome: A Diagnosis of Thorough History
Ritu Saha, MD, Robert Bonasera, MD, Kavita Kongara, MD, Gastroenterology, Hepatology and Nutrition, Winthrop University Hospital, Mineola, NY

P168. A "Case" of Granuloma
Nikila Ravindran, MD, Maria Cino, MSc, MD, University of Toronto, Toronto, ON, Canada

P169. Tropical Pancreatitis: A Case Report
Nikila Ravindran, MD, Paul Kortan, MD, University of Toronto, Toronto, ON, Canada

P170. Isolated Splenic Vein Thrombosis in a Patient with Polycythemia Vera
Andrew Rackoff, MD, Patrick Brady, MD, Division of Digestive Diseases, University of South Florida, Tampa, FL

P171. Looks Can Be Deceiving: Cap Polyposis
Andrew Rackoff, MD, Prasad Kulkarni, MD, Division of Digestive Diseases, University of South Florida, Tampa, FL, Gastroenterology, James A. Haley Veterans Hospital, Tampa, FL

P172. Symptomatic Annular Pancreas in an Elderly Adult Diagnosed by EUS and Secretin MRCP
Scott Pollack, MD, Virendra Joshi, MD, Gastroenterology, Tulane University School of Medicine, New Orleans, LA

P173. Post-Transplant Lymphoproliferative Disorder, Hyperviscosity Syndrome and Waldenstrom's Macroglobulinemia in a Patient with Orthotopic Liver Transplant
Scott Pollack, MD, Thomas Parambil, MD, Fredric Regenstein, MD, Shobha Joshi, MD, Internal Medicine, Tulane University School of Medicine, New Orleans, LA

P174. Colitis Cystica Profunda of the Right Colon Mimicking Colonic Polyposis
Kumaravel Perumalsamy, MD, Alejandra Borensztein, MS, Natalia Segal, MS, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Maimonides Medical Center, Brooklyn, NY

P175. Successful Endoscopic Closure of a Gastro-Gastric Fistula with Endo-Clips
Kumaravel Perumalsamy, MD, Muthukumar Muthusamy, MD, Muhammad Abdullah, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Division of Gastroenterology, Division of Medicine, Maimonides Medical Center, Brooklyn, NY, Division of Surgery, Coney Island Hospital, Brooklyn, NY

P176. Early Identification of Biliary Papillomatosis Through Endoscopic Evaluation of the Common Bile Duct
Kumaravel Perumalsamy, MD, Jack Tin, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P177. Primary Pneumatosis Intestinalis on Routine Screening Colonoscopy
Payal Patel, MD, Asif Zamir, MD, FACG, Muhammed Nathani, MD, FACG, Gastroenterology, Kelsey-Seybold Clinic, Houston, TX, Internal Medicine, Baylor College of Medicine, Houston, TX, Internal Medicine, Regional Academic Health Center, Harlingen, TX

P178. Portal Vein Thrombosis After Gastric Bypass Surgery
Payal Patel, MD, Angela McGee, MD, Muhammed Nathani, MD, FACG, Gastroenterology, Kelsey-Seybold Clinic, Houston, TX, Internal Medicine, Baylor College of Medicine, Houston, TX

P179. Presentation of Metastatic Leiomyosarcoma of the Uterus as Upper GI Bleeding
Jitendrakumar Patel, MD, Julio Ventura, MD, Avani Patel, MD, Internal Medicine, Jamaica Hospital Medical Center, Jamaica, NY

P180. An Enigmatic Entity—Idiopathic Granulomatous Appendicitis
Jitendrakumar Patel, MD, Kashyapkumar Patel, MD, Kelly Cervellione, MA, Avani Patel, MD, Internal Medicine, Jamaica Hospital Medical Center, Jamaica, NY

P181. Idiopathic Pneumatosis Coli Presenting as an Isolated Submucosal Mass Confirmed by Endoscopic Ultrasound
Thomas Park, MD, Asad Ullah, MD, Ashok Shah, MD, MACG, Gastroenterology, University of Rochester, Rochester, NY

P182. GIST of the Duodenum Masquerading as a Pancreatic Head Tumor
Thomas Park, MD, Kevin Jo, MD, Ashok Shah, MD, MACG, Asad Ullah, MD, Gastroenterology, University of Rochester, Rochester, NY

P183. Rare Association of Leukocytoclastic Vasculitis and Crohn's Disease
Thomas Park, MD, Richard Farmer, MD, MACG, Ashok Shah, MD, MACG, Gastroenterology, University of Rochester, Rochester, NY

P184. Duodenal Carcinoid Tumors: A Review of Five Cases
Thomas Park, MD, Kevin Jo, MD, Ashok Shah, MD, MACG, Asad Ullah, MD, Gastroenterology, University of Rochester, Rochester, NY

P185. Recurrent Esophageal Candidiasis: Consider Thymoma
Martin Moehlen, MD, MPH, John Hutchings, MD, Kenneth Paris, MD, Stephen Abshire, MD, FACG, Internal Medicine, Section of Gastroenterology, Tulane University School of Medicine, New Orleans, LA, Department of Internal Medicine, Division of Allergy/Immunology, LSU Health Sciences Center and Jeffrey Modell Foundation, New Orleans, LA

P186. Sickle Cell-Induced Hepatopathy with Fulminant Hepatic Failure. Successful Treatment with Plasma Exchange
Martin Moehlen, MD, MPH, Fredric Regenstein, MD, FACG, Section of Gastroenterology and Hepatology, Internal Medicine, Tulane University School of Medicine, New Orleans, LA

P187. Cricopharyngeal Intramural Hematoma: An Unusual Complication of Orthopedic Intervention
Marty Meyer, MD, Edward Levine, MD, Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH

P188. Acute Hemorrhagic Crohn's Disease Controlled with Infliximab
Marty Meyer, MD, Edward Levine, MD, Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH

P189. A Case Report of Stricturing Diverticular Disease-Associated Colitis Mimicking Segmental Sigmoid Crohns Disease
Joel McFarland, MD, Jason Gutman, MD, Arthur DeCross, MD, Gastroenterology and Hepatology, University of Rochester, Strong Memorial Hospital, Rochester, NY

P190. Agenesis of the Dorsal Pancreas with Associated Unicornuate Uterus: A Case Report
Joel McFarland, MD, Ashok Shah, MD, MACG, Gastroenterology and Hepatology, University of Rochester, Strong Memorial Hospital, Rochester, NY

P191. Extra-Luminal Gastric Leiomyosarcoma Masquerading as a Pancreatic Mass on CT—Unmasked by Endoscopic Ultrasound (EUS)
Siddharth Mathur, MD, Niket Sonpal, BS, William Thelmo, MD, Yashpal Arya, MD, Mukul Arya, MD, Wyckoff Heights Medical Center, Brooklyn, NY

P192. Endoscopic Ultrasound Characteristics of a Malignant Rectal Lymphoma
Siddharth Mathur, MD, Niket Sonpal, BS, William Thelmo, MD, Yashpal Arya, MD, Mukul Arya, MD, Wyckoff Heights Medical Center, Brooklyn, NY

P193. Colonic Pseudo-Ulcers: Unusual Colonoscopic Finding in Laxative Abusers
Nirmal Mann, MD, MS, PhD, DSc, Gastroenterology, University of California Davis, Folsom, CA

P194. Suction Polypectomy: A Novel and Safe Method for Removing Colonic Lipoma
Nirmal Mann, MD, MS, PhD, DSc, Kanat Brahmanakul, MD, Gastroenterology, University of California Davis, Folsom, CA

P195. Mysterious Gastric Nodule in a Patient with Advanced HIV Disease: A Case Report and Review of Literature
Chandra S. Lingisetty, MD, Smitha Kanak, MD, Kiran Goli, MD, Theodore Lenox, MD, Kyamalya Ismailova, MD, Shobhana Chaudhari, MD, FACP, Jennifer Harley, MD, Susan Williams, MD, Gastroenterology, Medicine, New York Medical College / Metropolitan Hospital, New York, NY

P196. Expanding Spectrum of Herbal Hepatotoxicity: A Case Report of Vine Essence Induced Liver Injury
Chandra S. Lingisetty, MD, Kiran Goli, MD, Sandip Ghuge, MD, Shobhana Chaudhari, MD, Susan Williams, MD, Gastroenterology, Medicine, New York Medical College, New York, NY, Metropolitan Hospital, New York, NY

P197. A Rare Case of Gastrointestinal Histoplasmosis in a 15-year-old Male Patient with a History of Cardiac Transplant and Diarrhea: A Case Report
Nelson Lim, MD, Mia Perez, MD, Donald Rankin, MD, Michael Lim, BS, Manoj Shah, MD, Department of Pediatric Gastroenterology, Department of Pathology, Department of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA

P198. A Rare Case of a Neuroendocrine Tumor (NET) of the Common Bile Duct with Metastasis to a Porta Hepatis Lymph Node: A Case Report
Nelson Lim, MD, Donald Rankin, MD, Michael Lim, BS, Hin Wah Lee, MD, Department of Pathology, Department of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA

P199. Cholangiocarcinoma Associated with Chronic Hepatitis B: A Case Report
Cynthia Lau, MD, Stanley Cohen, MD, Joseph Ahn, MD, Shriram Jakate, MD, Mariano Dy-Liacco, MD, Nikunj Shah, MD, General Surgery, Pathology, Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL

P200. Acute Fatty Liver of Pregnancy Complicated by Severe Pancreatitis: Successful Outcome After Liver Transplantation, A Case Report
Cynthia Lau, MD, Stanley Cohen, MD, Joseph Ahn, MD, Edie Chan, MD, Shriram Jakate, MD, Nikunj Shah, MD, Pathology, General Surgery, Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL

P201. Poster Withdrawn

P202. Poster Withdrawn

P203. A Rare Cause of Small Bowel Hemorrhage: CMV Infection with Massive Bleeding from the Ileum without Concomitant Colitis
Vinod Kurupath, MD, Khurshid Mazumdar, MD, Mahesh Krishnaiah, MD, Sury Anand, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY

P204. Mesenteric Panniculitis Presenting in a Hepatitis C Patient with Cryoglobulenemia
Vinod Kurupath, MD, Lakshmibabu Parsa, MD, Frederick Fallick, MD, Jeremiah Kurz, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY, Gastroenterology, St. Barnabas Hospital, Bronx, NY

P205. Intestinal Spirochetosis: A Cause of Intermittent Diarrhea in an Immunocompetent Patient
Ravi Kurella, MD, Madhavi Rudraraju, MD, Ravindranauth Sawh, MD, Stan Lightfoot, MD, Syed Rizvi, MD, Richard Harty, MD, Primary Care, VA Medical Center, Oklahoma City, OK, Pathology, Department of Gastroenterology, Oklahoma University Health Sciences Center, Oklahoma City, OK

P206. Langerhans Cell Histiocytosis Confined to Colon Polyps, a Rare Presentation
Ravi Kurella, MD, Lilah Mansour, MD, Stan Lightfoot, MD, John Maple, DO Richard Harty, MD, Primary Care, VA Medical Center, Oklahoma City, OK, Pathology, Gastroenterology, Oklahoma University Health Sciences Center, Oklahoma City, OK

P207. Ovarian Cysts and IBD: A Possible Cause of Continued Abdominal Pain in Women with IBD
Rebecca Kowalczyk, MD, Sunanda Kane, MD, Mayo Clinic, Rochester, MN

P208. Abdominal Pain: A Wolf in Sheep's Clothing
Rebecca Kowalczyk, MD, Norman Egger, MD, Mayo Clinic, Rochester, MN

P209. Does a Normal Endoscopic Appearance of Duodenum Rule Out Underlying Hairy Cell Leukemic Infiltrate?
Shivangi Kothari, MD, Chintan Mody, MD, Robert Spira, MD, Joseph DePasquale, MD, Gunwant Guron, MD, Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ, Internal Medicine, and Oncology, St. Michael's Medical Center, Newark, NJ

P210. Collagenous Colitis—A Rare Complication of Lansoprazole
Shivangi Kothari, MD, Nhat Nguyen, MD, Jennifer Brown, DO, Andre Fedida, MD, Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ, Internal Medicine, Gastroenterology, St. Michael's Medical Center, Newark, NJ

P211. Small Bowel Lymphangioma: An Unusual Cause of Gastrointestinal Bleeding and Severe Iron Deficiency Anemia
Shivangi Kothari, MD, Sohail Shaikh, MD, Rada Shakov, MD, Robert Spira, MD, Joseph DePasquale, MD, Walid Baddoura, MD, Gastroenterology, Seton Hall University School of Graduate Medical Education, South Orange, NJ

P212. Volcano Ulcers in Stomach—An Unusual Presentation of Metastatic Non Pigmented Melanoma
Shivangi Kothari, MD, Chintan Mody, MD, Robert Spira, MD, Joseph DePasquale, MD, Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ, Internal Medicine, Gastroenterology, St. Michael's Medical Center, Newark, NJ

P213. Giant Pseudodiverticulum of the Sigmoid Colon—A Rare Manifestation of Diverticular Disease
Shivangi Kothari, MD, Chintan Mody, MD, Robert Spira, MD, Joseph DePasquale, MD, Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ, Gastroenterology and Hepatology, Internal Medicine, St. Michael's Medical Center, Newark, NJ

P214. Tuberculous Colitis in a Patient with Crohn's Disease After Treatment with Infliximab
Shivangi Kothari, MD, Nhat Nguyen, MD, Jennifer Brown, DO, Andre Fedida, MD, Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ, Internal Medicine, Gastroenterology, St. Michael's Medical Center, Newark, NJ

P215. Abdominal Pain Secondary to Tumoral Amyloidosis of the Stomach
Charles Koczka, MD, Adam Goodman, MD, Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY

P216. Metastatic Colorectal Carcinoma in a 20-year-old Afro-Caribbean Female
Charles Koczka, MD, Waqas Khan, MD, Adam Goodman, MD, SUNY Downstate Medical Center, Brooklyn, NY

P217. Idiopathic Portal Cavernoma
Charles Koczka, MD, Alejandra Castillo-Roth, MD, Adam Goodman, MD, SUNY Downstate Medical Center, Brooklyn, NY

P218. Recurrent Gastric Abscess in a 28-year-old Female
Maqsood Khan, MD, Burns Meredith, BS, Jack Leya, MD, FACG, Sonu Dhillon, MD, FACG, Internal Medicine, West Suburban Medical Center, Oak Park, IL, Medicine, Loyola University Medical Center, Maywood, IL

P219. An Unsual Case of Rectal Bleeding
Maqsood Khan, MD, Srinadh Komanduri, MD, FACG, Michael Brown, MD, FACG, Internal Medicine, West Suburban Medical Center, Oak Park, IL, Gastroenterology, Rush University Medical Center, Chicago, IL

P220. Natural Killer Cell Lymphoma at an Unusual Location
Maqsood Khan, MD, Srinadh Komanduri, MD, FACG, Michael Brown, MD, FACG, Internal Medicine, West Suburban Medical Center, Oak Park, IL, Gastroenterology, Rush University Medical Center, Chicago, IL

P221. Fulminant Hepatic Failure in an Adult Patient with Giant Cell Hepatitis
Maqsood Khan, MD, Joseph Ahn, MD, Nikunj Shah, MD, Shriram Jakate, MD, Ajay Patel, MD, Burns Meredith, BS, Stanley Cohen, MD, Internal Medicine, West Suburban Medical Center, Oak Park, IL, Hepatology, Rush University Medical Center, Chicago, IL, Medicine, Loyola University Medical Center, Maywood, IL

P222. An Unusual Submucosal Tumor in a Pregnant Female
Purna Kashyap, MBBS, Fabiola Medeiros, MD, Michael Levy, MD, David Nagorney, MD, Mark Larson, MD, Surgery, Pathology, Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P223. Mitochondrial Mutations as a Cause of Gastrointestinal Dysmotility in Older Patients
Purna Kashyap, MBBS, Lawrence Szarka, MD, Robert Cima, MD, Gianrico Farrugia, MD, Surgery, Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P224. Eosinophilic Hepatitis Case Report
Amitpal Johal, MD, Robert Smith, MD, Gastroenterology, Geisinger Medical Center, Danville, PA

P225. A Rare Case of Aortoduodenal Syndrome
Amitpal Johal, MD, Robert Smith, MD, Gastroenterology, Geisinger Medical Center, Danville, PA

P226. A Rare Case of an Incidentally Discovered Ampulla of Vater Carcinoid
Ritesh Jha, MD, Bashar Attar, MD, PhD, Gijo Vettiankal, MD, Melchor Demetria, MD, Division of Gastroenterology and Hepatology, Cook County-John H. Stroger Hospital, Rush University, Chicago, IL

P227. An Unusual Method of Diagnosing Ascariasis
Ritesh Jha, MD, Bashar Attar, MD, PhD, Mary Atten, MD, Division of Gastroenterology and Hepatology, Cook County-John H. Stroger Hospital, Rush University, Chicago, IL

P228. Drugs Known to Cause Pancreatitis are Used to Treat Pancreatitis in Lupus: A Case Report
Sayeeda Jabeen, MD, Syed Hashmi, MD, Stuart Torgerson, MD, Mukerji Basanti, MD, Gastroenterology, Internal Medicine, Southern Illinois University, Springfield, IL, Rheumatology, Private Practice, Springfield, IL, Internal Medicine, Research, Springfield, IL

P229. An Unusual Case of Acute Budd-Chiari Syndrome (BCS) Presenting with Normal Hepatic Enzymes Mimicking Mesenteric Ischemia
Sayeeda Jabeen, MD, Mei Huang, MD, Syed Hashmi, MD, Gastroenterology, Internal Medicine, Southern Illinois University, Springfield, IL, Internal Medicine, Research, Springfield, IL

P230. A Rare Cause of Gastroduodenal Obstruction: Bouveret's Syndrome
Michael Harris, MD, Ravi Ainapudi, MD, Prakash Viswanathan, MD, Gastroenterology and Hepatology, Stony Brook Medical Center, Stony Brook, NY

P231. Ascites of Unknown Origin: Using the HPVG to Diagnose
Michael Harris, MD, Peter Ells, MD, Gastroenterology and Hepatology, Stony Brook Medical Center, Stony Brook, NY

P232. Hyperammonemia in a Patient Without Liver Disease– Adult Onset Urea Cycle Disorder
Praveen Guturu, MD, Shaad Abdullah, MD, Internal Medicine, UTMB, Galveston, TX

P233. A Rare Cause of Hematemisis: Acute Gastric Volvulus
Praveen Guturu, MD, Advitya Malhotra, MD, Alex Hewlett, MD, Internal Medicine, University of Texas Medical Branch, Galveston, TX

P234. A Case Report of Recurrent Squamous Cell Carcinoma of the Lung Presenting with Tracheo-Esophageal Fistula
Jason Gutman, MD, Asad Ullah, MD, Joel McFarland, MD, Division of Gastroenterology & Hepatology, University of Rochester, Rochester, NY

P235. A Case Report of Metastatic Breast Cancer to the Rectum Presenting 10 Years After Initial Diagnosis and Treatment
Jason Gutman, MD, Thalia Mayes, MD, Asad Ullah, MD, Linda Schiffhauer, MD, Division of Pathology, Division of Gastroenterology & Hepatology, University of Rochester, Rochester, NY

P236. An Interesting Case of Adenovirus Hepatitis in an Adult Cardiac Transplant Recipient
Anand Gupta, MD, Purva Kumari, MD, James Dougherty, MD, Michael Lawlor, MD, Joseph Cappa, MD, Kasturi Ranga, MD, Internal Medicine, University of Connecticut Health Center, Farmington, CT, Internal Medicine, Hartford Hospital, Hartford, CT

P237. An Unusual Case of Colitis: Drug Induced Inflammatory Bowel Disease
Anand Gupta, MD, Jeanette Smith, MD, John Scholes, MD, Martin Hoffman, MD, Michael Butensky, MD, Gastroenterology, Internal Medicine, University of Connecticut, Hartford, CT, Pathology, Gastroenterology, St. Francis Hospital, Hartford, CT

P238. Human Papilloma Virus (HPV) Associated Squamous Cell Carcinoma of the Esophagus (ESCC), a Case Report
Nissrin Ezmerli, MD, Naveen Gupta, MD, Nadim Haddad, MD, Georgetown University Hospital, Washington, DC

P239. The Role of Endoscopic Ultrasound in the Evaluation of Anal Cancer
Nissrin Ezmerli, MD, Naveen Gupta, MD, Aline Charabaty, MD, Halim Charbel, MD, Division of Gastroenterology, Georgetown University Hospital, Washington, DC

P240. Giant Sporadic Fundic Gland Polyp Associated with Positive Fecal Occult Blood Testing: Endoscopic and Endosonographic Features and Management
Ihab El Hajj, MD, MPH, Mohamad Hawchar, MD, Assaad Soweid, MD, Karim Maasri, MD, Ayman Tawil, MD, Kassem Barada, MD, Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA, Pathology & Laboratory Medicine, Internal Medicine-Division of Gastroenterology, Hepatology and Nutrition, American University of Beirut Medical Center, Beirut, Lebanon

P241. Rapidly Progressive Sclerosing Cholangitis Post-Surgery for Inflammatory Pancreatic Pseudotumor
Ihab El Hajj, MD, MPH, Jawad Ahmad, MD, MRCP (UK), Adam Slivka, MD, PhD, Internal Medicine-Division of Gastroenterology, Hepatology and Nutrition, Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA

P242. Celecoxib-Induced Liver Failure Requiring Orthotopic Liver Transplantation
Ihab El Hajj, MD, MPH, Shahid Malik, MD, Hany El-Wakeel, MD, Obaid Shaikh, MD, Eizaburo Sasatomi, MD, Hossam Kandil, MD, PhD, Pathology-Division of Transplantation Pathology, Internal Medicine-Division of Gastroenterology, Hepatology and Nutrition, Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA

P243. Acute Acalculous Cholecystitis Complicated by Perforation in Systemic Lupus Erythematosus: A Case Report and Review of the Literature
Hua Chen, MD, Joseph Hancock, MD, Diana Vega, MD, Grace Sun, FNP, Dixon Santana, MD, Gastroenterology, Texas Tech Health Sciences Center, Lubbock, TX, Surgery, Texas Tech, Lubbock, TX

P244. Intra-Hepatic Lithiasis: A Case Report and Review of Literature
Hua Chen, MD, Joseph Hancock, MD, Grace Sun, FNP, Gastroenterology, Texas Tech Health Sciences Center, Lubbock, TX

P245. A Case of Malignant Abdominal Pain
Rajeswari Anaparthy, MD, Aravind Sugumar, MD, MPH, Mayo Clinic, Rochester, MN

P246. Black Esophagus
Rajeswari Anaparthy, MD, Aravind Sugumar, MD, MPH, UTMB, Galveston, TX

P247. Pancreatic Burkitt's Lymphoma Presenting as Recurrent Acute Pancreatitis in an HIV Patient: Early Diagnosis Using EUS/FNA
Shannon Chang, Lisa Casey, MD, Virendra Joshi, MD, Gastroenterology, Tulane University Health Sciences Center, New Orleans, LA

P248. Two Cases of Gastric Sarcoidosis Manifesting as Symptomatic Anemia: Endoscopic Clues
Shannon Chang, David Victor, MD, John Kalarickal, MD, Scott Pollack, MD, Nadret Copur, MD, Fredric Regenstein, MD, School of Medicine, Department of Gastroenterology, Tulane University, New Orleans, LA

P249. Pseudodiverticulosis of the Esophagus as a Result of HIV-Associated Ulcers
Simon Chan, MD, Parvez Mantry, MD, Department of Gastroenterology, University of Rochester Medical Center, Rochester, NY

P250. A Rare Case of Appendiceal Endometriosis
Simon Chan, MD, Jason Gutman, MD, Ashok Shah, MD, MACG, Department of Gastroenterology, University of Rochester Medical Center, Rochester, NY

P251. Parvovirus B19 Associated Hepatitis Complicated by Aplastic Anemia
Ami Behara, MD, MS, Joseph Ahn, MD, Nikunj Shah, MD, Shriram Jakate, MD, Allison Howard, MD, Stanley Cohen, MD, Pathology, Hepatology, Rush University Medical Center, Chicago, IL

P252. Foregut Derived Duplication Cyst Presenting as Abdominal Pain
Ami Behara, MD, MS, Daniel Deziel, MD, Michael Brown, MD, General Surgery, Gastroenterology and Nutrition, Rush University Medical Center, Chicago, IL

P253. Lumbo Sacral Spinal Pathology (LSSP)—A Cause of Lower Abdominal Pain
Gopalan Badarinarayanan, MD, FACG, Gastroenterologist, AVB Gastro Care Clinic, Tirunelveli, India

OUTCOMES RESEARCH

P254. Screening Colonoscopy Performed by Gastroenterologists and a Nurse Practitioner: A Single Center Experience
★ *2008 ACG Presidential Poster Award Recipient*
Michele Limoges-Gonzalez, RN, MSN, ANP, Amar Al-Juburi, MD, Nirmal Mann, MD, David Tseng, BS, Lorenzo Rossaro, MD, University of California, Davis, Folsom, CA

P255. The Impact of Mucosal Healing on the Economic Burden of Crohn's Disease
D. Esser, MD, H. Waters, MBA, Centocor BV, Leiden, Netherlands, Centocor Ortho Biotech Services, LLC, Horsham, PA

P256. Primary Stomach and Colon Signet Ring Cell Carcinoma Immunohistochemical Staining Patterns Using CDX2, MUC2 and MUC6
Farzad Nowrouzzadeh, MD, Robert Lawson, MD, Darren Keller, MD, Dan Albrecht, MD, Benjamin Rodriguez, MD, Andrea Snitchler, MD, Theodore Schafer, MD, Nancy Dow, MD, Jayde Kurland, MD, Department of Gastroenterology, Department of Internal Medicine, National Naval Medical Center, Bethesda, MD, Dept. of Internal Medicine, Naval Hospital, Pensacola, Pensacola, FL, Department of Gastroenterology, Dept. of Anatomic Pathology, DMS, Naval Hospital, San Diego, San Diego, CA, Division of Gastrointestinal Pathology, Armed Forces Institute of Pathology, Washington DC, Department of Internal Medicine, Director for Clinical Support Services, Naval Hospital, Portsmouth, Portsmouth, VA

P257. Infliximab Dosage Increase Rate in Patients with Crohn's Disease
Scott Plevy, MD, Eric Wu, PhD, Andrew Yu, PhD, Jingdong Chao, PhD, Parvez Mulani, PhD, University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC, Analysis Group, Inc., Boston, MA, Abbott Laboratories, Abbott Park, IL

P258. Resolution of Flare or Nonresponse in Patients with Crohn's Disease Achieved in Most Adalimumab-Treated Patients without a Dosage Increase
Scott Plevy, MD, Stefan Schreiber, MD, Jean Fred Colombel, MD, Paul Pollack, MD, Jingdong Chao, PhD, Parvez Mulani, PhD, Division of Gastroenterology and Hepatology, University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC, Christian-Albrechts University, Kiel, Germany, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Abbott Laboratories, Parsippany, NJ

P259. Treatment of *Clostridium difficile* Infection in a Community-Based Cohort
Scott Aronson, MD, Patricia Kammer, Darrell Pardi, MD, Miles and Shirley Fiterman Center for Digestive Diseases, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P260. Efficacy of Adalimumab for the Treatment of TNF-Antagonist-Naive Patients with Crohn's Disease: Subanalysis of a Phase III Trial
Stephen Hanauer, MD, William Sandborn, MD, Paul Rutgeerts, MD, Jean Fred Colombel, MD, Jingdong Chao, PhD, Parvez Mulani, PhD, University of Chicago Medical Center, Chicago, IL, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, University Hospital of Gasthuisberg, Leuven, Belgium, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Leuven, France, Abbott Laboratories, Abbott Park, IL

P261. Patient Acceptance and Convenience, and Efficacy of 1-Day Versus 2-Day (Split-Dose) Colonoscopy Bowel Preparation
Maqsood Khan, MD, Meredith Burns, BS, Harry Piotrowski, MS, Michael Brown, MD, FACG, Internal Medicine, West Suburban Medical Center, Oak Park, IL, Gastroenterology, Rush University Medical Center, Chicago, IL, Mecicine, Loyola University Medical Center, Maywood, IL

P262. Cumulative Incidence of Gastroparesis in People with Type 1 and 2 Diabetes in the General Population
Rok Seon Choung, MD, G. Richard Locke, MD, Cathy Schleck, BS, Alan Zinsmeister, PhD, Nicholas Talley, MD, PhD, Enteric Neuro-Science Program (ENSP), Division of Gastroenterology, Division of Biostatistics, Mayo Clinic, Rochester, MN

P263. Evaluation of Provider Adherence to Clinical Guidelines for Gastroprotection in Patients at Increased Risk of NSAID Associated GI Bleeding, in Response to Education Intervention
Ruben Acosta, MD, Rahim Remtulla, MD, Ryan Bell, MD, Brooks Cash, MD, Internal Medicine, Gastroenterology, National Naval Medical Center, Bethesda, MD

P264. Evidence for Enhanced Telomerase Activity in Barrett's Esophagus with Dysplasia and Adenocarcinoma
Manish Arora, MD, Sudhir Dutta, MD, Nipun Merchant, MD, Stephen Meltzer, MD, Department of Internal Medicine, Division of Gastroenterology, The Johns Hopkins University School of Medicine/Sinai Hospital of Baltimore and University of Maryland School of Medicine, Baltimore, MD, Department of Surgery, Vanderbilt University Medical Center, Nashville, TN, Division of Gastroenterology, Departments of Medicine and Oncology, The Johns Hopkins University School of Medicine and Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD

P265. Risk Factors for Gastrointestinal Bleeding in Patients with Acute Coronary Syndrome
Ting-Hui Hsieh, MD, Po-Cheng Chu, MD, Xin-Yu Zhao, MD, Hsin-Ling Hsieh, PhD, Jai Mirchandani, MD, Kadirawel Iswara, MD, FACG, Jacob Shani, MD, Jianjun Li, MD, FACG, Scott Tenner, MD, MPH, FACG, Division of Gastroenterology, Department of Internal Medicine, Department of Internal Medicine, Maimonides Medical Center, Brooklyn, NY, Department of Economics, Northern Michigan University, Marquette, MI, Division of Cardiology, Department of Internal Medicine, Maimonides Medical Center, Brooklyn, NY

P266. The Access Trial: Adalimumab Improves Work Productivity in Patients with Crohn's Disease
Edward Loftus, Jr., MD, David Binion, MD, Remo Panaccione, MD, Ju Li, PhD, Kevin McHugh, PhD, Benoît Guérette, PhD, Jingdong Chao, PhD, Parvez Mulani, PhD, Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN, Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI, Medicine, University of Calgary, Calgary, AB, Canada, Abbott Laboratories, Parsippany, NJ

P267. Adalimumab Treatment Significantly Reduces Hospitalization Risk for TNF-Antagonist-Naive Patients with Crohn's Disease
Edward Loftus, Jr., MD, Brian Feagan, MD, Jean Fred Colombel, MD, Eric Wu, PhD, Andrew Yu, PhD, Jingdong Chao, PhD, Parvez Mulani, PhD, Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN, Robarts Research Institute, University of Western Ontario, London, ON, Canada, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Analysis Group, Inc., Boston, MA, Abbott Laboratories, Abbott Park, IL

P268. Meta-Analysis of Placebo Remission Rate for Patients with Moderately to Severely Active Crohn's Disease
Edward Loftus, Jr., MD, Eric Wu, PhD, Scott Johnson, PhD, Jingdong Chao, PhD, Parvez Mulani, PhD, Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN, Analysis Group, Inc., Boston, MA, Abbott Laboratories, Abbott Park, IL

P269. Health-Related Quality of Life in Patients with Crohn's Disease Improves Rapidly and Significantly During Adalimumab Treatment
Edward Loftus, Jr., MD, Jean Fred Colombel, MD, Paul Pollack, MD, Sunil Majethia, PharmD, Naijun Chen, MS, Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Abbott Laboratories, Parsippany, NJ

P270. A Prospective Evaluation of Same Day Bidirectional Endoscopy for Occult Bleeding
Amjad Mreyoud, MD, Albert Pahk, MD, Gennadiy Bakis, MD, Ognian Pomakov, MD, Matthew Baichi, MD, Shahid Mehboob, MD, Internal Medicine/Gastroenterology, VAMC / University at Buffalo, Buffalo, NY

P271. Adenoma Detection Rate, Pay-for-Performance, and Colonoscopy: Are Female Gastroenterologists at a Disadvantage?
Eugene Yen, MD, Laura Bianchi, MD, Michael Goldberg, MD, Eric Elton, MD, Hemant Roy, MD, Division of Gastroenterology, Evanston Northwestern Healthcare, Evanston, IL

P272. Changes in Awareness of Gastroesophageal Reflux Disease in Hispanic Adults: A Comparison of Survey Results from 2005 and 2008
Marta Illueca, MD, Joseph Crawley, MS, AstraZeneca LP, Wilmington, DE

P273. PPD Testing in Patients Starting Infliximab for Treatment of Inflammatory Bowel Disease
Melissa Minor, MD, Sanjay Ghimire, MD, Surya Singh, MD, Gastroenterology, General Internal Medicine, Gastroenterology, Brigham & Women's Hospital, Boston, MA, D2Hawkeye, Inc., Waltham, MA

P274. Adalimumab Maintenance Therapy is Associated with a Reduced Risk of Major Surgery
Stefan Schreiber, MD, Brian Feagan, MD, William Sandborn, MD, Jean Fred Colombel, MD, Kathleen Lomax, MD, Parvez Mulani, PhD, Jingdong Chao, PhD, First Department of Medicine, Christian-Albrechts University, Kiel, Germany, University of Western Ontario, London, ON, Canada, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Abbott Laboratories, Parsippany, NJ

P275. Annual Direct and Indirect Cost of Illness in Employees with Irritable Bowel Syndrome Plus Constipation
Richard Brook, MS, MBA, Nathan Kleinman, PhD, Arthur Melkonian, MD, Robert Baran, PharmD, Retrospective Analysis, The JeSTARx Group, Newfoundland, NJ, Research Services, HCMS Group, Cheyenne, WY, Medical Outcomes Research, Takeda Global Research and Development Center, Inc., Deerfield, IL

P276. Adalimumab Maintenance Therapy is Cost Effective for Maintaining Remission in Patients with Crohn's Disease
Brian Feagan, MD, Edward Loftus, MD, Scott Johnson, PhD, Eric Wu, PhD, Andrew Yu, PhD, Jingdong Chao, PhD, Parvez Mulani, PhD, University of Western Ontario, London, ON, Canada, Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN, Analysis Group, Inc., Boston, MA, Abbott Laboratories, Abbott Park, IL

P277. Estimation of Induction and Maintenance Costs of Infliximab, Adalimumab and Certolizumab Pegol in Managing Crohn's Disease
Brian Feagan, MD, Seng Tan, MD, Daniel Malone, PhD, Joaquin Hinojosa, MD, Martin Brown, MD, Robarts Clinical Trials, Robarts Research Institute, London, ON, Canada, Global Health Outcomes Research, UCB, Slough, United Kingdom, College of Pharmacy, University of Arizona, Tucson, AZ, Gastroenterology Unit, Hospital Sagunto, Valencia, Spain

P278. Magnitude and Economic Impact of Inappropriate Use of Proton Pump Inhibitors for Treatment of Upper Gastrointestinal Disorders in the Ambulatory Care Setting
Joel Heidelbaugh, MD, Kathleen Goldberg, PharmD, John Inadomi, MD, Family Medicine, University of Michigan, Ann Arbor, MI, Veteran Affairs, VA Ann Arbor Healthcare System, Ann Arbor, MI, University of California, San Francisco, CA, San Francisco General Hospital, San Francisco, CA

INFLAMMATORY BOWEL DISEASE

P279. Once-Daily 1.5-G Granulated Mesalamine is Effective and Safe in Maintenance of Remission in Mild-to-Moderate Ulcerative Colitis
Glenn Gordon, MD, Ronald Pruitt, MD, Mark Ringold, MD, Shahriar Sedghi, MD, Kunal Merchant, PhD, Audrey Shaw, PhD, James Yuan, PhD, Enoch Bortey, PhD, William Forbes, PharmD, Center for Digestive and Liver Diseases, Inc., Mexico, MO, Nashville Medical Research Institute and The Maria Nathanson Center at Saint Thomas Hospital, Nashville, TN, New River Research Institute, Christianburg, VA, Gastroenterology Associates of Central Georgia, LLC, Macon, GA, Salix Pharmaceuticals, Morrisville, NC

P280. The Long-Term, 30 Months, Efficacy and Tolerability of Certolizumab Pegol Therapy for Crohn's Disease
William Sandborn, MD, Gary Lichtenstein, MD, Stefan Schreiber, MD, Brian Feagan, MD, Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN, University of Pennsylvania School of Medicine, Philadelphia, PA, Hospital for General Internal Medicine, Christian-Albrechts University, Kiel, Germany, Robarts Research Institute, University of Western Ontario, London, ON, Canada

P281. Safety of Delayed-Release Oral Mesalamine 4.8 G/Day (800 mg Tablet) Compared to 2.4 G/Day (400 mg Tablet) for Treatment of Active Ulcerative Colitis: Combined Analysis from Three Randomized, Double-Blind, Active-Controlled Trials
William Sandborn, MD, Mark Hosterman, PharmD, Mayo Clinic, Rochester, MN, Procter and Gamble Pharmaceuticals, Inc., Mason, OH

P282. MMX™ Mesalamine Therapy for the Induction of Remission Beyond 8 Weeks: How Long Before Symptom Resolution?
William Sandborn, MD, FACG, Michael Kamm, MD, Gary Lichtenstein, MD, FACG, Michael Sumner, MD, Raymond Joseph, MD, Mayo Clinic, Rochester, MN, St. Vincent's Hospital, Melbourne, VIC, Australia, University of Pennsylvania, Philadelphia, PA, Shire Pharmaceuticals Inc., Wayne, PA

P283. Certolizumab Pegol is Efficacious in Crohn's Disease Patients Who Have Failed Infliximab Regardless of Concomitant Therapy or Reason for Failure
Maria Abreu, MD, William Sandborn, MD, Geert D'Haens, MD, Jean-Frédéric Colombel, MD, Krassimir Mitchev, MD, Andreas Raedler, MD, Scott Lee, MD, Richard Fedorak, MD, Severine Vermeire, MD, Paul Rutgeerts, MD, Gastroenterology, University of Miami, Miami, FL, Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN, Gastroenterology, Imelda General Hospital, Bonheiden, Belgium, Hepatogastroenterology, CHU Lille, Lille, France, Medical, UCB, Braine l'Alleud, Belgium, Gastroenterology, Asklepios Westklinikum, Hamburg, Germany, Gastroenterology, University of Washington School of Medicine, Seattle, WA, Gastroenterology, University of Alberta, Edmonton, AB, Canada, Gastroenterology, University Hospital Gasthuisberg, Leuven, Belgium

P284. Increased Efficacy of Delayed-Release Mesalamine 4.8g/D (800 mg Tablet) Compared to 2.4g/D (400 mg Tablet) for Treatment of Moderately Active Ulcerative Colitis in Patients with a History of More Difficult to Treat Disease: Combined Analysis from Three Randomized, Double-Blind, Active-Controlled Trials
Stephen Hanauer, MD, David Ramsey, BS, William Sandborn, MD, University of Chicago Medical Center, Chicago, IL, Procter and Gamble Pharmaceuticals, Inc., Mason, OH, Mayo Clinic, Rochester, MN

P285. Predicting Postoperative Mortality from Comorbidity Indices in Administrative Databases Among Inflammatory Bowel Disease Patients
★ *2008 ACG Presidential Poster Award Recipient*
Gilaad Kaplan, MD, MPH, James Hubbard, MSc, Remo Panaccione, MD, Abdel Aziz Shaheen, MD, MPH, Geoffrey Nguyen, MD, PhD, Shane Devlin, MD, Robert Myers, MD, Department of Medicine, Division of Gastroenterology, University of Calgary, Calgary, AB, Canada

P286. IBD Patients Who Leave Against Medical Advice: Predictors of the Patient Profile
Gilaad Kaplan, MD, MPH, James Hubbard, MSc, Remo Panaccione, MD, Christopher Ma, BSc, Geoffrey Nguyen, MD, PhD, Abdel Aziz Shaheen, MD, MPH, Shane Devlin, MD, Robert Myers, MD, Inflammatory Bowel Disease Clinic, Departments of Medicine and Community Health Sciences, University of Calgary, Calgary, AB, Canada, Medicine, University of Toronto, Toronto, ON, Canada

P287. Predictive Value of Capsule Endoscopy for the Diagnosis of Crohn's Disease in a Symptomatic Population
★ *2008 ACG Presidential Poster Award Recipient*
Melissa Tukey, MD, Douglas Pleskow, MD, Adam Cheifetz, MD, Alan Moss, MD, Gastroenterology, Internal Medicine, Beth Israel Deaconess Medical Center, Boston, MA

P288. A Patient Support Program (PSP) to Enhance Medication Adherence and Quality-of-Life in Patients Prescribed Mesalamine for Ulcerative Colitis—A Pilot Study
Melissa Tukey, MD, Kenneth Falchuk, MD, Adam Cheifetz, MD, Alan Moss, MD, Gastroenterology, BIDMC / Harvard Medical School, Boston, MA

P289. Pyloric Gland Metaplasia is Associated with a Change in Diagnosis to Crohn's Disease in Ileal Pouch Anal Anastomosis (IPAA) Patients
Shuchi Agarwal, BA, Kleanthis Dendrinos, MD, Arthur Stucchi, PhD, Sandra Cerda, MD, Michael O'Brien, MD, MPH, Wayne Lamorte, MD, MPH, Timothy Heeren, PhD, James Becker, MD, Francis Farraye, MD, MSc, Pathology, Surgery, Gastroenterology, Boston University Medical Center, Boston, MA, Biostatistics, Epidemiology, Boston University School of Public Health, Boston, MA

P290. Novel Genomic Biomarkers That Differentiate Between Inflammatory Bowel Disease and Normal Patients Using Peripheral Blood Specimens
John Alsobrook, II, PhD, Thomas Ma, MD, PhD, Jonathan Leighton, MD, Lei Tang, PhD, Patti Doherty, RN, Feng Zhou, PhD, Tom Williams, MD, Lisa Davis, PhD, Cole Harris, MS, Exagen Diagnostics, Inc., Albuquerque, NM, Internal Medicine, Division of Gastroenterology and Hepatology, University of New Mexico, Albuquerque, NM, Division of Gastroenterology and Hepatology, Mayo Clinic, Scottsdale, AZ, Pathology, University of New Mexico, Albuquerque, NM

P291. Shared Molecular Pathways in Inflammatory Bowel Disease and Irritable Bowel Syndrome Suggested by Genomic Biomarkers
John Alsobrook II, PhD, Lei Tang, PhD, Patti Doherty, RN, Feng Zhou, PhD, Tom Williams, MD, Lisa Davis, PhD, Cole Harris, MS, Exagen Diagnostics, Inc., Albuquerque, NM, Pathology, University of New Mexico, Albuquerque, NM

P292. Traficet-EN, an Oral CCR9-Specific Antagonist, Induces High Levels of Remission in the Open-Label Phase of PROTECT-1 in Crohn's Disease
Pirow Bekker, MD, PhD, Gordon Hamilton, MD, Dan Johnson, MS, Satish Keshav, MBChB, DPhil, FRCP, Thomas Schall, PhD, R&D, ChemoCentryx, Inc., Mountain View, CA, Medical and Clinical Affairs, ChemoCentryx, Inc, Mountain View, CA, Gastroenterology, John Radcliffe Hospital, Oxford, United Kingdom, Medical and Clinical Affairs, ChemoCentryx, Inc., Oxford, United Kingdom

P293. Long-Term Adalimumab Treatment is Associated with Sustained Fistula Healing in Patients with Moderate to Severe Crohn's Disease
Jean Fred Colombel, MD, Michael Kamm, MD, David Schwartz, MD, Remo Panaccione, MD, Ju Li, PhD, Kathleen Lomax, MD, Paul Pollack, MD, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Imperial College, London, United Kingdom, Gastroenterology, Vanderbilt University Medical Center, Nashville, TN, Medicine, University of Calgary, Calgary, AB, Canada, Abbott Laboratories, Parsippany, NJ

P294. Long-Term Safety of Certolizumab Pegol in Crohn's Disease: Integrated Safety Findings on Serious Adverse Events of Special Interest
Jean-Frédéric Colombel, MD, Stefan Schreiber, MD, Paul Rutgeerts, MD, William Sandborn, MD, Stephen Hanauer, MD, Hepatogastroenterology, CHU Lille, Lille, France, Hospital for General Internal Medicine, Christian Albrechts University, Kiel, Germany, Gastroenterology, University Hospital Gasthuisberg, Leuven, Belgium, Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN, Gastroenterology & Nutrition, University of Chicago Medical Center, Chicago, IL

P295. Natalizumab Use During Pregnancy
Uma Mahadevan, MD, Michelle Nazareth, MD, Lynda Cristiano, MD, Mariska Kooijmans, MD, PhD, Gary Hogge, DVM, MS, PhD, UCSF Center for Colitis and Crohn's Disease, University of California, San Francisco, San Francisco, CA, Drug Safety and Risk Management, Biogen Idec, Inc., Cambridge, MA, Medical Affairs, Elan Pharmaceuticals, Inc., South San Francisco, CA

P296. Oral Hygiene and Inflammatory Bowel Diseases
Shashideep Singhal, MD, Ashkan Farhadi, MD, MS, FACG, Majid Afsharzadeh, MD, Ali Keshavarzian, MD, FACG, Section of Gastroenterology and Nutrition, Rush University Medical Center, Chicago, IL, Rosalind Franklin University of Medicine and Science, Chicago, IL

P297. The Perspective of Patient with Organic and Functional Bowel Disease on Complementary and Alternative Medicine (CAM)
Shashideep Singhal, MD, Ashkan Farhadi, MD, MS, FACG, Majid Afsharzadeh, MD, Delia Dian, MD, Ali Keshavarzian, MD, FACG, Section of Gastroenterology and Nutrition, Rush University Medical Center, Chicago, IL, Rosalind Franklin University of Medicine and Science, Chicago, IL

P298. Incidence of Colorectal Cancer in Inflammatory Bowel Disease
Liyan Liu, MD, MPH, Fernando Velayos, MD, MPH, James Allison, MD, Jonathan Terdiman, MD, James Lewis, MD, MSCE, Susan Hutfless, MPH, Lisa Herrinton, PhD, Division of Research, Kaiser Foundation Research Institute, Oakland, CA, Department of Gastroenterology, University of California, San Francisco, San Francisco, CA, Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania, Philadelphia, PA

P299. Utilization of Cervical Testing Among Women with Inflammatory Bowel Disease
★ *2008 ACG/Centocor IBD Award Recipient*
Millie Long, MD, MPH, Carol Porter, BS, Robert Sandler, MD, MPH, Michael Kappelman, MD, MPH, Gastroenterology and Hepatology, University of North Carolina-Chapel Hill, Chapel Hill, NC, Cecil G. Sheps Center for Health Services Research, Pediatric Gastroenterology and Hepatology, University of North Carolina-Chapel Hill, Chapel Hill, NC

P300. Impact of Anti-TNF-α Treatment Failure Complicating Long-Term Maintenance Therapy for Crohn's Disease
Lilani Perera, MD, Ashwin Ananthakrishnan, MD, MPH, Mazen Issa, MD, Susan Skaros, PA-C, Kathryn Lemke, PA-C, Anita Ward, RN, Josh Knox, PA-C, Yelena Zadvornova, MD, MBA, David Binion, MD, Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI

P301. Perception and Reality: Patterns of Hospitalization, Surgery, Permanent Work Disability and Death in Crohn's Disease Patients Requiring Anti-TNF-α Therapy
Lilani Perera, MD, Ashwin Ananthakrishnan, MD, MPH, Mazen Issa, MD, Susan Skaros, PA-C, Kathryn Lemke, PA-C, Josh Knox, PA-C, Anita Ward, RN, Yelena Zadvornova, MD, MBA, David Binion, MD, Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI

P302. A Prototype System Dynamics Model to Communicate the Risk of Crohn's Disease Complications to Patients and Their Predicted Treatment Response
Corey Siegel, MD, Lori Siegel, PhD, Bruce Sands, MD, Iwona Wrobel, MD, Ghassan Wahbeh, MD, Antonio Quiros, MD, Gary Silber, MD, Ron Bahar, MD, Marla Dubinsky, MD, Dartmouth-Hitchcock Medical Center, Lebanon, NH, Siegel Environmental Dynamics, LLC, Hanover, NH, Massachusetts General Hospital, Boston, MA, Alberta Children's Hospital, Calgary, AB, Canada, Seattle Children's Hospital, Seattle, WA, California Pacific Medical Center, San Francisco, CA, Phoenix Children's Hospital, Phoenix, AZ, Cedars-Sinai Medical Center, Los Angeles, CA

P303. Adalimumab Effectiveness in TNF-Antagonist-Naive Patients and in Infliximab Nonresponders with Crohn's Disease: Results from the Care Study
Robert Lofberg, MD, Edouard Louis, MD, PhD, Walter Reinisch, MD, Martina Kron, PhD, Anne Camez, MD, Paul Pollack, MD, IBD-Unit, Karolinska Institutet, Stockholm, Sweden, University of Liège, Liège, Belgium, Medical University of Vienna, Vienna, Austria, Abbott GmbH & Co. KG, Ludwigshafen, Germany, Abbott Laboratories, Parsippany, NJ

P304. Changing Patterns in the Use of Home Parenteral Nutrition in Crohn's Disease Patients
Dawn Wiese, BS, Rene Rivera, MD, Douglas Seidner, MD, FACG, Razvi Razack, MD, Rocio Lopez, MS, Ezra Steiger, MD, Quantitative Health Services, General Surgery, Digestive Disease Center, Cleveland Clinic Lerner College of Medicine, Cleveland Clinic, Cleveland, OH, Center for Human Nutrition, Vanderbilt University Medical Center, Nashville, TN, Internal Medicine, University of Medicine and Dentistry of New Jersey, Newark, NJ

P305. The Effect of Delayed Diagnosis of Inflammatory Bowel Disease on Disease Management and Course
★ 2008 ACG/Centocor IBD Award Recipient
Ugonna Iroku, MD, MHS, Brian Bosworth, MD, Ellen Scherl, MD, FACP, College of Physicians and Surgeons, Columbia University, New York, NY, Weill Medical College of Cornell University, New York, NY

P306. Early and Sustained Efficacy of Delayed-Release Oral Mesalamine in Moderately Active Ulcerative Colitis Patients: Combined Results from the Ascend I, II, & III Trials
Gary Lichtenstein, MD, David Ramsey, BS, Edward Loftus, MD, Hospital of the University of Pennsylvania, Philadelphia, PA, Procter & Gamble Pharmaceuticals, Inc., Mason, OH, Mayo Clinic, Rochester, MN

P307. The Clinical Value of the Terminal Ileum Biopsy: A Nation-Wide Clinico-Pathologic Analysis
M. Saboorian, MD, Christopher Schuler, MD, Kevin Stuckhoff, MS, Robert Genta, MD, Caris Diagnostics, Irving, TX

P308. Crohn's Disease is Associated with Restless Legs Syndrome: A New Extraintestinal Manifestation
Leonard Weinstock, MD, Brian Bosworth, MD, Ellen Scherl, MD, Ellen Li, MD, Melissa Munsell, MD, Gerard Mullin, MD, Arthur Walters, MD, Stephen Duntley, MD, Gastroenterology, Specialists in Gastroenterology, St. Louis, MO, Gastroenterology, Weill Cornell Medical Center, New York, NY, Gastroenterology, Washington University School of Medicine, St. Louis, MO, Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, MD, NJ Neuroscience Institute at JFK Medical Center, Seton Hall University School of Graduate Medical Education, Edison, NJ, Neurology, Washington University School of Medicine, St. Louis, MO

P309. Outcomes After Acute Severe Ulcerative Colitis: Ten-Year Single-Center Experience
Steven Ingle, MD, Edward Loftus, MD, William Harmsen, MS, Alan Zinsmeister, PhD, William Sandborn, MD, MileBiostatistics, Miles & Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN

P310. Adalimumab is Effective in Patients with Fistulizing Crohn's Disease Who Were Primary Nonresponders to Infliximab Treatment
Simon Lichtiger, MD, David Binion, MD, Douglas Wolf, MD, Daniel Present, MD, Kathleen Lomax, MD, Shuvobrata Rafiq, MA, Fred Holdbrook, PhD, Gastroenterology, Mount Sinai Medical Center, New York, NY, Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI, Atlanta Gastroenterology Associates, Atlanta, GA, Internal Medicine, Mount Sinai Medical Center, New York, NY, Abbott Laboratories, Parsippany, NJ

FUNCTIONAL BOWEL DISORDERS

P311. Efficacy of Fiber in Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, Nicholas Talley, MD, PhD, Brennan Spiegel, MD, Amy Foxx-Orenstein, DO, Lawrence Schiller, MD, Eamonn Quigley, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Department of Medicine, Mayo Clinic Florida, Jacksonville, FL, VA Greater Los Angeles Healthcare System; David Geffen School of Medicine at UCLA, UCLA School of Public Health, UCLA/VA Center for Outcomes Research and Education (CORe), Los Angeles, CA, Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN, Digestive Health Associates of Texas, Baylor University Medical Center, Dallas, TX, Department of Medicine, Cork University Hospital, Cork, Ireland

P312. Efficacy of Antidepressants in Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, Nicholas Talley, MD, PhD, Philip Schoenfeld, MD, Eamonn Quigley, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Department of Medicine, Mayo Clinic Florida, Jacksonville, FL, Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI, Department of Medicine, Cork University Hospital, Cork, Ireland

P313. Efficacy of Psychological Therapies in Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, Nicholas Talley, MD, PhD, Philip Schoenfeld, MD, Eamonn Quigley, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Department of Medicine, Mayo Clinic Florida, Jacksonville, FL, Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI, Department of Medicine, Cork University Hospital, Cork, Ireland

P314. Efficacy of 5HT3-Antagonists in Non-Constipation Predominant Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, Lawrence Brandt, MD, Amy Foxx-Orenstein, DO, William Chey, MD, Philip Schoenfeld, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Division of Gastroenterology, Montefiore Medical Center, New York, NY, Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN, Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI

P315. Efficacy of 5HT4-Agonists in Non-Diarrhea Predominant Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, Lawrence Brandt, MD, Amy Foxx-Orenstein, DO, William Chey, MD, Philip Schoenfeld, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Division of Gastroenterology, Montefiore Medical Center, New York, NY, Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN, Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI

P316. Efficacy of Antispasmodics and Peppermint Oil in Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, Nicholas Talley, MD, PhD, Brennan Spiegel, MD, Amy Foxx-Orenstein, DO, Lawrence Schiller, MD, Eamonn Quigley, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Department of Medicine, Mayo Clinic Florida, Jacksonville, FL, VA Greater Los Angeles Healthcare System; David Geffen School of Medicine at UCLA, UCLA School of Public Health, UCLA/VA Center for Outcomes Research and Education (CORe), Los Angeles, CA, Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN, Digestive Health Associates of Texas, Baylor University Medical Center, Dallas, TX, Department of Medicine, Cork University Hospital, Cork, Ireland

P317. Utility of Diagnostic Tests for Celiac Disease in Irritable Bowel Syndrome: Systematic Review and Meta-Analysis
Alexander Ford, MD, William Chey, MD, Nicholas Talley, MD, PhD, Ashish Malhotra, MD, Brennan Spiegel, MD, Paul Moayyedi, MD, Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada, Division of Gastroenterology, University of Michigan Medical Center, Ann Arbor, MI, Department of Medicine, Mayo Clinic Florida, Jacksonville, FL, Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN, VA Greater Los Angeles Healthcare System; David Geffen School of Medicine at UCLA, UCLA School of Public Health, UCLA/VA Center for Outcomes Research and Education (CORe), Los Angeles, CA

P318. Expressive Writing as a Therapeutic Modality in Irritable Bowel Syndrome (IBS)
Albena Halpert, MD, Abha Verma, BA, Gastroenterology, Boston University Medical Center, Boston, MA

P319. Efficacy of Long Term Treatment Regimens on Cyclic Vomiting Syndrome in Adults
Reza Hejazi, MD, Teri Lavenbarg, RN, Savio Reddymasu, MD, Pernilla Foran, LPN, Richard McCallum, MD, FACP, FACG, Center for Gastrointestinal Nerve and Muscle Function and GI Motility Division, Department of Medicine, Kansas University Medical Center, Kansas City, KS

P320. Gastric Emptying Patterns in Cyclic Vomiting Syndrome in Adults
Reza Hejazi, MD, Pavan Saridena, MD, Teri Lavenbarg, RN, Richard McCallum, MD, FACP, FACG, Center for GI Nerve & Muscle Function and GI Motility Division, Department of Medicine, Kansas University Medical Center, Kansas City, KS, Gastroenterology, Bridgeport Hospital, Yale University, Bridgeport, CT

P321. Caucasian IBS Patients Have Higher Prevalence of Prior Traveler's Diarrhea as Compared to African Americans
Anil Minocha, MD, FACG, William Johnson, PhD, William Wigington, MD, Medical Service, VA Medical Center, Shreveport, LA, University of Mississippi Medical Center, Jackson, MS

P322. Sexual Abuse, Physical Abuse and General Health Issues Associated with IBS Patients in a Multiethnic Population: Comparison Between African American and Caucasian American Patients
Anil Minocha, MD, FACG, William Johnson, PhD, William Wigington, MD, Medical Service, VA Medical Center, Shreveport, LA, Medicine, University of Mississippi Medical Center, Jackson, MS

P323. Investigation of Colonic and Rectal Sensory Properties and Compliance and Its Reproducibility in Humans
Satish Rao, MD, PhD, Ranjit Mudipalli, MD, Jessica Paulson, BS, Carl Brown, MS, Kara Seaton, BS, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA

P324. Relationship Between the Colonic Transit of Wireless Capsule (Smartpill®) and Radio Opaque Markers in Constipation
Satish Rao, MD, PhD, Jessica Paulson, BS, Braden Kuo, MD, Richard McCallum, MD, Michael Sitrin, MD, William Chey, MD, Jeffrey Lackner, PsyD, John Semler, PhD, Greg Wilding, PhD, Henry Parkman, MD, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA, Gastroenterology Unit, Massachusetts General Hospital, Boston, MA, Center for GI Nerve & Muscle Function & GI Motility, University of Kansas Medical Center, Kansas City, KS, Internal Medicine, University of Michigan, Ann Arbor, MI, Medicine, University of Buffalo School of Medicine, SUNY at Buffalo, Buffalo, NY, The SmartPill Corporation, Buffalo, NY, Biostatistics, SUNY at Buffalo, Buffalo, NY, Medicine, Temple University School of Medicine, Philadelphia, PA, Medicine, Western New York VA Medical Center, SUNY at Buffalo, Buffalo, NY

P325. A Study on the Association Between Self-Reported Functional Gastrointestinal Symptoms and Travelers' Diarrhea Among U.S. Troops Deployed to Southwest Asia and the Middle East
★ *2008 ACG Presidential Poster Award Recipient*
Mark Riddle, MD, DrPH, Brooks Cash, MD, FACG, John Sanders, MD, MPH&TM, Shannon Putnam, PhD, Adam Armstrong, DO, MSPH, David Tribble, MD, DrPH, Enteric Diseases Department, Naval Medical Research Center, Silver Spring, MD, Uniformed Services University of the Health Sciences, Bethesda, MD, Naval Medical Research Center Detachment, Lima, Peru, US Naval Medical Research Unit No. 2, Jakarta, Indonesia, US Naval Medical Research Unit No. 3, Cairo, Egypt

P326. Functional Bowel Symptoms After an Episode of Travelers' Diarrhea Among U.S. Military Personnel Returning from Deployment to Egypt and Turkey
Mark Riddle, MD, DrPH, Carey Schlett, MPH, David Tribble, MD, DrPH, Marshall Monteville, PhD, Adam Armstrong, DO, MSPH, John Sanders, MD, MPH&TM, Enteric Diseases Department, Naval Medical Research Center, Silver Spring, MD, Uniformed Services University of the Health Sciences, Bethesda, MD, Navy and Marine Corps Public Health Center, Norfolk, VA, Naval Medical Research Unit No. 3, Cairo, Egypt, Naval Medical Research Center Detachment, Lima, Peru

P327. Rome Criteria for Irritable Bowel Syndrome (IBS) Should Be a Quantitative Trait and Not a Qualitative Trait
★ *2008 ACG Presidential Poster Award Recipient*
Yuri Saito-Loftus, MD, MPH, Ann Almazar-Elder, BS, Joseph Larson, BS, Elizabeth Atkinson, MS, Nicholas Talley, MD, PhD, Department of Internal Medicine, Department of Health Sciences Research, Division of Biostatistics, Enteric Neuroscience Program, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P328. Irritable Bowel Syndrome (IBS) is Not a Major Gene, Mendelian Disorder
Yuri Saito-Loftus, MD, MPH, Joseph Larson, BS, Elizabeth Atkinson, MS, Brooke Fridley, PhD, Nicholas Talley, MD, PhD, Department of Internal Medicine, Department of Health Sciences Research, Division of Biostatistics, Enteric Neuroscience Program, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

ENDOSCOPY

P329. The Fujinon Intelligent Color Enhancement System (FICE): A New Computed Virtual Chromoendoscopy Tool for Diagnosing Colorectal Neoplasia During Colonoscopy
Anna Buchner, MD, PhD, Marwan Ghabril, MD, Murli Krishna, MD, Herbert Wolfsen, MD, Michael Wallace, MD, MPH, Pathology, Gastroenterology, Mayo Clinic, Jacksonville, FL

P330. Are Four Eyes Better than Two? Effect of Trainee Participation in Colonoscopy on Adenoma Detection Rate. A Retrospective Study of 1273 Patients
Anna Buchner, MD, PhD, Marwan Ghabril, MD, Seth Gross, MD, Anthony Schore, MD, Kanwar Gill, MD, Michael Picco, MD, PhD, David Loeb, MD, Herbert Wolfsen, MD, Michael Wallace, MD, MPH, Gastroenterology, Mayo Clinic, Jacksonville, FL

P331. Magnetic Resonance Imaging (MRI) Compatibility of Endoclips
Kanwar Gill, MD, Robert Pooley, PhD, Michael Wallace, MD, MPH, Gastroenterology, Mayo Clinic, Jacksonville, FL, Radiology, Mayo Clinic, Jacksonville, FL

P332. Endosonographic Morphological Features for the Identification of Mediastinal Lymph Node Metastasis in Lung Cancer
Kanwar Gill, MD, Marwan Ghabril, MD, Laith Jamil, MD, Seth Gross, MD, Massimo Raimondo, MD, Timothy Woodward, MD, Brenda Hoffman, MD, Robert Hawes, MD, Joseph Romagnuolo, MD, Michael Wallace, MD, MPH, Gastroenterology, Mayo Clinic, Jacksonville, FL, Department of Gastroenterology, Medical University of South Carolina, Charleston, SC

P333. Novel Structural & Functional Imaging of the Colonic Mucosa Using Structured Light Illumination Sectioning Endomicroscopy (SLISE)
★ *2008 ACG Presidential Poster Award Recipient*
Aaron Bartoo, PhD, Silvia Santos, MS, Jerome Mertz, PhD, Satish Singh, MD, Medicine-Gastroenterology, Boston University School of Medicine, Boston, MA, Biomedical Engineering, Boston University College of Engineering, Boston, MA

P334. Risk of Clinically Significant Postpolypectomy Hemorrhage in Patients Taking Clopidogrel
Thomas Judge, MD, Niranjan Patel, MD, Steven Peikin, MD, FACG, Adam Elfant, MD, FACG, Christopher Deitch, MD, Hunter Krystal, MBA, Dept. of Biostatistics, Dept. of Gastroenterology, Dept. of Internal Medicine, Cooper University Hospital, UMDNJ-RWJMS, Camden, NJ

P335. Poster Withdrawn

P336. Endoscopic Full-Thickness Plication for the Treatment of Gastroesophageal Reflux Disease Using Multiple Plicator Implants: 12-Month Multi-Center Study Results
Daniel von Renteln, MD, Karl-Hermann Fuchs, MD, Michael Philipper, MD, Susanne Raczynski, MD, Wolfram Breithaupt, MD, Ingolf Schiefke, MD, Karel Caca, MD, Horst Neuhaus, MD, Department of Gastroenterology, Klinikum Ludwigsburg, Ludwigsburg, Germany, Department of Gastroenterology, University of Leipzig, Leipzig, Germany, Department of Surgery, Markuskrankenhaus Frankfurt, Frankfurt, Germany, Medizinische Klinik, EVK Duesseldorf, Duesseldorf, Germany

P337. The Endoscopic Plicator Procedure for GERD Using Two Full-Thickness Plications: 18-Month Pilot Study Results
Daniel von Renteln, MD, Ulrike Brey, MD, Bettina Riecken, MD, MPH, Karel Caca, MD, Department of Gastroenterology, Klinikum Ludwigsburg, Ludwigsburg, Germany

P338. Appropriateness of the 'Straight to Test' Gastroscopy Requests for Patients with Suspected Gastrointestinal Cancers
Irfan Amin, MBBS, Pamela Steer, RN, Ravi Madhotra, MBBS, FRCP, Gastroenterology, Milton Keynes General Hospital, Milton Keynes, United Kingdom

P339. Evaluation of Open Access Colonoscopy in Ontario; An Assessment of Its Prevalence and Patient, Physician and Institutional Determinants of Its Use
Shane Hadlock, MD, Lawrence Paszat, MD, MS, FRCPC, Linda Rabeneck, MD, MPH, FRCPC, Andrew Wilton, MS, Rinku Sutradhar, PhD, Jill Tinmouth, MD, PhD, FRCPC, University of Toronto, Toronto, ON, Canada, Institute for Clinical Evaluative Sciences, Toronto, ON, Canada

P340. A Prospective Study Evaluating Colonoscopy Complications
Jennifer Leigh, MD, MPH, Mitchel Hoffman, MD, MPH, Martin Max, MD, James Roa, DO, Angelo Fernandes, MD, Terri Buchanan, BS, Gastroenterology, Bay Pines VA Health System, St. Petersburg, FL, USF College of Medicine, Tampa, FL

P341. Endoscopic Necrosectomy in the Management of Symptomatic Walled Off Pancreatic Necrosis
Udayakumar Navaneethan, MD, Mayar Al Mohajer, MD, Nathan Schmulewitz, MD, Shailendra Chauhan, MD, Syed Ahmad, MD, Joseph Palascak, MD, Andres Gelrud, MD, MMSc, Surgery, Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH

P342. Affect of Advancing Technology on the Accuracy in Nodal Staging of Rectal Cancers with Endoscopic Ultrasound: A Meta-Analysis and Systematic Review
Srinivas Puli, MD, Jyotsna BK Reddy, MD, Matthew Bechtold, MD, Abhishek Choudhary, MD, Farzana Rashid, MD, Mainor Antillon, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO

P343. Developing an Ulcerative Colitis Endoscopic Index of Severity (UCEIS): Results of Pilot Phase
William Sandborn, MD, Simon Travis, DPhil, FRCP, UCEIS Study Group, MD, Dan Schnell, PhD, Piotr Krzeski, MD, Christopher Bernhardt, PhD, Mayo Clinic, Rochester, MN, John Radcliff Hospital, Oxford, United Kingdom, Procter & Gamble Pharmaceuticals, Inc., Mason, OH

P344. Extracorporeal Shock Wave Lithotripsy (ESWL) with ERCP for Management of Chronic Pancreatitis with Pancreatic Duct Calculi
Mihir Wagh, MD, Lee McHenry, MD, James Watkins, MD, Evan Fogel, MD, Stuart Sherman, MD, Glen Lehman, MD, Division of Gastroenterology, University of Florida, Gainesville, FL, Division of Gastroenterology, Indiana University Medical Center, Indianapolis, IN

P345. Oral Administration of Edible Oil Prior to ERCP: Effect on Selective Biliary Cannulation
Mihir Wagh, MD, James Watkins, MD, Evan Fogel, MD, Lee McHenry, MD, Stuart Sherman, MD, Glen Lehman, MD, Division of Gastroenterology, University of Florida, Gainesville, FL, Division of Gastroenterology, Indiana University Medical Center, Indianapolis, IN

P346. High Resolution Colonoscopy with Narrow-Band Imaging Capability Does Not Improve Polyp Detection Rates Compared with Standard Resolution Colonoscopy
Tolga Erim, DO, John Rivas, MD, Evelio Velis, MD, MS, Fernando Castro, MD, Department of Gastroenterology, Cleveland Clinic Florida, Weston, FL, Health Services Administration Master Program, Barry University, Miami Shores, FL

P347. Does Lubiprostone Decrease Gastric and Small Bowel Transit Time and Improve Visualization of Small Bowel with Capsule Endoscopy?
Bennett Hooks, MD, Travis Rutland, MD, Jack Di Palma, MD, Gastroenterology, University of South Alabama College of Medicine, Mobile, AL

P348. Stenting for Malignant Colonic Obstruction: A Comparison of Colonic and Extracolonic Malignancy
Rajesh Keswani, MD, Riad Azar, MD, Steven Edmundowicz, MD, Qin Zhang, MD, Tarek Ammar, MD, Sreenivasa Jonnalagadda, MD, Biostatistics, Gastroenterology, Washington University, St. Louis, MO

P349. Feasibility of Single-Balloon Enteroscopy for Evaluation of the Small Bowel: High Diagnostic Value and Easier Handling Compared to Double-Balloon Enteroscopy
Andreas Leodolter, MD, Dietmar Zielinski, MD, Joachim Labenz, MD, Medical Department, Evangelisches Jung-Stilling Hospital, Siegen, Germany

P350. Comparative Efficacy of Two Low-Volume (2L) Polyethylene Glycol (PEG) Electrolyte Lavage Solutions for Bowel Cleansing Prior to Colonoscopy: A Pilot Study
Shefali Sanyal, BA, Lawrence Cohen, MD, Caroline von Althann, BA, Andrew Dikman, BA, Kenneth Miller, MD, James Aisenberg, MD, Medicine, Mount Sinai School of Medicine, New York, NY

P351. From the Urinary Tract to Gastrointestinal Tract—Cost Saving, Safe, Effective Bands Turned Out from Urinary Catheters for Variceal Banding in Developing Countries—The Sri Lankan Experience—A Pilot Study
Ravindra Satarasinghe, MD, Ravi Jayawardana, MBBS, Upul Wickramasingha, MBBS, Ahamed Riyaaz, MBBS, Anura Perera, Endoscopy Unit, Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka

P352. Psychomotor Recovery After Endoscopic Procedures Using a Computer-Assisted Personalized Sedation System to Administer Propofol or Standard of Care Sedation: Implications for Care Efficiency
Michael Weinstein, MD, Robert Hardi, MD, Daniel Pambianco, MD, John Vargo, MD, MPH, Metropolitan Gastroenterology Group, Chevy Chase, MD, Charlottesville Medical Research, Charlottesville, VA, Department of Gastroenterology, The Cleveland Clinic Foundation, Cleveland, OH

P353. Endosonographic (EUS) Diagnosis of Foregut Duplication Cysts: Just Say No to the Needle!
Rekha Cheruvattath, MD, Dennis Go, MD, David Diehl, MD, Radiology, Gastroenterology, Geisinger Medical Center, Danville, PA

P354. PA, a Novel Combination of Delayed Release (DR) Aspirin (ASA) and Immediate-Release (IR) Omeprazole, is Associated with a Decreased Risk of Gastroduodenal Mucosal Injury: Pooled Data from Three Phase I, 4-Week Endoscopic Studies
John Fort, MD, Eric Orlemans, PhD, Cemal Unal, PhD, John Platechetka, PharmD, Pozen, Inc, Chapel Hill, NC

P355. Radial EUS vs. Linear EUS in Evaluation of Mediastinal Lymph Nodes in Lung Cancer Staging. A Prospective Double Blind Trial
Laith Jamil, MD, Kanwar Gill, MD, Seth Gross, MD, Julia Crook, PhD, Timothy Woodward, MD, Massimo Raimondo, MD, Michael Wallace, MD, MPH, Biostatistics, Gastroenterology, Mayo Clinic, Jacksonville, FL

P356. Understanding of Clear Liquid Instructions as Part of Colonoscopy Preparation
Shefali Paranjape, MD, Nicholas Nickl, MD, Lisbeth Selby, MD, Gastoenterology, University of Kentucky, Lexington, KY

PEDIATRICS

P357. Gastrointestinal Symptoms are More Common in Young School Aged Children with Sleep Disturbances
Sumana Moole, MD, Ravi Singareddy, MD, Susan Calhoun, PhD, Alexandros Vgontzas, MD, Edward Bixler, PhD, Division of Gastroenterology, HO45 Hershey Medical Center, Hershey, PA, Sleep Research & Treatment Center, Penn State College of Medicine, Hershey, PA

P358. Disease Duration Does Not Affect Outcome Following Infliximab in Children with Crohn's Disease
Jeffrey Hyams, MD, W. Crandall, MD, S. Kugathasan, MD, A. Griffiths, MD, M. Blank, PhD, G. Lang, PhD, R. Heuschkel, MD, G. Veereman-Wauters, MD, R. Baldassano, MD, Connecticut Children's Medical Center, Hartford, CT, Columbus Children's Hospital, Columbus, OH, Medical College of Wisconsin, Milwaukee, WI, The Hospital for Sick Children, Toronto, ON, Canada, Centocor Research and Development, Inc., Malvern, PA, Royal Free Hospital, London, United Kingdom, Queen Paola Children's Hospital, Antwerp, Belgium, Children's Hospital of Philadelphia, Philadelphia, PA

P359. Clinical Outcomes of Children with IBD with Unfavorable Thiopurine Metabolism: Effect of Allopurinol
★ *2008 ACG Presidential Poster Award Recipient*
Ninfa Candela, MD, Elizaveta Iofel, MD, Libia Moy, MD, Toba Weinstein, MD, Jeremiah Levine, MD, James Markowitz, MD, Pediatric Gastroenterology and Nutrition, Schneider Children's Hospital, North Shore-LIJ Health System, New Hyde Park, NY

P360. Overweight Children and Parental Perceptions
★ *2008 ACG Presidential Poster Award Recipient*
Rona Levy, MSW, PhD, MPH, Nancy Sherwood, PhD, Shelby Langer, PhD, Robert Reid, MD, PhD, Sheri Ballard, BA, School of Social Work, University of Washington, Seattle, WA, Epidemiology, University of Minnesota, Minneapolis, MN, Preventive Care, Group Health, Seattle, WA

P361. Pharmacokinetics of Two Dose Levels of Pantoprazole Sodium Delayed-Release Granules for Oral Suspension in Infants Aged 1 Through 11 Months with a Presumed Diagnosis of GERD
Brinda Tammara, PhD, Janice Sullivan, MD, Margaret Ann Springer, MD, Jaroslaw Kierkus, MD, Natalie Rath, BS, RN, Caifeng Fu, MS, Xu Meng, PhD, Mary Maguire, PharmD, Gail Comer, MD, FACG, Wyeth Research, Collegeville, PA, Kosair Charities Pediatric Clinical Research Unit, University of Louisville, Louisville, KY, Louisiana State University Health Sciences Center, Shreveport, LA, Department of Gastroenterology, Hepatology and Immunology, The Children's Memorial Health Institute, Warsaw, Poland

P362. Pharmacokinetics of Single and Multiple Doses of Pantoprazole in Adolescents with GERD
Brinda Tammara, PhD, Robert Ward, MD, Gregory Kearns, PharmD, PhD, Molly O'Gorman, MD, Laura James, MD, Mitchell Katz, MD, Mary Maguire, PharmD, Natalie Rath, BS, RN, Xu Meng, PhD, Gail Comer, MD, FACG, Wyeth Research, Collegeville, PA, Pediatric Pharmacology Program, University of Utah, Salt Lake City, UT, Children's Mercy Hospitals and Clinics and the University of Missouri, Kansas City, KS, University of Utah Health Sciences Center, Salt Lake City, UT, Arkansas Children's Hospital Research Institute and the University of Arkansas for Medical Sciences, Little Rock, AR, Division of Pediatric Gastroenterology, Children's Hospital of Orange County, Orange, CA

P363. Pharmacokinetics of Two Dose Levels of Pantoprazole Sodium Granules and Tablets in Children Aged 1 Through 11 Years with Endoscopically Proven GERD
Brinda Tammara, PhD, Kim Adcock, PharmD, Gregory Kearns, PharmD, PhD, Robert Ward, MD, John Giblin, MD, FAAP, Carol Shaheen, BSN, Xu Meng, PhD, Mary Maguire, PharmD, Gail Comer, MD, FACG, Wyeth Research, Collegeville, PA, University of Mississipi Medical Center, Jackson, MS, Children's Mercy Hospitals and Clinics and the University of Missouri, Kansas City, MO, University of Utah Primary Children's Medical Center, Salt Lake City, UT, Clinical Study Centers, LLC, Little Rock, AR

COLORECTAL CANCER PREVENTION

P364. Colon Cancer Not Prevented by Colonoscopy
★ *2008 ACG Presidential Poster Award Recipient*
★ *2008 ACG/Olympus Award Recipient*
Rohit Gupta, MS, Brian Brownlow, BS, Robert Domnick, BS, Gavin Harewood, MD, Michael Steinbach, PhD, Vipin Kumar, PhD, Piet de Groen, MD, Internal Medicine & Gastroenterology, Mayo Clinic, Rochester, MN, Computer Science and Engineering, University of Minnesota, Minneapolis, MN, Information Technology, Mayo Clinic, Rochester, MN, Gastroenterology, Beaumont Hospital, Dublin, Ireland

P365. Poster Withdrawn

P366. The Long-Term Use of Statins is Associated with a Decreased Incidence of Advanced Adenomatous Colon Polyps
Ali Siddiqui, MD, Sandeep Pandove, MD, Amar Mahgoub, MD, Stuart Spechler, MD, Hector Nazario, MD, Internal Medicine, UT Southwestern Medical Center, Dallas, TX, Internal Medicine, Dallas Veteran's Affairs Medical Center, Dallas, TX

P367. Random Video File Peer Review to Assess Quality of Colonoscopy
Piet de Groen, MD, Lawrence Szarka, MD, Dawn Francis, MD, John Poterucha, MD, John Schaffner, MD, Bret Petersen, MD, Felicity Enders, PhD, JungHwan Oh, PhD, Wallapak Tavanapong, PhD, Johnny Wong, PhD, Health Sciences Research, Mayo Clinic, Rochester, MN, Computer Science, Iowa State University, Ames, IA, Computer Science, University of North Texas, Denton, TX

P368. Assessing Quality of Colonoscopy: MD vs. Machine
Piet de Groen, MD, Lawrence Szarka, MD, Dawn Francis, MD, John Poterucha, MD, John Schaffner, MD, Bret Petersen, MD, Felicity Enders, PhD, JungHwan Oh, PhD, Wallapak Tavanapong, PhD, Johnny Wong, PhD, InteHealth Sciences Research, Internal Medicine & Gastroenterology, Mayo Clinic, Rochester, MN, Computer Science, Iowa State University, Ames, IA, Computer Science, University of North Texas, Denton, TX

P369. Prevalence of Advanced Adenomas in Patients Ages 40 to 49 at Screening Colonoscopy
Franklin Tsai, MD, Williamson Strum, MD, Gastroenterology, Scripps Clinic, La Jolla, CA, Gastroenterology, The Scripps Research Institute, La Jolla, CA

P370. Pilot Study of Colonoscopy by Nurse Practitioner for Colorectal Cancer (CRC) Screening in a Safety Net Healthcare System
David Hamilton, RN, MSN, ACNP-BC, Jennifer Thomas, BS, Yunghui Lin, MA, Roxana Munoz, BA, Hal Yee, MD, PhD, John Cello, MD, John Inadomi, MD, Medicine, San Francisco General Hospital, San Francisco, CA

P371. Serum Pepsinogen Level, Atrophic Gastritis and the Risk of Incident Colorectal Cancer—A Long-Term Prospective Study
Adeyinka Laiyemo, MD, MPH, Farin Kamangar, MD, PhD, Pamela Marcus, PhD, Philip Taylor, MD, ScD, Jarmo Virtamo, MD, Demetrius Albanes, MD, Rachael Stolzenberg-Solomon, PhD, Division of Cancer Prevention, Division of Cancer Epidemiology and Genetics, Cancer Prevention Fellowship Program, National Cancer Institute, Bethesda, MD, Department of Health Promotion and Chronic Disease Prevention, National Public Health Institute, Helsinki, Finland

P372. An Updated Look at Colorectal Carcinoma Incidence and Stage Disease in Virginia and the U.S.
★ *2008 ACG Presidential Poster Award Recipient*
Raj Majithia, MD, David Johnson, MD, FACG, Dana Freeman, MD, Danilo Pilocarpio, DO, Gastroenterology, Eastern Virginia Medical School, Norfolk, VA

P373. Induction of C-Terminal SRC Kinase (CSK) Activity as a Putative Mediator of Chemoprevention by Polyethylene Glycol (PEG): Modulation by PRL-3
Marc Scheer, DO, Jennifer Koetsier, BS, Ramesh Wali, PhD, Dhananjay Kunte, PhD, Hemant Roy, MD, Research Institute, Evanston Northwestern Healthcare, Evanston, IL

P374. Just How Adequate is the Term "Adequate" to Describe Bowel Cleanliness During Colonoscopy?
Audrey Calderwood, MD, Brian Jacobson, MD, MPH, Gastroenterology, Boston University Medical Center, Boston, MA

MONDAY, OCTOBER 6, 2008

ESOPHAGUS

P375. Intragastric (IG) pH Control in Hispanic Adults with Symptomatic Gastroesophageal Reflux Disease (GERD): Comparator Trial of Esomeprazole, Lansoprazole, and Pantoprazole
Douglas Morgan, MD, John Pandolfino, MD, Philip Katz, MD, Jay Goldstein, MD, Peter Barker, PhD, Marta Illueca, MD, University of North Carolina School of Medicine, Chapel Hill, NC, Northwestern University, Chicago, IL, Albert Einstein Medical Center, Philadelphia, PA, University of Illinois, Chicago, IL, AstraZeneca LP, Wilmington, DE

P376. Characteristics of Patients with Dysplastic Barrett's Esophagus Failing Radiofrequency Ablation
Ganapathy Prasad, MD, MS, Shalini Achra, MBBS, Yuvnish Bhardwaj, MBBS, Navtej Buttar, MD, Rami Badreddine, MD, Lori Lutzke, LPN, Lynn Borkenhagen, RN FNP, Kelly Dunagan, LPN, Kenneth Wang, MD, Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P377. Impact of Baseline LA Grade on Healing of Erosive Esophagitis (EE) Following Treatment with TAK-390MR, a Proton Pump Inhibitor (PPI) with a Novel Dual Delayed Release Formulation, Compared with Lansoprazole (LAN)
Nicholas Shaheen, MD, MPH, David Peura, MD, M. Claudia Perez, MD, Betsy Pilmer, RN, BSN, Galen Witt, MS, Prateek Sharma, MD, Division of Gastroenterology and Hepatology, University of North Carolina School of Medicine, Chapel Hill, NC, Division of Gastroenterology and Hepatology, University of Virginia Health System, Charlottesville, VA, Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL, Division of Gastroenterology and Hepatology, University of Kansas School of Medicine, Kansas City, KS

P378. Evaluation of Symptom Association with GERD: Is There Consensus Among the Experts?
★ *2008 ACG Presidential Poster Award Recipient*
Neeraj Sharma, MD, Amit Agrawal, MD, Radu Tutuian, MD, Marcelo Vela, MD, MSCR, Donald Castell, MD, Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC, Gastroenterology, University Hospital of Zurich, Zurich, Switzerland

P379. Gender-Related Variation in Lower Esophageal Sphincter Pressure and Esophageal Body Function
★ *2008 ACG/Radhika Srinivasan Gender-Based Research Award*
Kenneth Vega, MD, Tracy Langford-Legg, RN, M. Mazen Jamal, MD, Division of Gastroenterology, University of Florida/Jacksonville, Jacksonville, FL, Division of Gastroenterology, Long Beach VA Medical Center, Long Beach, CA

P380. Diet Restriction Reduces Day-to-Day Variability in Acid Reflux Patterns Using the Bravo pH Monitoring System
Emmanuele Abate, MD, John Lipham, MD, Jessica Leers, MD, Shahin Ayazi, MD, Arzu Oezcelik, MD, Jeffrey Hagen, MD, Farzaneh Banki, MD, Steven DeMeester, MD, Tom DeMeester, MD, Surgery, University of Southern California, Los Angeles, CA

P381. The Acid and the Pain: Diagnosing and Treating GERD
Jonathan Aron, MD, MA, Amar Al-Juburi, MD, Gastroenterology, Internal Medicine, University of California Davis Medical Center, Sacramento, CA

P382. Esophageal Thickness in Normal Esophagus: Endoscopic Ultrasound (EUS) Assessment
Kanwar Gill, MD, Marwan Ghabril, MD, Laith Jamil, MD, Seth Gross, MD, Timothy Woodward, MD, Michael Wallace, MD, Herbert Wolfsen, MD, Sami Achem, MD, Massimo Raimondo, MD, Gastroenterology, Mayo Clinic, Jacksonville, FL

P383. Use of Cracker Swallow for Detection of Motility Abnormality on High-Resolution Manometry
Igor Nastaskin, MD, Jamal Abedi, PhD, Christopher Bowlus, MD, Juan Garcia, MD, School of Education, Gastroenterology and Hepatology, University of California, Davis, Sacramento, CA

P384. Pathophysiology of Upright vs. Supine Gastroesophageal Reflux: Use of High-Resolution Esophageal Manometry, Gastric Emptying Scintigraphy, and Esophageal pH Monitoring
Amanda Fehring, MD, Zeeshan Ramzan, MD, Alan Maurer, MD, Joel Richter, MD, Robert Fisher, MD, Frank Friedenberg, MD, Henry Parkman, MD, Radiology, Medicine, Temple University School of Medicine, Philadelphia, PA

P385. Differences in GERD Patients Evaluated by Primary Care Physicians and Gastroenterologists
William Chey, MD, Borko Nojkov, MD, Richard Saad, MD, Susan Adlis, MS, Michael Shaw, MD, University of Michigan Medical Center, Ann Arbor, MI, Park Nicollet Clinic, Minneapolis, MN

P386. A Model of Healing of LA Grade C and D Erosive Esophagitis: Is There a Threshold Percent Time pH>4 for Maximal Healing?
Philip Katz, MD, Doug Levine, MD, Kerstin Röhss, PhD, Ola Junghard, PhD, Magnus Åstrand, PhD, Tore Lind, MD, Albert Einstein Medical Center, Philadelphia, PA, AstraZeneca, Wilmington, DE, AstraZeneca R&D, Mölndal, Sweden

P387. Differences in Adult vs. Pediatric Onset Eosinophilic Esophagitis
Chaya Krishnamurthy, MD, Kristen Thomas, BS, Mae Go, MD, John Fang, MD, Kathryn Peterson, MD, MSci, Gastroenterology, University of Utah, Salt Lake City, UT, Gastroenterology, VA, Salt Lake City, UT, Internal Medicine, Intermountain Health Care, Murray, UT

P388. An Open-Label, Multicenter Study of Rabeprazole Safety and Efficacy for Gastroesophageal Reflux Disease (GERD) in Adolescents
Yufang Lu, MD, Thirumazhisai Gunasekaran, MD, Ibrahim Haddad, MD, Shanti Varughese, MS, Richard Kao, MS, Caroline Thompson, MD, Guillermo Rossiter, MD, Eisai Global Clinical, Ridgefield Park, NJ, Lutheran General Children's Hospital, Park Ridge, IL, Northeastern Ohio University College of Medicine, Youngstown, OH, Eisai Global Clinical, London, United Kingdom

P389. Ablation of Short Segment Barrett Esophagus (BE) Using BARRX Device: Preliminary Results of a Prospective Study
Yasser Shaib, MD, MPH, Suhaib Abudayyah, MD, MPH, David Graham, MD, Gastroenterology, Baylor College of Medicine/Michael E. Debakey VA Medical Center, Houston, TX

P390. The Accuracy and Safety of Esophageal Capsule Endoscopy for the Diagnosis of Barrett's Esophagus: A Systematic Review and Meta-Analysis
Thad Wilkins, MD, Dimple Raina, MD, Sherman Chamberlain, MD, Mark Ebell, MD, Medical College of Georgia, Augusta, GA, University of Georgia, Athens, GA

P391. Long-Term Safety of TAK-390MR, a PPI with a Novel Dual Delayed Release Formulation, in GERD Patients
Aruna Dabholkar, MD, Peter Yu, PhD, Maria Paris, MD, Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL

P392. Radiofrequency Ablation of Barrett's Esophagus May Exacerbate Eosinophilic Esophagitis
Gulchin Ergun, MD, Alberto Barroso, MD, Mary Schwartz, MD, Atilla Ertan, MD, The Methodist Hospital, Houston, TX, Baylor College of Medicine, Houston, TX

P393. Body Mass-Index (BMI) is Associated with Increased Reflux Episodes but Does Not Affect Lower Esophageal Sphincter (LES) Characteristics
Lubin Arevalo, MD, Marcelo Vela, MD, MSCR, Neeraj Sharma, MD, Amit Agrawal, MD, Janice Freeman, RN, Donald Castell, MD, Gastroenterology & Hepatology, Medical University of South Carolina, Charleston, SC

P394. TAK-390MR, a Novel Dual Delayed Release Formulation of a PPI, is Bioequivalent When Administered as Granules Sprinkled Over Applesauce or as an Intact Capsule
Richard Czerniak, PhD, Majid Vakily, PhD, Jingtao Wu, PhD, Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL

P395. Esophageal Food Bolus Impaction: Experience from a Single Tertiary Care Center
Advitya Malhotra, MD, Ashutosh Naniwadekar, MD, Larry Scott, MD, Internal Medicine, Gastroenterology and Hepatology, UTMB, Galveston, TX

P396. Role of Endoscopic Ultrasound (EUS) in Staging of Esophageal Cancer—A Retrospective Study of 200 Patients
Tobias Meister, MD, Philipp Lenz, MD, Hauke Heinzow, MD, Hansjoerg Ullerich, MD, Wolfram Domschke, MD, PhD, Dirk Domagk, MD, PhD, Department of Medicine B, University of Muenster, Muenster, Germany

P397. The Esophageal Inlet Patch: More than an Incidental Finding?
Sateesh Prakash, MD, David Estores, MD, FACG, H. Worth Boyce, MD, MACG, Katheryne Downes, MPH, Matthew Hatler, BS, Joy McCann Culverhouse Center for Esophageal and Swallowing Disorders, University of South Florida College of Medicine, Tampa, FL

P398. Can Acid Control Be Improved with a Modified-Release Formulation of a Proton Pump Inhibitor?
Kerstin Röhss, PhD, Clive Wilder-Smith, MD, Mohamed Sagar, PhD, Sara Bokelund-Singh, MSc, Peter Nagy, MD, Doug Levine, MD, Tore Lind, MD, AstraZeneca R&D, Mölndal, Sweden, Brain-Gut Research Group, Gastroenterology Group Practice, Berne, Switzerland, AstraZeneca, Wilmington, DE

P399. Dose and Timing Effects of Esomeprazole Administration on 24-H Intragastric pH Control
Kerstin Röhss, PhD, Clive Wilder-Smith, MD, Mohamed Sagar, PhD, Sara Bokelund-Singh, MSc, Peter Nagy, MD, Doug Levine, MD, Tore Lind, MD, AstraZeneca R&D, Mölndal, Sweden, Brain-Gut Research Group, Gastroenterology Group Practice, Berne, Switzerland, AstraZeneca, Wilmington, DE

STOMACH

P400. Is Two-Channel Synchronized, Multipoint Gastric Electrical Pacing (MGP) Able to Control Upper GI Symptoms and Improve Gastric Emptying in Patients with Severe Diabetic Gastroparesis?
★ *2008 ACG Presidential Poster Award Recipient*
Irene Sarosiek, MD, Jameson Forster, MD, Kathy Roeser, BS, Richard McCallum, MD, Surgery, Internal Medicine, Kansas University Medical Center, Kansas City, KS

P401. Efficacy of a Nitazoxanide Based Regimen for *Helicobacter pylori* (*Hp*) Eradication
E. Campitelli, MD, A. Paszkiewich, MD, D. Ibarra, MD, R. Ronchetti, MD, N. Lago, MD, R. Corti, MD, E. Chaar, MD, C. Di Risio, MD, T. Barcia, MD, H. Rubio, MD, Hospital Aeronáutico, Buenos Aires, Argentina, Hospital Udaondo, Buenos Aires, Argentina, Hospital Penna, Buenos Aires, Argentina, CEED, Buenos Aires, Argentina

P402. Efficacy and Safety of S-1-Based Chemotherapy in Patients with Advanced Gastric Adenocarcinoma: A Single Institute Retrospective Study
Motoko Izumiya, MD, BA, Gen Sakai, MD, Yoshiyuki Yamagishi, MD, PhD, Masayuki Adachi, MD, PhD, Hajime Higuchi, MD, PhD, Hiromasa Takaishi, MD, PhD, Toshifumi Hibi, MD, PhD, Internal Medicine, Keio University, Tokyo, Japan

P403. Effect of Endoscopic Ultrasound's Technology in Diagnosing Various T Stages of Gastric Cardia Cancers: A Meta-Analysis and Systematic Review
Srinivas Puli, MD, Jyotsna BK Reddy, MD, Matthew Bechtold, MD, Abhishek Choudhary, MD, Mainor Antillon, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO

P404. Upper Gastrointestinal Pathology in Non-Cirrhotic Hepatitis C Patients
Rubayat Rahman, MD, MPH, Yevgeniy Ostrinsky, MD, Sarah Hadique, MD, Uma Sundaram, MD, Division of Digestive Diseases, Department of Medicine, West Virginia University School of Medicine, Morgantown, WV

P405. Symptoms During Gastric Emptying Scintigraphy: Correlation of Symptoms with Delayed Gastric Emptying
Priyanka Sachdeva, MD, Zeeshan Ramzan, MD, Alan Maurer, MD, Robert Fisher, MD, Henry Parkman, MD, Radiology, Medicine, Temple University School of Medicine, Philadelphia, PA

P406. A Single Center's Experience with EUS Surveillance of Gastric GISTs
Karen Canlas, MD, Paul Jowell, MD, Jorge Obando, MD, Darren Pavey, MD, Malcolm Branch, MD, John Evans, MD, Gastroenterology/Hepatology, Duke University, Durham, NC

P407. Reactive Gastritis Associated with Intracellular *Okadaella Gastrococcus*: Immunohistochemical and Electron Microscopic Studies
Takayuki Okada, Dr, Kazutoshi Hori, Dr, Graham Adkins, Dr, Hiroto Miwa, Prof, Okada Medical Clinic, Spring Hill, QLD, Australia, Endoscopic Center, Hyogo College of Medicine, Nishinomiya, Japan, Sullivan Nicolaides Private Pathology, Taringa, QLD, Australia, Internal Medicine, Hyogo College of Medicine, Nishinomiya, Japan

P408. Is Total Gastrectomy a Good Option for Refractory Gastroparesis? One Site Experience
Pavan Saridena, MD, Reza Hejazi, MD, Irene Sarosiek, MD, Richard McCallum, MD, Bridgeport Hospital, Yale University, Bridgeport, CT, Internal Medicine, Kansas University Medical Center, Kansas City, KS

P409. A Retrospective Analysis of the Management of Dyspepsia
Sonia Yoon, MD, David Greenwald, MD, Gastroenterology, Medicine, Montefiore Medical Center, Bronx, NY

P410. Intragastric Acid Suppressing Effect of Proton Pump Inhibitors Twice Daily at Steady State in Healthy Volunteers: Evidence of an Unmet Need?
Yuhong Yuan, MD, PhD, Richard Hunt, MD, FRCPC, FACG, AGAF, Department of Medicine, McMaster University, Hamilton, ON, Canada

P411. Intrapyloric Botulinum Toxin Injection for Gastroparesis: A Meta Analysis
Sufiyan Chaudhry, MD, Mohammad Ismail, MD, Gastroenterology, University of Tennessee, Memphis, TN

P412. Healing of Gastric Ulcers Associated with Low-Dose Aspirin Use in Patients Continuing to Take Low-Dose Aspirin
Jay Goldstein, MD, Lisa Suchower, MA, Kurt Brown, MD, University of Illinois at Chicago, Chicago, IL, AstraZeneca LP, Wilmington, DE

P413. The Interrelationship Between Gastric pH and Therapeutic Response to Esomeprazole in Patients with Uninvestigated Dyspepsia: Its Potential Pathogenetic Implication
Marek Majewski, MD, PhD, Irene Sarosiek, MD, Grzegorz Wallner, MD, PhD, Jerzy Sarosiek, MD, PhD, Medicine/GI/Motility Center, KUMC, Kansas City, KS, 2nd Department of General Surgery, Medical University of Lublin, Lublin, Poland

P414. Usefulness of the Smartpill® GI Monitoring System to Assess Gastric Emptying Time in Subjects on Acid Suppression
Sabba Maqbool, MD, Henry Parkman, MD, Frank Friedenberg, MD, MS (Epi), Gastroenterology, Temple University School of Medicine, Philadelphia, PA

PANCREATIC/BILIARY

P415. Same-Day Combined EUS/ERCP to Investigate Biliary and Pancreatic Disorders: Better Together
★ *2008 ACG Presidential Poster Award Recipient*
Samer Charbel, MD, James Kimberly, MD, Jason Conway, MD, MPH, John Gilliam, MD, John Baillie, MB, ChB, Girish Mishra, MD, MS, Gastroenterology, Wake Forest University, Winston-Salem, NC

P416. EUS-FNA and ERCP as a Single Tandem Procedure; Safety and Outcomes
YeonSuk Kim, MD, Jose Vega, MD, Shawn Mallery, MD, Rebecca Li, MD, Timothy Kinney, MD, Kapil Gupta, MD, MPH, Kamran Safdar, MD, Martin Freeman, MD, Internal Medicine, Gacheon Gil Medical Center of Gacheon Medical School, Incheon, South Korea, Internal Medicine, University of Minnesota, Hennepin County Medical Center, Minneapolis, MN

P417. Serum Pepsinogen Level, Atrophic Gastritis and the Risk of Incident Pancreatic Cancer—A Long-Term Prospective Study
Adeyinka Laiyemo, MD, MPH, Farin Kamangar, MD, PhD, Pamela Marcus, PhD, Philip Taylor, MD,ScD, Jarmo Virtamo, MD, Demetrius Albanes, MD, Rachael Stolzenberg-Solomon, PhD, Division of Cancer Prevention, Division of Cancer Epidemiology and Genetics, Cancer Prevention Fellowship Program, National Cancer Institute, Bethesda, MD, Department of Health Promotion and Chronic Disease Prevention, National Public Health Institute, Helsinki, Finland

P418. Trainees' Perspective—New Development in the Comparison of Simulators for ERCP Practice
Joseph Leung, MD, FRCP, FACP, FACG, Brian Lim, MD, Wing Luk, MD, Michael Li, MD, Robert Wilson, BVD, Felix Leung, MD, Gastroenterology, Sacramento VA Medical Center, Mather, CA, Gastroenterology, UC Davis Medical Center, Sacramento, CA, Minimal Access Surgery Training Center, Pamela Youde Nethersole Eastern Hospital, Hong Kong, China, Research and Medical Services, Sepulveda ACC, VAGLAHCS, David Geffen UCLA School of Medicine, Los Angeles, CA

P419. Didactic Teaching and Practice Papillotomy Cuts Facilitate Trainees' Understanding of the Essence of a "Perfect Cut"
Joseph Leung, MD, FRCP, FACP, FACG, Brian Lim, MD, Danny Yen, MD, Robert Wilson, BVD, Felix Leung, MD, FACG, Gastroenterology, Sacramento VA Medical Center, Mather, CA, Gastroenterology, UC Davis Medical Center, Sacramento, CA, Research and Medical Service, Sepulveda ACC, VAGLAHCS and David Geffen UCLA School of Medicine, Los Angeles, CA

P420. Meta-Analysis: Somatostatin or Its Long Acting Analogue, Octreotide for Prophylaxis Against Post-ERCP Pancreatitis
Fumio Omata, MD, MPH, Yasuharu Tokuda, MD, MPH, Osamu Takahashi, MD, MPH, Sachiko Ohde, EdM, Joshua Jacobs, MD, Yoshiyuki Fujita, MD, Katsunori Masuda, MD, Tsuguya Fukui, MD, MPH, Gastroenterology Center, St. Luke's International Hospital, Chuoku, Japan, Center for Clinical Epidemiology, St. Luke's Life Science Institute, Chuoku, Japan

P421. Long-Term Follow-up of Patients with Dilated Common Bile Duct (CBD) and Negative Endoscopic Ultrasonography (EUS)—A Single-Center Experience
Jan Prazak, MD, Rana Sabbagh, MD, Gregory Olds, MD, Internal Medicine, Gastroenterology, Henry Ford Hospital, Detroit, MI

P422. Impact of Alcohol Use Patterns on Clinical Outcomes in Patients with Chronic Pancreatitis
Bimaljit Sandhu, MD, DM, Dace Svikis Pickens, PhD, Doumit Bou-Haidar, MD, Alvin Zfass, MD, Arun Sanyal, MD, Department of Psychology, Gastroenterology, Hepatology & Nutrition, Virginia Commonwealth University Medical Center, Richmond, VA

P423. In Vivo Translational Drug Development Model in Pancreatic Cancer
Sanjay Vinjamaram, MD, John Gibbs, MD, Thaer Khoury, MD, Elizabeth Repasky, Bonnie Hylander, Renuka Iyer, MD, Immunology, Surgery, Pathology, Medicine, Roswell Park Cancer Institute, Buffalo, NY

P424. Current Smoking is an Independent Predictor of Chronic Pancreatitis
Ryan Law, DO, Tyler Stevens, MD, Mansour Parsi, MD, Gregory Zuccaro, MD, Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, OH

P425. Smoking May Increase the Risk of Pancreatic Cancer Precursor Lesions in Familial at-Risk Individuals
Emmy Ludwig, MD, Sara Olson, PhD, Jennifer Simon, MA, Sharon Bayuga, MA, Robert Kurtz, MD, Memorial Sloan-Kettering Cancer Center, New York, NY

P426. The Relationship Between Autoimmune Pancreatitis and IgG4-Related Systemic Disorder in Japanese Patients: Special Notice of Mikulicz's Disease
Ikuya Miki, Hiromu Kustumi, Yuko Matsumoto, Dr, Atsuhiro Masuda, Shigeto Mizuno, Takeshi Azuma, Medical Pharmaceutics, Kobe Pharmaceutical University, Kobe, Japan, Gastroenterology, Kobe University Graduate School of Medicine, Kobe, Japan

P427. Assessing Malnutrition Risk in Outpatients with Pancreas Exocrine Insufficiency (PEI)
April Tignor, MD, Darwin Conwell, MD, MS, Kate Repas, BS, Bechien Wu, MD, MPH, Peter Banks, MD, Gastroenterology, Hepatology and Endoscopy, Harvard Medical School, Brigham and Women's Hospital, Boston, MA

P428. Evaluation of Post-Cholecystectomy Common Bile Duct (CBD) Dilatation: An Age Matched Study
Saurabh Chawla, MD, William Trick, MD, Susan Gilkey, MD, Bashar Attar, MD, PhD, Gastroenterology, Radiology, Medicine, Cook County Hospital-John H. Stroger Jr. Hospital of Cook County, Chicago, IL

P429. Prior Endoscopic Sphincterotomy Can Affect the Interpretation of Secretin-Stimulated Magnetic Resonance Cholangiopancreatography (S-MRCP)
Ashish Chopra, MD, Samer Alkaade, MD, Numan Balci, MD, Frank Burton, MD, Radiology, Gastroenterology and Hepatology, St. Louis University, St. Louis, MO

P430. Effect of Pancreatic Duct Stent Diameter on Rate of Hospitalization in Chronic Pancreatitis
Bryan Sauer, MD, MS, Matthew Gurka, PhD, Kristi Ellen, RN, Vanessa Shami, MD, Michel Kahaleh, MD, Department of Public Health Sciences, Division of Biostatistics and Epidemiology, Digestive Health, University of Virginia, Charlottesville, VA

P431. The Yield of Repeat Cholangiogram with Balloon Sweep at the Time of Biliary Stent Removal for Post-Cholecystectomy Bile Leak
Michael Ansstas, MD, Somal Shah, MD, Saad Alkade, MD, Rajesh Keswani, MD, Basem Abdeen, MD, Sreenivasa Jonnalagadda, MD, Steven Edmundowicz, MD, Riad Azar, MD, Internal Medicine, Division of Gastroenterology, Washington University, St. Louis, MO

P432. Alcoholic Acute Pancreatitis or Idiopathic Pancreatitis: An Unclear Distinction
Nison Badalov, MD, Ian Wall, DO, Jack Braha, DO, Samantha Tenner, MS, Robin Baradarian, MD, William Steinberg, MD, FACG, Scott Tenner, MD, MPH, FACG, Gastroenterology, Maimonides Medical Center, Brooklyn, NY, Gastroenterology, George Washington University Hospital, Washington, DC

P433. Nafamostat for the Prophylaxis of Post-ERCP Pancreatic Damage Comparing with Gabexate and Risk Factor Analysis: A Case Control Study
Jae Hyuck Chang, MD, In Seok Lee, MD, Chul Hyun Lim, MD, Kwan Woo Nam, MD, Myung Gyu Choi, MD, In Sik Chung, MD, Internal Medicine, The Catholic University of Korea, Seoul, South Korea

P434. Quality of Life Issues in Chronic Pancreatitis
Pavan Manchikalapati, MD, Judith Savageau, PhD, Wahid Wassef, MD, Family Medicine and Community Health, Gastroenterology, University of Massachusetts, Worcester, MA

P435. Abnormal Biliary Scintigraphy Should Not Be an Indication for Cholecystectomy
Charles Randall, MD, Carlo Taboada, MD, Gary Gossen, MD, Russell Havranek, MD, Jorge Munoz, MD, Franz Zurita, MD, David Stump, MD, Christopher Fincke, MD, Rodrigo Adame, MD, Joselito Alvarado, MD, Research, Gastroenterology Research of San Antonio, San Antonio, TX, Research, Gastroenterology Clinic of San Antonio, San Antonio, TX, Medicine, University of Texas Health Science Center, San Antonio, TX

P436. Influence of Chronic Ethanol Consumption on Extra-Pancreatic Secretory Function in Rat
Yoshihisa Urita, MD, PhD, Toshiyasu Watanabe, MD, PhD, Tsunehiko Imai, MD, Tadashi Maeda, MD, Yosuke Sasaki, MD, Susumu Ishihara, MD, Kazuo Hike, MD, Masaki Sanaka, MD, PhD, Hitoshi Nakajima, MD, PhD, Motonobu Sugimoto, MD, PhD, Department of Environmental and Occupational Health, Department of General Medicine, Toho University, Tokyo, Japan

P437. Increased Risk of Acute Pancreatitis Observed in Patients with Type 2 Diabetes
Gary Bloomgren, MD, MBA, Ruth Patterson, PhD, Daniel Braun, MD, PhD, Rebecca Noel, DrPH, MSPH, Global Safety, Amylin Pharmaceuticals, San Diego, CA, Global Safety, Eli Lilly, Indianapolis, IN

SMALL INTESTINE/UNCLASSIFIED

P438. Yield of Double Balloon Enteroscopy (DBE) at a Tertiary Care Hospital
Rami Abbass, MD, Halim Charbel, MD, Naveen Gupta, MD, Kathy Bull-Henry, MD, Georgetown University Hospital, Arlington, VA

P439. Prospective Comparison of Capsule Endoscopy and Dual-Phase CT Enterography in the Evaluation of Obscure Gastrointestinal Bleeding
Jaya Agrawal, MD, MPH, Anne Travis, MD, MSc, Koenraad Mortele, MD, Stuart Silverman, MD, Sarathchandra Reddy, MD, MPH, John Saltzman, MD, Radiology, Gastroenterology, Brigham and Women's Hospital, Boston, MA

P440. Single Balloon Enteroscopy in Comparison to Capsule Endoscopy in the Diagnosis and Management of Small Bowel Disease
Mayar Al Mohajer, MD, Udayakumar Navaneethan, MD, Joseph Palascak, MD, Andres Gelrud, MD, MMSc, Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH

P441. Risk Factors Associated with Small Intestinal Bacterial Overgrowth (SIBO) After Roux-En-Y Gastric Bypass Surgery
Bikram Bal, MD, Hiral Shah, MD, Frederick Finelli, MD, JD, John Kirkpatrick, MD, Timothy Koch, MD, Medicine, Washington Hospital Center, Washington, DC, Georgetown University School of Medicine, Washington, DC, Surgery, Washington Hospital Center, Washington, DC

P442. Hypoalbuminemia After Roux-En-Y Gastric Bypass Surgery is Not Related to Small Intestinal Bacterial Overgrowth
Bikram Bal, MD, Hiral Shah, MD, Frederick Finelli, MD, JD, John Kirkpatrick, MD, Timothy Koch, MD, Surgery, Medicine, Washington Hospital Center, Washington, DC, Georgetown University School of Medicine, Washington, DC

P443. Can Endoscopic Visualization Predict Histological Changes and Early Rejection of Small Intestine Grafts?
Ihab El Hajj, MD, MPH, Tong Wu, MD, PhD, Kareem Abu-Elmagd, MD, Stephen O'Keefe, MD, MSc, Transplant Surgery, Transplantation Pathology, Gastroenterology, University of Pittsburgh, Pittsburgh, PA

P444. Bevacizumab as a Means of Treating Anemia and Active Bleeding Secondary to Vascular Ectasia, a Case Series
Christian Jackson, MD, Clifford Cabansag, MD, Anas Kawayeh, MD, Gastroenterology, Loma Linda VA Healthcare System, Loma Linda, CA, Internal Medicine, Loma Linda University Medical Center, Loma Linda, CA

P445. Gastric Heterotopia in the Duodenum: Endoscopic and Histopathologic Associations
Richard Kinsey, MD, Robert Genta, MD, Caris Diagnostics, Irving, TX

P446. Larazotide Acetate (AT-1001) Prevents Immunologic Changes Induced by Gluten Challenge in Patients with Celiac Disease
Daniel Leffler, MD, Mark David Pescovitz, MD, Francisco Leon, MD, PhD, Blake Paterson, MD, John Jiang, PhD, Anthony Di Marino, MD, Joseph Murray, MD, Ciaran Kelly, MD, Celiac Center, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, Division of Transplant Surgery, Indiana University Medical Center, Indianapolis, IN, Clinical R&D, Alba Therapeutics, Baltimore, MD, Department of Gastroenterology, Thomas Jefferson University Hospital, Philadelphia, PA, Division of Gastroenterology, Mayo Clinic, Rochester, MN

P447. Celiac Disease is Associated with Restless Legs Syndrome
Leonard Weinstock, MD, Arthur Walters, MD, Stephen Duntley, MD, Gerard Mullin, MD, Gastroenterology, Specialists in Gastroenterology, St. Louis, MO, NJ Neuroscience Institute at JFK Medical Center, Seton Hall University School of Graduate Medical Education, Edison, NJ, Neurology, Washington University School of Medicine, St. Louis, MO, Gastroenterology, Johns Hopkins Medical Institute, Baltimore, MD

P448. Rifaximin Improves Restless Legs Syndrome Associated with Small Intestinal Bacterial Overgrowth
Leonard Weinstock, MD, St. Louis, MO

P449. A Comparison of Diagnostic Yield and Degree of Agreement Between Capsule Endoscopy and Double Balloon Enteroscopy in Evaluating Small Intestinal Disorders
Aman Ali, MD, Mylan Satchi, MD, Eric Rosen, MD, Deepak Vadada, MD, Gregory Haber, MD, FACG, Division of Gastroenterology/Hepatology and Center of Advanced Therapeutic Endoscopy, Lenox Hill Hospital, New York, NY

P450. Small Bowel Arteriovenous Malformations Found in Capsule Endoscopy Findings
Disaya Chavalitdhamrong, MD, Oren Goltzer, James Sul, MD, Rome Jutabha, MD, David Geffen School of Medicine at University of California, Los Angeles, CA, Capsule Endoscopy Services, Los Angeles, CA

P451. Chronic Superficial Enteritis: A Novel Form of Inflammatory Bowel Disease
Dmitry Finkelberg, MD, Jason Wong, MD, Kanishka Bhattacharya, MD, David Cave, MD, PhD, Department of Surgery, Gastroenterology, UMass Medical Center, Worcester, MA

P452. Association of Celiac Disease, Abdominal Pain and Intussusception in Adults
Tamas Gonda, MD, Sharif-Uz-Zaman Khan, MD, Jian Chen, MD, Suzanne Lewis, MD, Moshe Rubin, MD, Peter Green, MD, Celiac Disease Center, Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY

LIVER

P453. A Retrospective Analysis of the Safety of Outpatient Percutaneous Liver Biopsy in Patients with Von Willebrand Disease
★ *2008 ACG Presidential Poster Award Recipient*
P. Patrick Basu, MD, Krishna Rayapudi, MD, Jose Esteves, MD, Robert Brown, MD, MPH, Department of Gastroenterology and Hepatology, New York Hospital-Queens, New York, NY, Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY, Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY

P454. A Pilot Study Utilizing Nitazoxanide for Hepatic Encephalopathy in Chronic Liver Failure
P. Patrick Basu, MD, Krishna Rayapudi, MD, Jose Esteves, MD, Robert Brown, MD, MPH, Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY, Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY

P455. Prevalence and Characterisation of Abnormal Alanine Aminotransferase in Chronic Hepatitis C Patients with HCV-RNA Negative During Pegylated-Interferon and Ribavirin Therapy
Monica Basso, MD, Edoardo Giannini, MD, PhD, Sabrina Blanchi, MD, Vincenzo Savarino, MD, Antonino Picciotto, MD, Dipartimento di Medicina Interna, Cattedra di Gastroenterologia, Genova, Italy, Dipartimento di Medicina Interna, Centro per le Diagnosi e Terapia delle Epatiti, Genova, Italy

P456. Statins are Associated with Milder Degrees of Fibrosis in Patients with Chronic Hepatitis C
Edmond Bou Assaf, MD, Martine Sanon, MD, Nadia Rajack, MD, Sabina Kirtich, NP, Gul Bahtiyar, MD, Samy McFarlane, MD, MPH, Ayse Aytaman, MD, Division of Gastroenterology, State University of New York, Downstate, Brooklyn, NY, Division of Gastroenterology, VA New York Harbor Healthcare Center Brooklyn Campus, Brooklyn, NY, Division of Endocrinology, Diabetes and Hypertension, State University of New York, Downstate, Brooklyn, NY

P457. Hepatitis A and B Vaccination of Patients with Hepatitis C in Internal Medicine Residency Clinics: Practice Assessment and Intervention
Vladislava Buntic, MD, Rakhee Mangla, MD, Kamal Syad, MD, Stephen Atlas, MD, Jonathan Fine, MD, Dennis Meighan, MD, William Hale, MD, Gastroenterology and Hepatology, Norwalk Hospital, Norwalk, CT, Gastroenterology and Hepatology, Hospital of St. Raphael, New Haven, CT

P458. Excessive Gestational Weight Gain in Chronic Liver Disease is Associated with Advanced Fibrosis
Li Hua, MD, Ian Schreibman, MD, Mohammad Taheri, MD, Thomas Riley, MD, Division of Gastroenterology and Hepatology, Hershey Medical Center, Penn State University, Hershey, PA

P459. Transarterial Chemoembolization (TACE) in Patients with Hepatocellular Carcinoma—A Useful Tool?
Tobias Meister, MD, Hauke Heinzow, MD, Philipp Lenz, MD, Hansjoerg Ullerich, MD, Wolfram Domschke, MD, PhD, Dirk Domagk, MD, PhD, Department of Medicine B, University of Muenster, Muenster, Germany

P460. Is Serum Alanine Aminotransferase (ALT) Elevation in Obese Children and Adolescents Just Non-Alcoholic Fatty Liver Disease (NAFLD)?
Daniel Preud'Homme, MD, LaTanya Higginbottom, BS, Leigh Ann Phelps, BSN, Judy Blair-Elortegui, MD, Pediatrics, University of South Alabama, Mobile, AL

P461. Components of Metabolic Syndrome and Type 2 Diabetes are Associated with Advanced Liver Disease
Nila Rafiq, MD, Ravindra Gupta, MD, Ruben Aquino, BS candidate, Jillian Kallman, MS, Mike Garone, BS candidate, Caitlin Quigley, BS candidate, Arvind Murthy, MD, Sumbul Ahmad, MD, Shubhada Kumar, MD, Zobair Younossi, MD, MPH, Center for Liver Disease, Inova Fairfax Hospital, Falls Church, VA, Outcomes Research Program, Inova Health System, Falls Church, VA

P462. The Demographic Features of the Prevalence of Non-Alcoholic Steatohepatitis (NASH) in a Cohort of Adult Sri Lankans, Investigated for Suspected Chronic Liver Disease in a Medical Unit—Data From a Tertiary Care Center
Ravindra Satarasinghe, MD, MACG, Ravi Jayawardana, MBBS, Upul Wickramasingha, MBBS, Ahamed Riyaaz, MBBS, Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka

P463. Comparison of Demographics and Laboratory Parameters of a Cohort of Adult Sri Lankan Alcoholic and Non Alcoholic Cirrhotics Who Had Undergone Banding Ligation of Oesophageal Varices
Ravindra Satarasinghe, MD, MACG, Ravi Jayawardana, MBBS, Upul Wickramasingha, MBBS, Ahamed Riyaaz, MBBS, Anura Perera, Department of Endoscopy, Department of Medicine, Sri Jayewardenepura General Hospital & Postgraduate Training Center, Nugegoda, Sri Lanka

P464. 51Cr-EDTA Permeability Test in Ascitic Cirrhotic Patients with and without History of Spontaneous Bacterial Peritonitis
Emidio Scarpellini, MD, Giuseppe Merra, MD, Antonio Dal Lago, MD, Venanzio Valenza, MD, Antonio Gasbarrini, MD, Giovanni Ghirlanda, MD, Department of Nuclear Medicine, Department of Internal Medicine, Institute of Medical Pathology, Catholic University of Sacred Heart, Agostino Gemelli General Hospital, Rome, Italy

P465. Poster Withdrawn

P466. The Impact of Filgrastim and Epotein Use on Sustained Viral Response (SVR) Rates in Hepatitis C Patients Treated with Peg-Interferon and Ribavarin
Waqar Ahmad, MD, Diane Hughes, ARNP, Monica Dunnam, PharmD, Qaiser Khan, MBBS, Javid Fazili, MD, Digestive Diseases, University of Oklahoma Health Sciences Center, Oklahoma City, OK

P467. What is the Prevalence of Celiac Disease Among U.S. Patients with Autoimmune Hepatitis?
Rebecca Burbridge, MD, Judith Gentile, ANP, Alastair Smith, MB, ChB, Medicine, Duke University Medical Center, Durham, NC

P468. African-American Patients with Chronic Hepatitis C Respond Similarly to PEG-IFN Alpha 2a and Ribavirin as Compared to PEG-IFN Alpha 2b and Ribavirin
Afreen Khan, MD, Milton Mutchnick, MD, Murray Ehrinpreis, MD, Firdous Siddiqui, MD, Gastroenterology, Wayne State University, Detroit, MI

P469. Low LDL Independent of Insulin Resistance is a Better Predictor of Early Virologic Response (EVR) Rates in Genotype 1 Chronic Hepatitis C (CHC)
Linda Lee, MD, Jagdish Nachnani, MD, Ryan Taylor, MD, Owen Smith, MD, Wendell Clarkston, MD, Laura Alba, MD, UMKC, Kansas City, MO

P470. Risk of Hepatocellular Carcinoma (HCC) in Hepatitis C Patients without Cirrhosis
Mohammad Madhoun, MD, Javid Fazili, MD, Teddy Bader, MD, David Roberts, MD, Digestive Diseases/ Internal Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK

P471. Predictors of Post-Transplant Survival in Patients with and without Hepatitis B
Parvathi Myer, MD, Andrew Samuelson, MD, Maureen Morgan, MD, Maximilian Lee, MD, Ahmad Kamal, MD, Aijaz Ahmed, MD, Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA

P472. The Risk Factors for Mortality in Patients with Hepatitis B Virus Infection and Hepatocellular Carcinoma Following Liver Transplantation
Parvathi Myer, MD, Andrew Samuelson, MD, Maureen Morgan, MD, Maximilian Lee, MD, Ahmad Kamal, MD, Aijaz Ahmed, MD, Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA

P473. Poster Withdrawn

P474. Characterization of the First Episode of Decompensation of Liver Cirrhosis with Rupture of Esophageal Varices and Prognostic Factors
Carlos Noronha Ferreira, MBBS, Teresa Rodrigues, Bachelor in Mathematics, Helena Cortez-Pinto, MD, PhD, Fatima Serejo, MD, PhD, Fernando Ramalho, MD, PhD, Alexandra Pinto, Bachelor in Mathematics, Estela Monteiro, MD, PhD, Serviço de Gastrenterologia e Hepatologia, Hospital de Santa Maria, Lisboa, Portugal, Laboratório de Biomatemática, Faculdade de Medicina de Lisboa, lisboa, Portugal

P475. haracterization and Determination of Prognostic Factors at the First Episode of Decompensation of Liver Cirrhosis with Ascitis
Carlos Noronha Ferreira, MBBS, Teresa Rodrigues, Bachelor in Mathematics, Helena Cortez-Pinto, MD, PhD, Fatima Serejo, MD, PhD, Fernando Ramalho, MD, PhD, Alexandra Pinto, Bachelor in Mathematics, Estela Monteiro, MD, PhD, Serviço de Gastrenterologia e Hepatologia, Hospital de Santa Maria, Lisboa, Portugal, Laboratório de Biomatemática, Faculdade de Medicina de Lisboa, Lisboa, Portugal

P476. Nonalcoholic Fatty Liver Disease is Associated with Insulin Resistance and Metabolic Syndrome in Majority of Indian Patients
Kiran Thumburu, MSc, Radha Dhiman, MD, DM, Ajay Duseja, MD, DM, Yogesh Chawla, MD, DM, Ashim Das, MD, Anil Bhansali, MD, DM, Naveen Kalra, MD, Krishan Kohli, MSc, PhD, Hepatology, Postgraduate Institute of Medical Education and Research, Chandigarh, India, Biochemistry, Radiodiagnosis, Endocrinology, Histopathology, Chandigarh, India

P477. Natural History and Outcome of Monotherapy of Chronic Hepatitis B: Multicenter Study in Thailand
Sombat Treeprasertsuk, MD, MSc, Varocha Mahachai, MD, Taweesak Tanwandee, MD, Teerha Piratchvisuth, MD, Chutima Pramoolsinsap, MD, Anuchit Jutaputti, MD, Kanchana Pornpininworakij, MD, Lily Ingsrisawang, PhD, Taksin Keentupthai, MSc, Aphantree Jamjaeng, MSc, Medicine, Chulalongkorn University, Thailand, Medicine, Siriraj Hospital, Mahidol University, Bangkok-noi, Thailand, Medicine, Prince Songklanakarind University, Muang, Thailand, Medicine, Ramathibodi Hospital, Mahidol University, Rajthevee, Thailand, Medicine, King Pramongkrutklao Hospital, Rajthevee, Thailand, Tropical Medicine, Hospital for Tropical Disease, Mahidol University, Rajavithee, Thailand, Statistics, Kasetsart University, Vibhavadee, Thailand, Data Management, Clinical Research Collaborative Network (CRCN), Pakkred, Thailand

P478. Poster Withdrawn

P479. Demographic Variables in Cryoglobulinaemic Expression in Hepatitis C Infection
Rajeswari Anaparthy, MD, John Petersen, PhD, Heidi Weiss, PhD, Ned Snyder, MD, UTMB, Galveston, TX

P480. Thyroid Dysfunction in Genotype 3 Chronic Hepatitis C Patients Treated with Interferon & Ribavirin
Israr Haque, MBBS, FCPS, Shamail Zafar, MBBS, FCPS, Ghias Tayyab, MBBS, FCPS, MRCP, Gulsena Khan, MBBS, MD, Nusrat Chaudry, MBBS, MRCP, Department of Gastroenterology and Hepatology, Lahore Medical & Dental College, Lahore, Pakistan, Department of Medicine, Lahore General Hospital, Lahore, Pakistan

P481. Protective Nutragenomic Effect of a Phytocompound on Oxidative Stress and DNA Fragmentation Against Paracetamol-Induced Liver Damage
Francesco Marotta, MD, PhD, Hariom Yadav, PhD, Upendra Gumaste, PhD, Paola Signorelli, MD, Emilio Minelli, MD, Paolo Marandola, MD, WHO-cnt for Biotech & Nat Med, University of Milano, Milano, Italy, GAIA Foundation, Agharkar Research Institute, NIDDK, NIH, Bethesda, MD

P482. Serum GGT Predicts Virological Response to Pegylated-Interferon and Ribavirin Therapy in Patients with Chronic Hepatitis C
Xinyu Zhao, MD, Scott Tenner, MD, MPH, Jianjun Li, MD, Michael Bernstein, MD, Gastroenterology, Maimonides Medical Center, Brooklyn, NY, Gastroenterology, Coney Island Hospital, Brooklyn, NY

P483. Physicians More Frequently Test for HIV in Patients with Chronic Hepatitis C Who Have a History of Intravenous Drug Use
Raziuddin Ali, MD, Jay Agrawal, BS, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC

P484. Treatment Outcomes of Entecavir, Adefovir and Telbivudine in HBeAg Positive Chronic Hepatitis B Patients Who Failed Prior Pegylated Interferon Therapy
Kalyan Bhamidimarri, MD, MPH (Biostatistics), Calvin Pan, MD, FACG, Gastroenterology, Elmhurst Hospital Center, Mt. Sinai Services, Elmhurst, NY

P485. Designing and Evaluation of Taqman Chemistry for Quantification of Human Hepatitis B Virus
Chittor Habibullah, MD, Aejaz Habib, MD, Madhavi Chandra, PhD, Yalamanchili Naresh, MSc, Gastroenterology and Hepatology, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad, India

P486. Safety and Efficacy of Hepatic Progenitor Cell Transplantation Through Hepatic Artery for the Treatment of Chronic Liver Failure
Chittor Habibullah, MD, DM, Aleem Khan, PhD, Parveen Nyamath, PhD, Mahaboob Shaik, MSc, Rajendra Prasad, MSc, Ravindra Prakash, MBBS, Venkateswarlu Jampala, MD, Balaji Patel, MBBS, Gopal Pande, PhD, Aejaz Habeeb, MD, Gastroenterology and Hepatology, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad, India, Molecular Biology, CCMB, Hyderabad, India

P487. Characterization of Hepatic Progenitors from Human Fetal Liver During Second Trimester
Chittor Habibullah, MD, DM, Aleem Khan, PhD, Subba Rao, MSc, Gopal Pande, PhD, Parveen Nyamath, PhD, Gastroenterology and Hepatology, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad, India, Molecular Biology, CCMB, Hyderabad, India

COLON

P488. Are All Preparations for Colonoscopy the Same?
Konstantin Vaizman, MD, K. Iswara, MD, Ira Mayer, MD, Nison Badalov, MD, Scott Tenner, MD, MPH, Internal Medicine/ Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P489. Successful Utilization of a Prolonged Course of Nitazoxanide for the Treatment of Multi-Recurrent *Clostridium difficile* Infection
Bienvenido Yangco, MD, MPH, Infectious Disease Research Institute, Inc., Tampa, FL

P490. Diverticular Bleeding in African-American and Hispanic Patients: Natural History and Risk Factors for Recurrence
Abbasi Akhtar, MD, Medicine-Gastroenterology, Charles Drew University of Medicine and Science, Los Angeles, CA

P491. Ischemic Colitis and Lower Gastrointestinal Bleeding in African-American and Hispanic Patients
Abbasi Akhtar, MD, Gastroenterology, Charles Drew University of Medicine and Science, Los Angeles, CA

P492. Dysmotility of the Cecum in Patients with Severe Slow-Transit Constipation: Characteristic Radiologic and Motility Patterns and Clinical Relevance
William Chey, MD, Cameron Hoellrich, Student, Vincent Chang, MD, Katherine Fulton, RN, Deborah Corcoran, RN, Sydney Lee, Student, Kae Lee, MD, Rochester Institute for Digestive Diseases & Sciences, Rochester, NY

P493. Re-Evaluation of Diagnosis of 'Benign' Colon Polyp
Priyanka Kanth, MBBS, Lee Wilkinson, BS, Joel Levin, MD, Melinda Sanders, MD, T. Rajan, MD, Internal Medicine, University of Connecticut Health Center, Farmington, CT, Gastroenterology, Pathology, University of Connecticut Health Center, Farmington, CT

P494. Fecal Incontinence: Insights from Evaluation in a GI Motility Laboratory
Kian Makipour, MD, Zeeshan Ramzan, MD, Robert Fisher, MD, Henry Parkman, MD, Medicine, Temple University School of Medicine, Philadelphia, PA

P495. *Clostridium difficile* Infection Was Not Detected in Patients Who Received Rifaximin for Hepatic Encephalopathy in Community and University Practices
Guy Neff, MD, V. Zacharias, MD, M. Jones, MD, M. Jonas, MD, R. Ravinuthala, MD, D. Novick, MD, T. Kaiser, MD, N. Kemmer, MD, University of Cincinnati College of Medicine, Cincinnati, OH, Tri-State Gastroenterology Associates, Dayton, OH, Greater Cincinnati Gastroenterology Associates, Cincinnati, OH, Digestive Specialists, inc, Dayton, OH

P496. Affect of Endoscopic Ultrasound's Technology in Diagnosing Various T Stages of Rectal Cancers: A Meta-Analysis and Systematic Review
Srinivas Puli, MD, Jyotsna BK Reddy, MD, Matthew Bechtold, MD, Abhishek Choudhary, MD, Farzana Rashid, MD, Mainor Antillon, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO

P497. Prevalence and Site Distribution of Adenomatous Polyps on Screening Colonoscopy in the Average-Risk Lebanese Population: Impact of the Mediterranean Diet?
Ala Sharara, MD, Karim Maasri, MD, Jana Hashash, MD, Assaad Soweid, MD, Fadi Mourad, MD, Kassem Barada, MD, of Internal Medicine-Division of Gastroenterology, American University of Beirut, Beirut, Lebanon

P498. Multiple Setons as Treatment of Complex or High Fistula in Ano
Subodh Varshney, MD, FRCS, Vikrant Singh, MS, Rajneesh Varshney, MS, Dipak Purohit, MS, Ajit Sewkani, MS, Sandesh Sharma, MS, GI Surgery, Bhopal Memorial Hospital and Research Centre, Bhopal, India

P499. Prevalence and Utility of Inflammatory Bowel Disease (IBD) Markers in Colon Ischemia (CI)
Olga Aroniadis, MD, Paul Feuerstadt, MD, Lawrence Brandt, MD, MACG, Gastroenterology, Montefiore Medical Center, Bronx, NY

P500. Prevalence of Adenomas and Colorectal Cancer in 50-75 Year Old Individuals at Average Risk for Colorectal Cancer: A Systematic Review and Meta-Analysis
Steven Heitman, MD, MSc, Paul Ronksley, BSc, Robert Hilsden, MD, PhD, Braden Manns, MD, MSc, Alaa Rostom, MD, MSc, Jennifer Skuce, BA, Andra Morrison, BA, Brenda Hemmelgarn, MD, PhD, Community Health Sciences, Medicine, University of Calgary, Calgary, AB, Canada, Canadian Agency for Drugs and Technologies in Health, Ottawa, ON, Canada

P501. Comparison of Quality of Colonoscopy Bowel Preparation Among In-Patients, Out-Patients with Standard Bowel Preparation and Out-Patients Who Had Reinforcement of Instructions by Nurses
Binu John, MD, MPH, Madhusudhan Sanaka, MD, Venkata Rajesh Konjeti, MD, Rocio Lopez, MS, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH

P502. Clinical Characteristics of Primary Epiploic Appendagitis
Sun Moon Kim, MD, Ji Young Cheun, MD, Young Suk Kim, MD, Tae Hee Lee, MD, Euyi Hyeog Lim, MD, Young Woo Choi, MD, Young Woo Kang, MD, Division of Gastroenterology, Departments of Internal Medicine, Konyang University College of Medicine, Metropolitan City Daejon, South Korea

P503. Influence of Site of Primary on Postoperative Outcomes for Patients with Metastatic Colorectal Cancer Undergoing Surgery
Lei Lian, MD, Ravi Kiran, MD, Ian Lavery, MD, Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, OH

P504. Effect of Gastric Acid Suppression on Recurrence of *Clostridium difficile*-Associated Disease
Kishore Maganty, MD, Jatinder Ahluwalia, MD, Gastroenterology/Medicine, Southern Illinois University School of Medicine, Springfield, IL

P505. Family History and Appropriate Referral for Colorectal Cancer Screening: A Survey of Trends in an Open Access Endoscopy Center
Sumana Moole, MD, Thomas McGarrity, MD, Maria Baker, PhD, Tareq Yasin, MD, Saroja Rampertab, MD, Division of Gastroenterology, Hershey Medical Center, Hershey, PA

P506. Colon Tumor Biomarkers-Maldi Imaging of Tissue Microarray
Paul Pevsner, MD, Jonathan Melamed, MD, Tiffany Remsen, BA, Sushil Duddempudi, MD, Fritz Francois, MD, Mojdeh Momeni, MD, Nan Sandar, MD, Paul Kessler, PhD, Arnold Stern, MD, PhD, Sury Anand, MD, Department of Medicine, Department of Pathology, Department of Pharmacology, New York University School of Medicine, New York, NY, Department of Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY

P507. Are Patients with Cirrhosis at Increased Risk for Colorectal Neoplasia?
Deepa Shah, MD, Veronika Karasek, MD, Richard Gerkin, MD, Erin Tharalson, ANP, Francisco Ramirez, MD, FACG, Nooman Gilani, MD, FACG, GI, Carl T. Hayden VAMC, Phoenix, AZ

P508. Nitazoxanide to Treat Community Acquired *Clostridium difficile*-Associated Disease
William Stuppy, MD, Private Practice, Los Angeles, CA

P509. Screening Colonoscopy for Colorectal Neoplasia in Patients with Sporadic Fundic Gland Polyps of Stomach
Byung Wook Kim, MD, PhD, Internal Medicine, The Catholic University of Korea, Incheon, South Korea

P510. Evaluation of Risk Factors of *Clostridium difficile* Associated Diarrhea (CDAD) in Medicine and Surgical Inpatients
Mandeep Matta, MD, Sofia Novak, MD, H. Neemat, MD, M. Lesser, PhD, R. Hussain, MPH, MBA, B. Edwards, MD, Y. Dlugacz, PhD, G. Wolf-Klein, MD, Long Island Jewish Medical Center, New Hyde Park, NY, Krasnoff Institute, Great Neck, NY, Feinstein Institute, Manhasset, NY

P511. Mortality Difference Among Inner City Minority New Yorkers Presenting with Colorectal Cancer
Tarun Narang, MD, Tegpal Atwal, MD, Ying Gu, MD, Doru Paul, MD, Sulaiman Azeez, MD, Balavenkatesh Kanna, MD, MPH, Hematology-Oncology, Gastroenterology, Medicine, Lincoln Medical and Mental Health Center, affiliated with Weill Medical College of Cornell University, New York, NY

P512. Should Diagnostic Colonoscopy be Indicated for Patients with Constipation?
Emmanuel Obusez, BS, M1, Rocio Lopez, MS, Carol Burke, MD, Bo Shen, MD, Digestive Diseases Center, Cleveland Clinic Lerner College of Medicine, Cleveland Clinic Foundation, Cleveland, OH

P513. Predictors of Recurrent *Clostridium difficile*-Associated Diarrhea at Rochester General Hospital
Jawaid Shaw, MD, Sunny Tumangday, MD, Pamela Polashenski, MD, Internal Medicine, Rochester General Hospital, Rochester, NY

CLINICAL VIGNETTES

P514. Glucagonoma Presenting as Isolated Chronic Diarrhea in an Irritable Bowel Syndrome Patient
Sarah DeNucci, MD, Omar Hyder, MD, Daniel Quirk, MD, MPH, Internal Medicine, Warren Alpert Medical School of Brown University, Providence, RI

P515. A New Modality for Diagnosing Rumination Syndrome: 24-Hour Esophageal pH-Impedance
Wendy Mikulski, DO, Teresa Fergus, LPN, John Long, MD, Internal Medicine, Wake Forest University, Winston-Salem, NC, Internal Medicine, Drexel University, Philadelphia, PA

P516. Asymptomatic Incidental Colon Adenoma Associated with Schistosoma Mansoni
Neil Nagaria, MD, Ankit Kansagra, MBBS, Sushil Ahlawat, MD, Gastroenterology, UMDNJ-NJMS, Newark, NJ

P517. Mucosal Tear in Collagenous Colitis
Thomas Dunzendorfer, MD, Sarah Wilkins, MD, Rebecca Johnson, MD, Pathology, Gastroenterology, Berkshire Medical Center, Pittsfield, MA

P518. Acute Ischemic Colitis in a Patient with Metastatic Breast Cancer Undergoing Bevacizumab Therapy
Brian Yu, MD, Aekarach Ariyachaipanich, MD, Ghassan Zalzaleh, MD, Hareth Raddawi, MD, FACG, Department of Internal Medicine, University of Illinois at Chicago/Advocate Christ Medical Center, Oak Lawn, IL, Gastroenterology, Oncology-Hematology, Advocate Christ Medical Center, Oak Lawn, IL

P519. Sebaceous Carcinoma is a Recognized Risk Factor for Colon Cancer That Indicates Urgent Screening Colonoscopy; The Muir-Torre Syndrome
Mohammad Titi, MD, T. Kothari, MD, S. Devgun, MD, P. Leve, MD, K. Patel, MD, Internal Medicine, Unity Hospital, Rochester, NY

P520. *Klebsiella Oxytoca* and Antibiotic-Associated Hemorrhagic Colitis
Ketan Kulkarni, MD, Doug Weine, MD, Charles Maltz, MD, PhD, Department of Gastroenterology and Hepatology, Weill Cornell Medical Center, New York, NY

P521. Colonoscopy Diagnosis of Amyloidosis
Kyoung Ae Kim, MD, Kong Peng Yap, MD, Dennis Moseley, MD, Internal Medicine, UCSF Fresno, Fresno, CA, Gastroenterology, Pathology, VA Central California Health Care System, Fresno, CA

P522. Rapidly Growing Large B-Cell Lymphoma of the Colon
Subhra Banerjee, MD, Aaron Walfish, MD, Vivek Gumaste, MD, Maria Angelova, MD, Gastroenterology, Mount Sinai Services at Elmhurst Hospital Center, Elmhurst, NY, Pediatrics, Winthrop University Hospital, Mineola, NY

P523. Sumatriptan-Associated Ischemic Colitis (IC)
Thuc Quyen Nguyen, MD, Adrien Mazer, BS, James Lewis, MD, FACG, Gastroenterology, Medicine, Georgetown University, Washington, DC

P524. Diffuse Colonic Ulceration Secondary to Aeromonas Sobria
Paula Dionisio, MD, Kevin Ruff, MD, Holenarasipur Vikram, MD, Lucinda Harris, MD, Tisha Lunsford, MD, Infectious Diseases, Gastroenterology, Mayo Clinic Scottsdale, Scottsdale, AZ

P525. Acute Colonic Pseudo-Obstruction: Is Tegaserod a Treatment Option?
Ruben Ramirez, MD, Marc Zuckerman, MD, Sita Chokhavatia, MD, Medicine, Texas Tech University Health Sciences Center, El Paso, TX, Medicine, Mount Sinai School of Medicine, New York, NY

P526. Gastrointestinal Bleeding Secondary to Splenic Artery Pseudoaneurysm Fistulizing to the Colon
Seth Sweetser, MD, Louis-Michel Wong Kee Song, MD, Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P527. Death from Clozapine-Induced Gastrointestinal Hypomotility
Robert Siwiec, MD, Baseer Qazi, MD, Marc Fine, MD, Gastroenterology, Internal Medicine, Advocate Lutheran General Hospital, Park Ridge, IL

P528. Colonoscopic Polypectomy in Glanzmann's Thrombasthenia
Dimple Raina, MD, Aberrahim Khomani, MD, Fadi Rahhal, MD, Arvind Movva, MD, Sherman Chamberlain, MD, Section of Hematology Oncology, Section of Gastroenterology and Hepatology, Medical College of Georgia, Augusta, GA

P529. Rare Gastrointestinal Complications of a Rare Disease: Klippel-Trenaunay Syndrome
Jahnavi Naik, MD, Yan Li, MD, Nicole Griglione, MD, Qiang Cai, MD, Division of Digestive Diseases, Emory University, Atlanta, GA

P530. Mycobacterial Spindle Cell Pseudotumor of the Colon: A Case Report
Sarah Manitsas, MD, Christopher South, MD, Purvi Panchal, MD, Martha Yearsley, MD, Department of Pathology, Division of Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH

P531. Endometriosis: An Unusual Cause of Inverted Appendix. A Case Report and Review of the Literature
Kristen Robson, MD, John Coller, MD, Colorectal Surgery, Gastroenterology, Lahey Clinic, Burlington, MA

P532. Nitazoxanide (Alinia®) as a Rescue Treatment for Refractory Fulminant *Clostridium difficile* Colitis
Aman Ali, MD, William Pullano, MD, Gastroenterology, Lenox Hill Hospital, New York, NY

P533. Complete Endoscopic Healing of Radiation Proctitis with Low Pressure Cryoablation
Yasser Shaib, MD, MPH, Jason Hou, MD, Gastroenterology, Baylor College of Medicine, Houston, TX

P534. A Sheep in Wolf's Clothing: Rectal Histoplasmosis Behaving Like Cancer
Son Nguyen, MD, David Victor, MD, Stephen Abshire, MD, Internal Medicine, Tulane University, New Orleans, LA

P535. Schwannoma: A Rare Sigmoid Mass
Neeraj Anand, MD, Neil Herbsmann, MD, Leanne Cronin, MD, Sammy Ho, MD, Montefiore Medical Center, Bronx, NY

P536. Henoch-Schonlein Purpura Presenting as Bloody Diarrhea in an Elderly Patient
Eric Choi, MD, Walter Coyle, MD, Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA

P537. Symptomatic Intestinal Spirochetosis in Two Immunocompetent Patients
Ronald Concha, MD, Ayse Aytaman, MD, Mujtaba Butt, MD, Rosemary Wieczorek, MD, Fidelina Desoto-Lapaix, MD, Gerald Fruchter, MD, Gastroenterology and Hepatology, SUNY Downstate Medical Center, Brooklyn, NY, Pathology, Gastroenterology, VA New York Harbor Health Care System, Brooklyn, NY

P538. Two Cases of Crohn's Disease in the Setting of Past Necrotizing Enterocolitis
Patricia Kozuch, MD, Gastroenterology/Internal Medicine, Thomas Jefferson University, Philadelphia, PA

P539. Hidradenitis Suppurativa, Acne Conglobata Associated with Spondyloarthropathy and Pyoderma Gangrenosum: Response to Infliximab
Daniel Blachman, MD, Kiron Das, MD, Naomi Schlesinger, MD, Internal Medicine, Robert Wood Johnson University Hospital, New Brunswick, NJ

P540. Herpes Simplex Virus Colitis in a Patient with Crohn's Disease and Hepatitis B and D Cirrhosis
Jenny Smith, MD, Richard Sterling, MD, A. Scott Mills, MD, R. Stravitz, MD, Velimir Luketic, MD, Michael Fuchs, MD, Arun Sanyal, MD, Mitchell Shiffman, MD, Pathology, Gastroenterology and Hepatology, Virginia Commonwealth University, Richmond, VA

P541. A Case of "Inflamed Vessels"
Harshna Patel, MD, Maria Cino, MD, Department of Medicine, University of Toronto, Toronto, ON, Canada, Department of Medicine, Division of Gastroenterology, University Health Network, University of Toronto, Toronto, ON, Canada

P542. Clostridium Septicum Infection Secondary to Immunosuppression by Sulfasalazine in Crohn's Disease
Natalie Bowser, MBBS, Vincent Ho, MBBS, Andrew Pascoe, MBBS, FRACP, Gastroenterology, Princess Alexandra Hospital, Brisbane, QLD, Australia

P543. Rectal Squamous Cell Metaplasia in Crohn's Disease
Mayur Trivedi, MD, Gerold Fruchter, MD, Andrew Seymour, MD, Gastroenterology, VA NY Harbor Healthcare System & SUNY Downstate Medical Center, Brooklyn, NY, Gastroenterology, VA NY Harbor Healthcare System, Brooklyn, NY

P544. Rifaximin Monotherapy Was Effective in Patients with Newly Diagnosed Crohn's Disease
Ira Shafran, MD, P. Burgunder, ARNP, Shafran Gastroenterology Center, Winter Park, FL

P545. A Case of Tuberculous Enteritis Mimicking Crohn's Disease
Richard Blatt, MD, Jennie Law, MD, Tanvi Dhere, MD, Marney Goldstein, MD, Henry Olejeme, MD, Emory University, Atlanta, GA

P546. Cyclosporine in Steroid Refractory Ulcerative Colitis in the First Trimester of Pregnancy
Sophie Balzora, MD, Vinita Jacob, MD, Ellen Scherl, MD, Brian Bosworth, MD, Roberts IBD Center, Division of Gastroenterology and Hepatology, Weill Medical College of Cornell University, New York, NY, Medicine, New York Presbyterian Hospital: Columbia Presbyterian Center, New York, NY

P547. Terminal Ileal Carcinoid Tumor in Active Crohn's Disease: Diagnostic and Management Uncertainties
Jason Swoger, MD, MPH, Edward Loftus, MD, Miles and Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN

P548. New Onset Crohn's Disease in the Postpartum Period: A Case Report and Review of the Literature
Harpriya Singh, MD, Aparna Kulkarni, MD, Gastroenterology, Allegheny General Hospital, Pittsburgh, PA, Gastroenterology, Baylor College of Medicine, Houston, TX

P549. Efficacy of Rifaximin as Long-Term Maintenance Therapy for Refractory Crohn's Disease
★ *2008 ACG Presidential Poster Award Recipient*
Warren Finkelstein, MD, The Gastroenterology Group of New Jersey, Glen Ridge, NJ

P550. Abdominal Aortitis, an Extremely Unusual Extra-Intestinal Manifestation of Crohn's Disease
Ronald Concha, MD, Ali Azarm, MD, Adam Goodman, MD, Frank Gress, MD, Gastroenterology and Hepatology, SUNY Downstate Medical Center, Brooklyn, NY

P551. Esophageal Intramural Pseudodiverticulosis Presenting as Severe Upper Gastrointestinal Hemorrhage
Marc Hopkins, MD, Kathy Bull-Henry, MD, Kirti Shetty, MD, Stanley Benjamin, MD, Gastroenterology, Georgetown University Hospital, Washington, DC

P552. Endoscopic, Radiologic, and Manometric Features of an Incomplete Heller Myotomy for Achalasia: Successful Treatment by Pneumatic Dilation
Paul Benson, MD, Nathan Shores, MD, Joel Bruggen, MD, John Long, MD, Internal Medicine, Wake Forest University, Winston-Salem, NC

P553. The Black Esophagus: A Case of Necrotizing Esophagitis
Bryan Sauer, MD, MS, Vanessa Shami, MD, Michel Kahaleh, MD, Digestive Health, University of Virginia, Charlottesville, VA

P554. The Grape Obstruction
Gerald Arbour, MD, Ankur Sheth, MD, Paul Jordan, MD, Kenneth Manas, MD, Gastroenterology, LSU Health Sciences Center - Shreveport, Shreveport, LA

P555. Esophageal Apoplexy: A Purple Haze
Joseph McKinley, MD, Steven Kucera, MD, Yasser Saloum, MD, H. Worth Boyce, MD, Gastroenterology, University of South Florida, Tampa, FL

P556. Downhill Esophageal Varices—A Different Entity from Portal Hypertensive Esophageal Varices
Deerajnath Lingutla, MD, Kirti Joshi, MD, Michael DiSalle, MD, Medicine, Unity Health System, Rochester, NY

P557. Eosinophilic Esophagitis Presenting with Dyspepsia and Anorexia
Krzysztof Kopec, MD, Samir Shah, MD, Edward Feller, MD, Medicine, Divison of Gastroenterology, Gastroenterology Associates and Brown University, Providence, RI, Department of Medicine, Warren Alpert Medical School, Providence, RI

P558. Black Esophagus—A Rare Cause of Gastrointestinal Bleeding
Steve Kucera, MD, Joseph McKinley, MD, Patrick Brady, MD, FACG, FAGA, H. Worth Boyce, MD, MACG, FACP, University of South Florida, Tampa, FL

P559. Familial Barrett's Esophagus
Charles Farr, MD, Gastroenterology, St. Agnes, Fresno, CA

P560. Hepatoid Esophageal Cancer: A Rare Cause of Elevated Alfa-fetoprotein
Muslim Atiq, MD, Daniel Brown, MD, Muhammad Husain, MD, Kevin Olden, MD, Pathology, Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR

P561. Uncommom Presentation of Pancreatic Microcystic Adenoma in a Patient with Von Hippel-Lindau Syndrome
Lubin Arevalo, MD, Julio Defillo, MD, Young Lee, MD, Shobhana Chaudhari, MD, Internal Medicine, New York Medical College, New York, NY

P562. Successful Diagnosis and Management of Biliary Cast Syndrome in a Liver Transplant Patient Using Single Operator Cholangioscopy
Udayakumar Navaneethan, MD, Mayar Al Mohajer, MD, Ana Mestanza, MD, Joseph Palascak, MD, Andres Gelrud, MD, MMSc, Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH

P563. Acute Necrotizing Pancreatitis with Normal Amylase and Lipase
Scott DiGiacomo, MD, Rada Shakov, MD, Shivangi Khara, MD, Medhat Ismail, MD, Hossam Elfarra, MD, Walid Baddoura, MD, Gastroenterology, St. Joseph's Regional Medical Center, Paterson, NJ

P564. Lemmel's Syndrome: Abdominal Pain in a Middle-Aged Female
Mark Brewster, MD, Daryl Hutchinson, MD, Satish Maryala, MD, Milton Mutchnick, MD, Department of Gastroenterology, Wayne State University School of Medicine/Detroit Medical Center, Detroit, MI

P565. Bilio-Pleural Fistula Following Trans-Arterial Chemoembolization in a Patient with Hepatocellular Carcinoma
Jeffrey Lewis, MD, Brian Gehlbach, MD, Oto Aytekin, MD, Jennifer Chennat, MD, Smruti Mohanty, MD, Gastroenterology, Radiology, Pulmonary and Critical Care, Internal Medicine, University of Chicago Medical Center, Chicago, IL

P566. Severe Post Endoscopic Biliary Sphinterotomy Bleeding in a Patient with Both Duodenal Diverticulum and Abnormal Vascular Anatomy
Kevin Jo, MD, Ashok Shah, MD, MACG, Gastroenterology, University of Rochester, Rochester, NY

P567. Tubercular Pancreatic Abscess Presenting as Fever and Cystic Pancreatic Lesion with Endoscopic Management
Jonathan Fenkel, MD, Maya Spodik, MD, Bheema Singu, MD, David Loren, MD, Division of Gastroenterology and Hepatology, Thomas Jefferson University Hospital, Philadelphia, PA

P568. Paralyzing Diarrhea
Travis Rutland, MD, Lee Thompson, MD, Jorge Herrera, MD, Division of Gastroenterology, and Department of Surgery, University of South Alabama, Mobile, AL

P569. Acute Pancreatitis Secondary to Percutaneous Liver Biopsy-Associated Hemobilia: A Case Report and Literature Review
Grace Noh, MD, Ankit Kansagra, MD, Harmit Kalia, DO, Weizheng Wang, MD, Department of Gastroenterology, Department of Internal Medicine, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, NJ

P570. Primary B-Cell Lymphoma of the Pancreas
Stuart Akerman, MD, Andrew Pellecchia, MD, Samer Khader, MD, Sammy Ho, MD, Pathology, Gastroenterology, Medicine, Montefiore Medical Center, Bronx, NY

P571. A Rare Case of Multifocal Non-Functioning Neuro-Endocrine Tumor of the Pancreas Presenting as Chronic Autoimmune Pancreatitis
Nayantara Coelho-Prabhu, MD, Suresh Chari, MD, Gastroenterology, Mayo Clinic Rochester, Rochester, MN

P572. Mirizzi Syndrome with Xanthogranulomatous Cholecystitis (XGC): An Unusual Association
Nayantara Coelho-Prabhu, MD, William Sanchez, MD, Gastroenterology, Mayo Clinic Rochester, Rochester, MN

P573. Obstructive Jaundice Secondary to Diaphragmatic Hernia Diagnosed by ERCP
Fedele DePalma, MD, Nirmala Sivaprakasapillai, MD, Jae Hong, MD, Adam Elfant, MD, Department of Gastroenterology, Department of Internal Medicine, Cooper University Hospital, Camden, NJ

P574. Pancreatic Plasmacytoma Presenting as Variceal Hemorrhage: Life Threatening Complication from a Rare Entity
Muslim Atiq, MD, Syed Ali, MD, Shyam Dang, MD, Elias Anaissee, MD, Kevin Olden, MD, Farshad Aduli, MD, Myeloma Institute of Research and Therapy, Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR

P575. Fasciola Hepatica Causing Acute Pancreatitis Complicated by Biliary Sepsis
Nison Badalov, MD, Ava Anklesaria, MD, Anita Torok, MD, Ian Wall, DO, Jack Braha, DO, Jianjun Li, MD, FACG, Kadirawel Iswara, MD, FACG, Scott Tenner, MD, MPH, FACG, Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P576. Poster Withdrawn

P577. Post-EMR Surveillance of GE-Junction Mucosal Lesions with EUS
John Carroll, MD, Elisabeth Kramer, BS, Homayoon Mahjoob, MD, Medicine, Georgetown University Medical Center, Washington, DC

P578. Propofol Facilitates Foreign Body Extraction
M. Babitha Reddy, DO, Michael Frank, MD, Gastroenterology, Lenox Hill Hospital, New York, NY

P579. Case Report of Endosonographic Doppler Interrogation of Blue Rubber Bleb Nevus Syndrome
Deborah Flomenhoft, MD, Nicholas Nickl, MD, Internal Medicine and Pediatrics, University of Kentucky, Lexington, KY

P580. Chilaiditi Syndrome and Double Balloon Colonoscopy
Timothy Duncan, MD, Jonathan Koff, MD, Frank Moses, MD, Gastroenterology, Walter Reed Army Medical Center, Washington, DC

P581. Cavernous Malformation Masquerading as a Neoplasm on Routine Imaging Accurately Diagnosed Using EUS
Patrick McDevitt, DO, MSc, Matthew Moyer, MD, MSc, Abraham Mathew, MD, MSc, Department of Gastroenterology and Hepatology, Department of Internal Medicine, The Penn State Hershey Medical Center, Hershey, PA

P582. Fungal Endocarditis: A Case for Fungal Prophylaxis Before Gastrointestinal Procedures
Shanthi Sivendran, MD, Nicole Swallow, MD, Ian Schreibman, MD, Medicine, Pennsylvania State University-Hershey Medical Center, Hershey, PA

P583. Endoscopic Sigmoidopexy for Recurrent Sigmoid Volvulus as Alternative to Surgical Management
Mukul Arya, MD, Siddharth Mathur, MD, Niket Sonpal, MD, Yashpal Arya, MD, Wyckoff Heights Medical Center, Brooklyn, NY

P584. Iatrogenic Colon Perforation: To Clip or Not to Clip?
Nison Badalov, MD, Ian Wall, DO, Jack Braha, DO, Konstantin Vaizman, MD, Jianjun Li, MD, FACG, Kadirawel Iswara, MD, FACG, Scott Tenner, MD, MPH, FACG, Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P585. Strongyloides Duodinitis and Mesenteric Vein Thrombosis Presenting with Abdominal Pain, Hypereosinophilia and Elevated IgE
Mahmoud Lajin, MD, Atulkumar Patel, MD, FACG, Rajul Parikh, MD, Hematology, Oncology, Gastroenterology, William Beaumont Hospital, Royal Oak, MI

P586. Neuroendocrine Tumor of the Jejunum in a Patient with Celiac Disease
Jonathan Hlivko, MD, Olaronke Oshilaja, MD, Nibha Saxena, MD, Alfred Ciraldo, MD, Ghulam Mir, MD, FACG, Costas Kefalas, MD, FACG, Surgery, Pathology, Medicine, Summa Health System, Akron, OH, Medicine, Barberton Citizens Hospital, Barberton, OH

P587. Solitary Duodenal Polyp: A Rare Presentation of Primary Amyloidosis
Joseph Cheatham, MD, Thomas Summers, MD, Pranav Patel, MD, John David Horwhat, MD, Hematology and Oncology, Pathology, Gastroenterology, Walter Reed Army Medical Center, Washington, DC

P588. Pseudomelanosis of Duodenum and Jejunum Visualized on Capsule Endoscopy
Deborah Anghesom, MD, Kendrick Che, DO, Ronald Griffin, MD, Christian Jackson, MD, Division of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA, Division of Gastroenterology, Loma Linda VA Medical Center, Loma Linda, CA

P589. Anaplastic Intra-Abdominal Lymphoma as a Cause of Sclerosing Mesenteritis: A Case Report
Jay Luther, MD, Alexander Faje, MD, Richard Saad, MD, William Chey, MD, Internal Medicine, University of Michigan Health Systems, Ann Arbor, MI

P590. Whipple's Disease: A Rare Cause for Common Complaints
Erin Karandish, MD, Charlene Prather, MD, MPH, Gastroenterology and Hepatology, Saint Louis University, Saint Louis, MO

P591. Chylous Mesenteric Cyst in Asymptomatic 60-year-old Woman
Susan Barton, MD, Vandana Nehra, MD, Department of Gastroenterology, Mayo Clinic, Rochester, MN

P592. Angiotensin Converting Enzyme Inhibitor (ACEI) Induced Angioedema of Small Intestine in a Transplant Patient
Suwebatu Odunsi, MD, Patrick Kamath, MD, Mayo Clinic Rochester, Rochester, MN

P593. Giant Liposarcoma Presented as Inguinal Hernia. Unusual Size, Presentation
Houssam Al Kharrat, MD, Omar Shoukfeh, Medical Student, Luke Brown, Senior College, West Texas Digestive Disease Center, Lubbock, TX, Texas Tech University Health Sciences Center, Lubbock, TX, Abilene Christian University, Abilene, TX

P594. Does Eating Black Licorice Mimic Melena or Cause It?
Arun Srivatsa, MD, Judy Liu, BS, Joel McFarland, MD, Vivek Kaul, MD, University of Rochester, Rochester, NY

P595. An Unusual Case of Nausea, Vomiting, Diarrhea and Urinary Retention in a Healthy Female
Joshua Goldman, MD, Francis Farraye, MD, MSc, FACG, Section of Gastroenterology, Boston University School of Medicine, Boston, MA

P596. A Rare Cause of Severe Anemia and Gastro-Intestinal Bleeding: Klippel Trenaunay Syndrome with Extensive Visceral Involvement
Fnu Deepinder, MD, Andrew Albert, MD, Nkemakolam Iroegbu, MD, Gastroenterology and Hepatology, Internal Medicine, Saint Joseph Hospital, Chicago, IL

P597. A Case of Obscure Gastrointestinal Bleeding Secondary to a Small Bowel Tumor Detected by Magnetic Resonance Enterography
Fouad Moawad, MD, Todd LaRock, DO, Michael Biondi, MD, Brooks Cash, MD, Jayde Kurland, MD, Gastroenterology, Walter Reed Army Medical Center, Washington, DC, Radiology, Gastroenterology, National Naval Medical Center, Bethesda, MD

P598. A Rare Case of Thymoma Associated Autoimmune Enteropathy
Jae Geun Hyun, MD, Sita Chokhavatia, MD, Xianyong Gui, MD, Noam Harpaz, MD, PhD, Lloyd Mayer, MD, Pathology, Gastroenterology, The Mount Sinai Hospital, New York, NY

P599. Multicenter Medical Malpractice Risk Reduction Study for Medical Students, Trainees and Practicing Physicians Using Short Burst [SSB] E-Mailed Seminars
Perry Hookman, MD, FACG, Gloria Weinberg, MD, Michele Pato, MD, Richard Gelfand, MD, Bernard Rosof, MD, FACG, Jamie Barkin, MD, MACG, Gastroenterology, Medicine, Mt. Sinai Medical Center, Miami Beach, FL, Medicine, North Shore Medical Center, Huntington, NY, Psychiatry, USC, Los Angeles, CA, Gastroenterology, Metro Gastroenterologists, Washington, DC

P600. Hypocupremia: A Rare Cause of Gastrojejunal Bypass-Associated Myeloneuropathy and Anemia
★ *2008 ACG Presidential Poster Award Recipient*
★ *2008 ACG/AstraZeneca Clinical Vignette Award Recipient*
Eric Choi, MD, Williamson Strum, MD, Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA

P601. Small Bowel MRI Diagnosis of Meckel's Diverticulum
Raman Battish, MD, Hiral Shah, MD, Averell Sherker, MD, FRCP(C), James McFadden, MD, Radiology, Gastroenterology, Washington Hospital Center, Washington, DC

P602. Complication of Transjugular Intrahepatic Portosystemic Shunt Placement: Stent Migration into Pulmonary Artery
Stacy Tong, MD, Cynthia Lau, MD, Joseph Ahn, MD, Hector Ferral, MD, Nikunj Shah, MD, Stanley Cohen, MD, Interventional Radiology, Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL

P603. Graft Versus Host Disease After Liver Transplant
Sunana Sohi, MD, Stanley Cohen, MD, Nikunj Shah, MD, David Van Thiel, MD, Joseph Ahn, MD, Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL

P604. Sudden Progression to Liver Failure in a Stable Cirrhotic Patient
Chethra Muthiah, MD, Joseph Ahn, MD, MS, Stanley Cohen, MD, Internal Medicine, Section of Hepatology, Rush University Medical Center, Chicago, IL

P605. The Dilemma of Idiopathic Fulminant Hepatic Failure
Anupam Mohanty, MD, Eugene Schiff, MD, Hepatology, University of Miami, Miami, FL

P606. Aromatic Hydrocarbon-Induced Acute Hepatotoxicity
Mukund Venu, MD, Samer Gawrieh, MD, Kia Saeian, MD, Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI

P607. A Rare Case of Spontaneous Cryptococcal Peritonitis
Anne Thai, MD, Kanat Ransibrahmanakul, MD, Danny Yen, MD, Lynne Do, MD, Valentina Medici, MD, Christopher Bowlus, MD, Internal Medicine-Gastroenterology and Hepatology, Internal Medicine, University of California, Davis Medical Center, Sacramento, CA

P608. Chronic Nausea and Vomiting and Accelerated Progression to Cirrhosis in a Patient with a Mitochondrial Enzyme Deficiency
Otis Stephen, MD, Brent Neuschwander-Tetri, MD, Gastroenterology & Hepatology, UC Davis, Sacramento, CA, Gastroenterology & Hepatology, St. Louis University, St. Louis, MO

P609. Submassive Hepatic Necrosis Caused by Coxsackie A9 Virus in a Stem Cell Transplant Recipient
David Victor, MD, Jacob Feagans, MD, Salima Haque, MD, Hana Safah, MD, Shobha Joshi, MD, Internal Medicine, Tulane University School of Medicine, New Orleans, LA

P610. Giant Focal Nodular Hyperplasia Presenting as Pseudo-Mirizzi Syndrome
Kenneth Berman, MD, Raj Vuppalanchi, MD, Medicine-Gastroenterology, Indiana University, Indianapolis, IN

P611. Gone (from the PDR) but Not Forgotten: Propylthiouracil (PTU)-Associated Hepatic Failure (ALF): A Call for LFT Monitoring
Jennifer Primeggia, MD, James Lewis, MD, Internal Medicine, Georgeotown University, Washington, DC

P612. Hepatic Manifestations of Ovarian Hyperstimulation Syndrome
Afreen Khan, MD, Vijay Mudunuri, MD, Milton Mutchnick, MD, Elizabeth Puscheck, MD, Gastroenterology, Wayne State University, Detroit, MI

P613. Resolution of Portal Hypertension Following Steroid Therapy for Hepatic Sarcoidosis
Nayantara Coelho-Prabhu, MD, Patrick Kamath, MD, Gastroenterology, Mayo Clinic Rochester, Rochester, MN

P614. Spontaneous Intrahepatic Portosystemic Venous Shunt
Fedele DePalma, MD, Jeffrey Gellis, DO, James Kovacs, DO, Joshua DeSipio, MD, Department of Radiology, Department of Gastroenterology, Department of Internal Medicine, Cooper University Hospital, Camden, NJ

P615. Hepatic Sarcoidosis Mimicking Metastatic Cancer
Raman Battish, MD, Hiral Shah, MD, Averell Sherker, MD, FRCP(C), Gastroenterology, Washington Hospital Center, Washington, DC

P616. An Uncommon Cause of Abdominal Pain
Ahmed Morales, MD, Praveen Nallapareddy, MD, Shivani Jain, DO, Michael Klamut, MD, Sherri Yong, MD, Khondker Islam, MD, Loyola University Medical Center, Maywood, IL

P617. Lyme Disease Presenting with Gastroparesis and Cranial Nerve VII Palsy
Bryan Kavanaugh, MD, Bridget Seymour, MD, Patricia Kozuch, MD, Gastroenterology & Hepatology, Thomas Jefferson University Hospital, Philadelphia, PA

P618. New Onset Ascites: A Rare Presentation of Gastrointestinal Stromal Tumor (GIST)
Rodney Eddi, MD, Scott DiGiacomo, MD, Rada Shakov, MD, Amabelle Pinzon, MD, Walid Baddoura, MD, Gastroenterology, Internal Medicine, St. Joseph's Regional Medical Center, Paterson, NJ

P619. Double Pylorus: Case Report, Review of Literature and Evidence Based Treatment Strategy
Kiran Goli, MD, Chandra Lingisetty, MD, Sandip Ghuge, MD, Shobhana Chaudhari, MD, Susan Williams, MD, Gastroenterology, Internal Medicine, New York Medical College/Metropolitan Hospital Center, New York, NY

P620. Gastric Siderosis Presenting as a Bleeding Gastric Ulcer with Profound Anemia
Dharshan Coomaraswamy, MD, Ian Wall, DO, Michael Bernstein, MD, Nison Badalov, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Department of Internal Medicine, Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY, Department of Internal Medicine, Division of Gastroenterology, Coney Island Hospital, Brooklyn, NY

P621. Gastric Glomus Tumor: An Adult with Abdominal Pain
Robert Wells, MD, Luis Peña, MD, Karl Schulstad, MD, Division of Gastroenterology, University of Kentucky, Lexington, KY, General Surgery, Harrison Memorial Hospital, Cynthiana, KY

P622. Incomplete Carney Triad, Metastatic GIST, and JPS in a Young Woman: A Case Report and Literature Review
Maria Hatara, MD, George Aragon, MD, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, Internal Medicine, George Washington University, Washington, DC

P623. An Unusual Case of Amyloidosis Masquerading as Gastric Cancer
Arvind Reddy, MD, MPH, Johnny Altawil, MD, Fadi Antaki, MD, Medicine, Gastroenterology, Wayne State University, Detroit, MI

P624. Making a Strong Case for Delayed Gastric Emptying
Andrew Cummins, MD, MS, Linda Nguyen, MD, Gastroenterology, California Pacific Medical Center, San Francisco, CA

P625. Sweet's Syndrome: A Clue to Gastric Cancer
Neeraj Anand, MD, David Greenwald, MD, Gastroenterology, Montefiore Medical Center, Bronx, NY

P626. A Mimicker of Crohn's Disease: Linitis Plastica
Eric Choi, MD, Williamson Strum, MD, Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA

P627. Zinc-Induced Hypocupremia: A Rare Cause of Anemia and Neutropenia in the Post-Gastric Bypass Patient
Eric Choi, MD, Kevin Antonio, MD, Williamson Strum, MD, Internal Medicine, Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA

P628. Granulomatous Gastritis in Two Patients with *Helicobacter pylori* Infection
Ronald Concha, MD, Ayse Aytaman, MD, Mujtaba Butt, MD, Rosemary Wieczorek, MD, Fidelina Desoto-Lapaix, MD, Gerald Fruchter, MD, Gastroenterology and Hepatology, SUNY Downstate Medical Center, Brooklyn, NY, Pathology, Gastroenterology, VA New York Harbor Health Care System, Brooklyn, NY

P629. Azathioprine-Induced Eosinophilic Lung Nodules in a Patient with Crohn's Disease
Michelle Rivera, MD, Ana Conde, MD, Jose De Jesus, MD, Jorge Santana, MD, Maria Correa, MD, Esther Torres, MD, MACG, AGAF, Gastroenterology Section, Department of Internal Medicine, Infectious Diseases Section, Department of Pathology, UPR School of Medicine, San Juan, PR

OUTCOMES RESEARCH

P630. Oral or Intravenous Proton Pump Inhibitor in Patients with Peptic Ulcer Bleeding After Successful Endoscopic Epinephrine Injection—A Prospective Randomized Comparative Trial
★ *2008 ACG Presidential Poster Award Recipient*
Yao-Chun Hsu, MD, Tzeng-Huey Yang, MD, Wei-Lun Hsu, MD, Huei-Tang Wu, MD, Hwai-Jeng Lin, MD, Division of Gastroenterology, Department of Internal Medicine, Lotung Poh-Ai Hospital, Yilan, Taiwan

P631. Does Trainee Involvement in Colonoscopy Affect Cecal Intubation and Polyp Detection Rates?
Leon Kogan, MD, Maurice Cerulli, MD, Division of Gastroenterology and Hepatology, New York Methodist Hospital, Brooklyn, NY

P632. Screening Colonoscopy in Older Medicare Beneficiaries. Do We Consider Prognosis?
Deepika laxmi Koya, MD, MSCR, John Chen, MD, PhD, William Moran, MD, MS, Division of Digestive Diseases & Nutrition, University of South Florida, Tampa, FL, Internal Medicine, Medical University of South Carolina, Charleston, SC

P633. Anemia without Low Ferritin—Do They Warrant a GI Workup? A Preliminary Hospital Based Study
Vinod Kurupath, MD, Malvinder Singh, MD, Khurshid Mazumdar, MD, Niket Sonpal, MD, Sury Anand, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY

P634. Perspectives and Attitudes of Internal Medicine Residents to Chaperons Use During Rectal Examinations—A Disconcerting Discovery
Vinod Kurupath, MD, Niket Sonpal, MD, Siddharth Mathur, MD, Carl Bastien, MD, Mukul Arya, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY, Gastroenterology, Wyckoff Heights Medical Center, Brooklyn, NY

P635. Cost-Effectiveness of Empiric PPI Therapy in the Treatment of Laryngopharyngeal Reflux Symptoms
Robert Lee, MD, Division of Gastroenterology, University of California San Diego, San Diego, CA

P636. A Cost Analysis of the Diagnostic Workup of Heartburn Symptoms in Patients with Erosive and Non-Erosive Reflux Disease
Robert Lee, MD, Jeffrey Weissman, MD, Internal Medicine, Division of Gastroenterology, University of California San Diego, San Diego, CA

P637. Triple Versus Quadruple Therapy as Primary Treatment for *Helicobacter pylori* Infection: A Meta-Analysis of Efficacy and Tolerability
Jay Luther, MD, Phil Schoenfeld, MD, Paul Moayyedi, MB, ChB, PhD, MPH, Nimish Vakil, MD, Stephen George, PharmD, MS, William Chey, MD, University of Michigan Medical Center, Ann Arbor, MI, McMaster University, Hamilton, ON, Canada, University of Wisconsin Medical School, Milwaukee, WI, Conexus Health, Tampa, FL

P638. Effect of Advancing Technology on the Accuracy in Nodal Staging of Gastric Cardia Cancers by Endoscopic Ultrasound: A Meta-Analysis and Systematic Review
Srinivas Puli, MD, Jyotsna BK Reddy, MD, Matthew Bechtold, MD, Abhishek Choudhary, MD, Mainor Antillon, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO

P639. Does Endoscopic Ultrasound's Technology Affect Its Ability to Predict Rectal Cancers or Large Polyps That Can Be Resected Endoscopically? A Meta-Analysis and Systematic Review
Srinivas Puli, MD, Jyotsna BK Reddy, MD, Matthew Bechtold, MD, Abhishek Choudhary, MD, Farzana Rashid, MD, Mainor Antillon, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO

P640. Differences Among Hepatitis C Virus Patients with Sustained Virologic Responses and Non-Responders to Standard Treatment at a Nurse-Managed Veterans Affairs Clinic
Srinivas Puli, MD, Michelle Matteson, FNP/GNP-BC, Suzanne Opperman, APN, Matthew Bechtold, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO, Department of Gastroenterology and Hepatology, Harry S. Truman Veteran Memorial Hospital, Columbia, MO

P641. Cost-Effectiveness of Natalizumab in Patients with Crohn's Disease Who Have Failed Anti-TNFα Therapy
Bruce Sands, MD, MS, Douglas Wolf, MD, Sumeet Panjabi, PhD, Timothy Niecko, PhD, Steven Hass, PhD, Loretto Lacey, PhD, Gastrointestinal Unit / MGH Crohn's and Colitis Center, Massachusetts General Hospital and Harvard Medical School, Boston, MA, Atlanta Gastroenterology Associates, Atlanta, GA, Pharmacoeconomics, Elan Pharmaceuticals, Inc., South San Francisco, CA, Niecko Health Economics, LLC, Escondido, CA, Pharmacoeconomics, Elan Pharmaceuticals, Ltd., Dublin, Ireland

P642. Comparison of Two Generations of Forceps in Gastric Biopsy
Daniel Sussman, MD, Amar Deshpande, MD, Reni Grimes, MD, Robert Poppiti, MD, Jamie Barkin, MD, MACG, Gastroenterology, Mount Sinai Medical Center/University of Miami Leonard Miller School of Medicine, Miami Beach, FL, Pathology, Mount Sinai Medical Center, Miami Beach, FL

P643. Barriers to Completion of Outpatient Endoscopic Procedures: The Memphis Regional Medical Center Experience
Joel Bessoff, MD, Steven Kaptik, MD, Kerry Whitt, MD, Gastroenterology, University of Tennessee, Memphis, TN

P644. Patient and Physician Satisfaction with Proton Pump Inhibitors (PPI) for GERD Symptoms—Are There Opportunities for Improvement?
William Chey, MD, AGAF, FACG, Reema Mody, PhD, MBA, Esin Izat, BS, MMR, Division of Gastroenterology, University of Michigan Health System, Ann Arbor, MI, TAP Pharmaceuticals Products Inc., Lake Forest, IL

P645. Influence of Responder Definition on Placebo Response: Insights Gained from Phase III Clinical Trials with Lubiprostone for IBS-C
William Chey, MD, Douglas Drossman, MD, Charles Baum, MD, MS, Ryuji Ueno, MD, PhD, University of Michigan Health System, Ann Arbor, MI, UNC Center for Functional GI and Motility Disorders, University of North Carolina, Chapel Hill, NC, Takeda Pharmaceuticals North America, Inc., Deerfield, IL, Sucampo Pharmaceuticals, Inc., Bethesda, MD

P646. Risk Factors for Gastrointestinal Ulcer Disease in the U.S. Population
Donald Garrow, MD, MSc, Hugh Thompson, MD, Mark Delegge, MD, General Internal Medicine, Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC

P647. Cost Savings of Transnasal Endoscopy Versus Standard Endoscopy
Iryna Hepburn, MD, Tamara Watts, MD, Gregory Postma, MD, Ayaz Chaudhary, MD, Robert Schade, MD, Otolaryngology, Medicine, Medical College of Georgia, Augusta, GA

P648. Can Use of Capsule Edoscopy Reduce Prison Health Care Costs?
Iryna Hepburn, MD, Ayaz Chaudhary, MD, Edward Bailey, MD, Robert Schade, MD, Georgia Correctional Health Care, Medicine, Medical College of Georgia, Augusta, GA

P649. Delayed Radionucleotide Gastric Emptying Studies Predict Morbidity in Diabetics with Symptoms of Gastroparesis
Brian Hyett, MD, Fernando Martinez, MD, Shilpa Mehra, MD, Brian Gill, MD, Daniel Leffler, MD, Anthony Lembo, MD, Ciaran Kelly, MD, Beth Israel Deaconess Medical Center, Boston, MA

P650. Thiazolidinedione Use and Rectal Cancer in Diabetics: A Population Based Case-Control Study
Millie Long, MD, MPH, Lisa Vinikoor, MSPH, PhD, Christopher Martin, MSPH, Joseph Galanko, PhD, Temitope Keku, PhD, Robert Sandler, MD, MPH, Gastroenterology and Hepatology, University of North Carolina-Chapel Hill, Chapel Hill, NC, Epidemiology, University of North Carolina-Chapel Hill, Chapel Hill, NC

P651. The Operational Effect of a GI Hospitalist Service on a University-Based Gastroenterology Practice
Pavan Manchikalapati, MD, Dominic Nompleggi, MD, PhD, John Levey, MD, Gastroenterology, University of Massachusetts, Worcester, MA

P652. A Structured GI Referral Schedule Improves Outcomes in Patients Discharged from the Chest Pain Center
Mark Mellow, MD, Amy Kanatzar, INTEGRIS Center for Digestive Health, Oklahma City, OK

P653. Utilization and Costs of Medical Services Among Gastroesophageal Reflux (GERD) Patients Using 'Real World' Data
Reema Mody, PhD, MBA, Brian Meissner, PharmD, PhD, Nicholas Shaheen, MD, MPH, TAP Pharmaceuticals Products Inc., Lake Forest, IL, Xcenda, Palm Harbor, FL, Center for Esophageal Diseases and Swallowing, University of North Carolina, Chapel Hill, NC

P654. A Retrospective Chart Review Investigating the Use of Colonoscopy in the Elderly
Michael Raphael, DO, Jennifer DiNubila, DO, Michael Biederman, DO, Gastroenterology, Botsford Hospital, Farmington Hills, MI

INFLAMMATORY BOWEL DISEASE

P655. Improved Bone Mass After Ileal Pouch-Anal Anastomosis for Patients with Ulcerative Colitis
★ *2008 ACG Presidential Poster Award Recipient*
Hong Lu, MD, PhD, Rocio Lopez, MS, Bo Shen, MD, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH

P656. Characterization of Clinical and Serologic Features of Crohn's Disease and Anti-TNFα Use in a Chinese Cohort
Hong Lu, MD, PhD, Ru Zhang, MD, Bing-Bing Shen, MD, Jefferey Hammel, MD, Bo Shen, MD, Jia-Ming Qian, MD, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH, Gastroenterology, Peking Union Medical College Hospital, Beijing, China

P657. Factors Associated with Conversion of an Ulcerative Colitis Diagnosis to Crohn's Disease
★ *2008 ACG Presidential Poster Award Recipient*
Ari Wiesen, MD, Seymour Katz, MD, MACG, Blanche Fung Liu, MD, David Oustecky, MD, Camille Sommers, MD, Natan Krohn, MD, Gastroenterology, Long Island Jewish Medical Center, Glen Oaks, NY

P658. Poster Withdrawn

P659. Efficacy and Safety of Adalimumab in the Treatment of Crohn's Disease of the Ileal Pouch
Bo Shen, MD, Feza Remzi, MD, Ling Shen, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH

P660. Diagnostic Value of EGD in Patients with Ileal Pouch-Anal Anastomosis
Bo Shen, MD, Ling Shen, Rocio Lopez, MS, Elaine Queener, LPN, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH

P661. Risk Factors Associated with Crohn's Disease Recurrence in Neo-Terminal Ileum After Diverting Ileostomy
★ *2008 ACG/Centocor IBD Award Recipient*
Naim Alkhouri, MD, Bo Shen, MD, Rocio Lopez, MS, Andrew King, BS, Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH, Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH

P662. Efficacy and Safety of Adalimumab for the Treatment of Japanese Patients with Moderately to Severely Active Crohn's Disease: Results from a Randomized Controlled Trial
Toshifumi Hibi, MD, Mamoru Watanabe, MD, PhD, Anne Camez, MD, Mahmudul Khan, PhD, Keio University School of Medicine, Tokyo, Japan, Tokyo Medical & Dental University, Tokyo, Japan, Abbott GmbH & Co. KG, Ludwigshafen, Germany, Abbott Laboratories, Parsippany, NJ

P663. Imaging of Crohn's Disease in the Era of Radiation Safety: Experience with 100 Consecutive MR Enterography Exams
David Kerstetter, MD, David Grand, MD, Lila Camara, RTRCV, Samir Shah, MD, Radiology, Medicine, Division of Gastroenterology, Brown University, Providence, RI

P664. Detection of Tissue Eosinophils and Evidence of Extensive Degranulation in Biopsies of Inflammatory Bowel Disease (IBD) Patients
Jonathan Leighton, MD, Giovanni De Petris, MD, Shabana Pasha, MD, Russell Heigh, MD, Suryakanth Gurudu, MD, Cheryl Protheroe, Tech, Shailajah Janarthanan, MD, Michael Crowell, PhD, James Lee, PhD, Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Arizona, Scottsdale, AZ, Biochemistry and Molecular Biology, Laboratory Medicine and Pathology, Mayo Clinic College of Medicine, Scottsdale, AZ

P665. Rising Incidence of Inflammatory Bowel Disease Among Children: A 12-Years Study
Hoda Malaty, MD, PHD, Xiaolin Fan, PHD, Antone Opekun, PA, Carolyn Thibodeaux, RN, George Ferry, MD, Medicine, Pediatrics, Baylor College of Medicine, Houston, TX, Biostatistics, Medical College of Wisconsin, Milwaukee, WI

P666. Histologic Predictors of Future Ulcerative Colitis Disease Severity
Joshua Melson, MD, Deborah Giusto, MD, Shriram Jakate, MD, Mary Kwasny, ScD, Ali Keshavarzian, MD, Pathology, Digestive Diseases, Rush University Medical Center, Chicago, IL

P667. Effect of Concomitant Steroid or Immunosuppressant Treatment on Adalimumab Response in Patients with Crohn's Disease: Results from the Care Study
Walter Reinisch, MD, Robert Lofberg, MD, Edouard Louis, MD, PhD, Martina Kron, PhD, Anne Camez, MD, Paul Pollack, MD, Gastroenterology and Hepatology, Medical University of Vienna, Vienna, Austria, IBD-Unit, Karolinska Institutet, Stockholm, Sweden, Gastroenterology, University of Liège, Liège, Belgium, Abbott GmbH & Co. KG, Ludwigshafen, Germany, Global Statistics and Data Mgmt, Abbott Laboratories, Parsippany, NJ

P668. Outcomes of Medical Therapy of Stricture and Internal Perforating Crohn's Disease: A Retrospective Cohort Study
Roxana Samimi, MD, Mark Flasar, MD, MS, Kathleen Tracy, PhD, Raymond Cross, MD, MS, Epidemiology and Preventive Medicine, Medicine, University of Maryland, Baltimore, MD

P669. Monitoring Patients with Ulcerative Colitis in Community-Based Practice to Improve Adherence
Ira Shafran, MD, P. Burgunder, ARNP, Shafran Gastroenterology Center, Winter Park, FL

P670. Comparison of Computed Tomographic Enterography with Standard Diagnostic Assessments for Detecting Active Crohn's Disease
Ira Shafran, MD, P. Burgunder, ARNP, Shafran Gastroenterology Center, Winter Park, FL

P671. Vitamin D Deficiency in Inflammatory Bowel Disease Patients: Association with Disease Activity and Quality of Life
Alex Ulitsky, MD, Ashwin Ananthakrishnan, MD, MPH, Susan Skaros, PA-C, Kathryn Lemke, PA-C, Josh Knox, PA-C, Yelena Zadvornova, MD, MBA, David Binion, MD, Mazen Issa, MD, Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI

P672. A New Tool to Measure the Burden of Crohn's Disease and Its Treatment: Do Patient and Physician Perceptions Match?
Allison Wilcox, MD, Connie Dragnev, ARNP, Christopher Darcey, MD, Corey Siegel, MD, IBD Center, Dartmouth-Hitchcock Medical Center, Lebanon, NH

P673. Safety Profile of Once-Daily 1.5-G Granulated Mesalamine as Maintenance Therapy for Mild-to-Moderate Ulcerative Colitis: Results from 2 Phase 3 Trials
Salam Zakko, MD, Uma Murthy, MD, Ronald Pruitt, MD, Kunal Merchant, PhD, Audrey Shaw, PhD, James Yuan, PhD, Enoch Bortey, PhD, William Forbes, PharmD, Connecticut Gastroenterology Institute, Bristol, CT, Syracuse VA Medical Center, Syracuse, NY, Nashville Medical Research Institute and the Maria Nathanson Center at Saint Thomas Hospital, Nashville, TN, Salix Pharmaceuticals, Morrisville, NC

P674. Certolizumab Pegol, Adalimumab and Infliximab Dramatically Reduce the Levels of TLR2, TLR4 and CD14 Expression on LPS-Stimulated Monocytes
Gianluca Fossati, PhD, Andrew Nesbitt, PhD, UCB-Celltech, Slough, United Kingdom

P675. Placebo is Becoming More Effective in Crohn's Disease
William Gallahan, MD, Douglas Case, PhD, Richard Bloomfeld, MD, Gastroenterology, Wake Forest University Baptist Medical Center, Winston-Salem, NC, Public Health Sciences, Wake Forest University School of Medicine, Winston-Salem, NC

P676. Poster Withdrawn

P677. Late-Onset Ulcerative Colitis: A Historical Analysis of the Washington University School of Medicine Experience
Christina Ha, MD, Matthew Ciorba, MD, Division of Gastroenterology, Washington University School of Medicine, St. Louis, MO

P678. Short- and Long-Term Efficacy of Adalimumab Following Infliximab Failure: Systematic Review and Meta-Analysis
Christopher Ma, BSc, Remo Panaccione, MD, Steven Heitman, MD, MSc, Shane Devlin, MD, Gilaad Kaplan, MD, MPH, Inflammatory Bowel Disease Clinic, Department of Medicine, University of Calgary, Calgary, AB, Canada

P679. Outcomes of Ileal Pouch Anal Anastomosis in African American Patients
Lauren Moore, BA, Rocio Lopez, MS, Bo Shen, MD, Cleveland Clinic Lerner College of Medicine, Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, OH

P680. Immunomodulator and Corticosteroid Use are Not Associated with Prolonged Success with Infliximab
Melissa Rosen, MD, Thomas Ullman, MD, Arun Swaminath, MD, Maria Abreu, MD, Gastroenterology, Internal Medicine, Mount Sinai School of Medicine, New York, NY, Gastroenterology, University of Miami, Miami, FL

P681. Minimal Effect of a High-Fat Meal on the Pharmacokinetics of Once-Daily Granulated Mesalamine
Alan Safdi, MD, Hank Pieniaszek, PhD, Andrew Grigston, PhD, William Forbes, PharmD, Ohio Gastroenterology & Liver Institute, Cincinnati, OH, HPP Consulting & Services, Inc., Darlington, MD, Salix Pharmaceuticals, Morrisville, NC

P682. Multiple-Dose Pharmacokinetics of Granulated Mesalamine, A Unique Formulation Providing Delayed and Extended Release of 5-ASA
Alan Safdi, MD, Hank Pieniaszek, PhD, Andrew Grigston, PhD, William Forbes, PharmD, Ohio Gastroenterology & Liver Institute, Cincinnati, OH, HPP Consulting & Services, Inc, Darlington, MD, Salix Pharmaceuticals, Morrisville, NC

P683. A Pharmacokinetic and Scintigraphic Comparison of MMX™ Mesalamine and Delayed-Release Mesalamine
Heather Wray, PhD, Raymond Joseph, MD, Mary Palmen, PhD, David Pierce, PhD, Pharmaceutical Profiles Ltd, Nottingham, United Kingdom, Shire Pharmaceuticals Inc., Wayne, PA

P684. A Prospective, Controlled Longitudinal Study of the Effects of Oral Steroids at 3, 6 and 12 Months on Bone Mineral Density (BMD) in Patients with IBD
Jae Geun Hyun, MD, Asher Kornbluth, MD, James George, MD, Peter Legnani, MD, Simon Lichtiger, MD, Michele Kissous-Hunt, RPA-C, Meredith Lewis, MS, Gastroenterology, The Mount Sinai Hospital, New York, NY

P685. Impact of Narcotic Use on Requirement of Colectomy in Inpatients with Ulcerative Colitis
Lei Lian, MD, Victor Fazio, MB, MS, Bo Shen, MD, Digestive Disease Institute, Cleveland Clinic, Cleveland, OH

P686. Use of a Blood IFN-γ Release Assay (Quantiferon-TB Gold Test) for Tuberculosis Screening in Inflammatory Bowel Disease (IBD)
Bashar Qumseya, MD, Ashwin Ananthakrishnan, MD, MPH, Mazen Issa, MD, Susan Skaros, PA-C, Josh Knox, PA-C, Kathryn Lemke, PA-C, Anita Ward, RN, David Binion, MD, Division of Gastroenterology and Hepatology, Internal Medicine, Medical College of Wisconsin, Milwaukee, WI

FUNCTIONAL BOWEL DISORDERS

P687. The Prevalence of Positive Serologic Tests for Celiac Sprue Does Not Differ Between Irritable Bowel Syndrome (IBS) Patients Compared with Controls
Yuri Saito-Loftus, MD, MPH, Tricia Brantner, Janice Zimmerman, Nicholas Talley, MD, PhD, Joseph Murray, MD, Department of Internal Medicine, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

P688. Is High-Definition Manometry a Comprehensive Test of Anal Sphincter Function: Comparative Study with Manometry and Ultrasound
★ *2008 ACG/AstraZeneca Senior Fellow Award Recipient*
Kasaya Tantiphlachiva, MD, Jessica Paulson, BS, Ashok Attaluri, MD, Satish Rao, MD, PhD, FRCP, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA, Division of Colorectal Surgery, Chulalongkorn University, Bangkok, Thailand

P689. Translumbar and Transsacral Motor Evoked Potentials in Patients with Rectal Hyposensitivity
Kasaya Tantiphlachiva, MD, Jose Remes-Troche, MD, Ashok Attaluri, MD, Jessica Paulson, BS, Thoru Yamada, MD, Satish Rao, MD, PhD, FRCP, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA, Division of Colorectal Surgery, Chulalongkorn University, Bangkok, Thailand, Digestive Physiology and Motility, Medical-Biological Research Institute, Veracruz, Mexico, Neurology, University of Iowa, Iowa City, IA

P690. Novel Genomic Biomarkers That Differentiate Between Irritable Bowel Syndrome and Normal Patients Using Peripheral Blood Specimens
Cole Harris, MS, Thomas Ma, MD, PhD, Jonathan Leighton, MD, Lei Tang, PhD, Patti Doherty, RN, Feng Zhou, PhD, Tom Williams, MD, Lisa Davis, PhD, John Alsobrook II, PhD, Exagen Diagnostics, Inc., Albuquerque, NM, Internal Medicine, Division of Gastroenterology and Hepatology, University of New Mexico, Albuquerque, NM, Division of Gastroenterology and Hepatology, Mayo Clinic, Scottsdale, AZ, Pathology, University of New Mexico, Albuquerque, NM

P691. Rifaximin Significantly Improves Quality of Life Versus Placebo in Patients with Diarrhea-Predominant Irritable Bowel Syndrome
William Chey, MD, N. Talley, MD, A. Lembo, MD, J. Yu, PhD, E. Bortey, PhD, University of Michigan Health System, Ann Arbor, MI, Mayo Clinic, Jacksonville, FL, Beth Israel Deaconess Medical Center, Boston, MA, Salix Pharmaceuticals, Inc, Morrisville, NC

P692. No Evidence for Association of Tegaserod with Cardiovascular Adverse Ischemic Events (CVIE) in Routine Clinical Practice
★ *2008 ACG Presidential Poster Award Recipient*
John Seeger, PharmD, DrPH, Jeanne Loughlin, MS, Elena Rivero, MD, MPH, David Earnest, MD, Sherry Quinn, MA, Jiaqing Huang, MD, PhD, Peter Rueegg, MD, Eslie Dennis, MD, MBChB, FCP(SA), Jeffrey Kralstein, MD, i3 Drug Safety, Waltham, MA, Novartis Farmaceutica SA, Barcelona, Spain, Novartis Pharmaceuticals Corporation, East Hanover, NJ, Novartis Pharma AG, Basel, Switzerland

P693. The Risk Management Program (RiskMAP) is Effective in Mitigating Serious Outcomes of Ischemic Colitis and Complications of Constipation with Marketed Use of Alosetron Since Reintroduction
Vanessa Ameen, MD, Kenneth Tong, PharmD, Henry Pan, MD, PhD, Science and Technology, Prometheus Laboratories, San Diego, CA

P694. Mucosal Mastocytosis as a Histological Marker in Diarrhea Predominant Irritable Bowel Syndrome
P. Patrick Basu, MD, Krishna Rayapudi, MD, Jose Esteves, MD, Terri Crook, MD, Department of Gastroenterology, New York Hospital Queens, New York, NY, Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY, Pathology Department, Caris Laboratories, Irving, TX

P695. Defining Irritable Bowel Syndrome: GI Symptoms are Strongly Linked to Somatization
Joseph Chang, MD, MPH, G. Richard Locke, III, MD, Nicholas Talley, MD, PhD, Joseph Larson, BS, Elizabeth Atkinson, MS, Yuri Saito Loftus, MD, MPH, Department of Health Sciences Research, Division of Biostatistics, Enteric NeuroScience Program, Division of Gastroenterology and Hepatology, Mayo Clinic College of Medicine, Rochester, MN, Department of Internal Medicine, Mayo Clinic Jacksonville, Jacksonville, FL

P696. Evaluating Breath Methane as a Diagnostic Test for Constipation Predominant IBS
Laura Hwang, BS, Kimberly Low, BA, Reza Khoshini, MD, Ara Sahakian, MD, Marc Makhani, MD, Venkata Pokkunuri, MBBS, Mark Pimentel, MD, FRCP(C), Cedars-Sinai Medical Center, Los Angeles, CA

P697. Yogurt Containing the Probiotic Bacteria *Bifidobacterium Lactis* Bb12 and Prebiotic Inulin Significantly Improves Colonic Transit Time in Subjects with Functional Bowel Symptoms
Tamar Ringel-Kulka, MD, MPH, Olafur Palsson, PhD, Danielle Maier, MPAS, PA-C, Yehuda Ringel, MD, FACG, Division of Gastroenterology and Hepatology, School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC

P698. The Efficacy of Probiotics in the Therapy of Irritable Bowel Syndrome (IBS): A Systematic Review
Paul Moayyedi, FRCP, PhD, FACG, Alexander Ford, MRCP, MD, Lawrence Brandt, MD, Amy Foxx-Orenstein, DO, Fillipo Cremonini, MD, Nicholas Talley, MD, PhD, Eamonn Quigley, MB, BCh, BAO, Gastroenterology, McMaster University, Hamilton, ON, Canada, Gastroenterology, Mayo Clinic, Jacksonville, FL, Gastroenterology, University College Cork, Cork, Ireland, Gastroenterology, Montefiore Medical Center, New York, NY

P699. The Prevalence and Costs to Treat Comorbidities in Persons with Constipation and Irritable Bowel Syndrome with Constipation in the 6 Months After Diagnosis: An Employer's Perspective
Richard Brook, MS, MBA, Nathan Kleinman, PhD, Arthur Melkonian, MD, Nicholas Talley, MD, PhD, G. Richard Locke, MD, Robert Baran, PharmD, Retrospective Analysis, The JeSTARx Group, Newfoundland, NJ, Research Services, HCMS Group, Cheyenne, WY, Gastroenterology and Hepatology, Internal Medicine, Mayo Clinic, Jacksonville, FL, Medical Outcomes Research, Takeda Global Research and Development Center, Inc., Deerfield, IL

P700. Efficacy of Rifaximin for the Treatment of Symptoms Associated with Irritable Bowel Syndrome
John Jolley, MD, University of California San Francisco, San Rafael, CA

P701. Resident Physicians' Comfort with Managing Irritable Bowel Syndrome at the Completion of Internal Medicine Residency
Mary Reyes, MD, Huy Nguyen, MD, Jessica Gladden, MS, Steven Zeddun, MD, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC

P702. Effects of Age and Gender on Anorectal Function in Chronic Constipation
Jason Baker, BS, Richard Saad, MD, Joel Rubenstein, MD, MSc, William Chey, MD, University of Michigan, Ann Arbor, MI

P703. Efficacy of Nitazoxanide in Gas-Related Intestinal Symptoms
Venero Bremer, MD, Clinica Central INPPARES, Lima, Peru

P704. Effect of Oral Cyclic GMP on TNBS-Induced Colitis and Visceral Hypersensitivity in Rats
Lionel Bueno, PhD, Dr es SC, Héléne Eutamen, PhD, Marrion Gillet, MSc, Vassilia Theodorou, PhD, Catherine Beaufrand, PhD, Dr es Sc, Alexander Bryant, PhD, Mary Curry, MD, Tami Reza, PhD, Neurogastroenterology Unit, INRA, Toulouse, France, Pharmacology, Ironwood, Cambridge, MD

ENDOSCOPY

P705. EUS Staging of Primary Ampullary Neoplasms in Patients with Versus without a Biliary Stent
★ *2008 ACG Presidential Poster Award Recipient*
Julia LeBlanc, MD, MPH, Pradermchai Kongkam, MD, Lee McHenry, MD, FACG, John DeWitt, MD, Thomas Imperiale, MD, Stuart Sherman, MD, FACG, Gastroenterology and Hepatology, Indiana University School of Medicine, Indianapolis, IN

P706. The Impact of Narrow Band Imaging in Screening Colonoscopy; Results from a Randomized, Controlled Trial
Franco Radaelli, MD, Silvia Paggi, MD, Arnaldo Amato, MD, Gianmichele Meucci, MD, Giovanna Mandelli, MD, Vittorio Terruzzi, MD, Gastroenterology, Valduce Hospital, Como, Italy

P707. Cyst Fluid Viscosity Predicts Mucinous Cystic Lesions of the Pancreas
Sundeep Ram, DO, Kevin McGrath, MD, Michael Sanders, MD, Ken Fasanella, MD, Asif Khalid, MD, Gastroenterology, University of Pittsburgh Medical Center, Pittsburgh, PA

P708. Role of Self Expanding Metallic Stents (SEMS) in the Management of Malignant Obstruction of Proximal Colon
Sindhu Ramamurthy, MBBS, MRCP, Shridhar Dronamraju, MBBS, MRCS, MD, Mumtaz Hayat, MBBS, FRCP, General Surgery, Gastroenterology, North Tyneside General Hospital, North Shields, United Kingdom

P709. Deep Small Bowel Foreign Body Retrieval Using Spiral Overtube-Assisted Enteroscopy
Colin Swales, MD, Kanishka Bhattacharya, MD, Douglas Howell, MD, Medicine, University of Massachusetts, Worcester, MA, Maine Medical Center, Portland, ME

P710. Successful Polypectomy of Small Bowel Polyps in Patients with Peutz-Jeghers Syndrome Using Discovery Endoease SB Spiral Overtube (Spirus)
Colin Swales, MD, David Cave, MD, PhD, Paul Akerman, MD, Kanishka Bhattacharya, MD, Medicine, University of Massachusetts, Worcester, MA, Medicine, Rhode Island Hospital, Providence, RI

P711. Evaluation of Mediastinal Masses by Endoscopic Ultrasound (EUS) and EUS-Guided Fine Needle Aspiration: A Large Single Center Experience
Brian Brunson, MD, Tercio Lopes, MD, MPH, Shyam Varadarajulu, MD, Mohamad Eloubeidi, MD, MHS, Robert Cerfolio, MD, Surgery, Medicine/Gastroenterology, University of Alabama at Birmingham, Birmingham, AL

P712. Polyethylene Glycol Bowel Preparation is Associated with Hypokalemia
Jeen-Soo Chang, MD, MS, Hemant Roy, MD, Eugene Yen, MD, Tat-Kin Tsang, MD, Dhiren Shah, MD, Monica Borkar, MD, Eric Elton, MD, Manoj Mehta, MD, Mick Meiselman, MD, Laura Bianchi, MD, Evanston Northwestern Healthcare, Evanston, IL

P713. A Quality Initiative to Decrease Pathology Specimen Labeling Errors Using Radiofrequency Identification in a High-Volume Endoscopy Center
Dawn Francis, MD, MHS, Shalini Prabhakar, MBA, Schuyler Sanderson, MD, Anatomic Pathology, Miles and Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN

P714. The Significance of Gastric and Duodenal Ischemia Reported on Endoscopic Biopsy: A Case Series
Jeremy Herman, MD, Disaya Chavalitdhamrong, MD, Dennis Jensen, MD, Galen Cortina, MD, PhD, Ananya Manuyakorn, MD, Rome Jutabha, MD, Department of Pathology and Laboratory Medicine, Division of Digestive Diseases, David Geffen School of Medicine at University of California, Los Angeles, CA

P715. Prospective Pilot Study to Determine the Use of Real-Time Video Capsule Endoscopy in Risk Stratification of Patients That Present with Upper Gastrointestinal Bleeding
Timothy Johnson, MD, Siddharth Verma, DO, Frank Chateau, PA, Albert Min, MD, Henry Bodenheimer, MD, Brett Bernstein, MD, Department of Medicine, Digestive Diseases, Beth Israel Medical Center, New York, NY

P716. A Retrospective Study to Determine the Ability of Video Capsule Endoscopy to Detect Upper Gastrointestinal Pathology Compared to Standard Endoscopy in Patients with Obscure Bleed
Timothy Johnson, MD, Siddharth Verma, DO, Frank Chateau, MD, Albert Min, MD, Henry Bodenheimer, MD, Brett Bernstein, MD, Medicine, Digestive Diseases, Beth Israel Medical Center, New York, NY

P717. Collateral Damage Following Selective Internal Radiation Therapy (SIRT) for Hepatic Tumors
Amulya Konda, MD, Michael Duffy, MD, FACG, Michael Savin, MD, Interventional Radiology, Gastroenterology and Hepatology, William Beaumont Hospital, Royal Oak, MI

P718. Assessments of Patient Comfort Level During Endoscopic Procedures—Need for a Validated Global Tool?
Ravi Madhotra, MBBS, MD, FRCP, FACG, Ana Ignjatovic, MB, ChB, MRCP, Irfan Amin, MBBS, MRCP, Gastroenterology, Milton Keynes NHS Foundation Trust, Milton Keynes, United Kingdom

P719. The Endoscopic Treatment of Esophageal Varices with Gastric Extensions Using a Combined Ligation and Sclerotherapy Technique
Patrick McDevitt, DO, MSC, Matthew Moyer, MD, MSC, Thomas Riley, MD, Department of Gastroenterology and Hepatology, Department of Internal Medicine, The Penn State Hershey Medical Center, Hershey, PA

P720. Thumbs Up: Overuse Syndromes Among Endoscopists in Illinois
Gaston Ponte, MD, Joy Tsai, MD, Komal Dhingsa, MD, Charles Berkelhammer, MD, FACG, Gastroenterology, Internal Medicine, University of Illinois, Oak Lawn, IL

P721. The Accuracy of Predicting Obstructive Sleep Apnea During Colonoscopy Under Conscious Sedation
Ala Sharara, MD, Karim Maasri, MD, Jana Hashash, MD, Lara El Zahabi, MD, Zeina Kanafani, MD, Pierre Bou Khalil, MD, Ahmad Husari, MD, Internal Medicine, Division of Gastroenterology, American University of Beirut, Beirut, Lebanon

P722. Endoscopic Ultrasound Guided Percutaneous Endoscopic Gastrostomy After Failed Endoscopic Approach
Muhammad Siddiqui, MD, Mihir Majmundar, MD, Muhammad Omer, MD, Jefferey Port, MD, Mike Owens, MD, Kamran Ayub, MD, Internal Medicine, University of Illinois/Advocate Christ Medical Center, Oak Lawn, IL, Department of Gastroenterology, University of Washington, Seattle, WA

P723. Cryospray Ablation™ for the Treatment of HPV-Induced Squamous Cell Carcinoma of the Esophagus
Jenny Smith, MD, Doumit BouHaidar, MD, Bimaljit Sandhu, MD, A. Scott Mills, MD, Sharon Everette, CGRN, Alvin Zfass, MD, MACG, Pathology, Gastroenterology and Hepatology, Virginia Commonwealth University, Richmond, VA

P724. Predictors of Poor Bowel Preparation in Colonoscopy
Brian Borg, MD, MHS, Nitin Gupta, MD, Gary Zuckerman, DO, Bhaskar Banerjee, MD, Gastroenterology, Washington University School of Medicine, Saint Louis, MO

P725. Assessment of Patient Compliance and Efficacy of Three Standard Bowel Preparation Regimens
Veron Browne-McDonald, MD, Kiranmaye Tiriveedhi, MD, Shahzad Iqbal, MD, Wael Eldarawy, MD, Prashant Sharma, MD, Ofem Ajah, MD, Mohamed Mansour, MD, Eric Jaffe, MD, Maurice Cerulli, MD, Gastroenterology, New York Methodist Hospital, Brooklyn, NY, Gastroenterology, Interfaith Medical Center, Brooklyn, NY

P726. Are Endoscopic Findings Predictive of Esophageal Function Results as Tested by Multichannel Intraluminal Impedance and Manometry?
Nazif Chowdhury, MD, Omer Deen, MD, Ron Mathew, MD, Richard Rackett, LPN, Amine Hila, MD, Internal Medicine Residency Program, United Health Services, Johnson City, NY, Gastroenterology, United Medical Associates, Johnson City, NY

P727. Standardized Procedure Evaluation (SPE) for the Assessment of Esophagogastroduodenoscopy Skills
Sushil Duddempudi, MD, Malvinder Singh, MD, Vishal Ghevariya, MD, Mahesh Krishnaiah, MD, Suryanarayan Anand, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY

P728. Characterization of No-Show Patients and Their Impact on the Efficient Delivery of Endoscopic Services in the Ambulatory Endoscopy Center (AEC)
William Holderman, MD, Marshall Nickel, MD, Bev Mansanarez, BA, Susie Ross, BA, James Bernhard, PhD, Digestive Health Specialists, Tacoma, WA, Mathematics, University of Puget Sound, Tacoma, WA

P729. Predictors of Depth of Maximal Insertion at Deep Enteroscopy
Mouen Khashab, MD, Michael Chiorean, MD, Debra Helper, MD, Bridget Galetti, RN, Cynthia Johnson, MS, Biostatistics, Gastroenterology, Indiana University, Indianapolis, IN

P730. The Oklahoma Experience with Double Balloon Enteroscopy (DBE): 1st 100 Procedures
Mark Mellow, MD, Amy Kanatzar, INTEGRIS Center for Digestive Health, Oklahma City, OK

P731. Gastrointestinal Complications Associated with Left Ventricular Assist Devices
Ethan Miller, MD, D. Steidley, MD, Francisco Arabia, MD, Ananya Das, MD, Michael Crowell, PhD, Jonathan Leighton, MD, Anton Decker, MBBCh, MRCP, GastCardCardiothoracic Surgery, Cardiology, Gastroenterology & Hepatology, Mayo Clinic Arizona, Scottsdale, AZ

P732. Resident Physicians' Comfort with Managing Feeding Tubes at the Completion of Internal Medicine Residency
Huy Nguyen, MD, Jessica Gladden, MS, Steven Zeddun, MD, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC

P733. Endoscopy Unit Efficiency Utilizing Propofol in the Presence of Optimal Room Turnover
John Poulos, MD, Vidhi Patel, BS, Christina Edge, ADN, Bud Perry, ADN, Julie Thibodeaux, ADN, Fayetteville Gastroenterology Associates, Fayetteville, NC, Cumberland Research Associates, Fayetteville, NC

PEDIATRICS

P734. Efficacy and Tolerability of Pantoprazole Delayed-Release Granules for Oral Suspension in a Placebo-Controlled Treatment-Withdrawal Study in Infants 1 Through 11 Months of Age with Symptomatic GERD
Gail Comer, MD, FACG, Philip Kum-Nji, MD, MPH, Suleman Mahomedy, MBChB, FCPaeds(SA), Jaroslaw Kierkus, MD, Michelle Hinz, MS, Huihua Li, MS, Mary Maguire, PharmD, Harland Winter, MD, FACG, Wyeth Research, Collegeville, PA, Children's Pavilion, Virginia Commonwealth University, Richmond, VA, Hiway Medical Centre/Westville Medical Centre, Durban, South Africa, Department of Gastroenterology, Hepatology and Immunology, The Children's Memorial Health Institute, Warsaw, Poland, Mass General Hospital for Children, Boston, MA

P735. Age at Menarche and Longitudinal Growth in Pediatric-Onset Inflammatory Bowel Disease
★ *2008 ACG Presidential Poster Award Recipient*
★ *2008 ACG/AstraZeneca Senior Fellow Award Recipient*
Nancy McGreal, MD, Dezheng Huo, MD, PhD, Harry Rosenberg, BS, Megan Toth, MPH, Matthew Tierney, MS, Barbara Kirschner, MD, Health Studies, Pediatric Gastroenterology, University of Chicago, Chicago, IL

P736. Validation of the Pediatric Gastroesophageal Reflux Disease Symptom and Quality of Life Questionnaire (PGSQ)
Suzanne Nelson, MD, Laurie Roberts, MPH, Smitha Kothari, PhD, Susan Orenstein, MD, Ben Gold, MD, Eric Hassall, MBChB, Reema Mody, PhD, Leah Kleinman, DrPH, Omar Dabbous, MD, Pediatrics, Children's Memorial Hospital, Northwestern University, Chicago, IL, Center for Health Outcomes Research, United BioSource Corporation, Bethesda, MD, Health Economics and Outcomes Research, TAP Pharmaceutical Products, Lake Forest, IL, Pediatrics, BC Children's Hospital, University of British Columbia, Vancouver, BC, Canada, Pediatric Gastroenterology, Hepatology and Nutrition, Emory University School of Medicine, Atlanta, GA, Pediatric Gastroenterology, Children's Hospital of Pittsburgh, Pittsburgh, PA

P737. Effect of High Body Mass Index on the Course of Pediatric Crohn's Disease
Melanie Greifer, MD, Subra Kugathasan, MD, Jeffrey Hyams, MD, Trudy Lerer, MS, Nina Kohn, MA, Jim Markowitz, MD, Pediatric IBD Collaborative Research Group, Biostatistics Unit, Feinstein Institute, North Shore-Long Island Jewish Health System, Manhasset, NY

P738. The Utility of Fecal Lactoferrin in Identifying Crohn's Disease Activity in Children
Marian Pfefferkorn, MD, James Nguyen, MS, Beth Juliar, MS, Miriam Davis, BS, James Boone, MS, Division of Pediatric Gastroenterology, Indiana University School of Medicine, Indianapolis, IN, Research and Development, Techlab, Inc., Blacksburg, VA, Division of Biostatistics, Indiana University School of Medicine, Indianapolis, IN

P739. Caustic Ingestion in Children: A Correlation Between Symptoms and Esophageal Injury?
Barbara Bizzarri, MD, Fabiola Fornaroli, MD, Nicola de'Angelis, MD, Francesca Vincenzi, MD, Valentina Maffini, MD, Marcello Sommi, MD, Stefania Errico, MD, Gian Luigi de' Angelis, MD, Pediatric Gastroenterology, Parma, Italy, General Surgery, Parma, Italy

P740. Feasibility and Application of 3-Dimensional Ultrasound for Measurement of Gastric Volumes in Healthy Adults and Adolescents
Mhd Louai Manini, MD, Duane Burton, Duane Meixner, Deborah Eckert, RN, Matthew Callstrom, MD, Grant Schmit, ND, Mounif El-Youssef, MD, Michael Camilleri, MD, Division of Pediatric Gastroenterology and Hepatology, Department of Radiology, Clinical Enteric Neuroscience Translational and Epidemiological Research (CENTER) program, Mayo Clinic, Rochester, MN

COLORECTAL CANCER PREVENTION

P741. Pre-Endoscopy Cancer Screening Using a Self-Administered Questionnaire Has a High Yield for Identifying Patients Who Qualify for Genetic Counseling
S. Simona Jakab, MD, Gregory Vornovitsky, MD, Vladislava Buntic, MD, Charles Adelmann, MD, William Hale, MD, Medicine, Gastroenterology/Hepatology, Norwalk Hospital/Yale University, Norwalk, CT

P742. Outcome of Patients with Inadequate Colon Preparation on Missing Colonic Neoplasms
Sashidhar Sagi, MD, Advitya Malhotra, MD, Praveen Guturu, MD, Viet Tran, MD, G. Raju, MD, FRCP, FACG, Internal Medicine, University of Texas Medical Branch, Galveston, TX

P743. Does the Use of a Wide Angle, High Definition Colonoscope Enable the Endoscopist to Detect More Significant Polyps or High Risk Adenoma Bearing Patients Than the Use of a Conventional Colonoscope?
Anuja Choure, MD, Madhusudhan Sanaka, MD, Rocio Lopez, MS, Carol Burke, MD, Gastroenterology, Internal Medicine, Cleveland Clinic, Cleveland, OH

P744. Metabolic Syndrome is a Risk Factor for Colorectal Cancer in the United States
Donald Garrow, MD, MSc, Mark Delegge, MD, Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC

P745. Non-Medical Costs of Colorectal Cancer Screening Using Computed Tomographic Colonography
Robert Hilsden, MD, PhD, Steven Heitman, MD, Msc, Flora Au, MA, Braden Manns, MD, MSc, Elizabeth McGregor, PhD, Colon Cancer Screening Centre, University of Calgary, Calgary, AB, Canada, Division of Population Health & Information, Alberta Cancer Board, Calgary, AB, Canada, Medicine & Comunity Health Sciences, University of Calgary, Calgary, AB, Canada

P746. Colorectal Cancer Risk Stratification in a Community Gastroenterology Practice
Ralph McKibbin, MD, Bonita Mazzei, BSN, Blair Gastroenterology Associates, Altoona, PA

P747. Baseline Knowledge of Colorectal Cancer Screening and Surveillance Guidelines in Internal Medicine Residents: To Scope or Not to Scope
David Richards, MD, Kevin Leung, MD, Anand Madan, MD, FACP, Gastroenterology, University of Texas Health Science Center, Houston, TX

P748. Management of Small Polyps Detected by Screening CT Colonography: Patient and Physician Preferences
Jessica Shah, MD, Linda Hynan, PhD, Don Rockey, MD, University of Texas Southwestern, Dallas, TX

P749. Potential Overuse of Colonoscopy for Polyp Surveillance
Pratima Sood, MD, Gregory Cooper, MD, Gastroenterology, Internal Medicine, University Hospitals Case Medical Center, Cleveland, OH

P750. Implementation of a Patient-Oriented Visual Decision Aid for CRC Screening in an Effort to Increase Completed Colonoscopy Rates Among an Inner-City Population
Stuart Akerman, MD, Rajesh Dhirmalani, DO, Mark Sterling, MD, Zamir Brelvi, MD, Iris Herrera, MD, Lauren Doliner, MD, Marie Michelle Menna, MPH, Michael Akerman, BS, Ana Natale-Pereira, MD, Medicine, Montefiore Medical Center, Bronx, NY, Internal Medicine, Gastroenterology, UMDNJ - New Jersey Medical School, Newark, NJ, Medicine, Albert Einstein COM, Bronx, NY

P751. Differences in Colorectal Cancer Screening Rates Among Ethnic Groups
Jack Braha, DO, Nison Badalov, MD, Ian Wall, DO, David Cohen, MD, MSc, Jai Mirchandani, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Medicine, Maimonides Medical Center, Brooklyn, NY, Medicine, State University of New York, Health Sciences Center, Brooklyn, NY

P752. Utility of Initial Screening Colonoscopy in Elderly Patients
Steven Kaptik, MD, Thomas Lyles, MD, Frederick Harris, MD, Mohammad Ismail, MD, Claudio Tombazzi, MD, Gastroenterology and Hepatology, University of Tennessee, Memphis, TN

TUESDAY, OCTOBER 7, 2008

ESOPHAGUS

P753. The Polymorphism Interleukin 8-251 A/T is Associated with Reflux Esophagitis in *Helicobacter pylori*-Negative Populations
Takafumi Ando, MD, Emad El-Omar, MD, Osamu Watanabe, MD, Naoki Ohmiya, MD, Yasumasa Niwa, MD, Hidemi Goto, MD, Department of Gastroenterology, Nagoya University Graduate School of Medicine, Nagoya, Japan, Department of Medicine and Therapeutics, University of Aberdeen, Aberdeen, United Kingdom

P754. Variant Achalasia: A Rare Disorder and a Diagnostic Dilemma; A Proposal for New Diagnostic Criteria
John Arledge, MD, David Estores, MD, H. Worth Boyce, MD, MACG, Center for Esophageal and Swallowing Disorders, Digestive Diseases and Nutrition, University of South Florida, Tampa, FL

P755. Diagnosis of Eosinophilic Esophagitis After Prior Nissen Fundoplication for Presumed "Refractory GERD:" Implications for Pre-Operative Evaluation
Evan Dellon, MD, MPH, Timothy Farrell, MD, Eugene Boyzmski, MD, Nicholas Shaheen, MD, MPH, Surgery, Medicine; Division of Gastroenterology and Hepatology, University of North Carolina - Chapel Hill, Chapel Hill, NC

P756. Poster Withdrawn

P757. Clinical Evaluation of XP19986 as a Potential Treatment for GERD
F. Jacob Huff, MD, Ritu Lal, PhD, Juthamas Sukbuntherng, PhD, Wendy Luo, MS, James Tovera, BS, Robin Blumenthal, PhD, Marie-Liesse Lassauzet, PhD, Zarrin Navvab, MS, Kenneth Cundy, PhD, XenoPort Inc., Santa Clara, CA

P758. Removable Internally Covered Self-Expandable Metal Stents During Neoadjuvant Therapy for Locally Advanced Esophageal Cancer
Tercio Lopes, MD, MSPH, Mohamad Eloubeidi, MD, MHS, Medicine / Gastroenterology, University of Alabama at Birmingham, Birmingham, AL

P759. Accuracy and Utility of Endoscopic Ultrasound (EUS) in Clinical Stage T2NO Esophageal Cancer
Jonathan Rosenberg, MD, Grace White, RN, Vanessa Shami, MD, Victoria Villaflor, MD, Mark Ferguson, MD, Charles Dye, MD, Gastroenterology, University of Chicago, Chicago, IL, Gastroenterology, University of Virginia, Charlottesville, VA

P760. Preoperative Placement of Polyflex Esophageal Stents in Patients with Locally Advanced Esophageal Cancer Undergoing Neoadjuvant Therapy
Jason Wills, MD, Robert Wong, MD, Kristen Hilden, MS, John Fang, MD, Douglas Adler, MD, Division of Gastroenterology, University of Utah, Salt Lake City, UT

P761. Tolerability of Ambulatory Esophageal pH Monitoring Using Nasally Placed pH Catheter vs. Bravo pH Capsule
John Bassett, MD, Corinne Maydonovitch, BS, Jason Lake, MD, Gastroenterology, National Naval Medical Center, Bethesda, MD, Gastroenterology, Walter Reed Army Medical Center, Washington, DC

P762. Once Daily Esomeprazole Versus Twice Daily Lansoprazole for GERD: A Double Blind Randomized Cross-Over Study
David Johnson, MD, Michael Ryan, MD, Taylor Wootton, MD, Jeff Willis, MD, Kelvin Hornbuckle, MD, Whitney Brooks, MD, Stacey Menees, MD, Michael Doviak, PhD, Gastroenterology Division, Eastern VA Medical School, Norfolk, VA, Biostatistics, Old Dominion University, Norfolk, VA

P763. Relationship Between Maintenance of Healed Erosive Esophagitis and Percent Time with Intragastric pH>4
David Johnson, MD, Doug Levine, MD, Kerstin Röhss, PhD, Magnus Åstrand, PhD, Ola Junghard, PhD, Tore Lind, MD, Eastern VA Medical School, Norfolk, VA, AstraZeneca, Wilmington, DE, AstraZeneca R&D, Mölndal, Sweden

P764. Manometric Characteristic of Waves in the Esophageal Body in Type 2 Diabetic Patients According to the Basal Morning Glycemia
João Jorge, Gastroenterologist, Professor of Phisiology, Cláudia Borges, Resident of Internal Medicine, Edgard Panão, Gastroenterologist, Álvaro Coelho, Internist, Mário Simões, Technician of Phisiology, Carlos Almeida, General and Vascular Surgeon, Professor of Phisiology, Faculty of Medicine, University of Coimbra, Coimbra, Portugal, Internal Medicine, Hospital Santo André, Leiria, Portugal, GastInternal Medicine, Gastroenterology, Hospital dos Covões, Coimbra, Portugal

P765. Bravo pH Capsule Placement under Direct Vision with Ultraslim Gastroscope
Tai Ping Lee, MD, Shivani Sood, MD, MPH, Richard Feldstein, MD, Igor Grosman, DO, Gastroenterology, Hepatology and Nutrition, North Shore University Hospital, Manhasset, NY

P766. Symptom Index (SI) is a Good Predictor of Success for Fundoplication for Symptomatic Non-Acid Reflux on PPI Therapy
Amit Agrawal, MD, Neeraj Sharma, MD, Jason Wilson, MD, Marcelo Vela, MD, Donald Castell, MD, MUSC, Charleston, SC

P767. Clinical Presentation and Endoscopic Management of Mallory-Weiss Tear: 5 Year Experience in an Inner-City Hospital
Subhra Banerjee, MD, Vivek Gumaste, MD, Maria Angelova, MD, Gastroenterology, Mount Sinai Services at Elmhurst Hospital Center, Elmhurst, NY, Pediatrics, Winthrop University Hospital, Mineola, NY

P768. Prospective Evaluation of 48-Hour Esophageal pH-Monitoring by the Wireless Bravo Capsule: Efficacy, Safety, Tolerance and Limitations
Mohammed Khan, MRCP(UK), Hamad Al-Ashgar, MD, Khalid Al-Kahtani, MRCP(UK), Ahmad Helmy, MD, Maheeba Abdullah, MRCP(UK), Mohammed Al-Fadda, MD, Gastroenterology, KFSH&RC, Riyadh, Saudi Arabia

P769. Endoscopically Suspected Esophageal Metaplasia (ESEM) is Associated with the Complications of Hiatus Hernia, Reflux Esophagitis and Severe Gastric Mucosal Atrophy in Japanese Patients Who Underwent EGD
Juntaro Matsuzaki, MD, Hidekazu Suzuki, MD, PhD, Kenro Hirata, MD, Mari Ikewada, MD, Yoshimasa Saito, MD, PhD, Toshifumi Hibi, MD, PhD, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Keio University School of Medicine, Tokyo, Japan

P770. Intercellular Space Distance is Increased in Refractory Heartburn Patients with GERD but Not Those with Functional Heartburn (FH): A Study Using Impedance-pH and Electron Microscopy
Marcelo Vela, MD, MSCR, Brandon Craft, MD, Neeraj Sharma, MD, Janice Freeman, RN, Debra Hazen-Martin, PhD, GastPathology and Laboratory Medicine, Gastroenterology & Hepatology, Medical University of South Carolina, Charleston, SC

P771. Chronic Esophagitis Dissecans Superficialis—A Rare Cause of Esophageal Strictures and Dysphagia
David Estores, MD, H. Worth Boyce, MD, MACG, Domenico Coppola, MD, Jane Messina, MD, Department of Pathology, Center for Esophageal and Swallowing Disorders, University of South Florida, Tampa, FL

P772. Resolution of Cricopharyngeal Bar with Botox Injection Combined with Esophageal Dilation
Xinqing Fan, MD, MS, Larry Scott, MD, MS, Micheal Underbrink, MD, Martha Hersey, MS, Speech Therapy, Otolaryngology, Gastroenterology, University of Texas Medical Branch, Galveston, TX

P773. First Use of the Evolution® Esophageal Stent in the U.S.
Michael Lipp, MD, Odelya Pagovich, MD, David Robbins, MD, Beth Israel Medical Center, New York, NY

P774. Socioeconomic Disparities in the Use of Catheter-Free Esophageal pH Testing
Eva Sum, MD, Seesha Uppalapata, MD, Joseph Kim, MD, Joel Richter, MD, Frank Friedenberg, MD, MS, Medicine/Gastroenterology, Temple University, Philadelphia, PA

P775. Gatorade is a Good Substitute for Normal Saline in Multichannel Intraluminal Impedance and Manometry
Nazif Chowdhury, MD, Zeba Anwar, MD, Omer Deen, MD, Richard Rackett, LPN, Amine Hila, MD, Internal Medicine Residency Program, United Health Services, Johnson City, NY, Gastroenterology, United Medical Associates, Johnson City, NY

P776. Validation of a Novel Scoring System as a Diagnostic Aid in Patients with Reflux-like Dyspepsia
Andrew Roorda, MD, Samuel Marcus, MD, PhD, George Triadafilopoulos, MD, Department of Medicine, Division of Digestive Diseases, West Virginia University School of Medicine, Morgantown, WV, Department of Medicine, Division of Gastroenterology, El Camino Hospital, Mountain View, CA, Department of Medicine, Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA

STOMACH

P777. Prostaglandin Levels in the Gastric Mucosa of Patients Undergoing Physiological Stress — A Preliminary Study
Cristina Marin, MD, Jiang Qin, PhD, Xiaonam Wang, PhD, Edward Lin, MD, Vincent Yang, MD, PhD, Qiang Cai, MD, PhD, Surgery, Digestive Disease, Internal Medicine, Emory University, Decatur, GA

P778. Endoscopic Maneuvers of the Stomach Demonstrate Physiologic Characteristics of the Electrogastrogram
Glenda Montague, BA, Robert Schmieg, MD, Christopher Lahr, MD, Danielle Spree, CFNP, William Johnson, PhD, Thomas Abell, MD, Digestive Diseases, University of Mississippi Medical Center, Jackson, MS, Preventive Medicine, School of Medicine, Surgery, University of Mississippi, Jackson, MS

P779. Resident Physicians' Comfort with Managing Gastroparesis at the Completion of Internal Medicine Residency
Huy Nguyen, MD, Jessica Gladden, MS, Steven Zeddun, MD, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC

P780. Evaluation of Clarithromycin-Resistant Rate for *Helicobacter pylori* in Japan (1985-2007)
Akifumi Tanaka, MD, PhD, Kengo Tokunaga, MD, PhD, Hajime Sugano, MD, PhD, Shin'ichi Takahashi, MD, PhD, The Third Department of Internal Medicine, Kyorin University School of Medicine, Mitaka, Japan

P781. Evaluation of Two Commercial Enzyme Immunoassays for Detecting IgG and IgA Antibodies to *Helicobacter pylori* in Japan
Yoshihisa Urita, MD, PhD, Toshiyasu Watanabe, MD, PhD, Tadashi Maeda, MD, Yosuke Sasaki, MD, Susumu Ishihara, MD, Kazuo Hike, MD, Masaki Sanaka, MD, PhD, Hitoshi Nakajima, MD, PhD, Motonobu Sugimoto, MD, PhD, Department of General Medicine, Toho University, Tokyo, Japan

P782. Night-Time pH Holding Time: What is Hidden by the % of Time pH ≤ 4?
Changcheng Wang, MD, Yuhong Yuan, MD, PhD, Ying Chen, MSc, Richard Hunt, MD, FRCPC, FACG, AGAF, Department of Medicine, McMaster University, Hamilton, ON, Canada

P783. Correlation of Recording from Mucosal and Serosal Egg Probes with Gastric Emptying and Gastric Neuro-Muscular Status
Ernest Weeks, MD, Elizabeth Rickman, MD, Robert Schmieg, MD, Jay Salameh, MD, Christopher Lahr, MD, Saleem Islam, MD, William Johnson, PhD, Steven Bigler, MD, Charu Subramony, MD, Thomas Abell, MD, Pathology, Epidemiology and Biostatistics, Surgery, Digestive Diseases, University of Mississippi Medical Center, Jackson, MS

P784. Assessment of Pattern of Antimicrobial Resistance in Patients (*Helicobacter pylori* Positive) of Dyspepsia
Rajendra Jain, MD, DM, Virendra Sharma, MD, Yogendra Malhotra, MD, Department of Medicine, Gandhi Medical College, Bhopal, India

P785. Biopsy Proven *Helicobacter pylori* is Not Associated with Increased Prevalence of Atrial Fibrillation
Ghulam Mujtaba, MD, Suryanarayan Anand, MD, Kenneth Ong, MD, Ihsan Khan, MD, Srikrishna Nagri, MD, Fatima Shaikh, MD, Internal Medicine, The Brooklyn Hospital Center, Brooklyn, NY

P786. Use of Wireless Capsule Endoscopy for Evaluation of Sustained Gastric Presence of a Polymer Medication Delivery System
Martin Golding, MD, David Doman, MD, Howard Goldberg, MD, Montgomery Gastroenterology, Silver Spring, MD

P787. The Utilization of Intravenous Proton Pump Inhibitors (IVPPI) in African-American and Hispanic Patients: Appropriate Practice or Overuse?
Abbasi Akhtar, MD, Medicine-Gastroenterology, Charles Drew University of Medicine and Science, Los Angeles, CA

P788. The Effects of Once Daily Versus Twice Daily Proton Pump Inhibitor Therapy on Nsaid Induced Gastric Ulcers
Baseer Qazi, MD, Naser Khan, MD, Mobin Khan, MD, Jadwiga Loj, MD, Gastroenterology, Advocate Lutheran General Hospital, Park Ridge, IL

P789. A Method to Adjust pH Values Obtained with Different pH Catheters
Jerry Gardner, MD, Winston Young, PhD, Gaetano Morelli, MD, Huachun Chen, PhD, Richard Kao, PhD, Blossomtech, Apex, NC, MDS Pharma Services, Montreal, QC, Canada, Eisai Medical Research, Ridgefield Park, NJ, Science for Organizations, Mill Valley, CA

P790. PPI Dosing Patterns for Recently Bleeding Gastroduodenal Ulcer Disease: A Single Center Experience
Geoffrey Jensen, MD, Russ Arjal, MD, Walter Peterson, MD, Joel Levine, MD, Division of Gastroenterology-Hepatology, University of Colorado Health Sciences Center, Aurora, CO

P791. *H. pylori* and Gastric Mucosal Injury in Asymptomatic Patients—A Retrospective Analysis
Anupam Mohanty, MD, Emmanuel Coronel, MD, David Elijah, MD, Division of Hepatology, University of Miami, Miami, FL, Department of Medicine, University of Cuenca, Cuenca, Ecuador, Division of Gastroenterology, University of South Florida, Tampa, FL

PANCREATIC/BILIARY

P792. The Utility of Spyglass Choledochoscopy for Evaluation of Suspected Post-Liver Transplant Strictures
John Kim, MD, Seint Yee, MD, Russell Yang, MD, PhD, GI/Liver Division, University of Southern California, Los Angeles, CA

P793. The Impact of Overtube Assisted Enteroscopy (OAE) for Therapeutic Endoscopic Retrograde Cholangiography (ERC) in Roux-En-Y Anatomy
Luis Lara, MD, Jayaprakash Sreenarasimhaiah, MD, William Lee, MD, Saad Jazrawi, MD, David Provost, MD, Shou Tang, MD, Digestive and Liver Diseases, The University of Texas Southwestern Medical Center at Dallas, Dallas, TX, Surgery, The University of Texas Southwestern, Dallas, TX

P794. Relationship Between Ultrasonic Gallbladder Involvement and Other Major Laboratory Parameters in a Cohort of Adult Sri Lankans Suffering from Non Epidemic Dengue Infection
Ravindra Satarasinghe, MD, MACG, Ravi Jayawardana, MBBS, Upul Wickramasingha, MBBS, Jayantha Wickramarathna, MD, Geetha Senanayake, MD, Perumal Udayakumaran, MBBS, Udaya Jayakody, MBBS, Yapa Abeywardana, MBBS, Buddhi Abeyawickrama, MBBS, Nadaraja Umakanthan, MBBS, Department of Radiology, Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka

P795. Is Hypomagesemia Associated with Choledocholithiasis?
Hiral Shah, MD, Ji Kim, MD, Alexander Bagasra, MD, Raman Battish, MD, Mahmood Abedi, MD, Internal Medicine, Division of Gastroenterology, Washington Hospital Center, Washington, DC

P796. Prognosis of Unsuspected Gallbladder Cancer Diagnosed During or After Laparoscopic Cholecystectomy
A-Hon Kwon, MD, PhD, Department of Surgery, Kansai Medical University, Hirakata, Japan

P797. The Rate of Post ERCP Pancreatitis in Liver Transplant Patients Compared to Non Transplant Patients, a Single Center Experience
Vimal Ponnezhan, MD, Harprabhjit Singh, MD, Osama Alaradi, MD, Gastroenterology, Henry Ford Hospital, Detroit, MI

P798. The Use of Endoscopic Ultrasound and Fine Needle Aspiration (EUS-FNA) to Diagnose Pancreatic Adenocarcinoma and the Potential Role of Gender on Prognosis
Duc Vu, MD, Richard Erickson, MD, FACP, FACG, Tim Castro, MD, Kelly Phan, MD, Scott & White Memorial Hospital & Clinic, Temple, TX

P799. Predicting Early Oral Feeding in Patients with Acute Pancreatitis: A Six Year Retrospective Single Center Experience
Ari Wiesen, MD, Sofia Novak, MD, Mirela Mecca, MD, Kostas Sideridis, DO, Simmy Bank, MD, FACP, MACG, Gastroenterology, Long Island Jewish Medical Center, Glen Oaks, NY

P800. Endoscopic Management of Pancreatic Fluid Collections—A Single Center Experience
Udayakumar Navaneethan, MD, Mayar Al Mohajer, MD, Nathan Schmulewitz, MD, Shailendra Chauhan, MD, Syed Ahmad, MD, Jun Ying, PhD, Joseph Palascak, MD, Andres Gelrud, MD, MMSc, Biostatistics, Surgery, Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH

P801. Relationship Between Severity of Pancreatitis and Complexity of ERCP
Jessica Trevino, MD, C. Mel Wilcox, MD, Milind Phadnis, MSPH, Shyam Varadarajulu, MD, GI, UAB, Birmingham, AL

P802. Obstructive Jaundice Secondary to IgG-4 Biliary Stricture with Normal Serum IgG4 and Normal Pancreas Imaging
Jose Ferrer, MD, Jamie Barkin, MD, MACG, University of Miami, Coral Gables, FL

P803. Focal Dilation of the Main Pancreatic Duct (MPD), Early vs. New Variant of Intraductal Papillary Mucinous Neoplasia (IPMN)?
Naveen Gupta, MD, Halim Charbel, MD, Nadim Haddad, MD, Ahmed Shobassy, MD, Georgetown University Hospital, Potomac, MD

P804. Diagnosis, Antibiotic Prophylaxis, and Natural History of Pancreatic Cystic Neoplasms: Is Immediate Surgery Necessary?
Kevin Leung, MD, William Ross, MD, E. Lin, MS, Jeffrey Lee, MD, Biostatistics and Mathematical Science, Gastroenterology, Hepatology, and Nutrition, MD Anderson Cancer Center, Houston, TX

P805. Diagnostic Challenges in Pancreatic Masses: A Study Comparing Preoperative Diagnosis and Post-Operative Pathology Diagnosis in Patients with Pancreatic Mass
Cristina Marin, MD, Adam Simmons, BS, Michael Fleishman, MD, Emad Qayed, MD, Qiang Cai, MD, PhD, Digestive Disease, Internal Medicine, and Orthopedics, Emory University, Atlanta, GA

P806. Osteoclastic/Pleomorphic Giant Cell Tumors of the Pancreas Diagnosed via Endoscopic Ultrasound and Fine Needle Aspiration: Unique Clinical, Endoscopic, and Histologic Findings
Jill Moore, MD, Kristen Hilden, BS, Joel Bentz, MD, Randall Pearson, MD, Douglas Adler, MD, Pathology, Gastroenterology, University of Utah, Salt Lake City, UT, Gastroenterology, Mayo Clinic, Rochester, MN

P807. Percentage Decrease in Total Serum Bilirubin After ERCP Therapy for Obstructive Jaundice is Similar for Malignant and Benign Causes
Natasha Muckova, MD, Kendrick Che, DO, Wichit Srikureja, MD, Snorri Olafsson, MD, Internal Medicine, Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA

P808. EUS-Guided Trucut Biopsies May Enable the Diagnosis of Lymphoepithelial Cysts of the Pancreas (Case Peport)
Sobia Ali, MD, Hening Gerke, MD, Neal Wilkinson, MD, Chris Jensen, MD, Clifton Center for Digestive Diseases, University of Iowa, Hospitals and Clinics, Iowa City, IA, Pathology, General Surgery, University of Iowa Hospitals and Clinics, Iowa City, IA

P809. Extra-Gastrointestinal Stromal Tumor (EGIST): Rare Tumor of the Pancreas
Tasma Harindhanavudhi, MD, Tanyanan Tanawuttiwat, MD, Rogelio Silva, MD, FACG, Internal Medicine, Advocate Christ Medical Center/UIC, Oak Lawn, IL

P810. MRCP as a Diagnostic Study for Pleuropancreatic Fistula
Tauseef Ali, MD, Nandakumar Srinivasan, MD, Vu Le, MD, A. Rao Chimpiri, FRCR, William Tierney, MD, Radiology, Digestive Disease and Nutrition, University of Oklahoma Health Sciences Center, Oklahoma City, OK

P811. Hypertriglyceridemia Induced Severe Pancreatitis with Multi System Organ Failure: Is Early Plasmapheresis the Answer?
Mukesh Kumar, MBBS, MD, Gaurav Alreja, MBBS, MD, Manish Saha, MBBS, MD, Internal Medicine, Seton Hall University, Elizabeth, NJ

P812. Pancreatic Mass: Pathological Diagnoses of 112 Consecutive Surgical Specimens
Jahnavi Naik, MD, Cristina Marin, MD, Yan Li, MD, Qiang Cai, MD, Gaurav Aggarwal, MD, Division of Digestive Diseases, Emory University, Atlanta, GA

P813. Successful Trans-Papillary Drainage of a Hepatic Hydatid Cyst: A Novel Approach
Saima Rashid, DO, Igor Grosman, DO, Bernard Stark, MD, Internal Medicine, North Shore University Hospital-Manhasset, Manhasset, NY

P814. Immunoglobulin G4 (IgG4)-Hepatopathy in a Case of Sclerosing Cholangitis Mimicking Primary Sclerosing Cholangitis (PSC)
Puneet Shroff, MD, Norman Sussman, MD, Mary Schwartz, MD, Prasun Jalal, MD, Department of Gastroenterology, Hepatology and Liver Transplantation, Baylor College of Medicine, Houston, TX, Department of Pathology, Texas Methodist Hospital, Houston, TX

SMALL INTESTINE/UNCLASSIFIED

P815. Evaluation of a Gastrointestinal (GI) Transit Measurement System (GTMS) in Healthy Volunteers
Brian Lacy, PhD, MD, FACG, Richard Rothstein, MD, John Gagne, BS, Jerry Bieszczad, PhD, David Kynor, MS, Division of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH, Creare, Inc, Hanover, NH

P816. Expression of CD30 in Celiac Sprue
Enrique Molina, MD, Paul Feldman, MD, Cristina Vincentelli, MD, Antonio Martinez, MD, Jamie Barkin, MD, MACG, Gastroenterology, Mount Sinai Medical Center, Miami, FL, Gastroenterology, Veterans Affairs, Miami, FL, Pathology, Mount Sinai Medical Center, Miami, FL

P817. Is Video-Assisted Teaching Better in Long-Term Retention of Learning
Hemant Sharma, MBBS, MS, MRCS, Pankaj Jha, MBBS, MS, MRCS, Narayan Shekhawat, MBBS, MS, Surgery, Gloucestershire Royal Hospital, Gloucester, United Kingdom, Surgery, Sawai Mansingh Medical College, Jaipur, India

P818. Capsule Endoscopy: Effect of Bowel Preparation on Image Quality, Small Bowel Transit and Completion Rate
Curuchi Anand, MD, Amir Shaikh, MBBS, Michael Papper, MD, Gastroenterology, Saint Vincent Hospital, Worcester, MA

P819. Health Care Providers' Knowledge About Celiac Disease: Comparison of University Hospital Based Physicians and Primary Care Physicians
David Goldberg, MD, Peter Green, MD, Medicine, Columbia University College of Physicians and Surgeons, New York, NY

P820. Air Pollution and Appendicitis: A Novel Association
Gilaad Kaplan, MD, MPH, Elijah Dixon, MD, MSc, Remo Panaccione, MD, Steven Heitman, MD, MSc, Andrew Fong, MSc, Li Chen, BSc, Mietek Szyszkowicz, PhD, Anthony MacLean, MD, Donald Buie, MD, MSc, Paul Villeneuve, PhD, Department of Surgery, Department of Medicine, University of Calgary, Calgary, AB, Canada, Biostatistics and Epidemiology Division, Health Canada, Ottawa, ON, Canada

P821. A Single Center Retrospective Review of Double Balloon Enteroscopy
Alexi Mantas, MD, Thomas Van Dinter, MD, Daniel DeMarco, MD, FACP, Internal Medicine, Division of Gastroenterology, Baylor University Medical Center, Dallas, TX

P822. Pharmacokinetic/Pharmacodynamic Correlation Between Teduglutide, an Analog of GLP-2, and Citrulline, a Biomarker of Small Intestinal Enterocyte Functional Mass in Short Bowel Patients
Bernard Messing, MD, Samer Mouksassi, PhD, Palle Bekker Jeppesen, MD, Francisca Joly, MD, Lidia Demchyshyn, PhD, J. Cyran, PhD, Jean-Francois Marier, PhD, Hopital Beaujon, Clichy La Garenne, France, Pharsight Corp., Montreal, QC, Canada, Rigshospitalet, Copenhagen, Denmark, NPS Pharmaceuticals, Bedminster, NJ

P823. Gastrointestinal Complications in Patients Supported with Ventricular Assist Devices
Muhammad Siddiqui, MD, Mark Slaughter, MD, Rogelio Silva, MD, Cardiovascular Surgery, Internal Medicine, University of Illinois/Advocate Christ Medical Center, Oak Lawn, IL

P824. Closing the Circle on the 360 Degree Evaluation: Can Subspecialty Fellows Be Evaluated as Consultants by Their General Medical Resident Peers?
Sasha Taleban, MD, Arthur DeCross, MD, Medicine, Division of Gastroenterology, Medicine, University of Rochester Medical Center, Rochester, NY

P825. Bevacizumab as an Alternative to Argon Pulse Coagulation in the Treatment of Upper Gastrointestinal Bleeding and Anemia Secondary to Vascular Ectasias
Clifford Cabansag, MD, Christian Jackson, MD, Edgar Mehdikhani, MD, Gastroenterology, Loma Linda VA Healthcare System, Loma Linda, CA, Department of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA

P826. Correlation of Hydrogen Breath Test to Clinical Response After Antibiotics Treatment
Xinqing Fan, MD,MS, Larry Scott, MD, Joseph Sellin, MD, Gastroenterology, University of Texas Medical Branch, Galveston, TX

P827. Refractory Lymphocytic Enterocolitis and Tumor Necrosis Factor Antagonist Therapy
Ghazaleh Aram, MD, Mark Donowitz, MD, Theodore M. Bayless, MD, Zong-Ming Chen, MD, Francis M. Giardiello, MD, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD

P828. Nitazoxanide for the Empiric Treatment of Persistent Diarrhea
Harry Moulis, MD, Susana Escalante-Glorsky, MD, Isaac Raijman, MD, Leonard Leichus, MD, Gastrointestinal Associates, PA, Port Orange, FL, Digestive Health Associates, Houston, TX, GI Associates of Tallahassee, Tallahassee, FL

P829. Association Between CD4 Count and Candida Sp. Colonization Intensity by Stool's Culture of AIDS Patients
Marcellus Simadibrata, MD, PhD, Joseph Susilo, MD, Dina Mahdi, Professor, MD, PhD, Yeva Rosana, MD, Microbiology, Allergy and Immunology, Gastroenterology Internal Medicine, Faculty of Medicine University of Indonesia, Jakarta Pusat, Indonesia

LIVER

P830. National and Regional Conformity to the 2007 ACG/AASLD Practice Guidelines for Prevention and Management of Gastroesophageal Varices and Variceal Hemorrhage in Cirrhosis
★ *2008 ACG Presidential Poster Award Recipient*
Emily Carey, DO, Jamile Wakim-Fleming, MD, Rocio Lopez, MS, MPH, William Carey, MD, Internal Medicine, MetroHealth Medical Center, Cleveland, OH, Hepatology, Cleveland Clinic Foundation, Cleveland, OH

P831. Drug-Induced Intrahepatic Cholestasis/Vanishing Bile Duct Syndrome Secondary to Thioridazine: A Case Report and a Re-Visit of the Phenothiazines
Tasma Harindhanavudhi, MD, Tanyanan Tanawuttiwat, MD, Rogelio Silva, MD, Hareth Raddawi, MD, FACG, Internal Medicine, Advocate Christ Medical Center/UIC, Oak Lawn, IL

P832. Post-Operative Jaundice After VATS Procedure: A Case Report Series of Three Patients
Maria Hatara, MD, Steven Zeddun, MD, Aamir Ali, MD, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, Internal Medicine, The George Washington University Medical Center, Washington, DC

P833. Gender Based Differences in Treatment of Chronic Hepatitis C (CHC)
Anil Nachnani, MD, Osama Yousef, MD, Patricia Sanchez, MD, Michael Selden, MD, Sandra Laya, MD, Wendell Clarkston, MD, Laura Alba, MD, Internal Medicine, Graves Gilbert Clinic, Bowling Green, KY, Gastroenterology/Hepatology, University of Missouri Kansas City, Kansas City, MO

P834. Is Hepatitis C Associated with Diabetes in Patients with Cirrhosis?
Sri Lakshmi Narra, MD, MBBS, Jihad Arteh, MD, MBBS, Satheesh Nair, MD, MBBS, Internal Medicine, Gastroenterology, University of Tennessee, Memphis, TN

P835. Ultrasound Marking Improves Percutaneous Liver Biopsy Yield
Sunitha Pudhota, MD, Linda Di Teodoro, MD, Kenneth Vega, MD, Peter Wludyka, PhD, Dawn Bullock, PhD, Louis Lambiase, MD, Office of the Dean, Division of Gastroenterology, University of Florida/Jacksonville, Jacksonville, FL

P836. The Use of Entecavir Following Liver Transplantation: Pilot Safety and Tolerability Data
Andrew Samuelson, MD, Maureen Morgan, MD, Justin Reynolds, MD, Maximilian Lee, MD, Ahmad Kamal, MD, Aijaz Ahmed, MD, Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA

P837. Depression and Quality of Life Assessments in HCV Genotype-1 Patients Treated with Either Consensus Interferon (CIFN) and Ribavirin (RBV) or Pegylated Interferon Alfa-2b (PEG IFN) and Ribavirin
John Bassett, MD, Manuel Arias, MD, Corinne Maydonovitch, BS, Maria Sjogren, MD, Gastroenterology, National Naval Medical Center, Bethesda, MD, Gastroenterology, Walter Reed Army Medical Center, Washington, DC

P838. Three Cases of Acute Hepatitis in Patients Taking Hydroxycut® Bodybuilding Supplement
Jeffrey Laczek, MD, Marten Duncan, DO, Department of Gastroenterology, Walter Reed Army Medical Center, Washington, DC

P839. Predictors of Long Term Outcome Following Transjugular Intrahepatic Portosystemic Shunt (TIPS)
Michael Larsen, MD, Justin Reynolds, MD, Ahmad Kamal, MD, Brandon Mattix, Emmet Keeffe, MD, Carlos Esquivel, MD, PhD, Daniel Sze, MD, PhD, Aijaz Ahmed, MD, Gastroenterology and Hepatology, Medicine, Stanford University, Stanford, CA, Gastroenterology and Hepatology, Santa Clara Valley Medical Center, San Jose, CA

P840. Correlation of Clinical and Laboratory Factors with Fibrosis in Nonalcoholic Steatohepatitis
Tae Hoon Lee, MD, Fikadu Tekleyes, MD, Toni Pacioles, MD, Waseem Shora, MD, Monjur Ahmed, MD, FACG, Internal Medicine, Marshall University, Huntington, WV

P841. Management Challenges in Sickle Cell Hepatopathy
Adnan Muhammad, MD, Maliha Ahmad, MD, Arun Samanta, MD, Baburao Koneru, MD, Dorian Wilson, MD, Adrian Fisher, MD, Surgery, Medicine, University of Medicine and Dentistry (UMDNJ), Newark, NJ

P842. Hepatitis C Virus Response to Pegylated Interferon and Ribavirin at a Nurse-Managed Rural Veterans Affairs Clinic
Suzanne Opperman, APN, Michelle Matteson, FNP/GNP-BC, Matthew Bechtold, MD, Srinivas Puli, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO, Department of Gastroenterology and Hepatology, Harry S. Truman Veterans Memorial, Columbia, MO

P843. What is the Difference Between Hepatitis C Virus Patients with Sustained Virologic Responses Versus Relapsers to Standard Treatment at a Rural Veterans Affairs Clinic?
Srinivas Puli, MD, Michelle Matteson, FNP/GNP-BC, Matthew Bechtold, MD, Suzanne Opperman, APN, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO, Department of Gastroenterology and Hepatology, Harry S. Truman Veteran Memorial Hospital, Columbia, MO

P844. The Prevalence and Significance of Autoantibodies in Patients with Nonalcholoic Fatty Liver Disease
Kiran Rao, MD, Maliha Ahmad, MD, Arun Samanta, MD, Kenneth Klein, MD, Baburao Koneru, MD, Adrian Fisher, MD, Dorian Wilson, MD, Andrew De La Torre, MD, Surgery, Pathology and Laboratory Medicine, Internal Medicine, UMDNJ, Newark, NJ

P845. Prevalence of Hepatitis D in HBsAg Positive Patients Visiting the Liver Clinics in Pakistan
Naresh Seetlani, MBBS, MCPS, FCPS, Zaigham Abbas, FCPS, FACP, FACG, Sajjad Naqvi, MBBS, Javed Yakoob, MBBS, PhD, Wasim Jafri, FRCP, FACP, FACG, Medicine, Imam Medical Centre, Jacobabad, Pakistan, Medicine, The Aga Khan University, Karachi, Pakistan

P846. Mycophenolate Mofetil for Autoimmune Hepatitis: A Single Practice Experience
David Wolf, MD, Lizza Bojito, MD, Marcelo Facciuto, MD, Edward Lebovics, MD, Department of Surgery, Division of Gastroenterology and Hepatobiliary Diseases, New York Medical College, Valhalla, NY

P847. Effects of Transjugular Intrahepatic Portosystemic Shunt on Platelet Counts and Serum Creatinine in Patients with Portal Hypertension at Rochester General Hospital (RGH)
Motaz Al-Hafnawi, MD, Kevin Casey, MD, Internal Medicine, Gastroenterology Division, Rochester General Hospital, Rochester, NY

P848. Free Radical Scavenger (Edaravone) Blocks FAS-Induced Apoptosis Pathway in Mice
A-Hon Kwon, MD, PhD, Takeshi Miyaso, MD, PhD, Katsushige Tsuji, MD, PhD, Hideyishi Toyokawa, MD, PhD, Hiroaki Yanagimoto, MD, PhD, Department of Surgery, Kansai Medical University, Hirakata, Japan

P849. Appearance of Ascitic Fluid as a Tool to Detect Spontaneous Bacterial Peritonitis (SBP) and Microbiological Patterns of SBP: A Single Center Experience
Ashutosh Naniwadekar, MD, Advitya Malhotra, MD, Youshi Yin, Medical Student, Gagan Sood, MD, Gastroenterology, Internal Medicine, University of Texas Medical Branch, Galveston, TX

P850. Factors Associated with More Advanced Steatosis in Patients with Non Alcoholic Fatty Liver Disease (NAFLD)
Fadi Rzouq, MBBS, Hilana Hatoum, MD, Said Al-Busafi, MD, Internal Medicine, University of Texas Medical Branch (UTMB), Galveston, TX, Internal Medicine, McLaren Regional Medical Center, Flint, MI, Gastroenterology and Hepatology, Royal Victoria Hospital, McGill University, Montreal, QC, Canada

P851. An Open-Label Trial of Prophylaxis with Ertapenem in Patients with Obstructive Jaundice Undergoing ERCP: Safety, Efficacy, and Biliary Penetration of Ertapenem
Ala Sharara, MD, Ihab ElHajj, MD, Heitham Abdul-Baki, MD, Hani Chaar, MD, Elie Aoun, MD, Jana Hashash, MD, Soula Boustany, MD, Mohammad Mroueh, MD, Souha Kanj, MD, Division of Gastroenterology, American University of Beirut, Beirut, Lebanon, School of Pharmacy, Lebanese American University, Jbeil, Lebanon, Division of Infectious Diseases, American University of Beirut, Beirut, Lebanon

P852. Small Intestinal Bacterial Overgrowth of Colonic-Type Carbohydrates Fermentative Bacteria in Cirrhotic Patients
Giuseppe Merra, MD, Antonio Dal Lago, MD, Emidio Scarpellini, MD, Venanzio Valenza, MD, Antonio Gasbarrini, MD, Department of Nuclear Medicine, Department of Internal Medicine, Institute of Medical Pathology, Catholic University of Sacred Heart, Agostino Gemelli General Hospital, Rome, Italy

P853. How Does the Recipient's Pre-Transplant Medical Condition Affect Steatosis in the Transplanted Liver?
Rana Sabbagh, MD, Prashant Krishnan, MD, Kimberly Brown, MD, Dilip Moonka, MD, Mary Ann Sherbondy, MD, Gastroenterology, Henry Ford Hospital, Detroit, MI

P854. Hepatocellular Carcinoma in a Northern Portuguese Urban Hospital
João Soares, MD, Carla Rolanda, MD, Susana Lopes, MD, Pedro Pereira, MD, Mario Marcelino, MD, Raquel Gonçalves, MD, Artur Machado, MD, Guilherme Macedo, MD, PhD, FACG, Gastroenterology Unit, H.S. Marcos, Braga, Portugal

P855. 13C-Valine Breath Test is Superior to 13C-Phenylalanine Breath Test for the Assessment of Liver Function
Yoshihisa Urita, MD, PhD, Toshiyasu Watanabe, MD, PhD, Tadashi Maeda, MD, Yosuke Sasaki, MD, Susumu Ishihara, MD, Kazuo Hike, MD, Masaki Sanaka, MD, PhD, Hitoshi Nakajima, MD, PhD, Motonobu Sugimoto, MD, PhD, Department of General Medicine, Toho University, Tokyo, Japan

P856. Long-Term Outcome with Monitoring of Platelet Count, Albumin and INR in Patients with Chronic Hepatitis C and Cirrhosis with Prolonged Interferon Therapy
Amir Agha, MD, David Elijah, MD, Gitanjali Vidyarthi, MD, William Boyd, MD, James A. Haley VA Hospital, Tampa, FL

P857. Correlation of SAAG (Serum Ascites Albumin Gradient) with the Presence and Grading of Esophageal Varices in Patients with Decompensated Cirrhosis of Liver
Salman Jafri, MBBS, MRCP(UK), Abdul Sattar, FCPS, Medicine, Civil Hospital Karachi, Karachi, Pakistan

P858. Demographic Differences Affecting the Decision to Defer Treatment for Chronic Hepatitis C (CHCV) Infection: Results of a 3-Year Follow-up Survey
Nimesh Khatri, MD, Omar Khokhar, MD, James Lewis, MD, Department of Medicine, Division of Gastroenterology, Hepatology Section, Georgetown University Hospital, Washington, DC

P859. Etiological Spectrum and Clinicolaboratory Profile of Cirrhosis at a Tertiary Health Centre in North India
Dharmendra Singh, MD, Amit Srivastava, MD, Sanjeev Sachdeva, MD, Amit Saxena, MD, Namrata Nigam, MD, Bms Lamba, MD, E. Chandrasekharan, MD, Gastroenterology, Dr. RML Hospital, New Delhi, India

P860. A Case of Hepatic Tuberculosis in a Patient with Acute Myelogenous Leukemia
Naga Ganesana, MD, Kenneth Youens, MD, Iliana Bouneva, MD, Internal Medicine - Pathology, Internal Medicine - Gastroenterology, Duke University, Durham, NC

P861. Sirolimus-Induced Hepatotoxicity: Case Report
Brock Macdonald, MD, Evi Vakiani, MD, Robert Brown, MD, MPH, Samuel Sigal, MD, Pathology, Medicine, New York - Presbyterian Hospital, New York, NY

P862. Use of Plasmapheresis in Acute Hepatic Failure Due to Hepatitis A
Parin Makadia, MD, MBA, Ritu Sharma, MD, Jessica Zitter, MD, MPH, Internal Medicine, University of Medicine and Dentistry of New Jersey - New Jersey Medical School, Newark, NJ

P863. Primary Sclerosing Cholangitis (PSC) and Sarcoidosis an Infrequent Association-Case Report
Avinash Murthy, MD, Eva Foitzik, MD, PhD, David Chaletsky, MD, Vinay Sood, MD, Medicine, Albany Medical College, Albany, NY, Department of Gastroenterology, Pirmasens Hospital, Pirmasens, Germany

COLON

P864. Prior PPI Use is a Risk Factor for Hosptitalization with Recurrent *C. difficile* Associated Disease (CDAD)
Jennifer Wellington, BS, V. Alin Botoman, MD, Susan Mableson, RN, Ricardo Reyes, MD, Nora Triola, RN, PhD, Holy Cross Hospital, Fort Lauderdale, FL, Florida Atlantic University, Boca Raton, FL, Gastroenterology, University of Miami, Miami, FL

P865. Microscopic Colitis: A Retrospective Analysis of Clinical Characteristics, Association with Autoimmune Disorders, and Response to Therapy
Amit Bhan, MD, Eduardo Castillo, MD, Adrian Ormsby, MD, Gastroenterology, Henry Ford Hospital, Detroit, MI

P866. Nitazoxanide for the Treatment of Moderate to Severe *Clostridium difficile* Infection in Hospitalized Patients
David Heiman, MD, Bienvenido Yangco, MD, MPH, Department of Gastroenterology, St. Joseph's Hospital, Tampa, FL, Infectious Disease Research Institute, Inc., Tampa, FL

P867. Important Risk Factors for *C. difficile* Associated Disease in Hospitalized Patients are Proton Pump Inhibitor Use and Transplantation
Thomas Kovacs, MD, Robyn Altman, RN, Division of Digestive Diseases, David Geffen School of Medicine at UCLA, Los Angeles, CA

P868. Harbingers of *Clostridium difficile* Associated Diarrhea
Phillip Madonia, MD, Chaitanya Pant, MD, Pat Bass, MD, MS, MPH, Kenneth Manas, MD, Paul Jordan, MD, Internal Medicine, Louisiana State University Health Science Center, Shreveport, LA

P869. Assessment of Inter-Observer Agreement of Colonic Transit Time (CTT) with Radiopaque Markers
Satish Rao, MD, PhD, FRCP, Jessica Paulson, BS, Braden Kuo, MD, Richard McCallum, MD, Michael Sitrin, MD, William Chey, MD, Jeffrey Lackner, PsyD, John Semler, PhD, Greg Wilding, PhD, Henry Parkman, MD, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA, The SmartPill Corporation, Buffalo, NY, Gastroenterology Unit, Massachusetts General Hospital, Boston, MA, Center for GI Nerve & Muscle Function & GI Motility, University of Kansas Medical Center, Kansas City, KS, Internal Medicine, University of Michigan, Ann Arbor, MI, Biostatistics, SUNY at Buffalo, Buffalo, NY, Medicine, Temple University School of Medicine, Philadelphia, PA, Medicine, University of Buffalo School of Medicine, SUNY at Buffalo, Buffalo, NY, Medicine, Western New York VA Medical Center, Buffalo, NY

P870. Bone Marrow-Derived Cells Were Not Identified in Colonic Cancer of Patients After Sex-Mismatched Bone Marrow Transplantation
Gen Sakai, MD, Tomoharu Yajima, MD, PhD, Hajime Higuchi, MD, PhD, Hiromasa Takaishi, MD, PhD, Toshifumi Hibi, MD, PhD, Internal medicine, Keio University, Tokyo, Japan

P871. Unique Distribution of Collagenous Colitis-Associated Mucosal Tears
Joseph Yarze, MD, FACG, Gastroenterology Associates of Northern New York, Glens Falls, NY

P872. Overweight, Race, and Colorectal Cancer Screening: Disparity Among White vs. African American and Obese vs. Non-Obese Individuals
Fuad Azrak, MD, Kamil Obideen, MD, Mohamad Adam, MD, Mohamed Wehbi, MD, Medicine/Division of Digestive Diseases, Emory University School of Medicine, Decatur, GA, Medicine, Wayne State University, Detroit, MI

P873. Acute Ischemic Colitis: An Overview of Awareness Among Health Care Providers in an Inner City Hospital
Michel Bidros, MD, Khalid Monzer, MD, Lokesh Jha, MD, Abhinav Singh, MD, Carl Guillaume, MD, Department of Gastroenterology, Department of Internal Medicine, St. Barnabas Hospital, Bronx, NY

P874. Patient Attitudes Toward Colonoscopy: A Survey
Srinivas Gaddam, MD, MPH, Matthew Reuter, MD, Stephanie White, DO, Joshua Binek, MD, Rajitha Premaratne, MD, Keith Starke, MD, Michael Presti, MD, Department of Internal Medicine, St. John's Mercy Medical Center, St Louis, MO

P875. Patients Willingness for Colonoscopy: Are Physician Recommendations Adequate?
Srinivas Gaddam, MD, MPH, Matthew Reuter, MD, Stephanie White, DO, Joshua Binek, MD, Rajitha Premaratne, MD, Keith Starke, MD, Michael Presti, MD, Department of Internal Medicine, St. John's Mercy Medical Center, St. Louis, MO

P876. Incidence of Diverticulosis in Recurrent *Clostridium difficile* Infection
Michael Lipp, MD, Odelya Pagovich, MD, Albert Min, MD, Henry Bodenheimer, MD, Brett Bernstein, MD, Beth Israel Medical Center, New York, NY

P877. An Unusual Presentation of MYH-Associated Polyposis in a Hispanic Patient
Jessica Narvaez-Lugo, MD, Johan Senior, MD, Alberto Cardona, MD, Marcia Cruz-Correa, MD, Surgery, Gastroenterology, University of Puerto Rico, San Juan, PR

P878. Macroscopic Colitis in Microscopic Colitis
Yan Zhao, MD, Yanling Ma, MD, Pabby Vikas, MD, Loren Laine, MD, Loma Linda University Medical Center, Loma Linda, CA, University of Southern California, Los Angeles, CA, Brigham and Women's Hospital, Chestnut Hill, MA

P879. Colonic Tuberculosis: A Case Series of an Underappreciated Entity
Iulia Balbach Tuleu, MD, MHPA, Amulya Konda, MD, Internal Medicine/Division of Gastroenterology, William Beaumont Hospital, Royal Oak, MI

P880. Inverted Appendicitis: Diagnosed by Colonoscopy with Negative Radiological Findings
Sushil Duddempudi, MD, Amir Butt, MD, Siddarth Mathur, MD, Niket Sonpal, BS, Mukul Arya, MD, Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY, Internal Medicine, Gastroenterology, Wyckoff Heights Medical Center, Brooklyn, NY

P881. Investigating Rectal Bleeding: A Review of Diagnoses on Lower GI Endoscopy in the Third World
Salwa Hussain, MBBS, Arif Nawaz, FACP, FACG, Syeda Batul, MBBS, Amal Ashraf, MD, Division of Gastroenterology, FMH College of Medicine and Dentistry, Lahore, Pakistan

P882. Non Specific Colitis (NSC)—A Histopathologically Indeterminate Colitis of Adult Sri Lankans; A Follow Up Study with Appraisal of Clinico-Pathological Features
Ravindra Satarasinghe, MD, Ruchira Fernando, MD, Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka

P883. Ischemic Colitis in Two Patients After Large Volume Paracentesis
Kandarp Shah, MD, Kalyani Shah, MD, UCSF-Fresno, Fresno, CA, Digestive and Liver Disease Specialists, Fresno, CA

P884. The Association of Diabetes Mellitus with Colorectal Cancer and Polyps in Asymptomatic Patients Undergoing Screening Colonoscopy
Mary Alizadeh, MD, Juan Munoz, MD, Gastroenterology, University of Florida, Jacksonville, FL

P885. Secretory Villous Adenomas: A Case Report and Comprehensive Literature Review
Thomas Irwin, DO, David Albert, MD, Ethan Flynn, MD, Colleen Murphy, MD, Ira Schmelkin, MD, Berkshire Medical Center, Pittsfield, MA

P886. An Unusual Case of Drug Induced Colonic Ischemia
Fouad Moawad, MD, Lawrence Goldkind, MD, Gastroenterology, Walter Reed Army Medical Center, Washington, DC, Gastroenterology, National Naval Medical Center, Bethesda, MD

P887. An Atypical Presentation of Collagenous Colitis
Mariyum Shakir, MD, Asra Batool, MD, Shahzad Iqbal, MD, Mohamed Mansour, MD, Cheryl Delbridge, MD, Maurice Cerulli, MD, FACG, Department of Pathology, Division of Gastroenterology, Department of Medicine, New York Methodist Hospital, Brooklyn, NY

P888. Transmural Colonic Infarction Associated with Hyperoxaluria
Arun Srivatsa, MD, Lawrence Saubermann, MD, University of Rochester, Rochester, NY

P889. Nitazoxanide for the Treatment of Recurrent *Clostridium difficile* Infection (CDI) in a Peritoneal Dialysis Patient
Bienvenido Yangco, MD, MPH, Gulab Sher, MD, Infectious Disease Research Institute, Inc., Tampa, FL, Advanced Care Hospitalists, Tampa, FL

CLINICAL VIGNETTES

P890. Neonatal Hemochromatosis-like Presentation in the Absence of Liver Failure with Spontaneous Resolution
Prateek Wali, MD, Janaki Gokhale, MD, Seema Khan, MD, Pediatric Gastroenterology & Nutrition, Nemours Alfred I. duPont Hospital for Children, Wilmington, DE

P891. Reversal of Protein-Losing Enteropathy After Liver Transplantation in a Child with Idiopathic Familial Neonatal Hepatitis
★ *2008 ACG Presidential Poster Award Recipient*
Naim Alkhouri, MD, Christine Carter-Kent, MD, Vera Hupertz, MD, Bijan Eghtesad, MD, John Fung, MD, PhD, Kadakkal Radhakrishnan, MD, Department of General Surgery, Liver Transplant Center, Pediatric Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH

P892. A Case of Acute Hepatitis C: Fact or Fulminant Failure?
Ketul Patel, MD, Jiwanjot Chhatwal, MD, Robbie Taha, DO, Nahid Elyas, MD, Internal Medicine, Providence Hospital, Southfield, MI

P893. An Unusual Cause of Portal Hypertensive Variceal Bleeding in a Young Adult Female
Mitchell Mah'moud, MD, FACG, Mark Anderson, MD, Robert Schellenberg, MD, Allison Taylor, MMS, Section of Digestive Diseases, Boice-Willis Clinic, Rocky Mount, NC, Section of Digestive Diseases, Duke University Medical School, Durham, NC

P894. Methicillin-Resistant Staphylococcus Aureus Induced Adult Epiglottitis in a Patient Treated with Peginterferon and Ribavirin for Chronic Hepatitis C
Tony Tseng, MD, Igor Grosman, MD, David Bernstein, MD, North Shore University Hospital, Manhasset, NY

P895. Orthotopic Liver Transplantion: Not the Cure for Caroli's Disease in All Cases
Truptesh Kothari, MD, MS, Mark Korsten, MD, Shivangi Kothari, MD, Thomas Schiano, MD, Internal Medicine, J.J. Peters VA Medical Center, Bronx, NY, Liver Transplant, Mount Sinai School of Medicine, New York, NY, Gastroenterology, St. Joseph's Regional Medical Center, Paterson, NJ

P896. Amiodarone Induced Liver Cirrhosis
Jeremy Davis, MD, MPH, Muslim Atiq, MD, Laura Lamps, MD, Kevin Olden, MD, James Rose, MD, Pathology, Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR

P897. Liver Biopsy Induced Hemobilia Presenting as Hematochezia: An Unusual Complication of a Commonly Performed Procedure
Shyam Dang, MD, Muslim Atiq, MD, Kevin Olden, MD, Ralph Panek, MD, Neelima Velchala, MD, Robert Svoboda, MD, Farshad Aduli, MD, Radiology, Internal Medicine, Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR

P898. Ischemic Hepatitis Secondary to Obstructive Sleep Apnea (OSA)
Anita Bhushan, MD, Patrick Kamath, MD, Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN

P899. Liver Injury After Consumption of High Dose Tahitian Noni Juice
Ravi Juluri, MD, Raj Vuppalanchi, MD, Medicine-Gastroenterology, Indiana University, Indianapolis, IN

P900. A Case of Unusual Pulmonary Embolism Due to Extensive Thrombosis After PTC
Sherif Abotaga, MD, Madalina Butnariu, MD, Frank Gress, MD, Adam Goodman, MD, Internal Medicine, Staten Island University Hospital, Staten Island, NY, Division of Gastroenterology & Hepatology, SUNY Downstate Medical Center, Brooklyn, NY

P901. Membranoproliferative Glomerulonephritis (MPGN) as Initial Manifestation of Hepatitis C (HCV)
Rada Shakov, MD, Joseph DePasquale, MD, St. Michael's Medical Center, Newark, NJ

P902. Celiac Disease Should Be Considered in Patients with Cryptogenic Cirrhosis
Sohail Asfandiyar, MD, Ann Silverman, MD, FACG, Stuart Gordon, MD, FACG, Gastroenterology and Hepatology, Henry Ford Hospital, Detroit, MI

P903. Amebic Liver Abscess
Saman Ahmed, MD, Leelavathi Kasturi, MD, Henry Safier, MD, FACG, Internal Medicine, Queens Hospital Center, Jamaica, NY

P904. Acute Hepatitis C in a Post-Lung Transplant Patient
Bradley Shepherd, MD, Christen Klochen, MD, Elizabeth Harris, MD, Roman Perri, MD, Division of Gastroenterology, Vanderbilit University, Nashville, TN

P905. A Case of Shy-Drager Syndrome in a Patient Following Orthotopic Liver Transplantation
Suhail Salem, MD, Omar Lateef, DO, Joseph Ahn, MD, MS, Stanley Cohen, MD, David Van Thiel, MD, Section of Pulmonary/Critical Care Medicine, Section of Hepatology, Rush University Medical Center, Chicago, IL

P906. Peliosis Hepatis Due to Bartonella Infection: An Unusual Cause of Cholestatic Hepatitis Following Renal Transplantation
Aparna Repaka, MD, Robert Fontana, MD, Division of Gastroenterology, University of Michigan, Ann Arbor, Michigan, MI

P907. Hepatitis C—Associated Bilateral Mooren's Corneal Ulcer and Seronegative Arthritis: Rapid Response to Systemic Steroids
Sadat Rashid, MD, Jaspreet Singh, MD, Rahul Sehgal, MD, Prachi Anand, MD, FACP, Paul Mustacchia, MD, Internal Medicine, Gastroenterology, Nassau University Medical Center, East Meadow, NY

P908. A Case of Myelodysplastic Syndrome in a Liver Transplant Patient
Rachana Potru, MD, Joseph Ahn, MD, Henry Fung, MD, Stanley Cohen, MD, Hepatology, Hematology, Rush University Medical Center, Chicago, IL

P909. Congestive Hepatopathy in the Setting of Undiagnosed Constrictive Pericarditis
Thomas Parambil, MD, Scott Pollack, MD, Fredric Regenstein, MD, Shobha Joshi, MD, Surgery - Abdominal Transplant, Tulane University School of Medicine, New Orleans, LA

P910. An Itching Complication: Moxifloxacin-Induced Vanishing Bile Duct Syndrome
Joseph Manlolo, MD, William Robinson, MD, Sumona Saha, MD, Baishali Bhattacharya, MD, Fadlallah Habr, MD, Pathology, Medicine, Brown University / Rhode Island Hospital, Providence, RI

P911. A Case of Late Onset Caroli's Disease in a 75 Year Old Woman
Amel Karaa, MD, Manish Tandon, MD, Julio Ayala, MD, Kinnari Kher, MD, Medicine, Mount Auburn Hospital, Harvard Medical School, Cambridge, MA

P912. Autoimmune Hepatitis Due to Bosentan
Maria Westerhoff, MD, Stanley Cohen, MD, Joseph Ahn, MD, MS, Hepatology, Rush University Medical Center, Chicago, IL, Pathology, University of Chicago, Chicago, IL

P913. Autoimmune Hepatitis: Diagnosis Preceded by Episode of Cholestatic Hepatitis in the Setting of Atorvastatin Exposure
Alastair Smith, MB, ChB, Medicine, Eastbourne District General Hospital, Eastbourne, United Kingdom

P914. Bleeding Duodenal Diverticulum—Hemostasis After Endoscopic Hemoclip Placement
Ilan Weisberg, MD, MSc, Cavell Lianne, MD, Doug Weine, MD, Ellen Scherl, MD, Gastroenterology and Hepatology, New York Presbyterian Hospital - Weill Cornell Medical Center, New York, NY

P915. Diagnosis of a Germ Cell Tumor by Capsule Endoscopy
Amir Agha, MD, Joseph McKinley, MD, Patrick Brady, MD, Jay Mamel, MD, Department of Gastroenterology, Internal Medicine, University of South Florida, Tampa, FL

P916. Palliation of Malignant Rectosigmoid Obstruction Secondary to Locally Invasive Prostate Cancer with Multiple Overlapping Self-Expanding Metal Stents
Aja Smith, MD, Matthew Cole, MD, Kenneth Vega, MD, Juan Munoz, MD, Division of Gastroenterology, University of Florida/ Jacksonville, Jacksonville, FL

P917. Gastropexy Wire Impaction Within a Gastrostomy Fistula
Ava Ankelsaria, MD, Po Chu, MD, Ian Wall, DO, Nison Badalov, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Department of Internal Medicine, Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY

P918. Cryospray Ablation in the Treatment of Hemorrhagic Esophageal Cancer
Felice Schnoll-Sussman, MD, Weill Cornell Medical Center, New York, NY

P919. M2A Capsule Diagnosis of Tropical Sprue
Stephen Rashbaum, MD, Luke Lee, Brian Hudes, MD, Advanced Gastroenterology Associates, Suwanee, GA

P920. When Temporary Clips Linger: Two Cases
Justina Ju, MD, Stephan Goebel, MD, John Shamma'a, MD, Uma Sundaram, MD, Division of Digestive Diseases, West Virginia University School of Medicine, Morgantown, WV

P921. The Cola Wars Continue: Use of Diet Pepsi for Bezoar Dissolution
Douglas Weine, MD, Ketan Kulkarni, MD, Ilan Weisberg, MD, Robert Schaefer, MD, Kunal Jajoo, MD, Christine Frissora, MD, Gastroenterology and Hepatology, New York Presbyterian Hospital-Weill Cornell Medical Center, New York, NY

P922. *Clostridium*, Strongyloides, Lymphoma—From Common to Rare Causes of Diarrhea in One Patient
Nancy Gundersen, MD, Robert Kraichely, MD, Internal Medicine, Mayo Clinic Rochester, Rochester, MN, Gastroenterology, Mayo Clinic, Rochester, MN

P923. Mesh Migration into the Cecum Following Laparoscopic Inguinal Hernia Repair
Adel Daas, MD, Prasad Kulkarni, MD, Division of Digestive Diseases and Nutrition, University of South Florida, Tampa, FL, James A. Haley Veterans Affairs Hospital, Tampa, FL

P924. A Case of Polysplenia and Agenesis of the Dorsal Pancreas Referred for EUS Evaluation of a Pancreatic Head Mass
Stacie Vela, MD, Joseph Romagnuolo, MD, FRCPC, MScEpi, Division of Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC

P925. Gastroduodenal Ulceration and CMV Infection in a Patient Treated with Microsphere Radioembolization
Steven Naymagon, MD, Kalpesh Patel, MD, Max Sung, MD, Michelle Kim, MD, MSc, Division of Gastroenterology, Mount Sinai School of Medicine, New York, NY

P926. CD4+ T-Cell Lymphoproliferative Disorder of the Gut
Melanie Harrison, MD, Steven Epstein, MD, Kelly Crawford, MD, Division of Digestive Diseases, Emory University School of Medicine, Atlanta, GA

P927. Cytomegalovirus Enterocolitis Complicated by Pseudotumors in the Terminal Ileum
Swapna Reddy, MD, Kashyap Trivedi, MD, Yevgeniy Karamurzin, MD, Wan Jun Bae, MD, Gregory Albers, MD, Nimisha Parekh, MD, MPH, Department of Internal Medicine, Division of Gastroenterology, University of California, Irvine, Orange, CA

P928. Diagnosis of Primary Small Bowel Adenocarcinoma by EUS-FNA
Richard Johnston, MD, Afonso Ribeiro, MD, University of Miami Miller School of Medicine-Jackson Memorial Hospital, Miami, FL

P929. Nausea and Abdominal Pain in Thyrotoxicosis
Vijaya Dasari, MD, Venkatasubbaraya Achanta, MD, Internal Medicine, The Mount Vernon Hospital, Mount Vernon, NY

P930. Actinomycosis in Meckel's Diverticulitis
Taraneh Soleymani, MD, Rada Shakov, MD, Chintan Mody, MD, N. Parikh, MD, Robert Spira, MD, Joseph DePasquale, MD, Internal Medicine, Pathology, and Gastroenterology, St. Michael's Medical Center, Newark, NJ, Seton Hall University, South Orange, NJ

P931. A Case of Aleukemic Monocytic Neoplasm Causing Diarrhea and Weight Loss
Christian Clark, MD, David Holloman, MD, Robert Stuart, MD, John Lazarchick, MD, David Lewin, MD, Lawrence Comerford, MD, Department of Pathology, Department of Medicine, Medical University of South Carolina, Charleston, SC

P932. Massive Gastrointestinal Bleeding and Diffuse Bowel Wall Thickening: A Case of Adult Henoch-Schönlein Purpura (HSP) Developed After Methicillin-Resistant Staphylococcus Aureus (MRSA) Infection
Bingru Xie, MD, PhD, John Sotiriadis, MD, PhD, Kunal Grover, MD, Mark Sterling, MD, Weizheng Wang, MD, Department of Medicine, Division of Gastroenterology and Hepatology, UMDNJ - New Jersey Medical School, Newark, NJ

P933. Atypical Case of Mucosal Malignant Melanoma
Neetu Mahendraker, MD, Mohammad Siddiqui, MD, MPH, Jyothi Reddy, MD, FACG, Internal Medicine, University of Illinois at Urbana-Champaign, Urbana, IL

P934. Cytomegalovirus Enteritis in an Immunocompetent Host
Shilpa Madadi, MD, Mark Versland, MD, Department of Medicine, Division of Gastroenterology, University of Connecticut, Farmington, CT, Department of Medicine, Division of Gastroenterology, The Hospital of Central Connecticut, New Britain, CT

P935. Chylous Ascites: A Rare Complication of Mycobacterium Avium Complex (MAC) Infection and Immune Reconstitution Inflammatory Reaction (IRIS) in AIDS
Lokesh Jha, MD, Nabin Timilsina, MD, Michel Bidros, MD, Shaila Nupur, MD, Frederick Fallick, MD, Jeremiah Kurz, MD, Michelle Dahdouh, MD, Department of Infectious Disease, Department of Gastroenterology, Department of Medicine, St. Barnabas Hospital, Bronx, NY

P936. Eosinophilic Ascites Postpartum
Iryna Hepburn, MD, Subbaramia Sridhar, MBBS, Robert Schade, MD, Medicine, Medical College of Georgia, Augusta, GA

P937. Don't Swallow Your Gum: Abnormal Positron Emission Tomography (PET) Scan Secondary to Bubble Gum Adherent to the Colonic Mucosa
Joshua Hall, MD, Arvind Movva, MD, Subbaramiah Sridhar, MB, BS, FACG, Sherman Chamberlain, MD, FACG, Section of Gastroenterology and Hepatology, Medical College of Georgia, Augusta, GA

P938. Ischemic Colitis, Acalculous Cholecystitis and Catastrophic Longitudinal Transverse Myelopathy in Antiphospholipid Syndrome and Sjogren's Vasculitis
Bassel Ericsoussi, MD, Robert Andina, MD, Melvin Wichter, MD, Charles Berkelhammer, MD, FACG, Internal Medicine, University of Illinois, Oak Lawn, IL

P939. A Case of Primary Papillary Serous Carcinoma of the Peritoneum in a Man
Tetsuhiro Yoshino, MD, Shigenari Hozawa, MD, Tokuhiro Kimura, MD, Masahiro Jinzaki, MD, Yuji Yamada, MD, Yoshiyuki Yamagishi, MD, Hideaki Kanamori, MD, Yasunori Okada, MD, Toshifumi Hibi, MD, Department of Radiology, Department of Pathology, Division of Gastroenterology, Department of Internal Medicine, Keio University School of Medicine, Tokyo, Japan

P940. A Rare Case of Common Variable Immunodeficiency Masquerading as Celiac Disease
Michael Windham, MD, Sufiyan Chaudhry, MD, Gastroenterology, University of Tennessee, Memphis, TN

P941. Rhinocerebral Mucormycosis with Cranial Nerve Involvement Presenting with Dysphagia in an Immunocompromised Cirrhotic Patient
Mustafa Tiewala, MBBS, MD, Gerold Fruchter, MD, Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY, Gastroenterology, VA NY Harbor Healthcare System, Brooklyn, NY

P942. A Rare Case of Breast Cancer Metastasis Presenting as Linitis Plastica of Stomach and Colon
Advitya Malhotra, MD, Praveen Guturu, MD, Basim Mohammed, MD, G. Raju, MD, Department of Pathology, Gastroenterology and Hepatology, UTMB, Galveston, TX

P943. Chest Discomfort Caused by Transmural Migration of Surgical Material After Fundoplication
Ricardo Borsatto, MD, Neil Shernoff, MD, Gastroenterology, Carl T. Hayden Veteran Affairs Medical Center, Phoenix, AZ, Gastroenterology / Hepatology, University of Arizona, Tucson, AZ

P944. Double Take: Gastric Polyps are Real!
Scott Leverage, MD, Luis Pena, MD, University of Kentucky, Lexington, KY

P945. Hypocalcemia Due to Proton Pump Inhibitors in a Patient with Parathyroid Insufficiency
Brandon Craft, MD, Marcelo Vela, MD, Digestive Disease Center, Department of Medicine, Medical University of South Carolina, Charleston, SC

P946. Gastroparesis Following Smallpox Vaccination
Jeffrey Laczek, MD, Roy Wong, MD, Department of Gastroenterology, Walter Reed Army Medical Center, Washington, DC

P947. Alcohol Induced Ischemic Gastric Necrosis
Kunal Grover, MD, Bingru Xie, MD, PhD, Weizheng Wang, MD, Department of Medicine, Division of Gastroenterology and Hepatology, UMDNJ - New Jersey Medical School, Newark, NJ

P948. Albumin Injection for Endoscopic Hemostasis of Bleeding Peptic Ulcer Disease
Juan Carlos Bucobo, MD, Robert Shaw, MD, Michael Harris, MD, Kai Matthes, MD, Bhawna Halwan, MD, MS, Everson Artifon, MD, PhD, Vivek Mittal, MD, Atul Kumar, MD, Division of Gastroenterology and Hepatology, Stony Brook University Medical Center, Stony Brook, NY, Harvard Medical School, Boston, MA, University of Sao Paulo Medical School, Sao Paulo, Brazil, SUNY Downstate Medical Center, Brooklyn, NY, UT Southwestern, Dallas, TX, Northport Veterans Affairs Medical Center, Northport, NY

P949. More than a Polyp
Harris Naina, MD, Samar Harris, MD, Internal Medicine, Division of Oncology, Mayo Clinic, Rochester, MN

P950. Metastatic Renal Cell Carcinoma Presenting as a Colocolic Intussusception
Kenneth Reed, DO, Ketul Patel, MD, Serge Sorser, MD, Robbie Taha, DO, Julia Greer, MD, Providence Hospital, Southfield, MI

P951. Breast Cancer Metastasizing to Multiple Colon Polyps
Bilal Hameed, MD, Saqib Razzaque, MD, Ahmad Abdulkarim, MD, Nadeem Chaudhary, MD, Gastroenterology, University of Minnesota, Minneapolis, MN, Gastroenterology, Regions Hospital, St. Paul, MN

P952. Sorbitol Induced Colonic Necrosis: A Case Report
Touraj Zolfaghari, MD, Mohamad Erfani, MD, Pramod Joseph, MD, Hilary Hertan, MD, FACG, Nejat Kiyici, MD, FACG, Aaron Feliz, MD, Gastroenterology, Our Lady of Mercy Medical Center, Bronx, NY, Pathology, Our Lady of Mercy Medical Center, Bronx, NY

P953. Cytomegalovirus Colitis in an Immunocompetent Patient: Review of Endoscopy Findings
Priyanka Kanth, MBBS, Jaykumar Thumar, MD, Guada Respicio, MD, Eytan Rubinstien, MD, Zaldonis Anthony, MD, Internal Medicine, University of Connecticut Health Center, Farmington, CT, Gastroenterology, Infectious Disease, Saint Francis Hospital and Medical Center, Hartford, CT

P954. Colon Cancer Presenting as Suspected Appendicitis with Abscess Formation
Tiffany Zellman, MD, Atulkumar Patel, MD, FACP, FACG, Gastroenterology, Internal Medicine, William Beaumont Hospital, Royal Oak, MI

P955. Attenuated Familial Adenomatous Polyposis (AFAP) Presenting as Ampullary Adenocarcinoma—A Case Report
Nisheeth Verma, MD, Avinash Murthy, MD, Vinay Sood, DO, Konstantinos Linos, MD, Pathology, Gastroenterology, Internal Medicine, Albany Medical College, Albany, NY

P956. A 50-year-old Man with an Uncommon Polyp
Panagiotis Panagiotakis, MD, Gastroenterology & Hepatology, ISJ-Mayo Health System, Mankato, MN

P957. Mantle Cell Lymphoma of the Colon: A Rare Malignancy!
Ehi Osemobor, MD, Rohit Jindal, MD, Michel-Jose Charles, MD, Department of Medicine, Division of Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY, Department of Medicine, Division of Gastroenterology, Brookdale University Hospital Medical Center, Brooklyn, NY

P958. An Unusual Cause of Diarrhea
Yaron Langman, MD, Ira Tepler, MD, Albert Kramer, MD, Amnon Gotian, MD, Lawrence Brandt, MD, Gastroenterology, Montefiore Medical Center, Bronx, NY

P959. Chemical Colitis: An Unusual Complication of a Gynecological Procedure
Rizwan Ahmed, MD, William Gallahan, MD, John Long, MD, Gastroenterology, Wake Forest University Baptist Medical Center, Winston-Salem, NC

P960. Localized Gastrointestinal Histoplasmosis Presenting as Lower GI Bleeding in an Immunodeficient Patient
Gerson Valdez, MD, Abhijit Raval, MD, Roger Smalligan, MD, MPH, Christopher Mathews, MD, Internal Medicine Department, East Tennessee State University, Johnson City, TN

P961. Capecitabine Induced Colitis Cystica Superficialis
Peter Sargon, MD, Baseer Qazi, MD, Timothy Laurie, MD, Hymie Kavin, MD, Gastroenterology, Advocate Lutheran General Hospital, Park Ridge, IL

P962. Recto-Urethral Fistula: A Late, But Unusual Complication of Radiation Therapy for Prostate Cancer
Lawrence Chan, MD, Paul Arnold, MD, Division of Gastroenterology, Virginia Commonwealth University Health System, Richmond, VA

P963. Delayed Diagnosis of Splenic Hematoma After Routine Colonoscopy
Arvind Movva, MD, Shannon Marek, MD, Dimple Raina, MD, Subbaramiah Sridhar, MB, BS, FACG, Section of Gastroenterology and Hepatology, Medical College of Georgia, Augusta, GA

P964. Pseudo-Carcinomatosis—An Atypical Presentation of Pseudomyxoma Peritonei in a Morbidly Obese Patient
Maria Lufrano, DO, Thomas Bradley, MD, John Costable, MD, Ian Storch, DO, Medicine, North Shore University Hospital, Manhasset, NY

P965. Hemoperitoneum without Perforation or Splenic Rupture After Colonoscopy
Gordon Liss, MD, Stanley Benjamin, MD, Gastroenterology, Georgetown University Hospital, Washington, DC

P966. Acute Appendicitis: An Unusual Complication Following Colonoscopy
Jennifer Leigh, MD, MPH, James Roa, DO, Mitchel Hoffman, MD, MPH, Gastroenterology, Bay Pines VA Healthcare System, St. Petersburg, FL, USF College of Medicine, Tampa, FL

P967. Colonic Spirochetosis: An Unusual Cause of Asymptomatic Colonic Ulceration
Mouen Khashab, MD, Spencer Wilson, MD, Won Kyoo Cho, MD, Medicine, Indiana University/Roudebush VAMC, Indianapolis, IN

P968. Microcytic Anemia in a Patient with Malignant Melanoma: An Uncommon Presentation
Lesley Andrews, MD, Sherri Yong, MD, Khondker Islam, MD, Medicine, Loyola University Medical Center, Maywood, IL

P969. Severe Proximal Muscle Weakness in a Patient with Colon Cancer: Paraneoplastic Syndrome or Idiopathic Inflammatory Myopathy?
Oksana Anand, MD, Gastroenterology and Hepatology, Kansas University Hospital, Kansas City, KS

P970. Multiple Granular Cell Tumors of Ascending Colon: A Case Report and Literature Review
Jeff Ye, MD, Ronald Gaskins, MD, Jeff Stead, MD, Uma Sundaram, MD, Section of Digestive Diseases, Department of Pathology, West Virginia University, Morgantown, WV

P971. Rare Case of an Incidentally Found Appendiceal Neuroma
Yuriy Tsirlin, MD, Andrew Seymour, MD, Gerold Fruchter, MD, Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY, Pathology, Gastroenterology, VA NY Harbor Healthcare System, Brooklyn Campus, Brooklyn, NY

P972. A Case of Seronegative Autoimmune Pancreatitis
Laxmi Thummalakunta, MD, MPH, Naishadh Raghuwanshi, MD, MBA, Frank Burton, MD, Richa Gupta, MD, Internal Medicine, St. Luke's Hospital, Saint Louis, MO, Gasteroenterology, Saint Louis University, Saint Louis, MO

P973. Acute Abdomen on Hemodialysis
Zeeshan Perveze, MD, Nasser Saffarian, MD, Ayaz Chaudhary, MD, FACG, Gastroenterology, Internal Medicine, Medical College of Georgia, Augusta, GA, Internal Medicine, Trinity Hospital, Minot, ND

P974. Metastatic Breast Carcinoma Presenting as Obstructive Jaundice and Gastrointestinal Bleeding
Rishi Pawa, MD, Zion Oshikanlu, MD, Vishal Gupta, MD, PhD, Uzma Abbasi, MD, Hashim Nemat, MD, Jay Cowan, MD, Gastroenterology, Columbia University College of Physicians and Surgeons, Harlem Hospital Center, New York, NY, Geriatric Medicine, Long Island Jewish Medical Center, New Hyde Park, NY

P975. Pancreatic Mass Associated with Recurrent Acute Pancreatitis in a Patient with Pulmonary Sarcoidosis: Diagnosis of Pancreatic Sarcoid Established with EUS/FNA
Maya Mathew, MD, John Kalarickal, MD, Scott Pollack, MD, Virendra Joshi, MD, GI, Tulane University, New Orleans, LA

P976. Pancreatic Tuberculosis Masquerading as Metastatic Pancreatic Neoplasm
Uzma Abbasi, MD, Rishi Pawa, MD, Vishal Gupta, MD, PhD, Jay Cowan, MD, Gastroenterology, Columbia University College of Physicians and Surgeons, Harlem Hospital Center, New York, NY

P977. Pancreatic Tuberculosis in a Patient with HIV: A Rare Diagnosis
Dushyant Singh, MD, Wendell Clarkston, MD, Internal Medicine, University of Missouri Kansas City, Kansas City, MO

P978. Ansa Pancreatica and Recurrent Pancreatitis
Homayoon Mahjoob, MD, John Carroll, MD, Reena Jha, MD, Elisabeth Kramer, BS, Firas Al-Kawas, MD, Medicine, Georgetown University Medical Center, Washington, DC

P979. A Rare Presentation of Synchronous Esophageal and Pancreatic Adenocarcinoma with Metastasis
Erika Madrigal, MD, Matthew Tsushima, MD, Wichit Srikureja, MD, Ronald Griffin, MD, Christian Jackson, MD, Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA, Gastroenterology, Jerry L. Pettis Memorial VA Medical Center, Loma Linda, CA

P980. Acute Pancreatitis Induced by Gastrostomy Tube (GT) Migration: A Case Series
Mohamad Erfani, MD, Touraj Zolfaghari, MD, Hilary Hertan, MD, FACG, Gastroenterology, Our Lady of Mercy Medical Center, Bronx, NY

P981. Hemolysis Induced Acute Pancreatitis
Adeel Seyal, MD, Christopher Marino, MD, Internal Medicine, University of Tennessee, Memphis, TN, Internal Medicine, Veterans Affairs Medical Center, Memphis, TN

P982. Biliary Venous Fistula After Percutaneous Biliary Drain Placement
Samantha Scanlon, MD, Karthik Ravi, MD, Mark Topazian, MD, Internal Medicine, Mayo Graduate School of Medical Education, Rochester, MN

P983. Sarcoidosis Presenting as Cholangiocarcinoma
Jack Braha, DO, Ting-Hui Hsieh, MD, Jai Mirchandani, MD, Kadirawel Iswara, MD, Jianjun Li, MD, Scott Tenner, MD, MPH, Medicine, Maimonides Medical Center, Brooklyn, NY, Medicine, State University of New York - Health Sciences Center, Brooklyn, NY

P984. Gallbladder Tuberculosis Mimics Cholecystitis
Richard Blatt, MD, Nikrad Shahnavaz, MD, Tanvi Dhere, MD, Marney Goldstein, MD, Emory University, Atlanta, GA

P985. Acute Duodenal Anisakiasis with Associated Hepatopancreatic Complications
Eileen Wang, BA, Nirmal Kaur, MD, Richard Saad, MD, University of Michigan Medical Center, Ann Arbor, MI

P986. White Bile in Malignant Biliary Obstruction
Amjad Mreyoud, MD, Shahid Mehboob, MD, Internal Medicine/Gastroenterology, VAMC/University at Buffalo, Buffalo, NY

P987. Gangliocytic Paraganglioma of the Common Bile Duct
Murthy Muthuswamy, MD, Zhenrong Zhang, MD, Eugene Stueben, MD, Internal Medicine, LSU HSC - University Medical Center, Lafayette, LA

P988. Klatskin-like Biliary Sarcoidosis
★ *2008 ACG Presidential Poster Award Recipient*
John Petersen, DO, FACG, FACP, Borland-Groover Clinic, Jacksonville, FL

P989. Sandostatin Desensitization: A Strategy Useful for Patients with Carcinoid Tumors, Intolerant to Sandostatin
Sanjay Vinjamaram, MD, Sapna Khubchandani, MD, Renuka Iyer, MD, Roswell Park Cancer Institute, Bufffalo, NY

P990. *H. pylori* in the Patch!
Mohit Jindal, MD, Rohit Jindal, MD, Ayse Aytaman, MD, Gastroenterology, VA NYHHS, Brooklyn, NY

P991. Obstruction with a Patent Lumen: A Case of Powdered Psyllium and Acute Esophageal Obstruction
Peter Pico, MD, Mohamed Hassan, MD, Bilal Hameed, MD, Gastroenterology and Internal Medicine, University of Minnesota, Minneapolis, MN

P992. A Difficult Diagnosis to Swallow: Malignant Melanoma Diagnosed by Endoscopy
Neil Sharma, MD, Vesna Vrcelj, MD, Prasad Kulkarni, MD, Department of Gastroenterology, University of South Florida, Tampa, FL, Department of Pathology, James A. Haley Veterans' Administration Hospital, Tampa, FL

P993. An Unusual Etiology of Dysphagia in a Patient with Acromegaly
Carlos Romero, MD, Eduardo Gonzalez, MD, Victor Carlo, MD, Gastroenterology, University of Puerto Rico, San Juan, PR

P994. Granular Cell Tumor of the Esophagus: Case Report and Literature Review
Nathan Landesman, DO, Justin Miller, DO, Brent Himes, DO, Pathology, Gastroenterology, Genesys Regional Medical Center, Grand Blanc, MI

P995. Squamous Cell Carcinomas of the Esophagus Appearing as Leiomyomas by EUS and EGD
Elisabeth Kramer, BS, Homayoon Mahjoob, MD, John Carroll, MD, Medicine, Georgetown University Medical Center, Washington, DC

P996. Giant Esophageal Lipoma in an Asymptomatic Patient: A Case Report
Corrine Glynn, MD, William Harford, MD, Ali Siddiqui, MD, Internal Medicine, Dallas Veterans Affairs Medical Center, Dallas, TX

P997. Attempted Removal and Subsequent Fragmentation of Three Self-Expanding Metal Stents
Jason Wilson, MD, Mark Delegge, MD, FACG, Gastroenterology, Medical University of South Carolina, Charleston, SC

P998. TPMT Testing and Hepatotoxicity in the Elderly
Sadiya Sarij, MD, Khondker Islam, MD, Gastroenterology, Hepatology and Nutrition, Loyola University Medical Center, Maywood, IL

P999. Plummer-Vinson Syndrome in a Patient with Ulcerative Colitis
Satya Mishra, MD, Melchor Demetria, MD, Bashar Attar, MD, PhD, Division of Gastroenterology and Hepatology, Cook County - John H. Stroger Hospital, Rush University, Chicago, IL

P1000. Recurrent Appendicitis Masquerading as Crohn's Disease
Maria Moscandrew, MD, Sunanda Kane, MD, MSPH, Gastroenterology, Mayo Clinic Rochester, Rochester, MN

P1001. Metastatic Crohn's Disease: A Rare Cutaneous Manifestation of Inflammatory Bowel Disease
William Gallahan, MD, Joseph Jorizzo, MD, Richard Bloomfeld, MD, Dermatology, Gastroenterology, Wake Forest University Baptist Medical Center, Winston-Salem, NC

P1002. Mesalamine Induced Eosinophilic Organizing Pneumonia
Sheila Kumar, MD, Ellen Scherl, MD, Vinita Jacob, MD, Brian Bosworth, MD, Gastroenterology and Hepatology, Roberts IBD Center, Weill Medical College of Cornell University, New York, NY, Medicine, New York Presbyterian Hospital: Columbia Presbyterian Medical Center, New York, NY

P1003. Marijuana: A Problem or a Solution?
Chandandeep Takkar, MD, Rajeswari Anaparthy, MD, University of Texas Medical Branch, Galveston, TX

OUTCOMES RESEARCH

P1004. Acute Appendicitis in a Patient with Situs Inversus
Eric Boyle, MD, Philip Caushaj, MD, The Western Pennsylvania Hospital, Pittsburgh, PA

P1005. Utility of Blood Cultures as Routine Admission Orders for Patients Admitted to the Hospital with Acute Diverticulitis
John Rutkoski, MD, James McCormick, DO, Philip Caushaj, MD, The Western Pennsylvania Hospital, Pittsburgh, PA

P1006. Surgical Repair Versus a Removable Esophageal Plastic Stent for Treatment of Post-Surgical Esophageal Leaks: A Decision Analysis
Corrine Glynn, MD, Ali Siddiqui, MD, Internal Medicine, University of Texas Southwestern Medical Center, Dallas, TX

P1007. Consistency of Estimated Utilities from SF-36 Scores in Patients Undergoing Biofeedback Therapy for Chronic Constipation
Jorge Go, MD, Carl Brown, MS, Jessica Paulson, BS, Satish Rao, MD, PhD, FRCP, Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA, The Center for Research in the Implementation of Innovative Strategies in Practice (CRIISP), VA Iowa City Healthcare System, Iowa City, IA

P1008. Patients with Diabetes Mellitus, Elevated Cholesterol and Increased BMI While on Medications Do Not Have an Increased Risk of Colorectal Adenoma
Priyanka Kanth, MBBS, Thomas Huang, MD, Jianmin Tian, MD, Anil Nagar, MD, Internal Medicine, University of Connecticut Health Center, Farmington, CT, Gastroenterology, Yale University School of Medicine, New Haven, CT, Internal Medicine, Bridgeport Hospital and Yale University School of Medicine, Bridgeport, CT

P1009. Randomized Controlled Trials of Proton-Pump Inhibitors in Nighttime GERD: A Systematic Review
Prajesh Kothawala, MD, MPH, Stephen Lange, MD, James McGuigan, MD, Daniel Aguilar, MPH, Diana Morgenstern, MD, Ning Yan, PhD, Bonnie Dean, PhD, MPH, Cerner LifeSciences, Beverly Hills, CA, Mayo Clinic, Jacksonville, FL, University of Florida, Gainesville, FL, Wyeth Pharmaceuticals, Collegeville, PA

P1010. Hepatitis C Virus Spontaneous Clearance Rates in a Rural Veteran Affairs Clinic
Michelle Matteson, APN, Suzanne Opperman, APN, Matthew Bechtold, MD, Srinivas Puli, MD, Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO, Department of Gastroenterology and Hepatology, Harry S. Truman Veterans' Memorial, Columbia, MO

P1011. Laboratory Predictors of Severe *Clostridium difficile* Associated Diarrheal Diseases
Jitendrakumar Patel, MD, Dhaval Satani, MD, Kelly Cervellione, MA, Makkalm Em, BS, Avani Patel, MD, Farshad Bagheri, MD, Internal Medicine, Jamaica Hospital Medical Center, Jamaica, NY

P1012. Health-Related Quality of Life in TNF-Antagonist-Naive Patients with Crohn's Disease During Short- and Long-Term Adalimumab Treatment
David Rubin, MD, Paul Rutgeerts, MD, Jean Fred Colombel, MD, Eric Wu, PhD, Andrew Yu, PhD, Jingdong Chao, PhD, Parvez Mulani, PhD, Section of Gastroenterology, University of Chicago, Chicago, IL, University Hospital of Gasthuisberg, Leuven, Belgium, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Analysis Group, Inc., Boston, MA, Abbott Laboratories, Abbott Park, IL

P1013. Association Between Race and the Perception and Resolution of Heartburn (HB) in Patients with GERD
Prateek Sharma, MD, Hashem El-Serag, MD, MPH, John Monyak, PhD, Marta Illueca, MD, University of Kansas Medical Center, Kansas City, MO, Baylor College of Medicine, Houston, TX, AstraZeneca LP, Wilmington, DE

P1014. Role of Immuno-Nutrition (Alanyl-Glutamine Dipeptide) in Critically Ill Patients
Subodh Varshney, MS, FRCS, FACS, Swarna Vyas, MSc, Harikat Bains, PhD, Rajneesh Varshney, MS, Vikrant Singh, MS, Dipak Purohit, MS, Kewal Maudar, MS, PhD, GI Surgery, Bhopal Memorial Hospital and Research Centre, Bhopal, India

P1015. Inflammatory Bowel Disease Patients' Adherence to and Satisfaction with Treatment
H. Waters, MBA, K. Annunziata, MA, A. Naim, MD, D. Freedman, MBA, C. Piech, MBA, Centocor Ortho Biotech Services, LLC, Horsham, PA, Consumer Health Sciences International, Princeton, NJ

P1016. Real World Dosing of Anti-Tumor Necrosis Factor Therapies in the Treatment of Adults with Crohn's Disease
H. Waters, MBA, T. Meekins, MBA, A. Bewtra, MS, R. McKenzie, MD, B. Tang, MD, C. Piech, MBA, Centocor Ortho Biotech Services, LLC, Horsham, PA, Wolters Kluwer Health, Yardley, PA

P1017. Patient Perception of Disease Control in Ulcerative Colitis
H. Waters, MBA, S. Berg, MBA, J. Kelly, MBA, C. Piech, MBA, Centocor Ortho Biotech Services, LLC, Horsham, PA, GfK V2, LLC, Blue Bell, PA

P1018. Self-Reported Quality of Life in Inflammatory Bowel Disease
H. Waters, MBA, K. Annunziata, MA, A. Naim, MBA, B. Tang, MD, D. Freedman, MBA, C. Piech, MBA, Centocor Ortho Biotech Services, LLC, Horsham, PA, Consumer Health Sciences International, Princeton, NJ

P1019. Patient Outcomes After Placement of PEG at Bay Pines VA Healthcare System
Angelo Fernandes, MD, Tri Huynh, DO, Mitchel Hoffman, MD, Terri Buchanan, BS, Gastroenterology, Bay Pines VA Healthcare System, Bay Pines, FL

P1020. Does Multi-Drug Crohn's Therapy Result in Improved Patient Outcomes?
Remo Panaccione, MD, Sunanda Kane, MD, Douglas Wolf, MD, Scott Plevy, MD, Mark Atkinson, PhD, Sumeet Panjabi, PhD, Steven Hass, PhD, Department of Medicine, University of Calgary, Calgary, AB, Canada, Inflammatory Bowel Disease Center, Mayo Clinic, Rochester, MN, Atlanta Gastroenterology Associates, Atlanta, GA, Department of Medicine, University of North Carolina School of Medicine, Chapel Hill, NC, PRO-Spectus and UCSD, Health Services Research Center, Encinitas, CA, Pharmacoeconomics, Elan Pharmaceuticals, Inc., South San Francisco, CA

P1021. Response After 12 Weeks of Adalimumab Therapy in Patients with Crohn's Disease Who Were Nonresponders at Week 4
Remo Panaccione, MD, William Sandborn, MD, Jean Fred Colombel, MD, Paul Pollack, MD, Naijun Chen, MS, Jingdong Chao, PhD, Parvez Mulani, PhD, Department of Medicine, University of Calgary, Calgary, AB, Canada, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France, Abbott Laboratories, Abbott Park, IL

P1022. Low Health Literacy is Associated with Less Knowledge About Colorectal Cancer But Not Adherence to Colonoscopy Among Veterans
Shahnaz Sultan, MD, Chris Newlin, Phalgoon Shah, MBBS, Rebecca Beyth, MD, MSc, Dawn Provenzale, MD, MS, Department of Gastroenterology, University of Florida College of Medicine, Gainesville, FL, RORC and GRECC, NF/SG Veterans Health System, Gainesville, FL, Center for Health Services Research in Primary Care, Durham Veterans Affairs Medical Center, Durham, NC

P1023. Relevance of the Gastrointestinal Symptom Rating Scale (GSRS) in Patients with Celiac Disease
Betsy Abraham-Van Parijs, MD, PhD, Mark Price, MA, MEd, Francisco Leon, MD, PhD, Sheri Fehnel, PhD, Scientific Affairs and Clinical-Regulatory Strategy, Alba Therapeutics, Baltimore, MD, RTI Health Solutions, RTI International, Research Triangle Park, NC, Clinical Development & Medical Affairs, Alba Therapeutics, Baltimore, MD

P1024. Compliance with Proton Pump Inhibitor Therapy Impacts Resolution of GERD Symptoms—Preliminary Results
Tushar Dabade, BA, Debra Geno, CCRP, Sunanda Kane, MD, MPH, Michael Crowell, PhD, Steven Adamson, MD, Ramona DeJesus, MD, Felicity Enders, PhD, Andrew Majka, MD, Colin Howden, MD, Yvonne Romero, MD, Internal Medicine, Biostatistics, Primary Care Internal Medicine, Family Medicine, Gastroenterology & Hepatology, Medical School, Mayo Clinic, Rochester, MN, Gastroenterology, Northwestern University, Chicago, IL

P1025. Management of Diverticulitis in Young Patients
Pablo Giuseppucci, MD, Patricio Donnelly, MD, Philip Caushaj, MD, The Western Pennsylvania Hospital, Pittsburgh, PA

P1026. Factors Associated with Increased Cost in Patients Hospitalized with Acute Appendicitis Over the Last 15 Years
Sumit Kapoor, MBBS, MPH, Devi Krishnamurty, MBBS, Sanjay Jagannath, MD, Jonathan Buscaglia, MD, Medicine–Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, MD

P1027. Resident Physicians Comfort with Managing Gastrointestinal Bleeding at the Completion of Internal Medicine Residency
Huy Nguyen, MD, Jessica Gladden, MS, Steven Zeddun, MD, Marie Borum, MD, EdD, MPH, Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC

P1028. Favorable GI Profile of Celecoxib vs. nsNSAIDs Based on Pooled Analysis of 21 Celecoxib Randomized Controlled Trials
Liviu Niculescu, MD, Chunming Li, PhD, Jim Huang, PhD, Sharon Mallen, MD, Clinical Programming and Writing, Statistics, Global Medical, Pfizer, New York, NY

INFLAMMATORY BOWEL DISEASE

P1029. Renal Effects of Long Term 5-ASA
★ *2008 ACG Presidential Poster Award Recipient*
Harshna Patel, MD, Aiala Brar, PhD, Khursheed Jeejeebhoy, MD, Department of Public Health, Department of Medicine, University of Toronto, Toronto, ON, Canada, Department of Medicine, Department of Gastroenterology, St. Michael's Hospital, University of Toronto, Toronto, ON, Canada

P1030. Prospective Evaluation of Epstein-Barr Virus and Inflammatory Bowel Disease
Kanat Ransibrahmanakul, MD, Irina Grishina, BS, Sumathi Sankaran, PhD, Lynne Do, MD, Anne Thai, MD, Walter Trudeau, MD, Maria Henthorn, RN, Satya Dandekar, PhD, Thomas Prindiville, MD, Medical Microbiology and Immunology, Gastroenterology and Hepatology, UC Davis, Sacramento, CA

P1031. Does Use of Video Capsule Endoscopy in Patients with Known or Suspected Inflammatory Bowel Disease Change their Management?
Wojciech Blonski, BS, David Kotlyar, MD, PhD, Nuzhat Ahmad, MD, David Jaffe, MD, Gary Lichtenstein, MD, Division of Gastroenterology, University of Pennsylvania, Philadelphia, PA

P1032. High-Grade Dysplastic Adenoma-like Mass Lesions are Not an Indication for Colectomy in Patients with Ulcerative Colitis: Report of 10-Years Follow-up
Wojciech Blonski, MD, PhD, David Kotlyar, BS, Emma Furth, MD, Mark Osterman, MD, Gary Lichtenstein, MD, Division of Anatomic Pathology, Division of Gastroenterology, University of Pennsylvania, Philadelphia, PA

P1033. Factors Predictive of Relapse in Patients with Ulcerative Colitis (UC): A Systematic Review
Wojciech Blonski, MD, PhD, David Kotlyar, BS, Mark Osterman, MD, Faten Aberra, MD, Gary Lichtenstein, MD, Division of Gastroenterology, University of Pennsylvania, Philadelphia, PA

P1034. Efficacy of Intensification Therapy with Certolizumab Pegol in Crohn's Disease Patients Included in a Compassionate-Use Program
Ignacio Fernandez-Blanco, MD, Joaquin Hinojosa, MD, IBD Unit, Clinica Moncloa, Madrid, Spain, Gastroenterology Unit, Hospital de Sagunto, Valencia, Spain

P1035. The Role of Video Capsule Endoscopy in Patients with Suspected Small Bowel Crohn's Disease Despite a Normal Ileoscopy
Gordon Liss, MD, Halim Charbel, MD, Kathy Bull-Henry, MD, Aline Charabaty, MD, Gastroenterology, Georgetown University Hospital, Washington, DC

P1036. PET/CT Identifies Subclinical Inflammation in Patients with Quiescent Ulcerative Colitis
David Rubin, MD, Bonnie Surma, RN, Kerry Schnell, AB, Samuel Gavzy, Alana Bunnag, AB, Dezheng Huo, MD, PhD, Daniel Appelbaum, MD, Radiology, Health Studies, Medicine, University of Chicago, Chicago, IL

P1037. Ileal Calprotectin Levels Predict Colon Endoscopic Activity in Patients with Inflammatory Bowel Disease
Subha Sundararajan, MD, Neal Schamberg, MD, Stevan Gonzalez, MD, MPH, Ellen Scherl, MD, Brian Bosworth, MD, Division of Gastroenterology and Hepatology, Department of Medicine, Weill Cornell Medical Center / New York Presbyterian Hospital, New York, NY, Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA

P1038. Abrogation of Experimental Colitis by Turmeric Correlates with Reduction in NF-kB Nuclear Translocation and COX-2 Expression
Tauseef Ali, MD, Satish Ramalingam, PhD, Dharmalingam Subramaniam, PhD, Randal May, PhD, Courtney Houchen, MD, Shrikant Anant, PhD, Department of Medicine-Digestive Disease and Nutrition, University of Oklahoma Health Sciences Center, Oklahoma City, OK

P1039. Poster Withdrawn

P1040. Dyslipidemia and Lipoprotein Profiles in Inflammatory Bowel Disease (IBD)
Raja Shekhar Sappati Biyyani, MD, Brian Putka, MD, Kevin Mullen, MD, Hospital Medicine and Gastroenterology, Case Western Reserve University at MetroHealth Medical Center, Cleveland, OH

P1041. A Dynamic Model of Colonic Concentrations of Delayed-Release 5-Aminosalicylic Acid (Asacol®)
Matthew Thorpe, BS, Karson Putt, BS, Eli Ehrenpreis, MD, Bruce Hannon, PhD, Biochemistry, Division of Nutritional Sciences, University of Illinois, Urbana, IL, Medicine, Evanston/Northwestern Health Care, Evanston, IL, Geography/NCSA, University of Illinois, Urbana, IL

P1042. Common Presenting Patterns in Patients with Upper Gastroinestinal Crohn's Disease
Roger Wu, MD, Leonard Baidoo, MD, Gastroenterology, Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA

P1043. Early Transabdominal Ultrasound Evaluation Can Predict Clinical Response to Therapy in Patients with Active Ulcerative Colitis
Atsushi Yoshida, MD, Fumiaki Ueno, MD, Kenji Kobayashi, MD, Hideki Yoshimatsu, ME, Kentarou Takatuka, MD, Shougo Iwabuchi, MD, Center for Digestive and Liver Disease, Ofuna Chuo Hospital, Kamakura, Japan

P1044. Certolizumab Pegol Therapy in a Patient with Crohn's Disease with Previous Loss of Response to 2 Anti-TNF Agents
Eugeni Doménech, MD, Jose Luis Cabriada, MD, Antonio Bernal, MD, Carlos Cara, MD, Miguel Angel Gassull, MD, Gastroenterology Department, Hospital German Trías I Pujol, Badalona, Spain, Servicio de Digestivo, Hospital de Galdakao, Vizcaya, Spain, Department of Medicine, UCB Pharma, Madrid, Spain

P1045. Hyperhomocysteinemia and the Risk of Thromboembolism and Atherosclerosis in IBD
Murtaza Arif, MD, David Binion, MD, Medicine, Medical College of Wisconsin, Milwaukee, WI

P1046. Long-Term Follow-up of the Use of Rifaximin in Maintaining Clinical Remission in Moderate and Severe Crohn's Disease
Brian Bosworth, MD, Frank Scott, MD, Vinita Jacob, MD, Ellen Scherl, MD, Medicine, Roberts IBD Center, Gastroenterology and Hepatology, Weill Medical College of Cornell University, New York, NY

P1047. A Novel mTOR Inhibitor is Efficacious in a Murine Model of Colitis
Nilesh Dagia, PhD, Mandar Bhonde, PhD, Ravindra Gupte, PhD, Ram Vishwakarma, PhD, Sanjay Kumar, PhD, Somesh Sharma, PhD, Medicinal Chemistry, Pharmacology, Piramal Life Sciences Limited, Mumbai, India

P1048. NPS31807, a Herbal Extract, Suppresses DSS-Induced Murine Colitis
Nilesh Dagia, PhD, Ravindra Gupte, PhD, Shruta Dadarkar, PhD, Aditi Tannu, MPharm, Mahesh Jadhav, MPharm, Somesh Sharma, PhD, Pharmacology, Piramal Life Sciences Limited, Mumbai, India

P1049. Medication Profile of Patients in the UPR Inflammatory Bowel Disease Registry
Jorge Melendez, MD, Yaritza Larregui, PharmD, Jewel Vazquez, PharmD, Victor Carlo, MD, Esther Torres, MD, MACG, Internal Medicine, University of Puerto Rico School of Medicine, San Juan, PR, University of Puerto Rico School of Pharmacy, San Juan, PR

P1050. RDEA119, a Potent and Highly Selective MEK1/2 Inhibitor is Beneficial in Dextran Sulfate Sodium (DSS)-Induced Chronic Colitis in Mice
Marcel Miampamba, PhD, Gary Larson, BSc, Chon Lai, MSc, Andrea Johansen, BSc, Jeff Miner, PhD, Jean-Michel Vernier, PhD, Jean-Luc Girardet, PhD, Barry Quart, PhD, PharmD, Discovery Biology, Ardea Biosciences, Inc, San Diego, CA

P1051. The Role of Serologic Markers in Identifying Infliximab Response in Ulcerative Colitis
Douglas Weine, MD, Brian Bosworth, MD, David Poppers, MD, Ellen Scherl, MD, Gastroenterology and Hepatology, New York Hospital - Weill Cornell Medical Center, New York, NY, Gastroenterology, Lenox Hill Hospital, New York, NY

P1052. Larazotide Acetate (AT-1001) Inhibits Epithelial Permeability Induced by TNF-α and Il-4
Niranjan Pandey, PhD, Kelly Kitchens, PhD, Neil Poloso, PhD, John Vere, Mark Ginski, PhD, Blake Paterson, MD, Sefik Alkan, PhD, Amir Tamiz, PhD, Alba Therapeutics, Baltimore, MD

P1053. The Coexistence of Crohn's Disease and Takayasu Arteritis: Diagnosis and Treatment of Combined Disease with Infliximab in Three Patients
Joel Judah, MD, Anis Ahmadi, MD, Chris Hammond, BS, Steven Polyak, MD, John Valentine, MD, Division of Gastroenterology, University of Florida, Gainesville, FL

P1054. Budesonide as Second-Line Therapy for Microscopic Colitis
Charles Randall, MD, Carlo Taboada, MD, Gary Gossen, MD, Russell Havranek, MD, Christopher Fincke, MD, Rodrigo Adame, MD, Alejandro Villarreal, MD, Luis Rendon, MD, Research, Gastroenterology Research of San Antonio, San Antonio, TX, Research, Gastroenterology Clinic of San Antonio, San Antonio, TX, Medicine, University of Texas Health Science Center at San Antonio, San Antonio, TX

P1055. Sulfasalazine for Arthropathy in Crohn's Disease
Jeffrey So, MD, James Gregor, MD, Department of Medicine, Division of Gastroenterology, Schulich School of Medicine and Dentistry, University of Western Ontario, London, ON, Canada

P1056. 5-Aminosalicylic Acid Release from pH-Dependent, Delayed-Release Formulations: The Importance of Consistent and Steady Release Profiles
Srini Tenjarla, PhD, Vallente Romasanta, PhD, Adeyinka Abinusawa, PhD, Shire Pharmaceuticals Inc., Wayne, PA

P1057. Understanding 5-Aminosalicylic Acid (5-ASA) Release Profiles from pH-Dependent Delayed-Release Formulations: A Multidisciplinary Approach
Srini Tenjarla, PhD, Robyn Karlstadt, MD, Raymond Joseph, MD, Shire Pharmaceuticals Inc., Wayne, PA

P1058. Efficacy, Safety and Durability of Anti-TNF Therapy in the Treatment of Inflammatory Bowel Disease
Chirag Trivedi, DO, James Kao, MD, Mark Saxena, MD, Eric Shen, MD, Kiron Das, MD, PhD, Ellen Ebert, MD, Crohn's & Colitis Center of New Jersey, Department of Medicine, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ

P1059. Comparison of Clinical Findings in Intestinal Behçet Disease and Simple Ulcer
Shojiro Yamamoto, MD, Yoshihiro Tahara, MD, Hisayoshi Iwakiri, MD, Hiroo Abe, MD, Takumi Yamaji, MD, Taku Harada, MD, Satoru Hasuike, MD, Kenji Nagata, MD, Kazuya Shimoda, MD, Department of Gastroenterology and Hematology, University of Miyazaki, Miyazaki, Japan, Internal Medicine, Miyazaki Prefectural Nobeoka Hospital, Nobeoka, Japan

FUNCTIONAL BOWEL DISORDERS

P1060. Increasing Use of Narcotics and Functional Bowel Disorders in the United States
Rok Seon Choung, MD, Nilay Shah, PhD, Patrick Meek, MS, G. Richard Locke, MD, Nicholas Talley, MD, PhD, Division of Gastroenterology and Hepatology, and Division of Health Care Policy & Research, Mayo Clinic, Rochester, MN, Pharmacy Practice Pharmacoeconomics & Health Policy, Albany College of Pharmacy, Albany, NY

P1061. IBS and Medications: What Risks Will Patients Take?
Brian Lacy, PhD, MD, FACG, Kelly Everhart, BA, Kirsten Weiser, MD, Ryan De Lee, MD, Sebastian Strobel, MD, Corey Siegel, MD, Michael Crowell, PhD, FACG, Division of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH, Medicine, Division of Gastroenterology, Mayo Clinic College of Medicine, Scottsdale, AZ

P1062. Nausea Reports as an Indicator of Morbidity
Rona Levy, MSW, PhD, MPH, Dennis Christie, MD, Shelby Langer, PhD, William Whitehead, PhD, Andrew Feld, MD, Melissa Dupen, BS, School of Social Work, University of Washington, Seattle, WA, Central Specialty Clinic, Group Health, Seattle, WA, Center for Functional and Motility Disorders, University of North Carolina, Chapel Hill, Chapel Hill, NC, Gastroenterology, Children's Hospital & Regional Medical Center, Seattle, WA

P1063. The Effect of Shift Work on the Prevalence and Clinical Impact of Functional Bowel Disorders in Nurses
Borko Nojkov, MD, Joel Rubenstein, MD, Sandra Hoogerwerf, MD, William Chey, MD, University of Michigan Medical Center, Ann Arbor, MI

P1064. Optimizing Mathematical Analysis of Gastric Emptying Breath Tests
Suwebatu Odunsi, MD, Michael Camilleri, MD, Lawrence Szarka, MD, Alan Zinsmeister, PhD, Department of Health Sciences Research, Division of Biostatistics, Clinical Enteric Neuroscience Translational and Epidemiological Research, Mayo Clinic, Rochester, MN

P1065. Severity of Irritable Bowel Syndrome-Related Symptoms Predicts Clinical Response to the Nonsystemic Antibiotic Rifaximin
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Albena Halpert, MD, Abha Verma, BA, Lizabeth Cline, MS, NP, Jack Clark, PhD, Gastroenterology, Boston University Medical Center, Boston, MA, Health Policy & Management, Boston University School of Public Health, Boston, MA

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Timothy Biagini, MD, Srinadh Komanduri, MD, MS, Medicine, Rush University Medical Center, Chicago, IL

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Georg Elias, MD, Nabil Toubia, MD, Medicine / Gastroenterology, Roger William Medical Center, Boston University / School of Medicine, Providence, RI

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Shahzad Iqbal, MD, Wael Eldarway, MD, Rabia Mir, MD, Maurice Cerulli, MD, FACG, Won Sohn, MD, Gastroenterology, New York Methodist Hospital, Brooklyn, NY, Gastroenterology, Interfaith Medical Center, Brooklyn, NY, Pathology, New York Methodist Hospital, Brooklyn, NY

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Ravindra Satarasinghe, MD, Ruchira Fernando, MD, Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka

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Mohammed Khan, MRCP(UK), Hamad Al-Ashgar, MD, Khalid Al-Kahtani, MRCP(UK), Maheeba Abdullah, MRCP(UK), Mohammed Al-Quaiz, MRCP(UK), Mohammed Al-Fadda, MD, Medicine, KFSH&RC, Riyadh, Saudi Arabia

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Brian Borg, MD, MHS, Nitin Gupta, MD, Gary Zuckerman, DO, Bhaskar Banerjee, MD, Gastroenterology, Washington University School of Medicine, Saint Louis, MO

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Stephen O'Keefe, MD, MSc, Sumit Sharma, MD, Susanne Aufreiter, BSc, Deborah O'Connor, PhD, RD, Jorge Sepulveda, MD, PhD, Gastroenterology, University of Pittsburgh, Pittsburgh, PA, Nutritional Science, University of Toronto, Toronto, ON, Canada, Clinical Pathology, University of Pittsburgh, Pittsburgh, PA

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Roy Yen, MD, Amjad Mreyoud, MD, Abha Rani, MD, Internal Medicine/Gastroenterology, University at Buffalo, Buffalo, NY

Paper/Poster Disclosures

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Information on the Genesis of Study Concepts and Design: Author Responsibility

This year, the American College of Gastroenterology has supplemented the current conflict of interest disclosure with an additional series of questions completed by the authors of abstracts indicating whether they have been actively and personally involved in developing the study's concept and design and in collecting the data to assure that authors are not reporting data actually collected and developed by others, e.g., a pharmaceutical company or other commercial entity.

An abstract not referenced below indicates that the authors reported no industry involvement took place in any aspect or phase of the research.

The research in the following abstracts was reported to be industry-initiated:
Papers: 16
Posters: 115, 118, 12, 121, 282, 298, 300, 301, 36, 501, 635, 64, 683, 692, 738, 786, 84, 1023, 1044, 1067

The research in the following abstracts was reported to have been initiated and analyzed by industry:
Papers: 13, 14, 22, 26, 40, 64
Posters: 10, 277, 279, 280, 283, 294, 324, 33, 352, 354, 358, 388, 446, 673, 681, 682, 869, 996, 1034

The research in the following abstracts was reported to have been initiated, analyzed and written by industry:
Papers: 35, 36, 45, 57
Posters: 18, 21, 24, 255, 257, 258, 260, 266, 267, 268, 269, 272, 274, 276, 281, 284, 290, 291, 292, 293, 303, 306, 310, 343, 361, 362, 363, 375, 377, 386, 391, 394, 398, 399, 412, 437, 641, 644, 645, 653, 662, 667, 674, 690, 693, 734, 736, 757, 763, 822, 1012, 1013, 1015, 1016, 1017, 1018, 1020, 1021, 1028, 1050, 1052, 1056, 1057, 1065, 1071

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COMPLETE BARRETT'S ERADICATION ENDOSCOPIC MUCOSAL RESECTION (CBE-EMR): AN EFFECTIVE TREATMENT MODALITY FOR HIGH GRADE DYSPLASIA (HGD) AND INTRAMUCOSAL CARCINOMA (IMC) - AN AMERICAN SINGLE CENTER EXPERIENCE

2008 ACG Governors Award Recipient for Excellence in Clinical Research

J. S. Chennat, MD,[1] V. J. Konda, MD,[1] A. S. Ross, MD,[1] A. Herreros de Tejada, MD, PhD,[1] A. Noffsinger, MD,[2] J. Hart, MD,[2] M. Ferguson, MD,[3] M. C. Posner, MD,[3] I. Waxman, MD[1]. 1. CERT (Center for Endoscopic Research and Therapeutics), Department of Medicine, University of Chicago Medical Center, Chicago, IL; 2. Department of Surgical Pathology, University of Chicago Medical Center, Chicago, IL; 3. Department of Surgery, University of Chicago Medical Center, Chicago, IL.

Purpose: CBE-EMR is endoscopic removal of all Barrett's epithelium with the curative intent of eliminating HGD/IMC and reducing risk of metachronous lesion development. We report our single tertiary referral center's long-term clinical experience using this modality in HGD/IMC management.

Methods: All patients who had CBE-EMR for BE with HGD/IMC were included in a retrospective review of a prospectively collected database. High definition white light exams and narrow band imaging were used as per protocol. Staging endoscopic ultrasound was done prior to CBE-EMR to exclude invasive disease or suspicious lymphadenopathy. CBE-EMR using cap-assisted (32), multi-band ligation (3), cap & banding (1), or free-hand techniques (12) were performed. High dose proton pump inhibition was instituted, and Seattle-type surveillance biopsies were done on follow-up every 6 months once CBE-EMR was completed.

Results: 48 patients (36 male) with histologically confirmed BE and HGD (33), IMC (8), or both (7), underwent CBE-EMR from August 2003 to May 2008. 28 patients had short segment BE, and 30 had visible lesions. Mean age was 67 years, ASA class 2.4, and BE segment length 3.7 cm. A total of 104 EMR procedures were performed. On initial EMR, 3 patients had superficial submucosal invasion (sm1) and 2 patients had IMC with lymphatic channel invasion. All 5 patients were referred for esophagectomy, but 2 opted for continued endoscopic management, without evidence of residual or recurrent carcinoma. 21 patients are awaiting completion mucosectomy (12) or first follow-up endoscopy (9). One patient died of unrelated causes. CBE-EMR therapy was completed in 23 patients by an average of 2 sessions. Surveillance biopsies showed normal squamous epithelium in 19/23 (82.6%) patients (mean remission time 17 months, range 3-54 months). Three patients had non-dysplastic BE and 1 had residual HGD. Six patients had sub-squamous Barrett's epithelium on surveillance. CBE-EMR upstaged pre-EMR pathology results in 8 patients and downstaged 13 patients. 14/48 (29%) developed symptomatic esophageal stenosis after a mean of 1 session and 28.6 days; all were amenable to endoscopic treatment. No perforations or uncontrolled bleeding occurred.

Conclusion: To our knowledge, this is the largest American single center experience demonstrating that CBE-EMR with close endoscopic surveillance is an effective treatment modality for BE with HGD/IMC. Although the rate of stenosis development is significant, it is easily treatable by endoscopic dilation. Patients considering endoscopic ablation should be counseled appropriately. The role of CBE-EMR in patients with lymphatic invasion or superficial submucosal invasion remains to be defined.

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OPEN-LABEL USE OF DOMPERIDONE IN PATIENTS WITH GASTROPARESIS AND SMALL BOWEL DYSFUNCTION

2008 ACG/Auxiliary Award

J. M. Wo, MD, A. Woosley, J. Eversmann, RN, C. Rountree, PA, S. P. Harrell, MsPH, MD. Division of Gastroenterology/Hepatology, University of Louisville, Louisville, KY.

Purpose: Domperidone has been shown to be effective in treating gastroparesis, but it is not approved in the U.S. However, FDA recognized some patients with refractory gastroparesis or GI motility disorder may benefit from domperidone. **Aim of Study**: To review our clinical experience with domperidone through the FDA Investigational New Drug (IND) program.

Methods: Indications for domperidone were symptoms of gastroparesis or small bowel dysfunction refractory to conventional therapy. To enroll into the study, patients must have at least one of following: abnormal gastric scintigraphy, food bezoars during EGD, or abnormal antroduodenal/small bowel manometry. Patients with ECG QTc interval >450 msec for men and >470 msec for women were excluded. Demographics, presentation (vomiting, dyspepsia, or regurgitation-predominant), and etiologies were reviewed. Dose of domperidone was increased if necessary. Maximal allowable dose was 30 mg qac and qhs. Treatment outcome was classified as responder (symptoms improved/resolved) or non-responder (symptoms same/worse). Side effects data were collected prospectively. Analysis of variance and SPSS software was utilized.

Results: 305 subjects (81% females, mean age 51 yrs) signed informed consent during a 32-month period. 26% of subjects had domperidone before. 33%, 46%, and 21% of subjects presented with vomiting, dyspepsia, and regurgitation-predominant symptoms, respectively. Etiologies were idiopathic (48%), diabetic (21%), post-surgical (21%), and miscellaneous (10%). In the 192 subjects who started domperidone, mean follow-up of 11 months were obtained. 124 subjects (65%) were responders (see table). Except for age, there were no differences in gender, symptom presentation, and etiologies between reponders and non-responders of domperidone. Only 10 subjects (5%) were able to stop domperidone without recurrence, and 28% were able to lower the dose. 22% of subjects reported side effects (11% breast symptoms, 7% CNS symptoms similar to metoclopramide, and 3% diarrhea). Only 2 subjects (0.7%) reported chest pain or palpation. No one suffered a cardiovascular complication. Domperidone was stopped in 13% of subjects for no symptom improvement and in 6% for side effects.

Conclusion: 1) Domperidone was effective in two-thirds of patients in our open-label program through the FDA. 2) However, only one-third of patients were able to lower the dose or stop domperidone. 3) Presentation and etiology did not predict efficacy, but responders were older than non-responders.

		*Responder (n=124)	Non-Responder (n=68)<u/>
Demographic	Age: mean (range)	+55 yrs (18 - 90)	+49 yrs (19 - 83)
	Female	82 %	81 %
Presentation	Vomiting-predominant	25 %	32 %
	Dyspepsia-predominant	52 %	49 %
	Regurgitation-predominant	23 %	19 %
Etiology	Idiopathic	52 %	50 %
	Diabetic	19 %	16 %
	Post-surgical	17 %	24 %

***Subjects with gastric electrical stimulator were excluded; +p<0.01**

3

FAMILY HISTORY OF CHRONIC PANCREATITIS IS ASSOCIATED WITH AN INCREASED RISK FOR DEVELOPING CHRONIC PANCREATITIS

2008 ACG Governors Award Recipient for Excellence in Clinical Research

R. Brand, MD,[1] R. Hawes, MD,[2] M. Anderson, MD,[3] P. A. Banks, MD,[4] M. Bishop, MD,[5] J. Baillie, MB, ChB,[6] S. Sherman, MD,[7] M. Goldberg, MD,[8] J. DiSario, MD,[9] D. Yadav, MD[1]. 1. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA; 2. Internal Medicine, Medical University of South Carolina, Charleston, SC; 3. Internal Medicine, A. Alfred Taubman Health Care Center, Ann Arbor, MI; 4. Internal Medicine, Brigham & Women's Hospital, Boston, MA; 5. Internal Medicine, Mayo Clinic Jacksonville, Jacksonville, FL; 6. Internal Medicine, Wake Forest University Baptist Medical Center, Winston-Salem, NC; 7. Internal Medicine, Indiana University Hospital, Indianapolis, IN; 8. Internal Medicine, Evanston North Western Health Care, Evanston, IL; 9. Internal Medicine, University Utah, Salt Lake City, UT.

Purpose: Over the past 10 years there has been a growing recognition that hereditary factors are involved in the susceptibility to chronic pancreatitis (CP); however, the overall percentage of chronic pancreatitis that can be attributed as familial (defined as >2 or more first-degree relatives (FDR) with CP) is unknown. The aims of this study were to determine the proportion of CP patients with a family history (FH) of CP and the risk of CP development in FDR of probands referred to secondary and tertiary referral centers.

Methods: The FH of CP from 540 CP patients (proband) and 504 unrelated controls prospectively recruited in the North American Pancreatitis Study-2 (NAPS2) dataset from 20 US centers was analyzed. CP in the proband was defined by imaging or histology. CP in family members and controls was solely based on history obtained from the probands. To attempt to control for any recruitment bias, patients identified at enrollment to potentially have a genetic etiology for their CP by the patient or investigator were both excluded and included to calculate a minimum/maximum odds ratio and 95% CI.

Results: See Table for breakdown of study population. Compared to controls, a CP patient was 2.3 (1.1-4.7) to 4.4 (2.3-8.2) times more likely to have at least one FDR with a history of CP. The risk for developing CP in a FDR of a CP versus a control patient was 2.5 (1.3-4.9) to 4.5 (2.5-8.2).

Conclusion: 1) To the best of our knowledge this is the first report estimating the genetic contribution to chronic pancreatitis development. About 5-10% of cases in this large prospective cohort (22/413 or 52/540) could be considered familial. 2) There is approximately a 2.5 to 4.5-fold risk for a family member of a chronic pancreatitis patient to develop chronic pancreatitis. 3) Results from this study provide strong justification for identifying those genetic factors responsible for chronic pancreatis development and emphasize the importance of family history as a risk factor for chronic pancreatitis.

Study Population

	FH Yes	FH No	Total Number of patients
CP(genetic etiology excluded/included)	22/52	391/488	413/540
FDR of CP (genetic etiology excluded/included)	27/61	2904/3661	2931/3722
Control	12	492	504
FDR of control	13	3534	3547

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COMPLICATIONS ASSOCIATED WITH DOUBLE BALLOON ENTEROSCOPY: THE U.S. EXPERIENCE

2008 ACG Governors Award Recipient for Excellence in Clinical Research

L. Gerson, MD, MSc,[1] M. Chiorean, MD,[2] J. Tokar, MD,[3] A. Decker, MD,[4] D. Cave, MD,[5] D. S. BouHaidar, MD,[6] D. Mishkin, MD,[7] O. Haluszka, MD,[3] J. A. Leighton, MD,[4] A. Zfass, MD[6]. 1. Gastroenterology, Stanford University, Stanford, CA; 2. Gastroenterology, University of Indiana, Indianapolis, IN; 3. Gastroenterology, Fox Chase Cancer Center, Philadelphia, PA; 4. Gastroenterology, Mayo Clinic Scottsdale, Scottsdale, AZ; 5. Gastroenterology, University of Massachusetts, Worcester, MA; 6. Gastroenterology, Medical College of Virginia, Richmond, VA; 7. Gastroenterology, Boston University Medical Center, Boston, MA.

Purpose: Double Balloon Enteroscopy (DBE) was introduced into the U.S. in 2004. Potential complications include perforation, pancreatitis, and gastrointestinal bleeding. Published complication rates have ranged from 1.7% (Mensink 2007) to 4% (Mehdazideh, 2006). Perforations have been more likely to occur in patients with inflammatory bowel disease, and post-DBE examinations with stricture dilation, argon plasma coagulation (APC) therapy, or polypectomy, particularly of large polyps > 3 cm (May, 2007). Prevalence and risk factors for complications have not been described in a U.S. population undergoing DBE.

Methods: We conducted a retrospective study of DBE complications in 9 experienced U.S. centers who had performed at least 50 DBE procedures. Major complications included perforation, pancreatitis, or gastrointestinal hemorrhage requiring hospitalization. We obtained detailed information for each complication including patient history, maneuvers performed during the DBE, and presence of prior intestinal surgery.

Results: We collected data from 2254 DBE examinations performed between 2004-2008. The dataset included 1572 anterograde DBE (including 28 DBE with ERCP), and 682 retrograde DBE cases (3 were per-stomal DBEs). Complete data regarding diagnostic and therapeutic maneuvers and presence of altered surgical anatomy was present for 857 (38%) of the procedures and is shown in Table 1. There were a total of 20 (0.9%) major complications including perforation in 11 (0.5%), pancreatitis in 5 (0.2%), and bleeding in 3 (0.2%). In addition, one patient with Meckel's diverticulum and urachal remnant developed a cecal volvulus post-oral DBE. 1/5 cases of pancreatitis occurred post-rectal DBE. Cases with perforation are described in Table 2. Perforations occurred in 3/1572 (0.2%) oral exams and 8/682 (1.2%) rectal DBEs. 8 (73%) perforations occurred during diagnostic DBE exams. 4/8 rectal DBE perforations occurred in patients with prior ileoanal or ileocolonic anastomoses. In the subset of patients with available data regarding altered surgical anatomy, perforations occurred in 6/73 (8%) patients.

Conclusion: The complication rate associated with DBE is approximately 10-fold higher than that associated with diagnostic colonoscopy. The perforation rate was elevated in patients with prior ileoanal anastomosis undergoing diagnostic retrograde DBE examinations.

Table 1. Details of Diagnostic and Therapeutic DBE Exams

DBE Exam (N=857)	Tattoo	Biopsy	APC	Polypectomy	Other*
Diagnostic (N=805, 94%)					
Anterograde (N=507)	126 (25%)	52 (10%)	N/A	N/A	N/A
Retrograde (N=170)	47 (28%)	22 (13%)	N/A	N/A	N/A
Therapeutic (N=98, 11%)					
Anterograde (N=260)	88 (34%)	5 (2%)	180 (69%)	29 (11%)	21 (8%)
Retrograde (N=46)	10 (22%)	1 (2%)	13 (28%)	11 (24%)	4 (9%)

APC = argon plasma coagulation; N/A = not applicable
*** Includes stricture dilation, stent placement, clipping, and capsule retrieval**

Table 2. DBE Examinations with Perforations

Anterograde DBE	
Diagnostic	Ulceration at choledochal anastomosis, Roux-en-Y anatomy
Diagnostic	Asymptomatic pneumoperitoneum post-biopsy of metastatic breast CA
Therapeutic	Snare polypectomy of large jejunal xanthoma
Retrograde DBE	
Diagnostic	Crohn's stricture, ulceration at ileoanal anastomosis
Diagnostic	Crohn's ulceration at ileocolonic anastomosis
Diagnostic	Peri-stomal perforation 1 week post-exploratory laparotomy with fresh ileostomy
Diagnostic	Ileoanal anastomosis; distal ileal perforation 7 days post-DBE
Diagnostic	Ileoanal anastomosis; perforation at prior jejunal enterotomy site
Diagnostic	Rectosigmoid perforation in 83 year old female
Therapeutic	Polypectomy of a 1 cm ileal carcinoid
Therapeutic	Polypectomy of 3mm ileal carcinoid; patient with 57 carcinoid lesions

Disclosure - Dr. Gerson - Fujinon, Inc - Grant Support, and Speaker's Bureau; Given Imaging Inc, Speaker's Bureau; Dr. Chiorean MD – Given Imaging – Speaker's Bureau; Dr. Decker - Fujinon Inc - Research Support; Dr. Mischkin – Given Imaging – Speaker's Bureau, EZEM – Grant Support; Salix – Speaker's bureau; U.S. Endoscopy – Consultant; Dr. Leighton - Fujinon - Grant Support; Olympus - Grant Support; Given Imaging - Grant Support, Consulting; Dr. Haluszka - Fujinon - Grant Support, Speaker's Bureau; Carol Semrad MD – Fujinon – Grant Support, Speaker's Bureau; Simon Lo MD - Fujinon – Grant Support, Speaker's Bureau;

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MISS RATES OF FINDINGS ON COLONOSCOPY AFTER COMPUTED TOMOGRAPHIC COLONOGRAPHY (CTC): CORRELATION WITH POLYP HISTOLOGY

2008 ACG/Olympus Award

R. D. Acosta, MD,[1] M. S. Riddle, MD,[3] G. R. Veerappan, MD,[2] E. May, MD,[4] B. Cash, MD[1]. 1. Gastroenterology, National Naval Medical Center, Bethesda, MD; 2. Gastroenterology, Walter Reed Army Medical Center, Washington, DC; 3. Infectious Diseases Division, Naval Medical Research Center, Silver Spring, MD; 4. Internal Medicine, National Naval Medical Center, Bethesda, MD.

Purpose: Two of the prominent controversies surrounding CTC for colorectal cancer (CRC) screening center around diminutive polyps and missed polyps. Because of the decrements in CTC accuracy for polyps < 6mm, CTC interpreters do not routinely comment on such polyps. Additionally, historically cited accuracy of CTC is considered on a per patient basis rather than on a per polyp basis.

Methods: Participants are asymptomatic, average-risk patients referred for colorectal screening as part of a 3000 person on-going study of CTC as a screening modality. We have previously shown that CTC can identify polyps 6mm or larger as accurately as colonoscopy (Cash et al. Gastroenterology 2007) on a per patient basis. This analysis examines the findings for all patients undergoing CTC and colonoscopy on a per-polyp basis.

Results: Among 967 patients enrolled in the study, 170 have undergone CTC and subsequent colonoscopy for any cause. The mean age of patients is 56 years; 32% female; 82% Caucasian. 348 polyps were seen on colonoscopy: 205 (59%) < 6 mm, 90 (26%) 6-9 mm, and 53 (15%) ≥ 10 mm. 167 (48%) of these polyps were adenomas, of which 76/167 (46%) were reported on CTC. There were 222 polyps that were seen on colonoscopy after a normal CTC: 87 (39%) were hyperplastic, 84 (38%) were adenomas, and 7 (3%) were advanced adenomas. CTC missed 2 advanced adenomas < 10 mm, for a miss rate of 2/212 (0.9%), and 7 advanced adenomas for all polyps, 7/222 (3.2%). No colorectal cancers were missed by CTC. Among polyps missed by CTC in the < 6 mm category, 67 (38%) were hyperplastic and 69 (39%) were adenomas. Among missed polyps in the 6-9 mm category 15 (42%) were hyperplastic and 17 (47%) were adenomas. In the ≥ 10 mm missed polyp category 5 (50%) were hyperplastic and 5 (50%) were adenomas (p>0.05 for all comparisons). The CTC miss rate for polyps ≥10 mm was 4.5%.

Conclusion: When calculated on a per-patient basis, CTC at our institution is equivalent to colonoscopy for the detection of adenomas. CTC continues to show promise and gain momentum as a viable CRC screening modality. Per-polyp analysis shows that CTC miss rates are inversely associated with polyp size. We show a CTC miss rate for polyps ≥ 10 mm comparable to previous reports for tandem colonoscopy. We also show a higher proportion of adenomas among polyps < 6 mm than previously reported. This data underscores the complementary relationship between CTC and colonoscopy and strengthens the case for removal of all polyps, regardless of size.

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SMOKING AND COLORECTAL NEOPLASIA: WOMEN REQUIRE LESS TOBACCO EXPOSURE FOR SIMILAR INCREASED RISK AS COMPARED TO MEN

2008 ACG/Naomi Nakao Gender-Based Research Award

J. C. Anderson, MD,[1] Z. A. Alpern, MD[2]. 1. Gastroenterology, University of Connecticut, Farmington, CT; 2. Gastroenterology, Stony Brook University, Stony Brook, NY.

Purpose: While it has been shown that smoking is associated with a 2 fold risk for important colorectal neoplasia in screening populations (Lieberman et al JAMA 2003; Anderson et al AJG 2003), less is known about the exposure quantity needed. Furthermore, there is little data regarding the gender difference for the tobacco dose. Our hypothesis was that women demonstrate this 2 fold increase in risk from smoking with a lower pack year exposure than men.

Methods: Data collected included, age, height, weight, family history of colon cancer, medication use (aspirin,insulin, statins, multivitamins, folic acid, hormone replacement therapy, calcium supplementation, medical history including diabetes, surgery (including cholecystectomy), exercise and 5 year dietary including servings of fruits/vegs and red meat. We also collected a detailed smoking history in pack years and defined three smoking categories:1) **No Exposure**: No tobacco use 2) **Heavy Exposure**: smoking more than 10 pack years and still smoking or quit in past 10 yrs 3) **Low Exposure**: those who smoked less than 10 pack yrs or those who quit over 10 yrs prior. Significant neoplasia was the main outcome and included, villous, large (>1cm), high grade dysplasia, adenocarcinoma and multiple (>2) adenomas.

Results: 2707 patients (average age 57.3) were screened from 11/99 to 7/06. For the analysis, the **Low Exposure** smokers were removed. The **Heavy Exposure** smokers were then divided into 2 new groups: 1) **Heavy Exposure A**: Those who smoked < or = to 30 pack years and 2) **Heavy Exposure B**: Those who smoked > 30 pack years. The analysis controlling for age, BMI and family history was performed. The results comparing the two groups of smokers to the **No Exposure** patients for males and females are shown in the Table. As seen in the table women who smoked less than 30 pack years were almost twice as likely to have significant colorectal neoplasia as the female **No Exposure** patients (OR=1.91; 95% CI:1.08-3.41). The anaylsis was performed using advanced adenomas as an outcome and the same increased risk for the < or = 30 pack year smokers when compared to the **No Exposure** patients was observed (OR=2.15; 95% CI: 1.14-4.09)

Conclusion: Although males and females have a similar 2 fold risk for significant colorectal neoplasia from smoking, women require less exposure in pack years to have an increase in risk.

Risk for Significant Colorectal Neoplasia

Smoking Category	Males n=1088	Females n=964
No Exposure	OR=1.0 n=53(7.0%)	OR=1.0 n=43(6.0%)
Heavy Exposure A (< or = 30 pack years)	OR=1.24(0.71-2.19) n=17(8.5%)	OR=1.91(1.08-3.41) n=18(10.9%)</b?
Heavy Exposure B (> 30 pack years)	OR=3.38(2.04-5.61) n=27(20.3%)	OR=2.0(1.00-4.30) n=10(11.8%)
Overall Risk for Smoking (Rows 2 plus 3 versus Row 1)	OR=2.03(1.33-3.09) n=44(13.3%)	OR=1.96(1.19-3.24) n=28(11.2%)

Low Exposure smokers removed prior to analysis.
Odd Ratio shown with 95% CI

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POTENTIAL SAVINGS FOR FEDERAL FUNDING OF A COLORECTAL CANCER SCREENING PROGRAM IN UNINSURED PATIENTS

2008 ACG/AstraZeneca Senior Fellow Abstract Award

N. L. Badalov, MD,[1] I. M. Wall, DO,[1] J. Braha, DO,[1] M. Kantrowitz, BA,[3] R. Baradarian, MD,[1] J. Mirchandani, MD,[1] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD, MPH[2]. 1. Medicine, Maimonides Medical Center, Brooklyn, NY; 2. Medicine/Gastroenterology, State University of New York, Brooklyn, NY; 3. Medicine, New York College of Osteopathic Medicine, Old Westbury, NY.

Purpose: Colorectal cancer is the second leading cause of cancer death in the United States. Screening for, detecting and removing precancerous adenomas and identifying early colon cancers can decrease morbidity and mortality. Current guidelines recommend a screening colonoscopy for average risk individuals by age 50. Despite the widespread availability of colonoscopy, barriers exist in performing this potentially lifesaving procedure, including lack of insurance coverage. The Federal Government covers screening colonoscopy for Medicare beneficiaries, typically beginning at age 65. Unfortunately, this time period is 15 years later for those at average risk for colorectal cancer screening.

Methods: In order to determine the effect of lack of coverage on screening, the following study was initiated. A consecutive group of patients eligible for screening colonoscopy and with no insurance coverage were invited to undergo colonoscopy screening at no charge at a Hospital Outpatient Department (HOPD).

Results: Two-hundred eighty-eight patients were included, 140 female, 148 male, mean age 55.6 + 7.5. 129/288 (44.8%) of the patients had polyps identified and removed on screening colonoscopy. Most polyps 107/129 (83%) were less than 1 cm, 22 (17%) were greater than 1 cm in diameter. Pathology revealed 51 hyperplastic, 60 tubular adenomas, 9 tubulovillous adenomas, 2 villous adenomas. In addition to the polyps, there were 5 carcinomas identified. All carcinomas were at early stage (Stage I-II). Based on the 2007 Medicare Payment Schedule for Colonoscopy with and without polypectomy, including pathology (technical and professional component)and the cost of the 5 patients who underwent subsequent surgery (including anesthesia, hospital stay) the cost of this Screening Program was $390,000. If this sample had not undergone screening, and based on the accepted natural history of polyps and carcinoma, it would be expected that the 5 carcinomas would progress beyond Stage II, thus requiring chemotherapy in addition to surgery, and the 22 large polyps would progress to early (Stage I or II carcinomas) requiring surgery (best case scenario), and assuming the cost of treatment,screening would be delayed until Medicare eligibility, the cost would have become 1,295,000 dollars.

Conclusion: Thus, as we have shown, a screening program for colon cancer in a patient population averaging 10 years prior to Medicare eligbility would save at least 2 dollars for every dollar spent. We recommend that the Federal Government screen patients for colon cancer earlier than when they become eligible for Medicare. This approach would prevent suffering and be cost-effective to the Federal Government.

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INFLIXIMAB FOR PREVENTION OF CROHN'S DISEASE (CD) RECURRENCE AFTER ILEAL RESECTION

M. Regueiro, MD,[1] W. Schraut, MD, PhD,[2] L. Baidoo, MD,[1] K. Kip, PhD,[4] A. Sepulveda, MD, PhD,[3] S. Plevy, MD[5]. 1. Gastroenterology, University of Pittsburgh Medical Center, Pittsburgh, PA; 2. Gastrointestinal Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA; 3. Department of Pathology and Laboratory Medicine, University Pennsylvania School of Medicine, Philadelphia, PA; 4. College of Nursing, University of South Florida, Tampa, FL; 5. Gastroenterology and Hepatology, University of North Carolina School of Medicine, Chapel Hill, NC.

Purpose: CD recurrence after intestinal resection is common. The purpose of this study is to determine the efficacy of infliximab in preventing recurrent CD after resective intestinal surgery.

Methods: This is a randomized, double-blind, placebo-controlled study of 23 CD pts undergoing surgical resection of the ileum with an ileocolonic anastomosis. Within 4 wks of surgery, pts were randomly assigned to receive either infliximab (5mg/kg)(n=10) or placebo (n=13) at 0, 2, 6 wks then every 8 wks for 1 yr. An ileocolonoscopy was performed within 2-6 wks of the last study infusion (54 wks or final infusion if early termination). Endoscopic scoring was based on findings within 10 cm of the ileocolonic anastomosis: i0=normal distal ileum without ulcers, i1=1-5 small aphthous ulcers, i2= >5 ulcers with normal intervening mucosa, i3=diffuse aphthous ileitis with inflamed mucosa, and i4= diffuse inflammation with large ulceration, nodules, and/or narrowing. The total number of neoterminal ulcers were separately recorded as 0, 1-10, or >10. The primary endpoint of the study was endoscopic remission 1 yr after surgery, defined as i0 or i1. Secondary endpoints included clinical recurrence (CD activity index (CDAI) > 200) and remission (CDAI < 150), as well as histological recurrence, defined by presence of neutrophils and high histological activity score (0-14).

Results: Baseline characteristics were similar for gender, age, duration of CD, disease behavior, prior infliximab exposure, and prior surgical resection. There were more active smokers in the infliximab group (45.5% v 7.7%; p=0.06) yet a trend for fewer pts on immunomodulators (36.4 v 53.8%; p=0.44). At the end of 1 yr, 9 of 10 pts (90%) in the infliximab group were in endoscopic remission compared with 2 of 13 pts (15.4%) in the placebo group (p=0.0006). There were significantly more pts in the infliximab treated group who had complete absence of CD on colonoscopy (0 ulcers and i0) compared to those receiving placebo (80% v 7.7%; p for trend=0.0009). Similarly, fewer pts in the infliximab group compared with placebo had severe endoscopic recurrence (i3 or i4) and >10 ulcers in the ileum (10% v 53.8%; p for trend=0.002). The proportion of pts in clinical remission was similar between the infliximab and placebo groups (66.7% v 53.8%, p=0.67), however, clinical recurrence was lower in the infliximab group (0% v 38.5%, p=0.05). Histological recurrence was greater in the placebo group: more placebo pts had neutrophil infiltration (84.6% v 30%, p=0.01) and higher adjusted mean histological activity scores (6.0 v 1.9, p=0.01).

Conclusion: Infliximab for the first year after ileal resective surgery significantly decreases endoscopic, histologic, and clinical Crohn's disease recurrence.

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YIELD OF DIAGNOSTIC TESTING IN PATIENTS WITH SUSPECTED IRRITABLE BOWEL SYNDROME (IBS): A PROSPECTIVE, US MULTI-CENTER TRIAL

B. D. Cash, MD,[1] D. Lee, MD,[1] M. S. Riddle, MD,[2] M. Truesdale, BA,[1] C. Dykes, RN,[1] R. Saad, MD,[3] B. Nojkov, MD,[3] W. D. Chey, MD[3]. 1. Gastroenterology, National Naval Medical Center, Bethesda, MD; 2. Enteric Diseases Department, Naval Medical Research Center, Bethesda, MD; 3. Gastroenterology, University of Michigan, Ann Arbor, MI.

Purpose: Many physicians consider IBS to be a diagnosis which can be confidently made only after extensive testing to exclude "organic" diseases such as inflammatory bowel disease (IBD) and colon cancer. Most of the available data on the yield of diagnostic tests in patients with suspected IBS comes from screening performed as part of pharmaceutical trials. We report results from a large, prospective, multi-center US trial evaluating the yield of comprehensive diagnostic testing in patients with suspected IBS.

Methods: Consecutive adults with suspected non-constipation IBS (Rome II criteria) were invited to participate. Exclusion criteria included alarm symptoms such as hematochezia or weight loss, a family history of organic gastrointestinal (GI) disease, a previous evaluation for IBS, or conditions precluding an evaluation. Patients underwent colonoscopy with random biopsies and the following studies: CBC, complete metabolic panel, ESR, CRP, thyroid function testing (TFT), antibodies for celiac disease (CD-ab) and IBD (IBD-ab), and lactase genomics. The latter three tests were also collected from asymptomatic persons undergoing screening colonoscopy (unmatched). IBS patients with positive CD-ab underwent EGD and small bowel biopsy and patients with + IBD-ab were offered small bowel evaluation if colitis was not found.

Results: 492 IBS (mean age 41 years, 70% female) and 458 controls (mean age 54 years, 48% female) were enrolled. 6.3% (31/492) IBS patients were identified with organic disease felt to possibly explain their symptoms. The prevalence of abnormal CBC, chemistries, ESR, CRP, TFT and lactase nonpersistence in IBS patients was similar to population norms. There was a higher prevalence of abnormal CD-ab in IBS patients vs. controls, though the difference was not significantly different. Biopsy-proven CD was confirmed in 6 (1.2%) IBS patients and in 2 (0.4%) controls (Fisher's exact, p=0.28). Colitis (IBD, Microscopic colitis, Nonspecific colitis) was the most commonly identified organic disease in patients with suspected IBS, accounting for nearly three-fourths of all organic disease. The prevalence of a positive IBD serology panel was significantly higher in the controls compared to IBS cases.

Conclusion: Most commonly recommended screening blood tests in IBS patients demonstrate values similar to population norms. The most common organic diseases identified in patients with suspected IBS were colitis and CD. There was a trend towards a higher prevalence of abnormal CD-ab in IBS patients that was not statistically significant. Serological screening for IBD was of no value in IBS patients.

Abnormal results (%)	IBS (n=492)	Controls (n=458)	p (Chi-square)
CD-ab	36 (7.3 %)	22 (4.8%)	p=0.11
IBD-ab	123 (25.0%)	141 (30.8%)	p= 0.047
Lactase nonpersistence	114 (23.2%)	118 (25.8%)	p=0.35

This research was supported by an industry grant from Prometheus

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ACCURACY OF EUS, EBUS, AND COMBINED EUS/EBUS FOR LUNG CANCER EVALUATION IN PATIENTS WITH A NEGATIVE CT OF THE MEDIASTINUM

2008 ACG/Auxiliary Award

L. H. Jamil, MD,[1] N. Cubero de Frutos, MD,[2] K. R. Gill, MD,[1] S. A. Gross, MD,[1] J. Pascual, MD,[2] M. Raimondo, MD,[1] T. Woodward, MD,[1] J. Crook, PHD,[3] J. A. Odell, MD,[4] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL; 2. Pulmonology, Mayo Clinic, Jacksonville, FL; 3. Biostatistics, Mayo Clinic, Jacksonville, FL; 4. Cardiothoracic Surgery, Mayo Clinic, Jacksonville, FL.

Purpose: The presence of mediastinal lymph nodes (MLNs) metastasis in patients with suspected lung cancer is a critical determinant of therapy and prognosis. Combined Endoscopic Ultrasound (EUS) and Endobronchial Ultrasound (EBUS) with fine needle aspiration (FNA) has recently been shown to be highly accurate in evaluating MLNs in patients suspected of having lung cancer [Wallace et al. JAMA, 2008]. EUS detects approximately 61 % of malignant metastases in CT negative patients [Wallace et al. Ann Thor Surg 2004] but has low negative predictive value, thus requiring further mediastinoscopy if EUS is negative. The diagnostic value of combined EUS/EBUS with FNA has not been well studied in patients who have no enlarged MLNs on CT scan of the chest.

Methods: Prospective, double blind trial comparing EUS and EBUS FNA of patients with suspected lung cancer. EUS was performed by a gastroenterologist, and EBUS by a pulmonologist, in a back to back manner, each blinded to the other results. The subset of patients without enlarged (≥1cm) lymph nodes in the mediastinum was included in this analysis. Accuracy for each procedure and the combination was compared to the reference standard which included any pathology proven (by FNA or surgery) malignant nodes, or negative nodes by surgery or at least 6 months clinical/CT follow up.

Results: A total of 225 patients underwent EUS and EBUS evaluation for possible lung cancer. 183 patients had their chest CT scan available for review. A total of 77 patients had a CT scan that was negative for pathological appearing MLNs (short axis <10 mm). Among the 77 CT negative patients, 13 (17%) were found to have MLN tumor involvement by the reference standard (FNA or surgery). The estimated sensitivities of EUS-FNA, EBUS-FNA, and EUS plus EBUS were 62% (8/13), 46% (6/13), and 69% (9/13), respectively. The negative predictive values were 93% (64/69) for EUS-FNA, 90% (64/71) for EBUS-FNA, and 94% (64/68) for EUS plus EBUS.

Conclusion: In patients with suspected lung cancer, who have no MLNs on CT scan of the chest, the combination of EUS-FNA and EBUS-FNA is moderately sensitive but provides a high negative predictive value in this low prevalence population.

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EFFICACY OF THE PROBIOTIC VSL#3 IN CHILDREN WITH IRRITABLE BOWEL SYNDROME. AN INTERNATIONAL, RANDOMIZED, PLACEBO-CONTROLLED, DOUBLE-BLIND, CROSS-OVER TRIAL

S. Guandalini, MD,[1] A. Chiaro, MD,[2] V. Labalestra, MD,[3] S. Gopalan, MD,[4] C. Romano, MD,[5] R. Berni Canani, MD[6]. 1. Pediatric Gastroenterology, University of Chicago, Chicago, IL; 2. Pediatric Gastroenterology, University of Messina, Messina, Italy; 3. Pediatric Gastroenterology, University of Rome "La Sapienza", Rome, Italy; 4. CRNSS, New Delhi, India; 5. Endoscopy Unit, University of Messina, Messina, Italy; 6. Department of Pediatrics, University "Federico II", Naples, Italy.

Purpose: Irritable bowel syndrome (IBS) is an extremely common problem. Unfortunately, scanty data exist on the safety and effectiveness of any treatment, especially in children. We aimed at investigating the efficacy of a daily administration of the probiotic VSL#3 in improving symptoms and quality of life in children and teenagers affected by IBS, defined according to the Rome II criteria.

Methods: The study was a randomized, double-blinded, placebo-controlled, cross-over multicenter trial, conducted after the approval of all local ethical committees in 7 pediatric gastroenterology divisions located in USA, Italy and India. Patients of 4 to 18 years of age meeting eligibility criteria were enrolled after informed consent was obtained by their caregivers. They were assessed by a questionnaire for a 2 week baseline period, after which they were randomly allocated to receive either VSL#3 450 billion lyophilized bacteria (once a day for children 4-11 years of age, twice a day for 12-18 years old); or an identical looking and tasting placebo for 6 weeks, with medical controls every 2 weeks. At the end of the 6 weeks a "wash-out" period of 2 weeks was done, following which each patient was switched to the other group and followed likewise for further 6 weeks. Primary endpoint: improvement in the subject's global assessment of relief for children (SGARC). Secondary endpoints: improvements in: abdominal pain/discomfort; bloating/gassiness; stool pattern.

Results: A total of 59 children completed the study, mean age 12.5 yrs. (5-18), 24 females. VSL#3 resulted in a statistically significant improvement in the primary endpoint (SGARC) as well as in 3 out of 4 secondary endpoints. SGARC: VSL#3: from 4.0 at baseline to 2.3 after 6 weeks, p<0.001; placebo: from 4.0 at baseline to 3.3, NS. Change in score after 6 weeks on VSL#3 vs change in score after 6 weeks on placebo: p<0.05. Abdominal pain/discomfort: VSL#3: 2.6 at baseline to 1.2 after 6 weeks, p<0.001; placebo from 2.1 to 1.6, NS. Change in score after 6 weeks on VSL#3 vs change in score after 6 weeks on placebo: p=0.05. Abdominal bloating/gassiness: VSL#3: from 2.9 to 1.1 after 6 weeks, p<0.001; placebo: 2.2 to 1.5, p<0.05; Change in score after 6 weeks on VSL#3 vs change in score after 6 weeks on placebo: p<0.0001. For the last parameter, stool pattern: both VSL#3 and placebo were significantly effective: 2.8 to 1.2 for VSL#3, p<0.001; 2.2 to 1.3 for placebo, p<0.001; difference in effectiveness between VSL#3 and placebo: NS. No untoward side effect was recorded in any of the patients.

Conclusion: In conclusion, VSL#3 proved to be safe and effective in ameliorating quality of life (as judged by the SGARC index) and most symptoms of children affected by IBS.

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EFFECT OF MIDODRINE ON NATRIURETIC RESPONSE TO FUROSEMIDE IN NON-AZOTEMIC CIRRHOTICS WITH ASCITES: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, CROSS-OVER STUDY

2008 ACG/AstraZeneca Senior Fellow Abstract Award

V. Misra, MD, R. Vuppalanchi, MD, D. R. Jones, PhD, M. Hamman, BS, P. Kwo, MD, N. Chalasani, MD. Medicine, Indiana University School of Medicine, Indianapolis, IN.

Purpose: Resistance to loop diuretics is common in patients with cirrhotic ascites and is a significant clinical problem in patients with decompensated cirrhosis. Diminished glomerular filtration rate (GFR) that is common in patients with advanced cirrhosis is thought to play an important role in the development of resistance to loop diuretics. Midodrine, a commonly used alpha-1 agonist, has been shown to improve GFR in non-azotemic patients with cirrhosis. Our aim was to test the hypothesis that midodrine significantly increases natriuretic response of furosemide in non-azotemic cirrhotics with ascites.

Methods: We conducted a randomized, double-blind, placebo-controlled, cross-over, GCRC-based study with two treatment phases. Two phases were (a) furosemide 40 mg intravenous infusion + oral midodrine 15 mg administered 15 minutes before furosemide (b) furosemide 40 mg + oral placebo administered before furosemide. Subjects were maintained on a strict metabolic diet before and during their participation in the study and had predefined washout period between two treatment phases. Primary outcomes were 6-hour urine sodium excretion and 6-hour total urine volume following furosemide infusion with either midodrine or placebo.

Results: 15 patients with well-established but decompensated cirrhosis and ascites (Males: 8; mean age: 52.7 ±7.6 yr; mean Child-Pugh score: 8.4± 1.4; mean serum albumin, 3 ± 0.5 gm/dL; mean serum creatinine: 1.06 ± 0.2mg/dL) were studied. Mean 6-hour urine sodium excretion (SEM) was 114 ± 13 mmol in the furosemide + midodrine treatment and was not significantly different than in the furosemide + placebo treatment phase (129 ±17 mmol, p-value: 0.26). Similarly, mean 6-hour total urine volume was not significantly different between furosemide + midodrine and furosemide + placebo groups (1770 ± 262 ml vs. 1962 ± 170 ml, p-value: 0.25). Measurements of GFR (iothalamate method), furosemide pharmacokinetics, urine furosemide excretion, and urine potassium excretion are ongoing.

Conclusion: Orally administered midodrine does not increase natriuretic response to furosemide in non-azotemic cirrhotic patients with ascites.

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ENDOSCOPIC MUCOSAL IMPROVEMENT IN PATIENTS WITH ACTIVE CROHN'S DISEASE TREATED WITH CERTOLIZUMAB PEGOL: FIRST RESULTS OF THE MUSIC CLINICAL TRIAL

J. Colombel, MD,[1] X. Hébuterne, MD[2]. 1. Hepatogastroenterology, CHU Lille, Lille, France; 2. Hepatogastroenterology, CHU Nice, Nice, France.

Purpose: The aim of MUSIC, an open-label, 54-week trial, was to evaluate the efficacy of certolizumab pegol (CZP), a PEGylated anti-TNFα on resolving the intestinal mucosal lesions in patients with active Crohn's disease (CD). MUSIC is the first large prospective study designed to investigate endoscopic improvement in CD with a biologic compound.

Methods: Patients with moderate to severe CD (CD Activity Index [CDAI] score of 220-450) and severe endoscopic disease (≥2 segments with endoscopic ulcerative lesions and a Crohn's Disease Endoscopic Index of Severity [CDEIS] score ≥8 points) were eligible for entry. CZP 400 mg was administered subcutaneously at Weeks 0, 2, 4 and then every 4 weeks. Primary end point was change from baseline to Week 10 in the CDEIS. Secondary end points included endoscopic remission (CDEIS score <7 points)[1] and response (≥4-point change in CDEIS score),[1] change from baseline in histological CD score and clinical remission rate (CDAI score ≤150 points). Adverse events (AEs) were assessed at each visit.

Results: The intent-to-treat (ITT) population consisted of 89 patients (mean age: 30.2 years; mean disease duration: 7.9 years). At Week 0 the CDEIS was 14.7 ± 5.3 and CDAI was 295.3 ± 74.2 (mean ± SD). At Week 10, mean reduction from baseline in CDEIS score was 6.5 points (95% CI -7.6 to -5.3; P<0.0001). CDEIS remission and response rates were 55.1% and 74.4%, respectively. Mean decrease from baseline in histological scores at Week 10 were 2.7 points (95% CI -3.5 to -1.9) in the colon and 2.8 points (95% CI -3.9 to -1.8) in the ileum. At Week 10, 46.1% of patients achieved CDAI remission. There was a poor correlation between clinical (CDAI) and endoscopic (CDEIS) scores (r=0.176). The most common AEs were headache (18%), arthralgia (11.2%), nausea (9%), and anal fissure (7.9%). Drug-related serious AEs were reported in 9% of the ITT population.

Conclusion: MUSIC demonstrates the efficacy of CZP in providing a comprehensive treatment, improving endoscopic and histological lesions in patients with severe endoscopic disease and inducing clinical remission. The long-term follow up of these patients will allow us to determine the clinical relevance of mucosal healing and the impact on disease modification. **References** 1. Mary et al. *Gut*. 2005;54(suppl VII):A50. **This abstract is presented on behalf of the MUSIC study investigators:** Marc Lemann, MD, Yoram Bouhnik, MD, Olivier Dewit, MD, Jean-Louis Dupas, MD, Michael Mross, MD, Geert D'Haens, MD, Severine Vermeire, MD, Hedia Brixi-Benmansour, MD, Tom Moreels.

Disclosure - Dr Colombel - Consultant, Advisory Commitee: UCB; Dr Lemann - Advisory Commitee: UCB; Dr D'Haens - Consultant, Speakers Bureau, Advisory Commitee: UCB; Dr Mitchev - Employee: UCB; Dr Vermeire - Grant, Speakers Bureau: UCB; Dr Moreels - Grant: UCB; Dr Hébuterne - Advisory Commitee: UCB

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SAFETY OF INFLIXIMAB AND OTHER CROHN'S DISEASE THERAPIES: TREAT™ REGISTRY DATA WITH 24,575 PATIENT-YEARS OF FOLLOW-UP

G. R. Lichtenstein, MD,[1] R. D. Cohen, MD,[2] B. G. Feagan, MD,[3] W. J. Sandborn, MD,[4] B. A. Salzberg, MD,[5] D. M. Chen, PhD,[6] M. P. Turner, PhD,[6] D. R. Mink, PhD,[6] D. L. Broussard, MD,[7] R. Diamond, MD[7]. 1. University of Pennsylvania, Philadelphia, PA; 2. University of Chicago, Chicago, IL; 3. The London Clinical Trials Research Group, London, ON, Canada; 4. Mayo Clinic, Rochester, MN; 5. Atlanta Gastroenterology Associates, Altanta, GA; 6. ICON Clinical Research, San Francisco, CA; 7. Centocor, Inc., Horsham, PA.

Methods: TREAT, a prospective registry, evaluated the long-term safety of infliximab(IFX) and other therapies in CD.

Results: 6273 pts were enrolled: 3396 received IFX (14184 pt-yrs; 86.7% ≥2 infusions) and 2877 received other therapies only (10391 pt-yrs) with a mean follow-up of 4.3yrs. More IFX-treated pts had moderate-to-severe (30.7% vs 10.8%,p<0.0001) or severe-fulminant (2.5% vs 0.6%,p<0.0001)CD at registration, had been hospitalized(27.3% vs 18.9%, p<0.0001) in the yr prior to enrollment, and were taking prednisone (26.8% vs 16.0%,p<0.0001) or immunomodulators (49.0% vs 31.7%,p<0.0001)at enrollment. Infusion reactions occurred in 3.3% of 43,806 infusions; severe reactions in 0.08%. Mortality was similar for both IFX- and non-IFX-treated pts(0.62 per 100 pt-yrs vs 0.58; RR=1.06,95%CI=0.78-1.45). In an adjusted Cox proportional hazards analysis, prednisone(HR=1.86,CI=1.31-2.64,p<0.001) and narcotic use (HR=2.11,CI=1.47-3.02,p<0.001) were associated with increased mortality risk. Disease severity (HR=1.51,95%CI=1.04-2.19,p=0.03) was predictive of mortality. The incidence of malignancies in the grps was similar (0.43 per 100 pt-yrs in IFX pts vs 0.56 in non-IFX pts; RR=0.76,95% CI=0.54-1.07),as was the incidence of lymphoma (0.04 per 100 pt-yrs in IFX pts vs 0.05 in non-IFX pts; RR=0.74,95%CI=0.24-2.29). The incidence of serious infections(SI) was 1.01 per 100 pt-yrs within 3 mos of IFX and 0.64 not within 3 mos of IFX (RR=1.57,95%CI =1.16-2.14, p=0.004). The unadjusted rates per 100 pt-yrs were 1.60 in the IFX grp and 0.67 in the other-treatments-only grp (p<0.001). An adjusted Cox analysis, using medication exposure at any time prior to the event, showed IFX was not a statistically significant predictor of SI (HR=1.37,95%CI=0.96-1.97, p=0.09). Medications associated with SI were prednisone (HR=1.75,CI=1.25-2.44,p<0.001) and narcotics (HR=1.96, 95%CI=1.40-2.75,p<0.001).Using multivariable Cox proportional hazards regression model and medication exposure in the prior 6-month CRF data collection period, use of prednisone (HR=2.11, 95%CI 1.49-3.00,p<0.001) and use of narcotic analgesics (HR=2.21,95%CI 1.50-3.25,p<0.001) remain highly significant predictors of SI. There was a notable trend toward IFX being a predictor of SI (HR=1.373, 95%CI 0.987-1.910,p=0.06). To date, 1 IFX-treated pt with known latent TB, who did not receive adequate prophylaxis, developed active TB.
Conclusion: Despite having more severe CD, IFX pts had similar rates of mortality and malignancy, including lymphoma, as pts not treated with IFX. IFX-treated pts have an increased risk of SI but Cox proportional hazard analysis suggests that this increased risk is independently associated with prednisone and narcotic use, and not IFX.
Disclosure - Centocor Inc. - Investigators: GR Lichtenstein, RD Cohen, BG Feagan, WJ Sandborn, BA Salzberg, Centocor Inc.- Consultants: DM Chen,MP Turner, DR Mink, Centocor Inc.- Employess: DL Broussard, RH Diamond
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IMMUNOMODULATORS ARE ASSOCIATED WITH AVOIDANCE OF FIRST SURGERY AMONG PATIENTS WITH NON-PENETRATING NON-STRICTURING CROHN'S DISEASE

M. Picco, MD, PhD, I. Zubiaurre, MD, M. Y. Adluni, RPh, J. R. Cangemi, MD, D. J. Shelton, ARNP. Gastroenterology, Mayo Clinic, Jacksonville, FL.

Purpose: The role of immunomodulators in preventing or delaying surgery in Crohn's disease (CD) is not clear. Lack of benefit in past studies may be due to inclusion of patients with penetrating or stricturing behaviors.We performed an analysis restricted to patients with non-penetrating and non-stricturing CD to determine factors that impact the need for first surgery in this population that has not yet developed more complicated behaviors.
Methods: 139 consecutive patients seen at Mayo Clinic in Jacksonville with non-penetrating non-stricturing Crohn's disease based on Montreal classification were divided into those who had surgery (surgery group) and compared to those who had not had surgery (medication group) after review of medical record. Patients with surgery for dysplasia, perianal disease, who had surgery to establish the diagnosis of CD or followed for < 1 year after diagnosis were excluded. Age and year of diagnosis of CD, disease location, smoking status (never,former,current),family history of IBD, immunomodulator and biologic use (yes/no) during the time from diagnosis to first surgery (surgery group) or last follow-up (medication group) were compared. The independent effect of each risk factor on the odds of first surgery was determined .
Results: Of the 139 patients, 15 who had CD diagnosis established by surgery and one followed for only one year were excluded. Of the 123 remaining, 52 (41.6%) had surgery with a mean time to first surgery of 9 years compared to a follow-up time of 8.8 years in the medication group. In the surgery group, 47 (90.4%) had surgery for non-penetrating, nonstricturing indications and 5 (9.6%) for penetrating indications. Age at diagnosis was older (46.6 vs. 34.5 yrs: p<0.001), immunomodulator use more common (45.2 vs. 7.8%: p<0.001) and isolated colon disease more frequent (47.9 vs. 15.4%:p<0.001) in those who did not have surgery. Biologic use was lower in the surgery compared to the medication group but this difference was not significant (5.8% vs. 14%: p=0.23). Overall 12/13 (93%) who used biologics had also taken an immunomodulator. Smoking history and family history of IBD did not influence surgery. Logistic regression model (table) showed that patients taking immunomodulators had a higher odds of avoiding surgery after adjustment for location, age at diagnosis and decade of diagnosis. Colon only disease and increasing age at diagnosis were also associated with avoiding surgery as was a later calendar decade of diagnosis.
Conclusion: Among patients with non-penetrating, non-stricturing Crohn's disease immunomodulator use was associated with avoiding surgery. Immunomodulator use may have a greater impact on this population that has yet to develop penetrating or stricturing complications.

Factors Associated with Avoiding First Surgery

	Relative Odds of Avoiding First Surgery	95% CI	P value
Immunomodulator Use	8.58	2.44-30.0	0.001
Colon Only Disease	3.27	1.16-9.21	0.025
Age at Diagnosis	1.03	1.01-1.05	0.01
Decade of Diagnosis	1.79	1.06-3.03	0.03

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HERBAL EXTRACT HPML-004 IN ACTIVE ULCERATIVE COLITIS: A RANDOMIZED COMPARISON WITH SUSTAINED RELEASE MESALAMINE
2008 ACG International Award

T. Tang, MD, MBA,[5] W. Sandborn, MD,[3] S. Targan, MD,[2] Z. Li, MD,[1] C. Xu, MD,[5] X. Yan, PhD[4]. 1. Gastroenterology, Chanhai Hospital, Second Military Medical University, Shanghai, China; 2. Gastroenterology, Cedars-Sinai Medical Institure, Los Angeles, CA; 3. Gastroenterology, Mayo Clinic, Rochester, MN; 4. Biology, Hutchison MediPharma, Shanghai, China; 5. Clinical and Regulatory Affairs, Hutchison MediPharma, Shanghai, China.

Purpose: To determine if HMPL-004, an ethanol extract of an herbal mixture that potently inhibits TNF-α, IL-1β, and NF-κB activation, has activity in Ulcerative Colitis.
Methods: A randomized, double dummy, active comparator trial in patients with active ulcerative colitis (UC) was conducted according to Good Clinical Practice ICH guidelines after IRB approval at 5 centers in Shanghai, China. 120 patients with mild to moderate active UC confirmed by colonoscopy and biopsy were randomized in a 1:1 ratio to oral treatment with HMPL-004 400 mg tid or sustained release mesalamine 1500 mg t.i.d. mg for 8 weeks. No other medications for UC were permitted. Disease activity was assessed every 2 weeks with a novel instrument similar to the partial Mayo score and a modified Baron endoscopic score. Clinical response was defined as a decrease from week 0 ≥ 3 points and ≥30%, and clinical remission was defined as a Mayo score ≤ 2 points. The Mayo endoscopy subscore (0-3) was determined from colonoscopies performed at week 0 and 8. Mucosal healing was a decrease in the Mayo endoscopy subscore ≥ 1 point and an absolute score ≤ 1.
Results: The demographics of the two groups were similar, with mean duration of disease ranging from 3.5-3.7 years. Clinical response occured by 2 weeks in both groups. By Mayo Score, clinical response in the 004 group was 53.3% compared with 55% in the mesalamine group (p=0.86) at 8 weeks. Clinical remission was 36.7% in the 004 group and 43.3% in the mesalamine group (p=0.48). Mucosal healing occurred in 51.7% of patients in the 004 group and 56.7% of patients in the mesalamine group (p=0.60). In those patients evaluated at week 2 or later (m=53 and 55 in the 004 and mesalamine group respectively), the mean Mayo score decreased from 6.15 to 3.04, and 5.95 to 2.62 (p value for both groups <0.0001). Of the 49 patients in the 004 group, and 44 patients in the mesalamine group evaluated by endoscopy at week 8, the Mayo endoscopy score decreased from 2.35 at week 0 to 1.06, and from 2.18 to 0.93 at week 8 in the mesalamine group (p value for both groups <0.0001). All 120 patients were evaluated for safety, 2 patients in the HMPL-004 group and 5 in the mesalamine group were withdrawn due to adverse events.
Conclusion: Oral mesalamine has previously been demonstrated in placebo controlled trials to be safe and effective for mild to moderate active UC. In this trial the rates of response, remission, and mucosal healing observed with HMPL-004 were not significantly different than those observed with oral mesalamine. HMPL-004, which has a unique mechanism of action, is well tolerated and may be effective for the treatment of active ulcerative colitis.
Disclosure - Hutchison MediPharma, Consultant

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THE EFFECT OF CHRONIC PANCREATITIS ON EMPLOYMENT: RESULTS OF A MULTICENTER STUDY

T. B. Gardner, MD,[1] A. T. Kennedy, BS,[1] A. Gelrud, MD,[3] M. AL Mohajer, MD,[3] M. Krotchen, MD,[3] P. A. Banks, MD,[2] S. S. Vege, MD,[4] B. Lacy, MD[1]. 1. Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH; 2. Gastroenterology and Hepatology, Brigham and Women's Hospital, Boston, MA; 3. Gastroenterology and Hepatology, University of Cincinnati, Cincinnati, OH; 4. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.

Purpose: Patients with chronic pancreatitis (CP) often suffer debilitating symptoms leading to interruptions in their ability to work. The aim of this study was to evaluate the effect of chronic pancreatitis on employment status in patients presenting for clinical evaluation.
Methods: Patients with established CP presenting for clinical evaluation at four U.S. pancreas centers - Dartmouth-Hitchcock Medical Center (NH), the University of Cincinnati (OH), Brigham and Women's Hospital (MA) and Mayo Clinic Rochester (MN) - were included. The diagnosis of CP was based on the evaluation of the treating clinician at each center. Patients with chronic pancreatitis evaluated in each institution's pancreas clinic between July 1st 2006 and October 31st 2007 were asked to complete a 72 item survey at the conclusion of one of their office visits. Completed surveys were mailed to the coordinating center (Dartmouth) anonymously where all data analysis was completed. The study was approved by the IRB at each institution.
Results: 111 patient surveys were returned. Patients had a mean age of 50 years; 50% were male; 59% were married; 82% had finished high school. Only 37% were presently employed (73% currently full-time); 56% earned less than $25,000 (US) per year (median personal income in the U.S $32,140); only 30% earned more than $50,000 (US) per year. Given the ability to choose from 9 domains in which CP could affect their lives, 74% reported that their work lives were altered by CP; 60% reported an effect on their social lives; 46% reported an effect on their spouse/significant other relationships. Given the ability then to choose which of the 9 domains was most affected by CP, 28% reported difficulty in completing daily activities while 26% had difficulty in employment. In the week prior to completing the survey, the 37% of patients who were employed reported working a mean of 28.5 hours and being absent from their job a mean of 16.9 hours due to CP symptoms. The most important patient concerns were that CP symptoms would interfere with their professional lives (34%); would shorten their lifespan (22%); would be passed on to their children (18%); or would develop into cancer (13%).
Conclusion: In the United States, patients with CP have high unemployment rates, below median personal income, and miss significant time at work due to their illness. The deleterious effect of their disease on employment status and personal life is of significant concern to patients. It is important for physicians to be more aware of these concerns.

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AUTOIMMUNE PANCREATITIS IN THE MIDWEST U.S. POPULATION: SHOULD WE RELY ON ELEVATED SERUM IGG4 FOR ESTABLISHING THE DIAGNOSIS?

S. A. Moore, MD,[1] O. Cummings, MD,[2] K. Sandrasegaran, MD,[3] M. Al-Haddad, MD,[1] J. M. DeWitt, MD,[1] S. Sherman, MD,[1] N. Zyromski, MD,[3] K. Lillemoe, MD,[3] T. J. Howard, MD,[3] L. McHenry, MD[1]. 1. Medicine, Indiana University, Indianapolis, IN; 2. Pathology, Indiana University, Indianapolis, IN; 3. Surgery, Indiana University, Indianapolis, IN; 4. Radiology, Indiana University, Indianapolis, IN.

Purpose: Introduction: Autoimmune pancreatitis (AIP) is suggested clinically by pancreaticobiliary pain and an enlarged pancreas on CT scan. Pathologically, AIP is characterized by lymphoplasmacytic infiltration of the pancreas. Elevated serum immunoglobulins, specifically IgG subtype 4, is considered a diagnostic marker for AIP, although the test characteristics have not been extensively studied in western populations. Elevated serum IgG4 was present in 71% (15/21) in the Mayo Clinic series and in 64% (7/11) in the UK study. Based on our clinical observations, we have not found serum IgG4 to be helpful in identifying patients who meet the criteria for diagnosis of AIP (Japan and Mayo HISORt criteria). The purpose of this study is to analyze our cohort of patients treated for autoimmune pancreatitis at Indiana University (IU) and compare patient characteristics to published data.

Methods: Methods: A retrospective search of the prospective IU ERCP/EUS database from 1998-2008 was performed. Demographics, radiographic imaging, serology (total IgG serum, IgG4 serum, ANA), and histology (EUS-FNA, EUS core biopsy, surgical pathology, IgG4 tissue staining) were analyzed. Serum IgG4 was deemed elevated if > 140 mg/dL. Response to steroids was defined as resolution of symptoms and/or improvement in pancreatogram/cholangiogram or CT imaging.

Results: Results: (see table) Twenty (n=20) patients were identified as having AIP based on the Japanese (n=15) or the Mayo HISORt (n=16) criteria. Elevated serum IgG was seen in 5/15 patients (33%) and elevated serum IgG4 was present in 2/15 (13%) patients. Eleven of 12 patients (92%) given steroid therapy showed either improvement (n=6) or complete resolution (n=5) of symptoms and/or imaging. Diagnostic histology for AIP was obtained from 6/8 EUS core biopsies (75%), one ampullary biopsy, and 7/7 surgical specimens. IgG4 tissue staining was performed on 7 patient specimens and positive in only 2 (29%). EUS-FNA was suggestive of AIP in 2/16 (13%) of patients.

Conclusion: Conclusion: In our IU experience, serum IgG4 levels are rarely elevated and therefore are not a useful marker for AIP. EUS core biopsy may be diagnostic in patients with suspected AIP. In nearly all patients with suspected AIP based on current criteria, steroid therapy may resolve radiographic abnormalities and improve symptoms irrespective of the serum IgG4 levels. Further studies are warranted to evaluate the diagnostic accuracy of serum IgG4 as a marker for AIP in the western population.

	IU	UK 1	Mayo 2
n	20	11	29
age (mean/range)	50 (18-76)	53 (28-78)	63 (14-85)
male (%)	60	100	83
elevated total IgG	33%(5/15)	-	38% (8/21)
elevated IgG4	13% (2/15)	64% (7/11)	71% (15/21)
response to steroids	92% (11/12)	100%(11/11)	100% (17/17)

1. Church, Am J Gastroenterol 2007;102:2417, 2. Chari, Clin Gastro Hepatol 2006;4:1010.

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THE ROLE OF EUS-ASSISTED BILIARY DRAINAGE AFTER FAILED ERCP

Y. Kim, MD,[1] K. Gupta, MD, MPH,[2] S. Mallery, MD,[2] R. Li, MD,[2] T. Kinney, MD,[2] A. Chau, MD,[2] K. Safdar, MD,[2] M. Freeman, MD[2]. 1. Internal Medicine, Gacheon Gil Medical Center of Gacheon Medical School, Incheon, South Korea; 2. Internal Medicine, University of Minnesota, Hennepin County Medical Center, Minneapolis, MN.

Purpose: To evaluate technical success and outcomes of EUS-assisted biliary drainage after ERCP attempts at a tertiary center have failed.

Methods: Patients included all those with failed ERCP for distal biliary obstruction at a tertiary center over 9 years, in whom repeat ERCP was felt unlikely to succeed. EUS-assisted biliary drainage was performed under general anesthesia with fluoroscopy, and categorized into 2 methods: 1) EUS rendezvous for transpapillary access followed by ERCP and 2) direct EUS guided transmural biliary drainage. If ampulla was accessible at initial ERCP, EUS rendezvous was attempted first. In cases of inaccessible ampulla and inoperable malignancy, direct EUS guided transmural drainage was performed. 1) For rendezvous, EUS-assisted transduodenal (n=12) or transhepatic (n=1) bile duct puncture was performed via a diagnostic linear EUS scope with a 19 or 22 gauge needle; a guidewire was advanced through papilla by fluoroscopy; the guidewire left in place, and ERCP performed immediately afterwards with stent insertion ± sphincterotomy. 2) Direct EUS-guided biliary drainage was performed through a transduodenal approach, the fistula tract dilated, and metallic stents placed. If bile duct access failed by all methods, patients were immediately converted to PTC.

Results: EUS-BD was attempted in 15 patients (mean age 68, malignant 12/benign 3,CBD diameter 4-20 mm). EUS rendezvous was attempted in 13 cases, and direct EUS guided transmural biliary drainage in 2. Reasons for initial ERCP failure included tumor distorting papilla (n=8), duodenal stents (n=2), intradiverticular papilla (n=1), or other anatomic anomalies (n=4). EUS-assisted biliary drainage was performed at the same session as initial ERCP attempt in 12/15 patients. EUS-guided bile duct puncture was achieved in all 15 (100%) patients, with drainage successfully completed in 12/15 (80%). Failures occurred in 3 attempted rendezvous cases because of inability to traverse biliary stricture (n = 2) or dissecting a choledochocele with guidewire (n = 1); all were successfully drained via PTC. Stents placed were metallic in 9 and plastic in 3. Complications occurred in 2/15 patients (13%);1 moderate pancreatitis after difficult ERCP attempt in papillary stenosis, and 1 bacteremia after PTC, with no perforations. Mean hospital stay was 5.4 (0–33) days, mostly for preexisting medical problems.

Conclusion: EUS-assisted biliary drainage using a preferentially transduodenal and rendezvous approach demonstated a high success rate without any complications attributable to the EUS access. Advantages over PTC include performance under the same anesthesia as initial ERCP attempt, and internal drainage with access achieved by a very small caliber needle puncture similar to EUS/FNA.

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MANAGEMENT OF ACUTE PANCREATITIS: A SURVEY OF INTERNAL MEDICINE AND GENERAL SURGERY RESIDENTS

2008 ACG/AstraZeneca Senior Fellow Abstract Award

S. Barkatullah, MD, S. Komanduri, MD, MS. Gastroenterology, Rush University Medical Center, Chicago, IL.

Purpose: We conducted a survey to evaluate the current understanding of the management of acute pancreatitis (AP) among internal medicine residents. The survey was conducted to assess the efficacy of current teaching patterns and to improve overall patient care at large urban teaching centers.

Methods: We administered a 23-question survey to 129 Internal Medicine and 33 General Surgery residents. The questions were multiple-choice and centered on basic aspects of management of AP. These included appropriate use of laboratory testing and radiologic imaging, assessment of severity, use of antibiotics, nutrition, and indications for surgical intervention.

Results: Approximately 45% of the surveys collected were completed by first year residents and the other 55% by senior residents. Though 28% could not identify the initial appropriate laboratory testing, an even greater proportion, 71% of residents, did not recognize hematocrit as the most important predictor of severity on admission. About 15% felt that administration of empiric antibiotics for all cases of AP were the standard of care. Furthermore, 20% felt the diagnosis of AP was made by identifying inflammation on CT scan. In the setting of acute biliary pancreatitis, only 64% identified RUQ ultrasound as the preferred initial imaging modality, and only 48% could identify the appropriate timing and utility of ERCP. A larger gap of knowledge was seen in identification and management of severe pancreatitis. The majority of residents (73%) underestimated the incidence of pancreatic necrosis in the setting of severe pancreatitis. As for early feeding, only 36% of residents felt that it decreased morbidity and mortality in necrotizing pancreatitis; 45% preferred total parenteral nutrition to enteral feeding. Perhaps most surprising, only 57% correlated necrotizing pancreatitis with Systemic Inflammatory Response Syndrome (SIRS). Finally, more than 50% of residents could not recognize appropriate indications for surgical intervention in AP. As for the use of prognostic indices, only about two-thirds used Ranson's criteria occasionally, while approximately 50% reported never using the APACHE II score to assess severity. Overall only 27% of residents felt very confident in managing acute pancreatitis.

Conclusion: The morbidity and mortality of AP continues to be a problem. In addition, there continues to be a large amount of resources utilized for this cohort of patients. The lack of understanding and inconsistent management of severe pancreatitis is alarming. A dedicated educational effort is needed at the resident level in order to begin to decrease the morbidity of AP as well as to curtail ineffective use of costly resources.

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LONG TERM OUTCOMES AND FACTORS PREDICTIVE OF RECURRENCE FOLLOWING ENDOSCOPIC THERAPY OF MUCOSAL ESOPHAGEAL ADENOCARCINOMA

G. A. Prasad, MD, MS, R. J. Badreddine, MD, N. S. Buttar, MD, L. M. Wongkeesong, MD, L. S. Lutzke, LPN, L. S. Borkenhagen, RN, FNP, K. T. Dunagan, LPN, K. K. Wang, MD. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.

Purpose: Endoscopic therapy is emerging as an alternative to surgical therapy in patients with mucosal (T1a) esophageal adenocarcinoma given the low likelihood of lymph nodal metastasis. Long term outcomes including rates and predictors of cancer recurrence remain unknown. We aimed to assess the recurrence rates of neoplastic lesions in BE patients treated endoscopically for mucosal (T1a) esophageal adenocarcinoma.

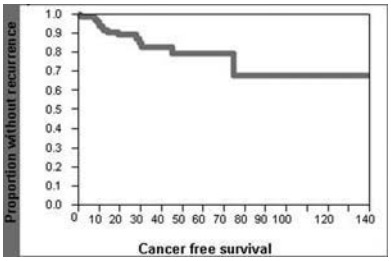
Methods: Records of all patients treated for esophageal adenocarcinoma at Mayo Clinic Rochester between 1995 and 2007 were reviewed. All patients with mucosal (T1a) adenocarcinoma were identified. Histology was assessed by pathologists with expertise in Barrett's esophagus associated neoplasia. All patients were staged with EUS and CT chest/abdomen (some with PET scans). Patients were treated using EMR (performed with the Olympus EMR cap or the Wilson Cook Duette kit) and photodynamic therapy (PDT) using previously described standard methods. Data was abstracted from a prospectively maintained database. Vital status and death date information was queried using an institutionally approved internet research and location service. Statistical analysis was performed using Kaplan Meier curves and Cox proportional hazards ratios.

Results: 135 patients with mucosal adenocarcinoma were treated in this time period.Mean age was 71y (SD 11), 113 (84%) were males.Mean BE length was 5.5 cm(SD 4.2). 83% were treated with the Olympus EMR cap and 17% with the Duette kit. 57 (43%) received PDT. Mean follow up was 42 months (SD 32). 15 patients (13.5%) had recurrent carcinoma detected during follow up. Median time to recurrence was 16 months (IQR 10-30m). All recurrent tumors were intramucosal carcinomas : 13 were managed endoscopically and 2 patients elected to undergo esophagectomy (surgery confirmed T1a disease without LN metastases). The characteristics of patients with and without recurrent carcinoma are compared in table 1. Cancer free survival is shown in Figure 1 (79% at 5 years). Overall survival was 83% at 5 years.

Conclusion: Endoscopic therapy is a viable alternative for patients with T1a adenocarcinoma arising in BE. Patients with incident cancers, those with longer segments of BE and needing multiple treatment sessions to achieve remission, may be at higher risk of recurrence. Recurrent cancers are early stage and can be managed endoscopically with EMR.

Predictors of recurrent carcinoma following endoscopic resection of T1a cancers in BE

Variable	Recurrent carcinoma (n=15)	No recurrence (n-120)	p value
Age (mean)	70.5	70.5	0.99
Male Gender (%)	80	87	0.52
Tumor size (cm)	1.3	1.31	0.96
BE segment length (cm)	7.3	5.0	0.05
Incident Cancer (%)	50	28	0.009
# of Rx sessions to achieve remission	4.5	2.3	<0.001
PDT (%)	50	58	0.55



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SURVIVAL ANALYSIS OF MULTI-CENTER CLINICAL TRIAL USING ENDOSCOPY (END) AND ENDOSCOPIC ULTRASOUND (EUS) GUIDED FINE NEEDLE INJECTION (FNI) OF ANTI-TUMOR AGENT (TNFERADE™ BIOLOGIC) IN PATIENTS WITH LOCALLY ADVANCED ESOPHAGEAL CANCER

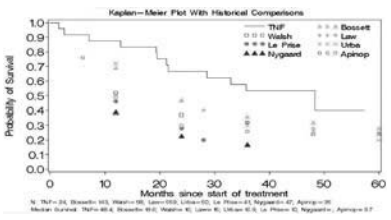
K. J. Chang, MD,[1] N. Senzer, MD,[2] R. Soetikno, MD,[3] S. Swisher, MD,[4] T. Reid, MD,[5] A. Mauer, MD,[6] E. Vokes, MD,[6] H. Pinto, MD,[7] A. Chak, MD,[8] A. Forastiere, MD[9]. 1. UCI Medical Center, Orange, CA; 2. Mary Crowley Medical Research Center, Dallas, TX; 3. VA Palo Alto Stanford University California Pacific Interventional Endoscopy, Palo Alto, CA; 4. MD Anderson, Houston, TX; 5. University of California, San Diego, La Jolla, CA; 6. The University of Chicago, Chicago, IL; 7. Stanford University School of Medicine, Stanford, CA; 8. University Hospitals of Cleveland, Cleveland, OH; 9. Johns Hopkins University, Baltimore, MD.

Purpose: Despite neoadjuvant therapy and aggressive surgical resections, the prognosis for esophageal cancer remains poor. TNFerade™ Biologic is a 2nd-generation replication-deficient adenovector, carrying the transgene encoding for human TNF-α, regulated by the radiation-inducible promoter Egr-1. This is the first clinical trial using TNFerade™ in patients with esophageal cancer. Safety data was presented previously; updated efficacy data is now reported.

Methods: Multi-center dose-escalating study of TNFerade™ with concurrent neoadjuvant chemoradiation (45 Gy/25 fx/5 weeks, with 5-FU [1000 mg/m^2/day x 96 hrs] plus cisplatin [75 mg/m^2] on Days 1 & 29) in patients with resectable stage II & III esophageal cancer staged by CT and EUS. TNFerade™ was administered in 1-log inter-patient dose escalations from 4x10^8-4x10^{11} pu, via END or EUS once weekly x5 weeks. Resection was performed 5-11 weeks after the end of radiation. Efficacy endpoints included pathologic complete response rate (pCR) and survival.

Results: 24 patients were enrolled. Majority of tumors were adenocarcinoma (20/24), T3 (23/24), and N1 (18/24). Average number of injections per session = 3.9 ± 0.3. The median overall survival was 48.4 months (figure). Literature review of historical controls indicate a range of median survival from 9.7 - 34.0 months. At the 4x10^9 pu dose, pCR was seen in 3/3 (100%) resected tumors, with a radiographicCR in a 4th patient; all four (100%) remain disease-free up to 48 months. The 4x10^{10} pu dose, pCR was seen in 1/4 (25%) resected tumors & the median survival has not yet been reached. The median survival for the 4x10^8 & 4x10^{11} pu doses are 48.4 and 30.8 months respectively.

Conclusion: TNFerade™ in combination with chemoradiation in this cohort of 24 patients resulted in a median survival of 48.4 months which represents an encouraging increase in survival relative to historical controls and therefore warrants additional evaluation. This promising treatment also represents a new paradigm in esophageal cancer, with the endoscopist administering the local anti-tumor agent as well as assessing tumor response.



This research was supported by an industry grant from GenVec Inc

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GASTROESOPHAGEAL REFLUX DURING SLEEP – SLEEPLESS NIGHTS ARE COMMON

L. M. Allen, MD,[1] R. Fass, MD,[1] I. Mizyed, MD,[2] J. Powers, BS,[1] A. Gasiorowska, MD,[1] I. Malagon, BS,[1] B. Moty, Student,[1] M. Willis, RN[1]. 1. Gastroenterology, Neuroenteric Clinical Research Group, Southern Arizona VA Health Care System, Tucson, AZ; 2. Gastroenterology, University of Arizona Health Sciences Center, Tucson, AZ.

Purpose: To assess sleep arousals and its relationship with reflux events and symptoms using a novel technique that objectively determines sleep period during pH testing in GERD patients that are not confounded to a sleep lab.

Methods: 18 patients (M/F – 13/5, mean age 57.11±16.60yrs, age range 27-81) with heartburn at least 3 times a week were included in this study. All patients were evaluated by the demographics and symptom checklist questionnaires. Patients were not receiving anti-reflux treatment. Subsequently patients underwent pH testing concomitantly with actigraphy. The latter is a watch-like device worn on the no dominant wrist and records motions with accelerometers that are stored digitally within the device. The actigraph is a validated technique that can determine sleep and awake periods. Novel software that simultaneously integrates actigraphy and pH raw data matched by time was utilized to determine patients' sleep and arousals and their relationship to acid reflux events. The computer pH data output incorporates the old supine and upright analysis and the new sleep and awake analysis for all pH parameters.

Results: The traditional supine period was clearly divided to supine-asleep (mean 543.3±113.66) and supine- awake (82.9±76.3) periods. Based on the traditional supine data, there was no evidence of arousals during sleep. However, by using the integrative software, 77.8% of the subjects had at least one arousal during sleep. The mean total number of arousals was 2.4±1.7. The mean duration of sleep arousal was 20.9±17.8 minutes. The mean percent of sleep arousals associated with acid reflux events was 45.2±17.3. Of those arousals associated with an acid reflux event the mean number of acid reflux events per arousal was 2.7± 2.0. Mean duration of an acid reflux event during sleep arousal was 2.3±4.0 minutes. The percent of arousals associated with symptoms was 28.13±45.19. The mean duration of arousal related reflux event that was associated with symptom was 0.91±0.92 min.

Conclusion: Almost half of the arousals during sleep of GERD patients are due to acid reflux events. Most of these arousals are not associated with GERD related symptoms.

This research was supported by an industry grant from TAP Pharmaceuticals

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SEASONAL VARIATION IN THE DIAGNOSIS OF EOSINOPHILIC ESOPHAGITIS: A CASE-CONTROL ANALYSIS

2008 ACG/AstraZeneca Senior Fellow Abstract Award

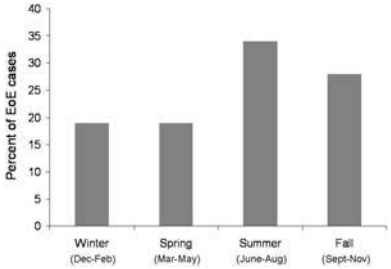
E. S. Dellon, MD, MPH,[1] W. B. Gibbs, MD,[1] T. C. Rubinas, MD,[2] K. J. Fritchie, MD,[2] J. T. Woosley, MD, PhD,[2] N. J. Shaheen, MD, MPH[1]. 1. Medicine, Division of Gastroenterology and Hepatology, University of North Carolina - Chapel Hill, Chapel Hill, NC; 2. Pathology and Laboratory Medicine, University of North Carolina - Chapel Hill, Chapel Hill, NC.

Purpose: The etiology of eosinophilic esophagitis (EoE) is unknown, though allergens may play a pathogenic role. The purpose of this study was to examine seasonal variation in diagnosis of EoE as compared to gastroesophageal reflux disease (GERD). We hypothesized that EoE would be more frequently diagnosed at times of high allergen burden (spring/summer) and there would be no seasonal variation in GERD diagnosis.

Methods: We performed a retrospective study of the University of North Carolina EoE clinicopathologic database which contains information on patients with esophageal eosinophilia from 2000-2007. Cases of EoE were defined as having ≥ 15 eosinophils per high-powered field (0.23mm2; eos/hpf) with at least one typical symptom (eg dysphagia, heartburn, or feeding intolerance) and with other causes of esophageal eosinophilia excluded. Incident cases were categorized by their esophageal biopsy date. Controls were patients with GERD who also underwent endoscopy and biopsy over this time course. Cases of EoE and GERD were stratified by season and month of diagnosis and compared with chi-square.

Results: 149 cases of EoE were identified (mean age 24.5 yrs; range: 8 mos-77 yrs); 72 were 18 years or older (48%), 105 (70%) were male, and 119 (80%) Caucasian. 684 GERD controls were identified (mean age 44.1 yrs; range: 4 mos - 87 yrs); 49% were male and 81% Caucasian. 19% of EoE cases were diagnosed in the winter (Dec-Feb), 19% in the spring (Mar-May), 34% in the summer (June-Aug), and 28% in the fall (Sept-Nov; see figure) compared with 23%, 29%, 23%, and 25% of the GERD cases, respectively (p = 0.01). The highest proportion of EoE cases was diagnosed in August (14%) compared with 7% of GERD cases (p = 0.04). Tissue eosinophil counts were also highest during the summer (77 eos/hpf) compared with winter (57 eos/hpf), with a peak level in August (95 eos/hpf). There was no difference in EoE diagnosis based on age, atopic disease, food allergy, or asthma.

Conclusion: There is evidence of seasonal variation in the diagnosis of EoE at our center, but not in the diagnosis of GERD. The highest percentage of cases of EoE are diagnosed over the summer, which was also the time of highest tissue eosinophil counts. These findings may help generate hypotheses about environmental etiologies of EoE.



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A NEW THERAPY FOR EOSINOPHILIC ESOPHAGITIS IN ADULTS: EFFICACY OF BUDESONIDE – RINCINOL GEL FOR 6 WEEKS IN PATIENTS WITH DYSPHAGIA

D. A. Neumann, MD,[1] G. L. Alexander, MD,[1] G. Farrugia, MD,[1] K. Ravi, MD,[1] N. J. Talley, MD,[2] R. Warndahl, PharmD,[1] J. A. Alexander, MD[1]. 1. Mayo Clinic - Rochester, Rochester, MN; 2. Mayo Clinic - Jacksonville, Jacksonville, FL.

Purpose: Topical steroid therapy such as aerosolized fluticasone has been demonstrated to be an effective treatment of Eosinophilic Esophagitis (EE) but may have oral side effects. We hypothesized that delivery of a budesonide gel specifically formulated to increase the contact time of the gel to the esophageal mucosa will result in a greater reduction in clinical symptoms of dysphagia and less oral side effects.

Methods: An oral gel combining budesonide with the mucosal adherent preparation Rincinol (BRG) was compounded. Patients with abnormal Mayo dysphagia questionnaires underwent EGD with biopsies. 16 patients with greater than 15 eos/HPF and solid food dysphagia were enrolled in the study and treated with BRG. Patients were instructed to take BRG 3mg/10cc BID. If patients noted marked improvement at one week, they were switched to once daily BRG for 6 weeks; otherwise they were continued on BID BRG for a total of 6 weeks. Dysphagia symptoms and BRG side effects over the last two weeks of treatment were assessed by personal interview. Symptoms were evaluated on a scale of dysphagia resolution: <25%, 25 - 49%, 50 - 74%, 75 - 99% or complete resolution. Those patients, who had previously utilized topical fluticasone for EE, were asked to compare BRG vs topical fluticasone with respect to treatment effect and tolerance.

Results: See table 1 regarding the baseline clinical features of our EE patients. After 6 weeks of BRG therapy, all patients reported at least a 75% improvement in dysphagia symptomatology. 56% (9/16) of patients reported complete dysphagia resolution and 44% (7/16) reported a 75 – 99% reduction in dysphagia symptoms. Patients who transitioned from BID to once daily BRG noted no increase in dysphagia symptomatology. There was no significant difference in treatment response observed between the dosing regimens (Table 2.) With respect to side effects, 13% (2/16) reported hoarseness and 6% (1/16) unpleasant taste. No oral candidiasis was observed with BRG therapy. Of the patients who had previously received fluticasone for treatment of EE, 38% (3/8) felt BRG was more effective, 62% (5/8) had no preference and none preferred fluticasone. When asked about tolerance, 50% (4/8) of patients tolerated both preparations equally, whereas 25% (2/8) favored fluticasone and 25 % (2/8) favored budesonide.

Conclusion: BRG effectively relieved symptoms of dysphagia in patients with esophageal eosinophilia with minimal side effects in this study. BRG may also be effective in treating EE patients who have previously failed fluticasone. Further studies should be performed to validate these findings.

Table 1: Baseline Clinical Characteristics of Study Patients

Demographics	Symptoms	Endoscopic Findings	Allergy Testing Results	Prior Therapies
Males 81% (13/16) Females 19% (3/16) Median age 35.5 (Range 18 - 61)	Food Impaction 94% (15/16) Heartburn 44% (7/16) Regurgitation 19% (3/16) Asthma 19% (3/16) Seasonal Allergies 50% (8/16)	Normal 19% (3/16) Concentric Rings 75% (12/16) Strictures 31% (5/16) Longitudinal Furrows 25% (4/16) White Spots 6% (1/16)	Normal 71% (10/14) Multiple Allergies 29% (4/14) Median Serum Eosinophile Count 0.33 (Range 0.2 - 0.69)	PPI 81% (13/16) Fluticasone 50% (8/16)

Table 2: BRG Dosing Regimen and Patient Reported Treatment Effect

	75 - 99 % Improvement in Dysphagia	100% Improvement in Dysphagia
Once daily BRG	45% (5/11)	55% (6/11)
BID BRG	40% (2/5)	60% (3/5)

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ONCE-DAILY 1.5-G GRANULATED MESALAMINE EFFECTIVELY MAINTAINS REMISSION IN PATIENTS WITH ULCERATIVE COLITIS WHO SWITCH FROM DIFFERENT 5-ASA FORMULATIONS

G. Lichtenstein, MD,[1] K. Merchant, PhD,[2] A. Shaw, PhD,[2] J. Yuan, PhD,[2] E. Bortey, PhD,[2] W. Forbes, PharmD[2]. 1. University of Pennsylvania School of Medicine, Philadelphia, PA; 2. Salix Pharmaceuticals, Morrisville, NC.

Purpose: Patients with remittent ulcerative colitis (UC) fail or switch 5-aminosalicylic acid (5-ASA) therapy for a number of reasons, including lack of efficacy and nonadherence. Granulated mesalamine is a novel formulation that provides both delayed and extended release of mesalamine directly to the terminal ileum and colon for once-daily (q.d.) dosing. For the first time, granulated mesalamine has been evaluated for maintenance of remission in patients with UC currently in remission who switched to granulated mesalamine 1.5 g q.d. from other 5-ASA formulations.

Methods: Patients with documented UC remission (defined as revised Sutherland Disease Activity Index subscores: rectal bleeding = 0; mucosal appearance <2) received granulated mesalamine capsules 1.5 g q.d. (four 375-mg capsules once daily) or matching placebo capsules taken once daily for 6 months. The primary efficacy endpoint was the number and proportion of patients who were relapse-free during 6 months of treatment.

Results: Patients (N=487) received granulated mesalamine 1.5 g q.d. (n=322) or placebo q.d. (n=165). Median disease duration was 42 months (range, 1-500 mo), and median duration of remission before switch was 3 months (range, 0-14 mo). Patients were maintained on the following 5-ASA products before switching to granulated mesalamine: nongranulated mesalamine (51%), sulfasalazine (30%), balsalazide (11%), suppositories/enemas (7%), and olsalazine (1%). A higher percentage of patients who received granulated mesalamine 1.5 g q.d. maintained remission of UC after 6 months of treatment (78%) compared with those who received placebo (59%; P<0.001). Additionally, patients who switched from another 5-ASA to granulated mesalamine had a higher probability of remaining relapse-free at 6 months (77%; 95% confidence interval [CI], 0.72-0.82) compared with those who switched to placebo (50%; 95% CI, 0.36-0.63; P<0.001).

Conclusion: These results demonstrate that granulated mesalamine effectively maintained UC remission in patients who were previously maintained on a range of 5-ASA products. Effective maintenance of UC remission along with convenient q.d. dosing may improve patient adherence, making granulated mesalamine an attractive maintenance therapy for remission of UC.

Disclosure - Dr. Lichtenstein- Consultant: Salix Pharmaceuticals, Shire, Axcan, Proctor and Gamble, Speaker's Bureau: Salix Pharmaceuticals, Shire, Axcan, Proctor and Gamble, Advisory Committee/Board Member: Salix Pharmaceuticals, Shire, Axcan, Proctor and Gamble; Dr. Merchant- Employee: Salix Pharmaceuticals; Dr. Shaw- Employee: Salix Pharmaceuticals; Dr. Yuan-Employee: Salix Pharmaceuticals; Dr. Bortey- Employee: Salix Pharmaceuticals; Dr. Forbes-Employee: Salix Pharmaceuticals

This research was supported by an industry grant from Salix Pharmaceuticals

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THE EVOLUTION OF CROHN'S DISEASE (CD) BEHAVIOR IN A POPULATION-BASED COHORT

2008 ACG/Centocor IBD Abstract Award

K. T. Thia, MBBS,[1] W. J. Sandborn, MD,[1] W. S. Harmsen, MS,[2] A. R. Zinsmeister, PhD,[2] E. V. Loftus, MD[1]. 1. Miles & Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN; 2. Section of Biostatistics, Mayo Clinic, Rochester, MN.

Purpose: We sought to estimate in a population-based cohort of CD the cumulative probability of developing penetrating or stricturing disease and, among those without a complication at baseline, to assess factors associated with subsequent development of stricturing or penetrating disease.

Methods: The medical records of all Olmsted County, Minnesota residents with a diagnosis of CD from 1970 to 2004 were abstracted for information on behavior and location of disease based on the Montreal classification [A1(age ≤ 16 yr); A2(age 17-40 yr); A3(age >40 yr); L1(terminal ileum); L2(colon); L3(ileocolon); L4(upper gastrointestinal tract); B1(non-stricturing, non-penetrating); B2(stricturing) and B3(penetrating)]. We estimated the cumulative probability of developing B2 or B3 from time of diagnosis using the Kaplan Meier method. In the subset with B1 disease at diagnosis, Cox proportional hazards regression was used to assess the association of B2 or B3 behavior with putative risk factors (age, gender, baseline disease location, smoking history, perianal disease, family history, extra-intestinal manifestations and baseline medications).

Results: In our cohort of 306 CD patients, clinical characteristics were: A1, 11.4%; A2, 56.2%, A3, 32.4%; L1, 45.1%; L2, 32.0%; L3, 18.6%; L4, 0.3%; L1 + L4, 2.3%; L2 + L4, 0.3%; L3 + L4 1.3%; B1, 81.4%; B2, 4.6% and B3, 14.0%. The cumulative risk of either B2 or B3 was 11.8% at day 0, 18.6% at 90 days, 22% at 1 year, 33.7% at 5 years, 38.7% at 10 years, 50.8% at 20 years, and 54.4% at 30 years after diagnosis. Among 249 patients with B1 disease at diagnosis, a change in behavior occurred in 66 patients. At 1, 5, 10, 20 and 30 years, the cumulative probabilities of patients with B1 developing either B2 or B3 were 4.1%, 18.5, 24.7, 39.5 and 43.9%; developing B2 were 2.5%, 8.0, 11.0, 17.6% and 17.6%; and developing B3 were 1.7%, 11.4, 15.4, 26.6 and 31.9%, respectively. Change in behavior (either B2 or B3) led to resective bowel surgery within 6 months of the event in 47 patients. Risk factor associated with change in behavior are shown in Table 1.

Conclusion: In this population-based cohort of CD, almost 19% of patients had already experienced a penetrating or stricturing complications within the first 90 days of diagnosis, and fully half of all patients had experienced a complication by year 20. Factors associated with progression to penetrating or stricturing events were the presence of ileal involvement and perianal disease (borderline significance).

Analysis of Factors Associated with Change in Behavior

Factors	No of patients, n=248*	No of events, n=66	Hazard Ratio	95% CI	p-value
Age					
<16 years	32	5	1.0	Ref.	
16-40 years	133	45	2.07	0.82-5.22	0.12
>40 years	83	16	1.29	0.47-3.52	0.62
Disease Location					
Colon	96	7	1.0	Ref.	
Terminal Ileum	92	39	7.76	3.47-17.38	<0.001
Ileocolon	49	15	5.63	2.29-13.86	<0.001
Upper Gastrointestinal Tract	11	5	9.48	2.99-30.1	<0.001
Gender					
Female	125	29	1.0	Ref.	
Male	123	37	1.46	0.90-2.37	0.13
Smoking Status					
Non smoker	121	26	1.0	Ref.	
Current smoker	81	32	1.49	0.88-2.52	0.13
Ex smoker	41	7	0.83	0.36-1.90	0.65
Family History					
No	210	57	1.0	Ref.	
Yes	33	8	0.77	0.37-1.61	0.49
Extra-intestinal Manifestation					
No	204	56	1.0	Ref.	
Yes	44	10	0.80	0.41-1.56	0.51
Any form of medication					
Yes	218	60	1.0	Ref.	
No	30	6	0.63	0.27-1.46	0.28
Steroids					
No	139	36	1.0	Ref.	
Yes	109	30	1.30	0.80-2.10	0.29
5-aminosalicylates/sulphasalazine					
No	72	15	1.0	Ref.	
Yes	176	51	1.49	0.84-2.64	0.18
Azathioprine/6-mercaptopurine					
No	226	62	1.0	Ref.	
Yes	22	4	0.87	0.31-2.40	0.78
Antibiotics (> 4 weeks)					
No	225	60	1.0	Ref.	
Yes	23	6	1.13	0.49-2.62	0.78
Perianal Disease					
No	179	42	1.0	Ref.	
Yes	70	24	1.69	1.00-2.86	0.05

***One patient with < 90days follow-up from diagnosis was excluded from analysis**

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EVALUATION OF CT ENTEROGRAPHY (CTE), BIOMARKERS, AND CLINICAL SYMPTOMS FOR THE NON-INVASIVE PREDICTION OF ACTIVE INFLAMMATION IN PATIENTS WITH CROHN'S DISEASE

2008 ACG/Centocor IBD Abstract Award

D. H. Bruining, MD,[1] J. G. Fletcher, MD,[2] H. A. Siddiki, MBBS,[2] J. E. Huprich, MD,[2] J. L. Fidler, MD,[2] W. Sandborn, MD,[1] J. N. Mandrekar, PhD,[3] W. S. Harmsen, MS,[3] E. V. Loftus, MD[1]. 1. Miles and Shirley Fiterman Center in Digestive Diseases, Mayo Clinic College of Medicine, Rochester, MN; 2. Department of Radiology, Mayo Clinic College of Medicine, Rochester, MN; 3. Division of Biostatistics, Mayo Clinic College of Medicine, Rochester, MN.

Purpose: Despite the availability of various clinical parameters, biomarkers, and radiologic studies, the ideal non-invasive model for detecting active small bowel inflammation has yet to be determined. Recent reports using endoscopic reference standards have validated multiple CT enterography (CTE) findings as reflecting active histologic small bowel inflammation. In a prospective cohort of patients with established or suspected Crohn's disease, we sought to determine the optimal combination of clinical, laboratory, and CT markers to predict active disease.

Methods: A total of 273 patients with established or suspected Crohn's disease underwent a detailed physical examination, Crohn's Disease Activity Index (CDAI) calculation, laboratory studies, and CTE. A GI radiologist, blinded to clinical information, categorized the CTE findings of active inflammation including mural hyperenhancement, wall thickness, stratification, comb sign, and perienteric fat stranding. The reference standard for active disease was a consensus determination of disease activity performed by a gastroenterologist who took all the available clinical, laboratory, endoscopic, histologic, radiologic, and surgical data into account. A score of 4 or 5 on a 5-point confidence scale indicated active disease. Multivariable logistic regression was used to assess non-invasive variables for significant associations with disease activity and to generate a receiver operating characteristic (ROC) curve using the predictive probabilities.

Results: Of the 273 patients enrolled in the study, 148 patients were felt to have definite Crohn's disease at the completion of their evaluation. The CTE findings of mural hyperenhancement (OR: 3.7, p = 0.01) and comb sign (OR: 3.4, p = 0.02) were independently associated with disease activity, area under the curve (AUC) of 0.75. Clinical and laboratory parameters were not significant after including hyperenhancement and comb sign in the multivariable model. A model including the combination of CDAI, elevated CRP, low albumin, and anemia without CTE data resulted in an AUC of only 0.61 with no significant associations, p > 0.05.

Conclusion: CTE is more accurate than biomarkers or clinical symptoms for the non-invasive prediction of active inflammation in Crohn's disease. The CTE features that best predict active disease are mural enhancement and the comb sign.

Disclosure - DH Bruining - None JG Fletcher - Grant Support - Siemens Medical Solutions, GE Healthcare, E-Z-EM, Inc H. Siddiki - none J. Huprich - none J. Fidler - Grant Support - E-Z-EM, Inc W. Harmsen - none J. Mandrekar - none W. Sandborn - none E. Loftus - none

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EFFECT OF COMBINATION LUBIPROSTONE AND SENNA ON GASTROINTESTINAL TRANSIT AND BOWEL FUNCTION IN HUMANS

A. E. Foxx-Orenstein, DO,[1] D. K. Sandhu, MBBCh,[2] K. L. Jensen,[1] M. Camilleri, MD,[1] K. L. Baxter,[1] D. D. Burton,[1] A. R. Zinsmeister, PhD[3]. 1. Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Department of Internal Medicine, Mayo Clinic, Rochester, MN; 3. Division of Biostatistics, Mayo Clinic, Rochester, MN.

Purpose: Senna, an anthraquinone laxative, stimulates release of serotonin, histamine and prostaglandin-like material in the gut. Lubiprostone is an oral bicyclic fatty acid and selective chloride channel activator used to treat constipation that increases intestinal fluid secretion and may trigger peristalsis. **Hypothesis:** Senna enhances the effects of lubiprostone on gastrointestinal transit and bowel function in humans. **Aims:** To evaluate the effect of the combination of senna and lubiprostone on intestinal transit in humans.

Methods: In this randomized, double-blind, placebo-controlled, 3 X 3 factorial design study, 71 healthy men and women were randomized to senna 8.6 mg once or twice daily, lubiprostone 24 micrograms once or twice daily, combinations of lubiprostone and senna or placebo. The primary endpoints were colonic geometric center (GC) at 24 hrs and ascending colon (AC) $T^{1}/_{2}$ emptying time. Secondary endpoints included gastric emptying $T^{1}/_{2}$ time, colonic GC at 8 and 48 hrs, and colonic filling at 6 hrs measured by validated scintigraphic methods. Additionally, subjects recorded stool characteristics using a bowel habit diary. Treatment effects were assessed using analysis of covariance adjusting for BMI and gender, based on the 3 X 3 factorial design.

Results: Overall significant ($p<0.02$) effects on colonic transit were observed for senna with the twice daily dose increasing the GC at 24 hrs ($p=0.04$) and the GC at 48 hrs ($p<0.01$) compared to placebo; there was no significant effect on AC $T^{1}/_{2}$. The effect of senna on colonic transit (twice daily dose) was most pronounced at the twice daily dose of lubiprostone. No overall treatment effects of lubiprostone on overall colonic transit or AC $T^{1}/_{2}$ were detected ($p>0.17$). Gastric emptying $T^{1}/_{2}$ was modestly increased (mean Δ $T^{1}/_{2}$ over placebo 19 minutes) by lubiprostone ($p=0.08$) but no overall effect of senna was detected ($p>0.5$). No significant effects on colonic filling at 6 hrs were detected. Stool frequency increased overall with both lubiprostone and senna ($p=0.024$ and 0.004 respectively) and both doses for each agent differed from placebo. Bristol stool form scores increased overall ($p=0.015$ for senna and 0.008 for lubiprostone) with the once daily dose of lubiprostone and the twice daily dose of senna having the biggest effect.

Conclusion: Senna increased colonic transit; number of stools and stool form increased significantly with both agents, and the combination of the twice daily dose of senna and once daily dose of lubiprostone had the greatest impact. Overall, the data suggest that the main effect of both agents to alter bowel function may be related to intestinal secretion. There is no statistical evidence of synergism between the two therapeutic approaches. Supported by NIH DK70028.

Main Effects of Treatment (least square means + SEM)

	Placebo	Lubi 24	Lubi 48	Senna 8	Senna 16
GC24	3.32±0.23	3.32±0.21	3.47±0.24	3.11±0.21	3.96±0.24
Stool form	4.2±0.17	4.91±0.15	4.66±0.18	4.63±0.15	4.99±0.18
Stool #	1.33±0.09	1.64±0.08	1.65±0.09	1.58±1.42	1.75±0.09

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DEMOGRAPHIC AND PATHOLOGIC EVALUATION OF 2139 PATIENTS WITH SESSILE SERRATED ADENOMAS IN A ONE-YEAR PERIOD

R. H. Lash, MD, C. M. Schuler, MD, R. M. Genta, MD. Caris Diagnostics, Irving, TX.

Purpose: Sessile serrated adenomas (SSA) are increasingly recognized polyps that resemble large hyperplastic polyps of the colorectum. Previously thought to be innocuous, a subset of these lesions have been associated with histologic dysplasia/carcinoma. Uncertainty exists as to their behavior and treatment. This study characterizes a large sample of SSAs diagnosed in a consensus-based environment structured with the goal of consistency in diagnosis.

Methods: We analyzed diagnostic reports generated at Caris Diagnostics between 4/1/07 and 3/31/08 from 290,810 colonoscopic specimens on 179,111 patients. Data were extracted from a Microsoft Access Database using Structured Query Language and Visual Basic for Applications. Statistical calculations for uncorrected chi-square, Student's t, and the Mann-Whitney Rank Sum tests for non-parametric data were performed using SigmaStat v3.5; Proportions t tests were used as appropriate.

Results: SSAs with or without dysplasia/carcinoma (SSA+/-) were identified in 1.6% of the 133,808 patients with mucosal polyps. There were 2,416 specimens from 2,139 patients with at least one SSA+/-. An additional 3,555 specimens from 3,158 patients (not included in this SSA+/- study group) had polyp(s) with features considered suggestive but not diagnostic of SSA. The SSA+/- group consisted of 1,162 (54%) women and 977 (46%) men. The distribution of SSA+/- was: right-sided, 1,737 patients (81.2%); left-sided, 240 patients (11.2%); both right and left-sided, 70 patients (3.2%); not specified, 92 patients, (4.3%). There were 1,816 (85%) patients without dysplasia (SSA-), 257 (12%) with low-grade dysplasia (SSALD), 45 (2%) with high-grade dysplasia (SSAHD), and 21 (1%) with adenocarcinoma (SSACA). The median age of patients with SSA+/- was 62 years, and there were significant differences between most subgroups [SSA-=61 years vs. SSALD=66 years ($p<0.001$) vs. SSAHD=72 years ($p=0.002$) vs. SSACA=76 years ($p=0.07$, ns)]. Women comprised 53% of the SSA- group (968/1,816), 57% of the SSALD group (147/257), 69% of the SSAHD group (31/45), and 76% of the SSACA group (16/21). The predominance of women in each group was significant ($p<.001$ to $p=.002$). Also, women were significantly over-represented among patients with SSA+ (SSALD/SSAHD/SSACA) compared to patients with SSA- ($p=.034$).

Conclusion: SSAs occur in 1.6% of our patient population with colonic polyps, are found primarily in the right colon, and are associated with the development of dysplasia and carcinoma. This progression occurs significantly more frequently in women, and the significant age differences between groups suggest that this progression occurs in a stepwise fashion over a period of 15 years.

Disclosure - Dr. Schuler - Employee, Caris Diagnostics, Irving, Texas Dr. Lash - Stockholder, Employee, Caris Diagnostics, Irving, Texas Dr. Genta - Stockholder, Employee, Caris Diagnostics, Irving, Texas

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PROSPECTIVE DOUBLE BLIND COMPARISON OF COMPUTED VIRTUAL CHROMOENDOSCOPY AND CONFOCAL MICROSCOPY FOR DIAGNOSING COLORECTAL NEOPLASIA

2008 ACG/AstraZeneca Senior Fellow Abstract Award

A. M. Buchner, MD, PhD,[1] M. S. Ghabril, MD,[1] M. Krishna, MD,[2] H. Wolfsen, MD,[1] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL; 2. Pathology, Mayo Clinic, Jacksonville, FL.

Purpose: Computed virtual chromoendoscopy with the Fujinon Color enhancement system (FICE) has been recently shown to accurately differentiate between neoplastic and noneoplastic colorectal lesions based on Kudo pit pattern interpretation. In addition the recently introduced probe-based confocal microscopy system (CFM) may also allow immediate diagnosis of malignant colorectal lesions based on imaging epithelium in vivo with pit patterns characterization. It is not clear whether pit patterns visualized with the CFM are similar to those identified by the FICE system and whether these pit patterns may allow prediction of colorectal neoplasia. **The aims** of the study were to compare the accuracy of pit patterns interpretations for prediction of colorectal neoplasia using two novel image enhancement methods of the FICE and CFM systems and to assess the efficacy of the CFM system for diagnosing colorectal neoplasia during routine colonoscopy.

Methods: Thirty eight patients underwent colonoscopy using high resolution zoom colonoscopes with the EPC 4400 processor (Fujinon Inc.). Each lesion was evaluated in the FICE mode previously determined to offer the highest contrast between neoplastic and non-neoplastic tissue (Image mode "4").The surface pit pattern was determined using the Kudo classification with patterns 1 and 2 representing non-neoplastic lesions and patterns 3 to 5 representing neoplastic lesions. Representative confocal images (Cellvizio, Mauna Kea Tech, Paris) of all lesions with a prior administration of IV fluorescein were recorded and subsequently their pit, nuclear, and vascular patterns were analyzed offline, blinded to the polyp characteristics according. Histopathology of all lesions was confirmed by evaluation of resected specimens. McNemar's test was used to compare paired interpretations. The sensitivity and specificity of the CFM diagnosis with their respective 95% confidence intervals were reported.

Results: Thirty eight patients completed the study (19 men and 19 women, mean age 68). A total of 57 polyps (37 neoplastic, 20 hyperplastic) of an average size of 13 mm from 36 patients were evaluated. The FICE pit patterns were correctly assessed for prediction of neoplasia in 41 of 57 lesions (72%), whereas confocal pit patterns were correctly assessed for prediction of neoplasia in 51 of 57 lesions (90%) (p value of 0.021). The presence of neoplastic changes was predicted by the CFM system with sensitivity 81% (CI 68.9-93%) and specificity of 100%.

Conclusion: Confocal microscopy interpretation demonstrated higher accuracy in predicting colorectal neoplasia based on correct pit pattern interpretation. These newly discovered diagnostic methods may be of significant importance in clinical practice and lead to a diagnosis of neoplasia during ongoing colonoscopy.

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ENDOSCOPIC RESECTION OF LARGE COLORECTAL LESIONS IN THE UNITED STATES IN A REFERRAL CENTER IS A DOMINANT STRATEGY - LONG-TERM EFFICACY AND COST ANALYSIS RESULTS

T. Kaltenbach, MD, MS, K. Binmoeller, MD, V. Kalindindi, MD, R. Soetikno, MD, MS. Interventional Endoscopy Services, California Pacific Medical Center, San Francisco, CA.

Purpose: Long-term efficacy and cost data on endoscopic mucosal resection (EMR) of large nonpolypoid (flat and depressed) colorectal lesions is limited. The majority of such lesions are typically referred for surgery due a variety of reasons including: insufficient technical skills, high complication risk, increased utilization of endoscopy resources and time, and inadequate reimbursement.

Methods: We reviewed a 2 year period of existing data from consecutive patients who were referred to an urban tertiary interventional endoscopy center for endoscopic resection of a colon or rectal lesion. A standardized inject and cut mucosal resection technique was used. We analyzed eligible patient data, including the index, treatment and follow-up colonoscopy and pathology reports; as well as procedure cost data (collected by the hospital).

Results: We studied 141 patients: 118 were referred by gastroenterologists and 23 by surgeons. The majority (n=91, 65%) were men with a mean age of 67 ± 12 years. Slightly less than a half of the patients had Medicare or MediCal insurance. The mean lesion size was 28 ± 13mm (range 6 – 80 mm). The majority were flat (n=77, 55%) and located in the right colon (n=84, 60%). We successfully removed 81% (n=114) of lesions by EMR. We recommended surgery to 19% (n=27) of patients due to an invasive cancer pattern detected before EMR (n=9, 33%), large lesion size (n=6, 23%) or non-lifting sign (n=12, 44%). Advanced histopathology accounted for 48%, and serrated adenoma 11%. Of the 40% (46/114) EMR patients who have undergone follow-up, 80% had only scar and 20% had minor residual lesion (mean size= 4mm). There were no major complications. Hospital costs data are available from 100 patients. The total costs were $2,071: direct was $1,471 and indirect was $600. Most (89%) of the direct costs were incurred from utilization of supplies (44%), use of post-anesthesia care unit and endoscope charges. Pharmacy and pathology contributed insignificantly (2% each). Although only one snare was used in most cases, the snare costs were most significant (18%), followed by the costs of clips (10%). Overall, though total hospital revenue was greater than the cost.

Conclusion: Based on the hospital costs of a single center experience, the referral of large colorectal lesions for endoscopic evaluation and possible resection is a dominant strategy. The endoscopic procedure is safe, efficacious and has a lower cost compared to the published surgical literature cost. Equally important, the overall total hospital revenue was positive.

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MOLECULAR MARKERS OF RAPIDLY GROWING TUMORS: ANOTHER PIECE TO THE PUZZLE

2008 ACG/AstraZeneca Senior Fellow Abstract Award

M. A. Arain, MD,[1] S. Sheikh, MD,[1] B. Thaygarajan, MD,[3] J. Bond, MD,[2] A. Shaukat, MD[2]. 1. Gastroenterology, University of Minnesota, Minneapolis, MN; 2. Gastroenterology, VA Medical Center, Minneapolis, MN; 3. Pathology, University of Minnesota, Minneapolis, MN.

Purpose: Sporadic colorectal cancers developing after complete colonoscopy (interval cancers) are likely to be rapidly growing tumors, and comparison of these tumors with non-interval cancers offers a unique means to identify the genetic pathways responsible for rapid tumor growth. The aim of this study was to compare the CpG island methylator phenotype (CIMP) status of interval versus non-interval colorectal cancers in the Minneapolis VA population and to determine the relationship between CIMP, microsatellite instability (MSI) in interval and non-interval colon cancers.

Methods: We searched our institution's cancer registry for interval cancers, defined as colorectal cancers that developed within 5 years of a complete colonoscopy. These were frequency matched in a 1:2 ratio by age and sex to patients with non-interval cancers, defined as cancers diagnosed on a patient's first colonoscopy. Over a 17 year period, we identified 194 cancers that met the study criteria. MSI testing had been performed in 163 of these cancers in a previous study. Tumor DNA was extracted and tested for MSI and CIMP gene markers (MINT1, MINT2, MINT31, p16INK4, MGMT, hMLH1). CIMP was defined as methylation in 3 or more genes.

Results: Of the 1323 colorectal cancers diagnosed during the study period, 63 (4.7%) were identified as an interval cancer, and 131 subjects with non-interval cancer served as controls. Study subjects were almost all Caucasian men. Interval cancers were significantly more likely to be CIMP+ than non-interval cancers (56% vs. 31%, p=0.004), right-sided (63% vs. 39%, P=0.002), and consistent with our previous study more likely to have MSI than non-interval cancers (29% vs. 11%, P=0.004). In multivariable logistic regression model, proximal location of cancer (OR 1.85; 95% CI 1.01-3.8), MSI (OR 2.6; 95% 1.08-6.7) and CIMP+ (OR 2.41; 95% CI 1.1-4.9) were associated with interval cancers. The McNemar's test for discordance between MSI and CIMP was significant suggesting that MSI and CIMP were independently associated with interval cancers. There was no difference in 5 year survival between the two groups.

Conclusion: CIMP+ and MSI are more frequently present in interval cancers compared to non-interval cancers. MSI and CIMP+ are factors independently associated with interval cancers. CIMP+ adds information in addition to MSI in explaining rapid tumor growth and biology. Whether CIMP and MSI lead to rapid tumor growth, or occur in rapidly growing tumors after their development.

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LINACLOTIDE SIGNIFICANTLY IMPROVED ABDOMINAL PAIN, CONSTIPATION AND GLOBAL ASSESSMENTS IN ADULTS WITH IRRITABLE BOWEL SYNDROME WITH CONSTIPATION: RESULTS FROM A LARGE TWELVE-WEEK, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

J. M. Johnston, MD,[1] J. E. MacDougall, PhD,[1] B. J. Lavins, MD,[1] D. A. Fitch, MPH,[1] M. J. Baird, MPH,[1] C. B. Kurtz, PhD,[1] A. J. Lembo, MD,[2] M. G. Currie, PhD[1]. 1. Research and Development, Ironwood Pharmaceuticals, Cambridge, MA; 2. Division of Gastroenterology, Beth Israel Deaconess Medical Center, Boston, MA.

Purpose: Linaclotide, a first-in-class, minimally absorbed peptide agonist of human intestinal guanylate cyclase type-C receptors, is a novel treatment for irritable bowel syndrome with constipation (IBS-C). Linaclotide significantly relieved visceral hyperalgesia in several animal pain models and, in a large Phase 2 study in patients with chronic constipation, significantly im-

proved bowel function and abdominal symptoms. A Phase 2 study was conducted to evaluate the safety and efficacy of a range of linaclotide doses in adults with IBS-C.
Methods: This randomized, multicenter, double-blind, placebo-controlled, dose-range-finding, parallel-group study evaluated the effects of 75, 150, 300 or 600 μg linaclotide or placebo administered orally once daily to adults meeting modified Rome II criteria for IBS-C. Participants underwent 2-week-baseline, 12-week-treatment, and 2-week-post-treatment evaluations with daily assessments of bowel habits and symptom severity, and weekly global assessments using an interactive voice response system. During the baseline period patients had to demonstrate <3 complete spontaneous bowel movements (CSBM)/week and mean daily abdominal pain of at least mild severity. Treatment effects in the intent-to-treat (ITT) population were estimated using an analysis of covariance and the Cochran-Mantel Haenszel test.
Results: Of the 420 patients randomized, 419 were in the ITT population and 337 completed the study. Abdominal pain was clinically and statistically significantly improved in all linaclotide treatment groups compared to placebo and, in the 26% of patients with severe/very severe baseline abdominal pain, improvement was even more pronounced (see table). The change from baseline vs placebo for CSBM frequency (primary endpoint) was significant at all linaclotide dose levels. Results for other abdominal symptoms and bowel habits, and for 3 global assessments (binary adequate relief, 7-point balanced degree of relief, and 5-point IBS symptom severity) were highly statistically significant for the 300 μg and 600 μg dose groups. Treatment effects of linaclotide were rapid in onset (within the first week of treatment) and were maintained throughout the entire 12-week treatment period; there was no indication of rebound clinical effects following cessation of treatment. The most common adverse event was diarrhea; however, there were no associated dehydration or electrolyte abnormalities and discontinuations for diarrhea were infrequent (see table).
Conclusion: Once daily oral linaclotide across a wide dose range improved all measured bowel habits, abdominal symptoms and global assessments in patients with IBS-C with a safety and tolerability profile that supports advancing this novel compound into Phase 3 clinical trials.

Assessment Parameter	Baseline*	Placebo	75 μg	150 μg	300 μg	600 μg
		LS-mean Change from Baseline (p-value)				
Relief of Abdominal Pain (5-point severity scale)	3.0	-0.5	-0.7 (0.0239)	-0.7 (0.0229)	-0.9 (<0.0001)	-0.9 (0.0001)
Relief of Severe Abdominal Pain (Baseline "severe" or "very severe" ≥7 of 14 days)	3.9	-0.2	-0.8 (0.0236)	-1.0 (0.0018)	-1.2 (0.0002)	-1.3 (<0.0001)
CSBM/week (Primary endpoint)	0.3	1.0	2.9 (0.0002)	2.5 (0.0036)	3.6 (<0.0001)	2.7 (0.0008)
Relief of Bloating (5-point severity scale)	3.4	-0.4	-0.6 (0.0229)	-0.6 (0.0592)	-0.9 (<0.0001)	-0.8 (0.0008)
Relief of Straining (5-point severity scale)	3.5	-0.7	-1.2 (<0.0001)	-1.2 (<0.0001)	-1.5 (<0.0001)	-1.4 (<0.0001)
		Percent Patients with Parameter (p-value)				
50% Adequate Relief ("Yes" ≥6 of 12 weeks)	NA	31%	52% (0.0084)	53% (0.0040)	70% (<0.0001)	63% (<0.0001)
		Number (Percent) Patients with Parameter				
AE of Diarrhea	NA	1 (1.2%)	9 (11.4%)	10 (12.2%)	14 (16.5%)	16 (18.0%)
Discontinution Due to AE of Diarrhea	NA	0	2 (2.5%)	4 (4.9%)	1 (1.2%)	6 (6.7%)

***Baseline mean for all patients in the ITT Population**
Disclosure - Johnston, MacDougall, Lavins, Fitch, Baird, Kurtz, Currie - Employees, Ironwood Lembo - Consultant and Investigator, Ironwood
This research was supported by an industry grant from Ironwood Pharmaceuticals

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DEVELOPMENT OF A DIAGNOSTIC TEST FOR IRRITABLE BOWEL SYNDROME
A. Lois, PhD, D. Wang, PhD, D. Barken, PhD, L. Eggleston, BS, J. Tolley, BA, S. Carroll, PhD, B. Neri, PhD. Science and Technology, Prometheus Laboratories, San Diego, CA.
Purpose: Irritable bowel syndrome (IBS) affects approximately 15% of the United States (US) population. In the absence of biomarkers or a laboratory test, IBS is currently diagnosed according to the Rome criteria or by rule-out of diseases that have similar clinical presentation. Our aim was to identify potential IBS biomarkers in blood with the ultimate purpose of developing a blood-based IBS diagnostic test that can differentiate between IBS and non-IBS blood samples.
Methods: Potential IBS biomarkers were identified using a computerized analysis of the medical literature. Approximately 600 pathways, each containing 100-200 potential IBS biomarkers, were reviewed. 250 serum-based markers appeared to be important across multiple pathways implicated in IBS. The serum levels of the majority of these biomarkers were then measured using available assays in a cohort of IBS patient samples (diagnosed by Rome criteria) and control samples. Sixteen biomarkers showed sufficient altered expression to be measured in a sample cohort of 1721 patients with IBS, celiac disease, inflammatory bowel disease (IBD), functional–constipation, functional-diarrhea, and functional-dyspepsia, or healthy individuals. The expression levels of these 16 biomarkers were then analyzed using sophisticated pattern recognition software.
Results: The analysis of the expression levels of the 16 biomarkers revealed that the optimal IBS prediction was achieved with a final set of 10 biomarkers that included interleukin1β, TNF-like weak inducer of apoptosis, anti-CBir1 antibody, tissue inhibitor of metalloproteinase 1, growth-related oncogene α, anti-Saccharomyces cerevisiae antibody, neutrophil gelatinase-associated lipocalin, brain derived neurotrophic factor, anti-neutrophil cytoplasmic antibody, and anti-tissue transglutaminase. A final panel of 10 biomarkers was then validated in a set of 516 non-overlapping samples (validation cohort). The accuracy parameters for the test calculated from the validation cohort of 516 samples are the following: sensitivity, 50%; specificity, 88%; positive predictive value 81%; negative predictive value, 64%; overall accuracy, 70%.
Conclusion: These findings suggest that there are measurable differences in biomarker patterns between IBS and non-IBS patients. These differences in expression of the biomarkers led to the development of the IBS Diagnostic test. Continuing studies will likely lead to improvements in the performance of future generations of the test.
Disclosure - Augusto Lois Ph.D., Derrick Wang Ph.D., Derren Barken Ph.D. Leonard Eggleston1, Jim Tolley, Susan Carroll Ph.D. and Bruce Neri Ph.D. All employees of Promehteus Laboratories

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EVALUATION OF THE EFFICACY OF AMITRIPTYLINE IN CHILDREN WITH ABDOMINAL PAIN OF NON-ORGANIC ORIGIN
2008 ACG Governors Award Recipient for Excellence in Clinical Research
M. Saps, MD,[1] N. Youssef, MD,[2] A. Miranda, MD,[3] S. Nurko, MD,[4] J. Cocjin, MD,[5] C. Di Lorenzo, MD[6]. 1. Division of Pediatric Gastroenterology, Hepatology and Nutrition, Chicldren's Memorial Hospital, Chicago, IL; 2. Center for Pediatric Irritable Bowel & Motility Disorders, Goryeb Children's Hospital at Atlantic Health, Morristown, NJ; 3. Division of Pediatric Gastroenterology, Hepatology and Nutrition, Medical College of Milwaukee, Milwaukee, WI; 4. Center for Motility and Functional Gastrointestinal Disorders, Children's Hospital Boston, Boston, MA; 5. Children's Mercy Hospital, Kansas City, MO; 6. Division of Gastroenterology, Nationwide Children's Hospital, Columbus, OH.
Purpose: Functional Abdominal pain (FAP) is common in children. Treatment is mostly empirical and not evidence based. Antidepressants are commonly used to treat FAP. To date there has been no prospective, multicenter double blind placebo (PL) controlled randomized trial in the treatment of FAP in children. Aim is to evaluate the effect of amitriptyline (AM) in children with FAP.
Methods: Children from six tertiary care centers diagnosed with FAP (Rome II criteria) were randomized to 4 wks PL or low dose AM 10 mg/d in patients <35 kg or 20 mg/d >35 kg. Comprehensive evaluation of GI symptoms, psychological traits and ability to perform daily activities was conducted before and after intervention. Pain was assessed by daily diaries (visual analogue scale 1-100 mm). Primary outcome was overall response to treatment (child's assessment of pain relief and sense of improvement). Secondary outcomes included effect on psychosocial traits and ability to perform daily activity.
Results: 90 children (mean 12.7, range 8-17 y) were enrolled, 83 completed the study (placebo: 40, 30 females; drug: 43, 35 females). 3 children (2 PL, 1 AM) discontinued for mild adverse events (fatigue, constipation, rash). Patients reported feeling better 63%, worse 5% in AM arm and feeling better 58%, worse 3% in PL arm (p=0.85). Number needed to treat=19. Absolute risk reduction=5.3%. Pain relief was considered excellent (7%), good (39%) in children receiving AM and excellent (15%), good (35%) in PL (p=0.85). Logistic regression analysis of patients reporting response to drug as excellent or good compared with those reporting fair, poor or failed showed no difference between AM and PL (p=0.83). Correlation between overall assessment of pain at end of study and daily assessment of pain by daily diaries was moderate (r=0.45, p<0.0001). Worse outcome was associated with baseline: 1) pain >60 mm in both groups (p=0.0065), 2) higher depression scores (p<0.0001). Age and gender had no effect on outcome.
Conclusion: There was >50% improvement in abdominal pain in children receiving AM. There was no significant difference compared to placebo after 4 weeks of treatment. Patients with mild to moderate intensity of pain responded better to therapy. Those who had higher depression scores at baseline correlated negatively with sense of improvement.
This research was supported by an industry grant from ACG Clinical Research Award

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A PROSPECTIVE SCHOOL STUDY ON THE EPIDEMIOLOGY OF FUNCTIONAL GASTROINTESTINAL DISORDERS IN CHILDREN
M. Saps, MD,[1] R. Seshadri, PhD,[2] M. Sztainberg, PhD,[3] G. Schaffer, PsyD,[4] B. Marshall, BA,[1] C. Di Lorenzo, MD[5]. 1. Gastroenterology, Hepatology and Nutrition, Children's Memorial Hospital, Chicago, IL; 2. Department of Pediatrics and Preventive Medicine, Northwestern University's Feinberg School of Medicine, Chicago, IL; 3. Department of Computer Science, Northeastern Illinois University, Chicago, IL; 4. Northern Illinois Psychological Services, Northbrook, IL; 5. Division of Pediatric Gastroenterology, Nationwide Children's Hospital, Columbus, OH.
Purpose: Functional abdominal pain in children is common and is associated with psychosocial dysfunction and decreased quality of life. To determine the prevalence of pediatric abdominal pain and its impact on psychological wellbeing and school absences.
Methods: Prospective cohort study (12/2005-06/2006). Gastrointestinal and other symptoms were assessed weekly with validated self-report questionnaires. Anxiety, depression, functional disability, quality of life, somatization, coping, school absenteeism and medical care use were also assessed. Two public schools. All 3rd-8th grade (495) children were invited to participate. 237 students (48%) (11.8 years, 134 girls) entered the study. An average of 209 children responded weekly. All participants completed the study. Complete data were obtained on 4,606 (89%) out of 5,175 possible questionnaires.
Results: An average of 72% of children reported > 1 somatic symptom and 45% > 1 gastrointestinal symptom each week. Headache was the most common complaint at 42%. Weekly prevalence of abdominal pain was 38% and 90% of children reported abdominal pain at least once. Abdominal pain persisted for > 4 consecutive weeks in 52% of all children and was associated with higher anxiety ($p < 0.001$) and depression ($p < 0.001$) scores, and worse quality of life ($p < 0.001$). Twenty-eight percent of children missed school for abdominal pain (average 2.3 days) and 10% of parents with children who reported abdominal pain missed work (average 1.9 days). Presence of abdominal pain ($p<0.001$) was independently associated with school absences. Psychological and demographic variables were not associated with absences. Four children (2%) sought medical attention and one underwent testing because of abdominal pain.
Conclusion: Abdominal pain is common in school age children and is associated with worse quality of life, psychological co-morbidities, school absenteeism and parental work absences.
This research was supported by an industry grant from American College of Gastroenterology Clinical Research Award

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THE EFFECTS OF HIGH DEFINITION (HD), ELECTRONIC MAGNIFICATION (EM), WHITE LIGHT (WL) AND NARROW BAND IMAGING (NBI) ON THE DETECTION OF ADENOMATOUS, HYPERPLASTIC AND NON-NEOPLASTIC POLYPS AT SCREENING COLONOSCOPY

F. C. Ramirez, MD, FACG. Carl T. Hayden VA Medical Center, Phoenix, AZ.

Purpose: The role of newly introduced and available optical technologies upon polyp detection at colonoscopy is controversial. Aim: To determine and compare the detection rate of tubular adenomas (TA), hyperplastic (HP), and non-neoplastic (NN) polyps during screening colonoscopy.

Methods: Patients undergoing screening colonoscopy using either of the following optical technology combinations upon withdrawal of the scope were included: White light with high definition and electronic magnification (WL/HD+/EM+); White light with high definition but without electronic magnification (WL/HD+/EM-) White light without high definition and without electronic magnification (WL/HD-/EM-) or, Narrow band imaging with high definition and with electronic magnification (NBI/HD+/EM+) EM was set at 1.5 X For the HD with/without EM studies the Olympus 180H series scopes were used; for the non-HD studies, the Olympus PCF- and CFQ-180 scopes were utilized. All polyps seen during colonoscopy were removed. Histology was used as the final diagnosis for the polyps removed. Non-neoplastic polyps were defined as: normal mucosa, prominent lymphoid aggregates or hyperplastic mucosa on histopathological evaluation. Setting: Endoscopy unit at a VAMC. Statistical analysis: Proportional data was compared using the Chi-square test. A $p < 0.05$ was considered statistically significant.

Results: A total of 600 patients underwent screening colonoscopy: 400 used WL with (291) or without (109) HD; 200 used NBI with HD. The results of the polyp detection are summarized in the Table. There were no statistically significant differences in the detection rates of TAs, HP and NN polyps among the different optical techniques used.

Conclusion: 1. The detection rates for adenomatous, hyperplastic and non-neoplastic polyps were not affected by the different optical technologies evaluated. 2. This data supports our previous work suggesting that the detection of missed pathology (at tandem colonoscopy) is independent of the endoscope optics used.

Detection rate for tubular adenomas, hyperplastic and non-neoplastic polyps

	WL/HD+/EM+	WL/HD+/EM-	WL/HD-/EM-	NBI/HD+/EM+
TA	183/363: 50.4%	68/132: 51.5%	61/149: 40.9%	127/241: 52.7%
HP	125/363: 34.4%	47/132: 35.6%	65/149: 43.6%	78/241: 32.4%
NN	55/363: 15.2%	17/132: 12.9%	23/149: 15.4%	36/241: 14.9%

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THE THIRD EYE RETROSCOPE IMPROVES DETECTION OF POLYPS DURING COLONOSCOPY - A PROSPECTIVE EFFICACY EVALUATION

D. K. Rex, MD,[1] R. I. Heigh, MD,[2] D. E. Fleischer, MD,[2] L. B. Aldrich, MD,[3] J. Li, MD,[4] S. Ramrakhiani, MD,[4] D. S. Early, MD,[5] R. S. Bresalier, MD,[6] W. R. Kessler, MD,[1] J. D. Waye, MD[7]. 1. Gastroenterology and Hepatology, Indiana University Medical Center, Indianapolis, IN; 2. Gastroenterology and Hepatology, Mayo Clinic Arizona, Scottsdale, AZ; 3. Gastroenterology, University of Michigan, Ann Arbor, MI; 4. Gastroenterology, Camino Medical Group and El Camino Hospital, Mountain View, CA; 5. Gastroenterology, Washington University, St. Louis, MO; 6. Gastroenterology, Hepatology and Nutrition, M.D. Anderson Cancer Center, Houston, TX; 7. Gastroenterology, Mount Sinai Medical Center, New York, NY.

Purpose: Colonoscopy is currently considered the "gold standard" for colorectal cancer screening. However, lesions may be missed, especially on the proximal aspect of haustral folds and flexures or behind the ileocecal valve. The Third Eye™ Retroscope™ (TER) provides a retrograde view that complements the forward view of a standard colonoscope. We present initial results based on the first 214 subjects enrolled in a prospective study to evaluate efficacy of the device for detecting polyps that are missed during colonoscopy.

Methods: This multi-center study involves 14 experienced endoscopists at eight U.S. sites. Investigators have examined 214 patients (age 55-80) during screening or surveillance colonoscopy using a Third Eye Retroscope (Avantis Medical Systems, Inc., Sunnyvale, CA) in combination with a standard colonoscope (CF-Q160AL, CF-Q180AL or CF-H180AL - Olympus America Inc.). After cecal intubation, the disposable TER is inserted through the instrument channel of the colonoscope. As it emerges from the channel, the distal tip of the device turns 180° to provide a retrograde view. During withdrawal, the two video images are observed side-by-side on a wide-screen monitor. For each polyp, the endoscopist indicates whether it is visible through the colonoscope or is detected with the colonoscope only because it was first detected with the TER.

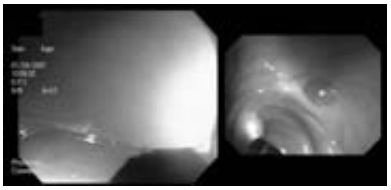
Results: In these initial 214 subjects, 203 polyps were identified with the standard colonoscope. With the TER, 27 additional polyps were detected, a 13.3% increase ($p < .0001$). With the colonoscope, 105 adenomas were found, and with the TER, 13 more adenomas were detected, a 12.4% increase ($p < .0001$). Mean size of lesions detected with the TER was similar to mean size of lesions found with the colonoscope (see table). In 21 individuals (9.8%), at least one additional polyp was found, and in 7 patients (3%), the polyp detected with the TER was the only one found. Every polyp that was initially detected with the TER was then located and removed with the colonoscope.

Conclusion: Initial results of this prospective multi-center study indicate that a retrograde-viewing device revealed areas that are hidden from the forward-viewing colonoscope and allowed detection of 13.3% additional polyps, including 12.4% additional adenomas.

Additional Lesions Detected with the Third Eye Retroscope

	Standard Colonoscope	Third Eye Retroscope	% Increase
Total Polyps	203 (MS=0.42cm*)	27 (MS=0.42cm)	13.3% (p<.0001)
Adenomas	105 (MS=0.46cm)	13 (MS=0.50cm)	12.4% (p<.0001)

(*MS=Mean Size)



A split-screen monitor displays the colonoscope's video image on the left and the Third Eye's image on the right. The Third Eye image reveals a 0.3 cm adenoma on the proximal aspect of a haustral fold.

Disclosure - Dr. Rex is a member of the Scientific Advisory Board of Avantis Medical Systems, has received research support and is a stockholder in the company. All other authors report no relevant financial relationship with Avantis Medical Systems other than support for this current research.

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LESS RESPIRATORY DEPRESSION WITH PATIENT VERSUS ANESTHESIOLOGIST CONTROLLED SEDATION: A PROSPECTIVE, RANDOMIZED, CONTROLLED TRIAL IN PATIENTS UNDERGOING ELECTIVE COLONOSCOPY USING PROPOFOL-REMIFENTANIL

J. E. Mandel, MD, MS,[1] G. R. Lichtenstein, MD,[2] D. A. Metz, MD,[2] G. G. Ginsberg, MD,[2] M. L. Kochman, MD[2]. 1. Anesthesiology, University of Pennsylvania School of Medicine, Philadelphia, PA; 2. Division of Gastroenterology, University of Pennsylvania School of Medicine, Philadelphia, PA.

Purpose: Patient controlled sedation (PCS) with propofol-remifentanil (PR) has demonstrated advantages in facility efficiency, but is associated with significant respiratory depression when compared to fentanyl-midazolam (1). We hypothesized that PCS would yield a lower rate of respiratory depression than anesthesiologist administered sedation (AAS) with PR.

Methods: With IRB approval, 14 COY patients were randomized to PCS or AAS using PR. The initial sedation in all patients was performed to permit identification of patient sensitivity using software that derived real-time predictions of depth of sedation (2). Following initial sedation, PCS patients controlled sedation with a Graseby 3300 PCA pump; AAS patients were managed by an anesthesiologist controlling the Graseby pump to track predicted depth of sedation. All patients breathed 100% oxygen through a tight-fitting mask connected to a Mapleson circuit with a pneumotachygraph. The anesthesiologist was required to intervene with positive pressure ventilation for O2 saturation < 90% for 30 sec. Breath period was derived from pneumotachygraph data and compared by the 2 sample Kolmogorov-Smirnov test.

Results: All procedures were completed satisfactorily; all patients recovered without sequelae. Intervention was required in 2 patients in AAS for nadirs of O2 saturation of 88%, but in no patients in PCS; O2 saturation was 100% at all times. Two patients in AAS experienced breath holds of greater than 10 minutes; in PCS, the longest breath hold was 2.9 minutes. Cardiogenic oscillations were present during all apneas, suggesting apneic oxygenation was maintaining oxygenation. Analysis of breath period indicated a greater number of prolonged breath holds (> 30 sec with no inspiration) in AAS, as shown in Table 1.

Conclusion: Sedation with PR for COY is associated with a lower rate of significant respiratory depression with PCS than with AAS. References: 1 Mandel JE, Tanner JW, Lichtenstein GR, Metz DC, Katzka DA, et al. A randomized, controlled, double-blind trial of patient-controlled sedation with propofol/remifentanil versus midazolam/fentanyl for colonoscopy. Anesth Analg. 2008;106:434-9 2 Mandel, J.E.: A method for producing predictable transitions in response probability for mixed-effect models of propfol/remifentanil using single-syringe infusion. Society for Technology in Anesthesia Ann Proc Jan 2008.

Table 1

	PCS	AAS
Breaths (#)	1545	794
Total time (min)	138.3	156.7
Breath holds (#)	5	30*
Median breath hold (sec)	44	58*

*** p<0.0001**

Disclosure - Dr. Mandel - Speaker's Bureau, Abbott Laboratories

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CAPNOGRAPHY PREVENTS HYPOXEMIA DURING ELECTIVE ERCP AND EUS: A RANDOMIZED CONTROLLED TRIAL

M. A. Qadeer, MD, MPH,[1] J. J. Vargo, MD, MPH,[1] J. A. Dumot, DO,[1] T. Stevens, MD,[1] M. A. Parsi, MD,[1] M. Sanaka, MD,[1] S. Jang, MD,[1] R. Lopez, MS, MPH,[2] G. Zuccaro, MD[1]. 1. Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH; 2. Quantitative Health Sciences, Cleveland Clinic, Cleveland, OH.

Purpose: Whether capnographic monitoring of respiratory activity improves outcomes during adult endoscopy is not known. Since hard outcomes such as respiratory intubation and death are extremely rare, we chose the surrogate outcome of hypoxemia, which has been linked to several adverse events as our outcome measure, and performed a randomized controlled trial to assess the efficacy of capnographic monitoring for reducing hypoxemia during ERCP and EUS.

Methods: Subjects undergoing elective ERCP and EUS receiving sedation with an opioid / midazolam were randomized to capnographic blinded arm (standard of care) and titration arm. In the blinded arm, the endoscopy team was aware of capnographic abnormalities after 30 sec-

onds of apnea, while in the titration arm, they were aware as the abnormalities arose. Intervention was in the form of patient stimulation, withholding medications, and oxygen supplementation if hypoxemia developed. Hypoxemia was defined as oxygen saturation of <90% for 15 seconds. The primary study aim was to assess the proportion of patients developing hypoxemia in the two arms. Secondary aims were to assess the proportion of patients developing severe hypoxemia (oxygen saturation of 85%), apnea (absence of respiratory activity for ÔÇ≥15 seconds), hypoventilation (abnormal respiratory activity), and oxygen requirement (none of the patients received oxygen at the start of the procedure). Estimating that hypoxemia reduction from 40% to 20% would be clinically relevant, we calculated that a sample size of 263 patients would be needed with a power of 90% and alpha of 0.05.
Results: 247 subjects were analyzed (Blinded 123, Titration 124, Excluded after enrollment 16). There were no significant differences between the two groups with regards to baseline or procedural characteristics. The proportions of patients in the blinded vs. titration arms were as follows: Hypoxemia, 71% vs. 48% (p<0.001); severe hypoxemia, 31% vs. 15% (p=0.004); Apnea, 67% vs. 44% (p<0.001); Hypoventilation, 82% vs. 77% (p=0.29); Oxygen use, 67% vs. 52% (p=0.02). Multivariable analysis: Predictors of hypoxemia – capnographic blinded arm OR 3.1 {95% CI 1.7 – 5.5}; age 1.3 {1.3 – 1.4}; female gender 2.0 {1.09 – 3.6}. Predictors of apnea – blinded capnography 2.4{1.4-4.2}; BMI (1 unit increase) 0.95 {0.91-1.00}; baseline oxygen saturation (1 unit increase) 0.87 {0.76-1.00}; and non-use of narcotics prior to procedure 2.6 {1.4-4.8}.
Conclusion: Capnographic monitoring of respiratory activity significantly reduces the proportion of subjects with hypoxemia, severe hypoxemia, apnea and oxygen requirements during ERCP and EUS.

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SAFE AND RAPID INTUBATION OF THE DISTAL SMALL BOWEL USING THE DISCOVERY SB™ OVERTUBE DEVICE DURING SMALL BOWEL ENTEROSCOPY: RESULTS OF THE SPIRAL ENTEROSCOPY TRAINING INITIATIVE
J. M. Buscaglia, MD,[1] K. B. Dunbar, MD,[1] P. I. Okolo, MD, MPH,[1] J. Judah, MD,[3] J. Pangtay, MD,[2] P. V. Draganov, MD[3]. 1. Medicine—Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, MD; 2. Medicine and Surgery, Clinica De Diagnosticos Pangtay, Tampico, Mexico; 3. Medicine—Gastroenterology, University of Florida School of Medicine, Gainesville, FL.
Purpose: Indications for small bowel (SB) enteroscopy are increasing, but advancing the endoscope to distal small intestine remains challenging. The Discovery SB™ device (Spirus Medical, Stoughton, MA), a novel spiral-shaped overtube FDA-approved for SB enteroscopy, may allow for simple & quick intubation of the ileum comparable to current methods. Aim: to evaluate ease-of-use, safety, and efficacy of Discovery SB™ during SB enteroscopy.
Methods: 33 endoscopists without prior Discovery SB™ experience from 19 academic centers & 2 instructors performed SB enteroscopy in human patients as clinically indicated during 1 of 4, 2-day training modules. All procedures performed w/o endotracheal intubation. Data were collected prospectively. Patient demographics, indication, depth and time to maximal insertion, total procedure time & findings were recorded. Any trauma was documented during scope withdrawal and scored 0-5 (0=no trauma,1=edema/erythema,2=superficial hematoma/erosion,3=superficial laceration,4=deep laceration,5=perforation). Overall means were calculated; Day 1 and Day 2 results were compared. Data were analyzed using 2-tailed t-test, or rank-sum test for non-normally distributed data.
Results: 90 procedures were successfully performed in 95 patients (72.6% women, mean age=48.8±14.2yrs). Most common indication was chronic abdominal pain. Mean BMI was 28.4±17.2 with median Mallampati (M)—airway assessment—score=2 (range=1-4). Endoscopists performed a mean of 5 cases. Mean time required for device to engage SB was 10±5.5min, with mean time to maximal scope insertion of 20.9±6.4min. Mean depth achieved was 262±57.4cm beyond ligament of Treitz. Total procedure time was 33.6±8.0min. In 83.9%, 89.3% & 78.5% of patients, trauma score≤2 was recorded in esophagus, stomach & intestine, respectively. There were no perforations. Trauma score>2 was documented in 3/5 of patients with M-score=4, vs. 4/28 with M-score=1 (p=0.075). No statistically significant associations between trauma score and the following: age, BMI, time to SB engagement, depth of insertion, time to maximal insertion, total procedure time, or Day 1 vs. Day 2 procedures. Depth of insertion was significantly greater among endoscopists on Day 2 vs. Day 1 (276.9±53.7 vs. 252±58cm, respectively; p=0.043). In 88.9% of cases, endoscopists rated the quality of withdrawal and position/control in the intestine ≥4 (scale of 1-5; 5=excellent, 1=poorest).
Conclusion: The Discovery SB™ allows for safe & easy advancement of the enteroscope into the distal small bowel. Maximum depth of insertion utilizing spiral enteroscopy is comparable to balloon enteroscopy while taking less time. The device is easy to use and provides deep penetration of the small intestine in as few as 5 training cases.
Disclosure - Dr. Pangtay-Consultant: Spirus Medical, Inc. Dr. Buscaglia-no relevant relationships Dr. Dunbar-no relevant relationships Dr. Okolo-no relevant relationships Dr. Judah-no relevant relationships Dr. Draganov-no relevant relationships

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MANAGEMENT OF POST- ERCP PERFORATION: EXPERIENCE FROM OVER 4100 ERCPS
D. Mukkai Krishnamurty, MBBS,[1] S. Kapoor, MBBS, MPH,[1] P. I. Okolo, MBBS, MPH,[1] F. Eckhauser, MD,[2] A. N. Kalloo, MBBS,[1] S. Jagannath, MD[1]. 1. Medicine - Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, MD; 2. Surgery, Johns Hopkins University School of Medicine, Baltimore, MD.
Purpose: BACKGROUND: The patient and clinical factors which influence the clinical course in patients who suffer an ERCP related perforation are poorly characterized. AIM: To identify patient and clinical factors that affect outcome in patients who suffer an ERCP-related perforation.
Methods: The study was approved by our institutional IRB. All cases of ERCP related perforation that occurred at our institution between 2000 and 2008 were identified from the ERCP database. Patient and clinical factors that affected outcome were analyzed. Variables defining poor outcome were (1) length of stay (LOS) exceeding 2 weeks (2) operative intervention (defined as having a percutaneous or surgical procedure).
Results: 47 of the 4109 (1.1%) ERCPs were complicated by a perforation. The mean length of hospitalization was 16 days (range 1-81 days), with 40.4% of the perforations being detected within 24 hours of procedure. The management strategy for these patients was stratified based on the decision within the first 24 hours of the perforation. 40 out of the 47 patients were managed nonoperatively while 7 patients were managed operatively. Patients who underwent initial operative management had a longer mean length of stay (22.9 days) than patients who were managed non-operatively (15 days, P=NS). Of the 40 patients initially managed nonoperatively, only 7 required operative intervention. The LOS was longer (30 days vs. 10 days, P=0.04) in those patients who failed initially nonoperative management. Factors associated with failure of the initial nonoperative management strategy and factors associated with increased LOS are shown in Tables 1 and 2, respectively.
Conclusion: CONCLUSION The incidence of ERCP related perforation in our institution is 1.1%. Successful conservative management was possible in most patients (33/47, 70.2%) with post ERCP perforation. Concerning features associated with poor outcome were presence of systemic signs (fever/ leukocytosis), symptoms (local abdominal tenderness), retroperitoneal fluid or intra-abdominal abscess on CT scan, and a delay in detection (> 24 hours after the procedure). The presence of these concerning features may for the basis of a future clinical algorithm that would appropriately triage patients to operative versus non-operative management strategies for ERCP-related perforation.

Table1: Factors Associated with Failure of Initial Nonoperative Management

Factor	P Value
Fever at detection	0.075
Leukocytosis> 11000/mm3at detection	0.10
Retroperitoneal fluid on CT at detection	0.009
Abscess on CT at detection	0.059
No endoprosthesis at initial ERCP	0.09

Table2: Factors Associated with LOS >2 weeks

Factor	P value
Delayed detection(> 24 hrs)	0.041
Fever at detection of perforation	0.009
Abdominal tenderness	0.032
Leukocytosis >11000 /mm3	0.005
Retroperitoneal fluid on CT at detection	0.003

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OMEPRAZOLE CAN PREVENT THE GASTRODUODENAL MUCOSAL INJURY ASSOCIATED WITH COMBINED USE OF CLOPIDOGREL AND ASPIRIN
B. Cryer, MD,[1] P. Lapuerta, MD,[2] J. Jermano, RN, MPH,[2] F. L. Lanza, MD,[3] P. Miner, MD,[4] H. Schwartz, MD,[5] D. L. Azarnoff, MD,[6] M. Goldsmith, MD[2]. 1. Internal Medicine - Digestive and Liver Diseases, Southwestern Medical School, Dallas, TX; 2. Cogentus Pharmaceuticals, Menlo Park, CA; 3. Gastroenterology, Baylor College of Medicine, Houston, TX; 4. Oklahoma Foundation for Digestive Research, Oklahoma City, OK; 5. Miami Research Associates, Miami, FL; 6. D.L. Azarnoff Associates LLC, Burlingame, CA.
Purpose: To compare the frequency and severity of gastroduodenal injury in subjects receiving clopidogrel (C) and aspirin (A), with or without concurrent omeprazole (O).
Methods: This study in healthy volunteers examined the gastroduodenal effects of C 75 mg and A 325 mg, taken daily with or without O for 14 days. Subjects (n=174) were randomized 1:1:1:1 to either C+A alone or C+A with 10 mg O, 20 mg O, or 40 mg O. The primary endpoint was the proportion of subjects with erosions or ulcers (Lanza mucosal injury score of 3 or 4) based on blinded endoscopy assessment.
Results: The mean age was 49 years and 39% were male. End-of-study endoscopy was conducted and evaluable in 171 subjects. O was highly effective in preventing mucosal injury, and 20 mg O showed 84% relative risk reduction in the primary endpoint compared to C+A alone (p<0.0001). The rate of gastrointestinal (GI) adverse events was lower on O than on C+A alone (p=0.001). No serious adverse events were reported.
Conclusion: Almost half of subjects receiving clopidogrel plus aspirin without omeprazole had significant short-term gastroduodenal mucosal injury. The addition of omeprazole can reduce the risk of mucosal injury and may improve the tolerability of the combined use of clopidogrel and aspirin.

Parameter	C+A Alone (n=42)	C+A with 10 mg O (n=43)	C+A with 20 mg O (n=42)	C+A with 40 mg O (n=44)
Lanza Score 3 or 4 (%)	45.2%	27.9%	7.1%	11.4%
P-value for Lanza Score 3 or 4 (compared to C+A Alone)	-	0.1	<0.0001	<0.001
Number of gastroduodenal ulcers	3	1	0	0
Rate of GI Adverse Events	47.7%	23.2%	23.2%	18.2%

Disclosure - Dr. Cryer - Consultant: Cogentus Pharmaceuticals Dr. Lapuerta - Employee: Cogentus Pharmaceuticals Dr. Jermano - Employee: Cogentus Pharmaceuticals Dr. Lanza: Grant/Research Support, Cogentus Pharmaceuticals Dr. Miner: Grant/Research Support, Cogentus Pharmacueticals Dr. Schwartz: Grant/Research Support, Cogentus Pharmaceuticals Dr. Azarnoff: Consultant, Cogentus Pharmaceuticals Dr. Goldsmith: Employee, Cogentus Pharmaceuticals
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NATIONAL SURVEY OF PHYSICIAN'S PERCEPTION ON THE CAUSE, COMPLICATION, AND MANAGEMENT OF GASTROPARESIS

2008 ACG/AstraZeneca Senior Fellow Abstract Award

L. C. Briley, MD, S. P. Harrell, MsPH, MD, J. M. Wo, MD. Division of Gastroenterology/Hepatology, University of Louisville, Louisville, KY.

Purpose: Manifestation of gastroparesis is very heterogeneous, and clinical complications are poorly defined. Misconception of gastroparesis among physicians may be common. **Aims of Study**: To determine physician's perception of gastroparesis and to identify areas that need further research and education.

Methods: A physician survey was prospectively developed and tested for validity and clarity. The 24-item survey included questions on the etiology, symptoms, management, and perceived complications of gastroparesis. Physician's feedback included rated responses by Likert scale (1-5) and ranked responses by priority. Surveys were returned by prepaid self-addressed envelope or fax. 3,161 surveys were mailed to internal medicine (IM), family practice (FP) and gastrointestinal (GI) physicians in each state using an online physician directory (alphabetically and proportional to state population). Another 497 surveys were sent to local physicians from a local directory. ANOVA and t-test with SPSS were utilized.

Results: 397 surveys were returned. 55% of physicians practiced >15 yrs, and 84% were in private practice. 86% of responses were from national survey and 14% from local survey. Physician demographics were 30% IM, 25% FP, and 45% GI. Physicians ranked diabetes (70%) as the most common cause of gastroparesis, followed by idiopathic (21%) and post-surgical (9%). Postprandial epigastric pain (61%) was ranked as the most frequent symptom of gastroparesis, followed by retching/vomiting (20%) and heartburn/regurgitation (19%). 60% believed scintigraphy T1/2 is an accurate measurement of gastric emptying. One-third believed gastric electrical stimulation was beneficial as treatment of gastroparesis. Physician's perception of a clinically significant complication for severe gastroparesis are shown in the table. Physicians rated abdominal pain higher than weight loss, hospitalization for dehydration, and malnutrition ($p<0.01$). There were other small, but significant, differences in the approach to gastroparesis between IM/FP vs. GI and private vs. academic physicians. There were no differences between national and local physicians.

Conclusion: 1) Abdominal pain is perceived as a marker of severe gastroparesis by most physicians, more than weight loss, dehydration, and malnutrition. 2) Complications of gastroparesis are difficult to define. 3) More physician education on gastroparesis is needed.

Significant Complications of Severe Gastroparesis

	*Rating by physicians
Abdominal pain	4.0 (0.7)
Poor glucose control in diabetics	4.0 (0.8)
Esophagitis	4.0 (0.8)
Gastric Bezoar	3.7 (0.9)
Weight loss >10% body weight	3.7 (0.8)
Hospitalization for dehydration	3.6 (0.9)
Malnutrition requiring j-tube or TPN	3.5 (1.0)
Mallory-Weiss Tear	3.2 (0.9)

*** Mean (SD): 1=strongly disagree to 5=strongly agree**

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FUNDIC GLAND POLYPS OCCUR IN *H. PYLORI*-FREE STOMACHS AND ARE NOT ASSOCIATED WITH INCREASED PREVALENCE OF COLONIC ADENOMA OR CARCINOMA

R. H. Lash, MD, C. I. Robiou, MD, R. M. Genta, MD. Caris Diagnostics, Irving, TX.

Purpose: Fundic gland polyps (FGP) are currently the most common type of gastric polyp. They are associated with prolonged therapy with proton-pump inhibitors (PPIs) and purportedly with an increased risk of colon cancer (Freeman, 2008). There is the perception amongst pathologists that *H. pylori* is not detected in patients with FGPs, but with the exception of two small studies (Declich, 2005; Fossmark, 2007) this inverse relationship has not been investigated. Our goal was to study a large nation-wide sample to determine whether patients with FGPs had a lesser prevalence of *H. pylori* infection or a greater prevalence of colonic adenomas and carcinomas.

Methods: We analyzed electronic data from Caris Diagnostics, a specialized gastrointestinal pathology practice receiving specimens from community-based gastroenterologists operating in 40 states. For each patient, the database includes demographic and clinical information, summary of the endoscopic report, site of origin, and the histopathologic report for each biopsy. To identify the records for eligible polyps, we extracted data from all cases examined from 4/01/07 to 3/31/08. Data were stored in a Microsoft Access database. Statistical calculations were performed using SigmaStat 3.5; chi-square test, Student's t-test and the Mann-Whitney Rank Sum Test for non-parametric data were used as appropriate. A p value < 0.05 was considered significant.

Results: There were 246,254 patient encounters in this time period; 78,909 patients (median age 56 years; 61.4% women) had at least one gastric biopsy; of these, 11,232 also had a synchronous set of colonic biopsies. A total of 6,065 had one or more FGPs (median age 59 years; 4,110, or 67.8% women). Among the 72,844 patients with no FGPs, 9,461 had *H. pylori* infection (13.0%) in contrast to only 28 (0.5%) of the 6,065 FGP patients (OR = 29.05, 95% CI 20.4 – 41.38; $p<0.0001$). Chronic active gastritis and intestinal metaplasia were also significantly less prevalent in FGP than in non-FGP patients (OR 11.53 and 3.92, respectively). Colonic adenomas were detected in 50.3% of the 10,223 non-FGP and in 55.1% of the 1,009 FGP patients (OR 1.21, CI 1.06 – 1.37, ns); there were 7 adenocarcinomas (0.06%) in FGP and 90 (0.08%) in non-FGP patients (ns).

Conclusion: Data from this nation-wide study unequivocally support the impression that FGPs occur overwhelmingly in non-*H. pylori*-infected stomachs. In contrast, the rate of pre-neoplastic and neoplastic lesions in the colon was virtually identical in patients with and without FGPs, refuting data from small series that suggest a fundic polyp-hypergastrinemia-colon cancer link. *Disclosure - Dr. Lash - Caris Dx Stockholder, Employee Dr. Robiou - Caris Dx Stockholder, Employee Dr. Genta - Caris Dx Stockholder, Employee*

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IS IT COST-EFFECTIVE TO TREAT MINIMAL HEPATIC ENCEPHALOPATHY TO PREVENT TRAFFIC ACCIDENTS? A DECISION ANALYSIS

2008 ACG Governors Award Recipient for Excellence in Clinical Research

J. S. Bajaj, MBBS, MD, MS,[1] K. Saeian, MD, MS,[1] N. Pajewski, MS,[2] S. Pinkerton, PhD[3]. 1. Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI; 2. Biostatistics, Medical College of Wisconsin, Milwaukee, WI; 3. Cost-effectiveness Core, Medical College of Wisconsin, Milwaukee, WI.

Purpose: Minimal hepatic encephalopathy (MHE) is associated with attention, psychometric deficits, driving impairment & motor vehicle accidents (MVA). Psychometric & driving impairment are highly correlated. MHE treatment results in psychometric test improvement. The aim was to perform a cost-effectiveness decision analysis model from a societal perspective using MVA as an outcome for MHE screening & treatment strategies.

Methods: Strategies used were (1) "Do nothing" i.e. no MHE screening and no treatment (Rx) (2) Screening with rapid tests (psychometric battery/computerized tests) & Rx of only MHE+ patients (3) Screening, then confirming MHE+ with formal neuropsychological assessment and Rx only those MHE+ on both (4) Treating all cirrhotics without screening. Treatments analyzed were lactulose 30ml TID and probiotics 2 capsules per day using average wholesale prices. Outcome was MVA prevented in a year.

Results: Under base conditions, a cohort of 100 cirrhotics without overt HE would comprise of 70 MHE+ and have 24 MVA/year. Societal cost of 1 MVA was $41,000 leading to an annual cost of $984,000 in untreated MHE-related MVAs. Screening with rapid testing was $300 per patient, with a sensitivity/specificity of 90% & screening interval of 6 months. Based on existing literature, an annual rate of 19% of progression from no MHE to MHE and 23% from MHE to overt HE was assumed. Screen with rapid testing &treat strategy would cost $43,000/yr for lactulose and $31,000/yr for probiotics for 100 cirrhotics. It was assumed that psychometric test improvement would lead to driving improvement since they are highly correlated. This would result in prevention of 7 to 9 accidents across sensitivity ranges (cost saving of $287,000-369,000 compared to "do nothing"). Screen, then confirmatory test ($2,500 per test) and Rx only those who are positive on both would cost $247,000 for lactulose and $234,000 for probiotics for 100 cirrhotics annually. This would result in similar accident prevention ranges to the screen and treat without the confirmatory test strategy. Treating all cirrhotics without any screening would cost $60,000/yr for lactulose and $42,000/yr for probiotics for 100 cirrhotics. Due to lower adherence expected when all cirrhotics are treated, it would result in avoiding 4 MVAs per year (cost saving of $160,000 compared to "do nothing").

Conclusion: MHE rapid testing & treatment with lactulose/probiotics is the most cost-effective strategy in MVA prevention followed by treating all cirrhotics without screening. The latter would be associated with poor adherence. The strategy of confirmatory MHE testing is expensive and does not significantly add to the rapid screen and treat strategy.

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CHARACTERISTICS OF PATIENTS WITH IDIOSYNCRATIC DRUG INDUCED LIVER INJURY (DILI) WHO RECEIVE SYSTEMIC CORTICOSTEROIDS: INITIAL RESULTS FROM THE U.S. DILI NETWORK PROSPECTIVE STUDY

N. Chalasani, MD, FACG,[1] R. Fontana, MD,[4] T. Davern, MD,[5] H. Bonkovsky, MD,[2] J. Rochon, PhD,[6] J. Serrano, MD,[7] P. Watkins, MD[3]. 1. Indiana University School of Medicine, Indianapolis, IN; 2. Carolina Medical Center, Charlotte, NC; 3. University of North Carolina, Chapel Hill, NC; 4. University of Michigan, Ann Arbor, MI; 5. University of California, San Francisco, San Francisco, CA; 6. Duke Clinical Research Institute, Raleigh, NC; 7. NIDDK, Bethesda, MD.

Purpose: Idiosyncratic DILI is a rare but an important cause of acute liver injury and liver failure. There is currently no proven treatment for this condition but practicing clinicians sometimes prescribe corticosteroids to manage liver disease and accompanying extra-hepatic manifestations. However, there are no systematic large studies describing corticosteroid use in patients with DILI. Therefore, we conducted a study to describe the presenting features and outcomes of patients with suspected DILI, followed longitudinally, who received systemic corticosteroids compared to those who did not receive corticosteroids.

Methods: The primary objective of the DILIN prospective study is to identify and recruit individuals with DILI for conducting clinical, epidemiological, and mechanistic studies. Extensive baseline evaluation was performed to exclude competing etiologies in each patient. Three hundred patients with suspected DILI enrolled between 9/04 and 12/07 were available for this analysis. Among these, 47 patients (16%) received systemic corticosteroids at least 48 hours following the onset of their DILI while 253 patients with suspected DILI did not receive corticosteroids.

Results: The demographic and clinical characteristics of patients receiving steroids and their controls are shown in the following Table. The implicated hepatotoxic drugs in patients receiving corticosteroids were antimicrobials in 51% and CNS agents in 21% compared to 43% and 16% respectively in controls. The duration of steroid therapy was ≤ 4 weeks in 38%, 4 -24 weeks in 51%, and > 24 weeks in 11% patients. Stated reasons for corticosteroid use were extra-hepatic immunoallergic features (e.g., severe drug eruption) in 23%, acute liver injury in 69%, and both hepatic and extra-hepatic manifestations in 8% of patients. Among those with acute liver injury who received steroids, autoimmune clinical features were the stated reason to initiate corticosteroids in 50% of patients. Compared to no steroid group, DILI patients who received corticosteroids were younger, more likely to be female, and had more severe biochemical liver injury. Numerically higher mortality seen in patients who received steroids is likely due to the fact that patients who received steroids had more severe liver injury although a deleterious effect of steroids in this patient population cannot be entirely excluded.

Conclusion: Prospective, randomized studies are necessary as steroids may well cause more harm than good.

	Steroid group (n=47)	No steroid group (n=253)	p-value
Age (mean, yrs)	41± 22	50 ± 17	0.008
Female (%)	79	57	0.005
Pre-existing liver disease (%)	2	20	0.001
Obesity (%)	26	22	0.4
Prior drug allergies (%)	45	50	0.6
Extra-hepatic manifestations (%)	26	11	0.009
Peak AST (U/L, mean±s.d)	1147± 851	902± 1827	<0.001
Peak ALT (U/L,mean± s.d.)	1029± 668	996± 1214	0.02
Peak bilirubin (mg/dl,mean± s.d.)	16± 11	10± 10	<0.001
ANA > 1:40 (%)	51	30	0.01
ASMA > 1:40 (%)	18	10	0.3
Ig G level (mg/dl, mean± s.d.)	1929± 1402	1183±402	0.001
Hospitalized (%)	77	57	0.01
Chronic DILI (%)	19	12.4	0.4
Death (%)	19	8	0.2

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A PROSPECTIVE STUDY OF THE UTILITY OF LECTIN-REACTIVE ALPHA-FETOPROTEIN (AFP-L3%) IN DEVELOPING HEPATOCELLULAR CARCINOMA (HCC)

R. K. Sterling, MD, MSc, R. T. Stravitz, MD, V. A. Luketic, MD, M. Fuchs, MD, A. J. Sanyal, MD, M. L. Shiffman, MD. Virginia Commonwealth University, Richmond, VA.

Purpose: AFP is often used as part of a surveillance for HCC but is neither sensitive nor specific. Although AFP-L3% has shown promise, the utility of AFP-L3% remains unclear. Aim: To prospectively determine the clinical utility of AFP-L3% compared to AFP.

Methods: Patients (pts) at risk (either cirrhosis or chronic HBV)for HCC were prospectively evaluated. All pts had baseline imaging, and total AFP and AFP-L3% were obtained at baseline and every 3-6 months. Clinical evaluation included standard tests and additional liver imaging was performed at yearly intervals or if clinically indicated based on total AFP. The primary outcome was development of HCC determined by either histology or imaging. Multiple logistic regression (MLR) was used to identify independent predictors for development of HCC.

Results: One hundred and twenty pts (mean age 52, 56% male, 78% white, 52% HCV, 6% HBV, 10% alcohol, 10% NASH, and 85% cirrhotic) were enrolled and followed for a median of 609 days (range 16-1092). Transplant free survival in the 89 pts who were not lost to follow-up was 68% and 11 pts (cumulative incidence 10%) developed HCC. The mean tumor size was 2.25 cm detected by ultrasound in 40%, MRI in 40%, and CT in 20%. Tumor stages were T1 (10%), T2 (60%), T3 (20%), and T4 (10%). In an intention to treat analysis, those who developed HCC were more likely male (90% vs. 52%; p=.0167) and had an elevated AFP-L3% >10 (44% vs. 14%; p=.03) while no differences were observed in other clinical or laboratory characteristics including total AFP or % AFP >20. When those lost to follow-up were excluded (n=95), those who developed HCC were followed for shorter duration (483 vs. 673 days; p=.03), were male (90 vs. 56%; p=.03), and had an elevated AFP-L3% >10 (44 vs. 12%; p=.0153) compared to those without HCC. The sensitivity and specificity of increased AFP-L3% for developing HCC were 45 and 88%, respectively. Increased ALT correlated with AFP (p<.0001) but not AFP-L3%. A MLR model that included gender and increased AFP and AFP-L3% identified only male gender (p<.001) and increased AFP-L3% (p=.0188) as predictors of HCC.

Conclusion: The incidence of HCC was significantly higher in those with an abnormal AFP-L3% compared to those with an abnormal AFP or normal results. Despite surveillance, 30% of those who developed HCC had advanced stage (T3 and T4). These data suggest that those pts with an elevated AFP-L3% are at highest risk of developing HCC and should be the target of more intense surveillance.

Disclosure - Dr. Sterling - Consultant to Wako.

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INCREASED SOLUBLE FAS AND FAS LIGAND LEVELS IN PATIENTS WITH NONALCOHOLIC STEATOHEPATITIS

2008 ACG Obesity Award

T. Bhattacharyya, MD, MS,[1] L. Yerian, MD,[2] M. Berk, MS,[3] A. J. McCullough, MD,[4] A. E. Feldstein, MD[5]. 1. Cell Biology and Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic, Cleveland, OH; 2. Anatomic Pathology, Cleveland Clinic, Cleveland, OH; 3. Cell Biology, Cleveland Clinic, Cleveland, OH; 4. Gastroenterology and Hepatology and Department of Pathobiology, Cleveland Clinic, Cleveland, OH; 5. Pediatric Gastroenterology and Hepatology, Cell Biology and Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic, Cleveland, OH.

Purpose: To test the association of death receptor proteins soluble FAS(sFAS)and soluble FAS Ligand(sFASL)with nonalcoholic steatohepatitis(NASH)independent of known confounders and their correlation with disease severity and insulin resistance.

Methods: Plasma sFAS and sFASL were measured using a sandwich ELISA based immunoassay in 70 patients undergoing liver biopsy with clinical suspicion of NAFLD. Histology was assessed in a blinded manner and the NAFLD activity score was calculated for each sample. In parallel sFAS and FASL levels were measured in patients with Hepatitis C (validation set) and the levels in hepatitis C patients were compared with sFAS and sFASL levels in NASH patients.

Results: Of the 70 study subjects,37 patients had NASH, 20 had steatosis and 13 normal liver biopsy. Mean age was 49(±11)years, 45.7% were male and 84% Caucasians. The mean body mass index (BMI) was 31.7(±4.9)kg/m2 and the median triglycerides and HOMA index were 158(94-210)mg/dL and 3(1-7.4) respectively. Patients with NASH had significantly higher levels of both sFAS and sFASL than patients with steatosis and normal liver biopsy(Table 1). NASH patients had significantly higher level of sFASL than Hepatitis C patients(Table 1). sFAS and sFASL showed strong positive correlation with degree of fibrosis (r = 0.499 and 0.315, p<.001 and p=.008 respectively). Positive correlation was also seen between sFAS and HOMA (r= 0.336, p=.007). On multivariate analyses, a 10 pg/ml increase in sFASL increased the odds of having NASH by 60% 1.6(1.04-2.5,p= 0.034); a 1ng/ml increase in sFAS levels increased the odds by 40% 1.4(1.2-1.6,p= 0.003) and a 10 IU/L increase in liver enzymes showed only a 20% increase in the odds of having NASH 1.2(1.00-1.4,p= 0.093)(Table 2).

Conclusion: The data implicates a significant role for sFAS/sFASL interaction in NAFLD progression. This concept merits further investigation as a potential diagnostic and therapeutic strategy.

Table 1: sFAS and sFASL levels are highest in patients with NASH

Factor	Normal Biopsy (n = 13)	Steatosis (n = 20)	NASH (n = 37)	p-value
sFAS (ng/ml)	6 (5.5-6.3)	9.3 (8.3-9.9)[a]	12 (9.5-12.8)[a,b]	<0.001
sFASL (pg/ml)	71 (61-78)	75 (65-81.5)	82 (78-93)[a,b]	<0.001
Factor	**HCV (n = 31)**	**NASH (n = 37)**	**p-value**	
sFAS (ng/ml)	10.3 (8.5-13.1)	12 (9.5-12.8)	0.31	
sFASL (pg/ml)	53.6 (40.4-76)	82 (78-93)	<0.001	

Values are presented as Median (interquartile range). [a]: Sig. in relation to normal biopsy; [b]: Sig. in relation to steatosis group.

Table 2: Prognostic value of sFAS and sFASL in prediction of NASH

Factor	Odds ratio (95% CI)	p-value
sFAS(1 ng/ml increase)	1.4 (1.1-1.6)	0.003
sFASL (10 pg/ml increase)	1.6 (1.04-2.5)	0.034
Age (5 year increase)	1.5 (1.04-2.1)	0.029
ALT (10 IU/L increase)	1.2 (1.00-1.4)	0.093

95% (CI): ninety five percent confidence interval

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OUTCOME OF TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS) IN OLDER PATIENTS: A COMPARABLE ANALYSIS WITH YOUNGER AGE GROUP

A. Muhammad, MD,[1] K. Rao, MD,[1] A. Samanta, MD,[1] S. Contractor, MD,[2] M. Ahmad, MD,[1] B. Koneru, MD,[3] D. Wilson, MD,[3] A. Fisher, MD[3]. 1. Medicine, University of Medicine and Dentistry (UMDNJ), Newark, NJ; 2. Radiology, University of Medicine and Dentistry (UMDNJ), Newark, NJ; 3. Surgery, University of Medicine and Dentistry (UMDNJ), Newark, NJ.

Purpose: Transjugular Intrahepatic Portosystemic shunt (TIPS) creates a bypass between the intrahepatic portal vein and hepatic venous outflow and alleviates portal hypertension, which is a major factor for the pathogenesis of variceal bleeding and ascites. This procedure effectively controls variceal hemorrhage and refractory ascites but carries a potential risk of hepatic decompensation and encephalopathy. Older patients may be more at risk of such complications. However TIPS is the only available life saving procedure in the management of such patients with acute variceal hemorrhage uncontrolled by endoscopic interventions. Aim: To evaluate the outcome of TIPS in older patients (age ≥ 65) as compared to the younger patients (age < 65).

Methods: Data on 69 consecutive patients undergoing TIPS over the past 3 years (2005-2007) was reviewed retrospectively. Eight older patients were matched with 24 younger patients (1:3 ratio) with reference to the indication of TIPS (refractory ascites, variceal hemorrhage), MELD (Model of End Stage Liver Disease) score and Child-Pugh (CTP) score. Both groups were comparable for indication, MELD and CTP scores. Analysis was done in 32 out of 69 patients. Outcome with reference to mortality was compared at 30 days and 6 months following TIPS.

Results: Mean age was 73 ± 9.20 SD in older group and 52.5 ± 8.20 SD in younger group. Mean MELD and CTP scores were 10.75 ± 4.65 SD and 8.50 ± 1.60 SD in older patients and 10.45 ± 4.27 SD and 8.70 ± 1.48 SD in younger patients respectively. The ratio of patients undergoing TIPS for refractory ascites and variceal hemorrhage was identical (1.66) in both groups. Mortality in the older patients both at 30 days (38%) and at 6 months (63%) was significantly higher (p = 0.004) than younger patients when compared at 30 days (4%) and at 6 months (13%). Causes of mortality were hepatic decompensation (80%) and encephalopathy (20%). Mortality in younger patients is comparable to that reported in the literature (15%)1,2.

Conclusion: TIPS performed for variceal bleeding and refractory ascites carry a high mortality in older patients as compared to younger patients. Its use in patients over age 65 should be avoided for the management of refractory ascites and be restricted for life threatening variceal hemorrhage only. 1. Predictors of early mortality after TIPS for the treatment of refractory ascites. J Vasc Interv Radiol.2006; 17:1605-10 2. Child-Pugh versus MELD scores in predicting survival in patients undergoing TIPS. *Gut*. 2003; 52:879-85.

Age of patients	No. of patients	Mortality(30 days)	P value	Mortality(6 months)	Overall Mortality	P value
Age > 65	8	3 (38%)	0.013	2	5 (63%)	0.004
Age < 65	24	1 (4%)		2	3 (13%)	

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RISK FACTORS (RFS), NOVEL GENOTYPES, AND TREATMENT OUTCOMES IN SOUTHEAST ASIANS (SEAS) WITH CHRONIC HEPATITIS C

N. H. Nguyen, BA,[1] P. Vutien, BA,[1] H. N. Trinh, MD,[2] R. T. Garcia, MD,[2] L. Nguyen, BA,[1] H. A. Nguyen, MD,[2] K. K. Nguyen, MD,[2] B. S. Levitt, MD,[2] N. B. Ha, BS,[1] M. H. Nguyen, MD, MAS[3]. 1. Pacific Health Foundation, San Jose, CA; 2. San Jose Gastroenterology, San Jose, CA; 3. GI and Hepatology, Stanford University Medical Center, Palo Alto, CA.

Purpose: SEAs have a large liver disease burden with HCV and HBV, both of which can cause hepatocellular carcinoma (HCC). The annual HCC incidence in Vietnamese males is 54.3/100,000, 2x that of Chinese males and 8x that of Caucasian males in California. However, SEAs remain one of the least studied HCV patient groups. Our goal is to study treatment outcomes in SEAs with HCV and identify factors that predict sustained-virological-response (SVR).

Methods: A total of 445 consecutive SEA patients evaluated by 5 U.S. community gastroenterologists between 12/00-1/08 were included in the study. Treatment outcomes with end-of-treatment response (ETR) and SVR were analyzed using intention-to-treat analysis for 181 treatment-naive patients treated with pegylated-interferon (PEG-INF) and ribavirin (RBV). Treatment adherence is defined as completion of ≥ 80% PEG-IFN and RBV dose for ≥ 80% intended duration.

Results: The majority (64%) of our cohort had no identifiable RFs for HCV (Fig. 1). At baseline, 13% had clinical characteristics of cirrhosis and 4% had HCC. A total of 375 patients had genotype testing. Distribution of genotype 1, 2/3, and 6 were 57%, 14%, and 30%. Treatment response in 181 treatment-naïve patients was described in Fig. 2. SVR in patients with genotypes 6 treated for 48 weeks was similar to patients with genotypes 2/3 (76% vs. 83%, p=0.48). However, patients with genotype 6 treated for 24 weeks had similar SVR to genotype 1 (56% vs. 57%, p=0.95). On multivariate analysis also inclusive of weight and sex, independent predictors for SVR were older age (OR=0.95, p=0.007), genotype 6 treated for 48 weeks vs. genotype 1 (3.9, p=0.019), and treatment adherence (OR=7.1, p<0.0001).

Conclusion: Given the lack of identifiable RFs and high prevalence (7%) of HCV in SEA, all patients from this area should be screened for HCV. HCV genotype 6 is common in patients from SEA (30%). Patients with genotype 6 can expect to have a favorable SVR rate as patients with genotype 2/3 if treated for 48 weeks.

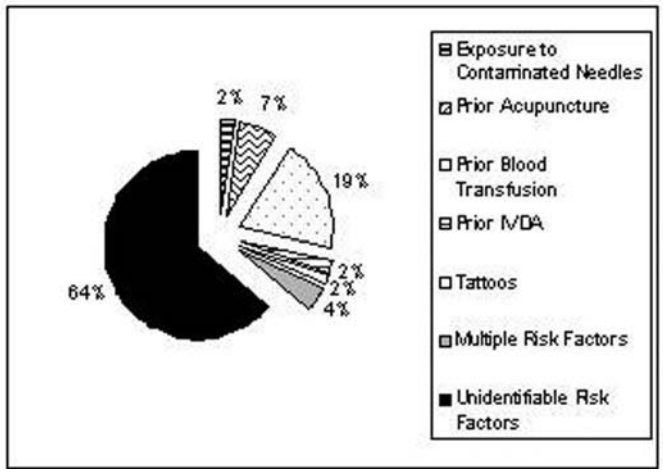

Figure 1

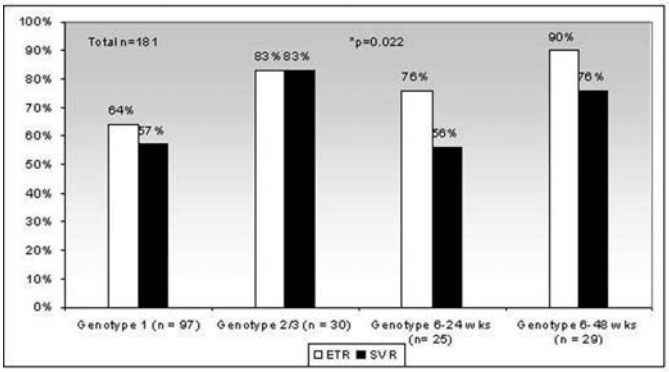

Figure 2

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HEPATIC PROGENITOR CELLS: THEIR POSSIBLE ROLE IN RECURRENT HCV AND ALLOGRAFT LOSS POST-LIVER TRANSPLANTATION

S. N. Sclair, medical student, year 4 (MS IV),[1] M. Fiel, MD,[2] H. Wu, PhD,[2] J. Doucette, PhD,[3] C. Aloman, MD,[1] T. Schiano, MD[1]. 1. Medicine/Liver Diseases, Mount Sinai School of Medicine, New York, NY; 2. Pathology, Mount Sinai School of Medicine, New York, NY; 3. Community and Preventive Medicine, Mount Sinai School of Medicine, New York, NY.

Purpose: HCV is the most common indication for liver transplantation (LT). The cholestatic variant of HCV (cvHCV) is characterized by rapid HCV progression leading to graft loss. Older donor age is associated with aggressive disease and rapid fibrosis progression. Ductular reaction (DR), believed to arise from hepatic progenitor cells (HPC) is associated with hepatic fibrosis. The aims of this study are (1) to demonstrate the HPC count and DR in the following three clinical outcomes of recurrent HCV: stable histology (no >stage 2 of 4 fibrosis), cirrhosis, and cvHCV and (2) to demonstrate the association between HPC, DR, and donor age.

Methods: Using the LT database, a search for HCV cases from 1992-2007 yielded 903 cases, in which 203 had donor age >60 yrs and 195 donor age <30 yrs. Cases of re-LT, living donor LT, HIV, CMV, HBV co-infection, concurrent bile duct problem, and rejection were excluded. Liver biopsies (bx) from time of LT (pre- and post-perfusion) and serially thereafter were reviewed by a liver pathologist (MIF). Sections from paraffin blocks were immunostained with CK7 delineating HPC and bile ductules. Five portal/periportal areas were inspected for HPC (via manual cell count) and photographed at 200X magnification and were analyzed by a novel image analysis technique that calculated DR as % area with (+) CK7 stain.

Results: 21 cases of stable histology (11 with donor age >60 yrs, 10 with donor age <30), 21 cases of cirrhosis (11 with donor age >60 yrs, 10 with donor age <30), and 10 cases of cvHCV (8 with donor age> 60 yrs, 2 with donor age <30) were identified. There was no significant relationship for HPC count or DR at baseline bx between all outcome groups and donor age. At bx showing initial recurrent HCV, mean HPC count for the cirrhosis group (4.6) was greater than both the stable (1.9) and cvHCV (1.3) groups (p<0.05); DR for the cirrhosis group (3.2%) was greater than the stable (1.4%, p<0.05) and cvHCV group (1.7%, p=NS). At endpoint bx, HPC count was higher in the cvHCV (5.3) vs. stable (0.93, p<0.05) and cirrhosis (3.9) vs. stable (p<0.05) groups. Mean DR for the cvHCV, cirrhosis, and stable groups were 6.4%, 3.4%, 1.4%, respectively (p<0.05). At endpoint bx, DR was significantly higher in all bx for donor age >60 yrs (3.8%) when compared to endpoint bx with donor age <30 yrs (2.4%, p=0.009).

Conclusion: There are no differences in HPC count and DR in pre- and post-perfusion bx at time of LT. At initial bx showing recurrent HCV, the cirrhosis group showed increased HPC counts and DR, whereas the cvHCV and stable groups did not. At endpoint bx the HPC response is greatest in the cvHCV > cirrhosis > stable cases. DR may play a role in aggressive HCV recurrence post-LT. The cvHCV rarely occurs in donors <30 yrs.

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WHAT IS THE PREVALENCE OF CELIAC DISEASE AMONG US PATIENTS WITH PRIMARY SCLEROSING CHOLANGITIS?

A. D. Smith, MB, ChB, J. W. Gentile, RN, ANP. Medicine, Duke University Medical Center, Durham, NC.

Purpose: Primary sclerosing cholangitis (PSC) is a progressive, incurable disorder, characterized by inter-lobular sized bile duct injury, fibrosis and loss. It is associated with the following HLA haplotypes: - A1, - B8, and – DR3, all of which may be increased among patients with celiac disease (CD). Case reports, small case series and a UK population-based study suggest that an increased prevalence of CD exists among patients with PSC compared to the general population (in the US this prevalence is 1:100). Therefore, we sought to determine the prevalence of CD in PSC patients presenting at a single US center.

Methods: We studied patients aged ≥ 17 years with a diagnosis of PSC conforming to published, internationally accepted criteria, seen at a tertiary US center between October 2003 and May 2008 (patients with co-existing autoimmune hepatitis, or 'overlap syndrome' were excluded on the basis this may introduce bias). The patients' sera were tested for IgA endomysial antibody (EMA) by indirect immunofluorescence, and their serum IgA concentration was measured concomitantly.

Results: The sample comprised 69 patients of whom 47 were male (68%); their median age was 42 years (range 17-77). The ethnic distribution was as follows: 56 (81%) Caucasian, 11 (16%) African American, one (1.5%) Asian, and one (1.5%) American Indian. One man had been diagnosed with CD two years previously (positive EMA and compatible histology), and was adhering to a gluten free diet. Three women had a positive EMA result, all of whom had duodenal mucosal abnormalities consistent with CD. Two men with negative EMA results underwent endoscopic duodenal mucosal biopsy on the basis of steatorrhea and weight loss (one had a strongly positive IgA gliadin antibody result). Both demonstrated histological findings consistent with CD. Almost two thirds of the patients (45/69) had chronic inflammatory bowel disease (cIBD). No patient had selective IgA deficiency.

Conclusion: These data suggest that the prevalence of CD among US patients with PSC (8.69%, or 1:11) may be considerably higher than in the general population. However, the study population is relatively small and may have overestimated the strength of this association. Furthermore, all of the patients with CD had concomitant cIBD, something we did not control for. Nevertheless, the findings deserve wider application in a larger, multi-center study.

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EFFICACY OF A PROBIOTIC FERMENTED DRINK OF LACTOBACILLUS ACIDOPHILUS AND LACTOBACILLUS CASEI IN THE REDUCTION OF ANTIBIOTIC-ASSOCIATED DIARRHEA

J. Dylewski, MD,[1] Y. Pesant, MD,[2] M. Elkashab, MD,[3] P. Rochette, MD,[4] A. Poirier, MD,[5] D. Grimard, MD,[6] A. Worster, MD,[7] J. Sampalis, PhD[8]. 1. St. Mary's Hospital, Montreal, QC, Canada; 2. Recherche Medicale St. Jerome, St. Jerome, QC, Canada; 3. North York General Hospital, Toronto, ON, Canada; 4. Hopital Laval, Quebec, QC, Canada; 5. Centre Hospitalier Regional Trois Rivieres, Trois Rivieres, QC, Canada; 6. Hopital Hotel Dieu de Chicoutimi, Chicoutimi, QC, Canada; 7. Hamilton General Hospital, Hamilton, ON, Canada; 8. JSS Medical Research, Montreal, QC, Canada.

Purpose: To assess the efficacy and safety of a commercially available probiotic drink comprised of 50 X 10^9 billion L. acidophilus and L. casei, Bio-K+ CL1285® (Bio-K+) in reducing Antibiotic-Associated Diarrhea (AAD) in patients on antibiotic regime who were initially treated in a hospital setting.

Methods: This was a randomized, double blind, placebo controlled trial. Adults patients who were prescribed antibiotics for 3 – 14 days were enrolled from eight Canadian centers. Study treatment was randomized at a 1:1 ratio of Bio-K+ or placebo and was administered within 24 hours of initiation to 5 days after termination of antibiotic therapy. Patients were followed for 21 days after the last dose of study treatment. The primary efficacy outcome measure was the occurrence and frequency of new onset AAD. The secondary outcome measure was the incidence of Clostridium Difficile-Associated Diarrhea (CDAD).

Results: Among the 472 patients eligible for randomization there were 29 excluded because antibiotic treatment duration was less than 3 days and 6 because diarrhea onset was before initiation of study treatment. The ITT analysis was based on 437 (93%) of the eligible and enrolled patients in the study. The mean age of the patients in the study was approximately 60 years and 50% were male. The mean duration of antibiotic treatment was approximately 9 days and the mean duration of study treatment was approximately 12 days for both study groups. The mean (SD) number of diarrhea episodes was 1.19. (3.20) for the placebo and 0.67 (2.05) for Bio-K+ (P = 0.040). Multivariate linear regression results adjusting for duration of study treatment, duration of antibiotic therapy and patient's age showed that the duration of diarrhea for Bio-K+ versus placebo was reduced by 51.5% (b (SE) = 0.515 (0.256); P = 0.045). Multivariate logistic regression results showed that the adjusted odds ratio of diarrhea for Bio-K+ versus placebo was 0.627 (P = 0.037). The odd rations for diarrhea duration ≥ 2 and ≥ 3 days were 0.531 (p = 0.025) and 0.488 (P = 0.034) respectively. Four patients in the placebo group and one in the Bio-K+ group developed CDAD (P = 0.372). Study treatment was well tolerated and with similar low incidence of mild non serious adverse events similar in both groups.

Conclusion: Probiotic prophylaxis of a commercially available fermented drink composed of 50 X 10^9 billion L. acidophilus and L. casei (Bio-K+ CL1285®) is well tolerated and effective in the reduction of the incidence and duration of AAD for patients receiving antibiotics that were initially treated in a hospital setting.

Disclosure - Bio-K+ International Inc. Provided financial support for the conduction of the study.

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WEEKEND VERSUS WEEKDAY ADMISSION AND MORTALITY FROM GASTROINTESTINAL HEMORRHAGE DUE TO PEPTIC ULCER DISEASE.

R. P. Myers, MD, FRCPC, A. M. Shaheen, MD, MPH, G. G. Kaplan, MD, MPH, FRCPC. Liver Unit, Division of Gastroenterology, University of Calgary, Calgary, AB, Canada.

Purpose: Hospital staffing is often lower on weekends than weekdays, and may contribute to higher mortality in patients admitted on weekends. Because management of upper gastrointestinal bleeding (UGIB) often requires urgent endoscopic intervention, limitations in its availability may be associated with increased mortality in patients admitted on weekends.

Methods: We used the 1993-2005 U.S. Nationwide Inpatient Sample to identify patients hospitalized for UGIB due to peptic ulceration. Differences in in-hospital mortality between patients admitted on weekends and weekdays were evaluated using logistic regression models with adjustment for patient and clinical factors, including the timing of upper endoscopy.

Results: Between 1993 and 2005, there were 237,412 admissions to 3,166 hospitals for peptic ulcer-related UGIB. The median age was 68 years (IQR 54-78) and 43% were female. Compared with patients admitted on a weekday, those admitted on the weekend had an increased risk of death (3.4% vs. 3.0%; adjusted odds ratio [OR] 1.08 [95% CI 1.02-1.15]), higher rates of surgical intervention (3.4% vs. 3.1%; OR 1.09 [1.03-1.15]), and a 4-6% increased in adjusted length of stay and hospital charges (P<0.0001). Patients admitted on the weekend had a longer mean time to endoscopy (2.21 ± 0.01 vs. 2.06 ± 0.01 days; P<0.0001) and were less likely to undergo endoscopy on the day of admission (30% vs. 34%; P<0.0001). After adjusting for the timing of endoscopy, weekend admission remained an independent predictor of increased mortality (OR 1.12; 95% CI 1.05-1.21). Other risk factors for death included older age, white race, non-private insurance, endoscopic or surgical intervention, and an increasing number of comorbidities including cirrhosis and coagulopathy. Mortality was also higher in patients admitted in the Northeastern U.S., emergently, to urban teaching or non-teaching (versus rural) hospitals, and those transferred from another institution (P<0.0001 for all comparisons). Mortality was lower during the later years of the study (2001-2005 vs. 1993-2000: OR 0.75; 95% CI 0.71-0.79).

Conclusion: Patients admitted to hospital on the weekend for peptic ulcer-related hemorrhage have higher mortality and more frequently undergo surgery. Although wait times for endoscopy are prolonged in these patients, this delay does not appear to mediate the weekend effect for mortality. Future studies should explore alternative processes of care that may mediate this effect.

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PREGNANCY OUTCOMES IN WOMEN EXPOSED TO ADALIMUMAB: THE OTIS AUTOIMMUNE DISEASES IN PREGNANCY PROJECT

D. Johnson, MS, K. Jones, MD, C. D. Chambers, PhD, MPH. Pediatrics, University of California San Diego, La Jolla, CA.

Purpose: The fully human, anti-tumor necrosis factor monoclonal antibody adalimumab is approved for the treatment of rheumatoid arthritis (RA), psoriatic arthritis, ankylosing spondylitis, Crohn's disease, and psoriasis in the United States, Europe, and elsewhere, as well as for juvenile idiopathic arthritis in the United States.

Methods: This report describes preliminary outcomes from an ongoing study of the safety of adalimumab in RA patients during pregnancy conducted by the Organization of Teratology Information Specialists (OTIS). Through a prospective cohort design, women with RA treated with adalimumab during the first trimester of pregnancy were followed for 1-year postpartum. Pregnancy outcomes were compared with those from a disease-matched group of pregnant women with RA who had not been treated with adalimumab during their pregnancies, and a non-diseased group of women who neither had RA nor had been treated with adalimumab. In addition to conducting the cohort study, the OTIS investigators also collected information on adalimumab-exposed pregnancies that did not meet the cohort criteria, but were followed as a case series. The case-series pregnancies are presented separately as they have no comparison group. They include patients treated for diseases other than RA, as well as retrospectively reported outcomes.

Results: As of May 15, 2008 (4 years of the study), pregnancy outcomes were available for 126 women in the cohort (table). Two major structural defects (6.6%) had been reported for 30 women with adalimumab exposure during their first trimesters for whom pregnancy outcomes were known: 1 with undescended testicle and 1 with microcephaly. For 51 pregnancies in the disease-matched comparison group for which pregnancy outcomes were known, 1 fetus (2.0%) was diagnosed with chromosomal abnormalities. Two major structural defects (5.1%) have been reported via 39 pregnancies with known outcomes in the healthy comparison group. In the case-series group (data not included in the table), of the 66 known outcomes, 7 (10.6%) resulted in major congenital defects — 3 chromosomal anomalies, 1 spina bifida with hydrocephalus, 1 ventricular septal defect, 1 congenital hip dysplasia with inguinal hernia, and 1 congenital hypothyroidism. Of these 66 known outcomes in the case series, 23 had a diagnosis of Crohn's disease.

Conclusion: Based on these preliminary data, no concerns have been raised regarding increased risks for adverse pregnancy outcomes associated with early pregnancy exposure to adalimumab in the treatment of RA. Firm conclusions await accumulation of sufficient sample size in this prospective cohort study. In Fall 2008, the OTIS cohort study will expand enrollment to include patients with Crohn's disease.

Pregnancy Outcomes in the OTIS Cohort Study

Outcome	Adalimuab-Exposed (N=30)	RA Comparison (N=53)	Non-Diseased Comparison (N=43)
Live born, n (%)	27 (90.0)	48 (90.6)	37 (86.0)
Spontaneous abortion, n (%)	3 (10.0)	3 (5.7)	1 (2.3)
Stillbirth, n (%)	0	0	1 (2.3)
Lost to follow-up, n (%)	0	2 (3.8)	4 (9.3)
Preterm delivery, n (%)	3 (11.1)	9 (17.0)	0
Birth weight full-term infants in grams, mean (SD)	3290 (474)	3259 (508)	3532 (438)

Disclosure - Dr. Jones- Grant/Research Support: Abbott Laboratories, Amgen, Apotex, Barr, Bristol-Myers Squibb, Par Pharmaceutical, Sandoz, Sanofi-Aventis, Teva; Dr. Chambers-Grant/Research Support: Abbott Laboratories, Amgen, Apotex, Barr, Bristol-Myers Squibb, Par Pharmaceutical, Sandoz, Sanofi-Aventis, Teva

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OUTCOME IN TWO HUNDRED AND TWENTY TWO PATIENTS UNDERGOING COLONOSCOPY/POLYPECTOMY ON UNINTERRUPTED CLOPIDOGREL THERAPY

M. Singh, MD,[1] N. Mehta, MD,[1] U. Murthy, MD,[1] V. Kaul, MD,[1] A. Arif, MD,[1] N. Newman, MS[2]. *1. Medicine, Veterans Affairs Medical Center, Syracuse, NY; 2. Center for Outcomes Research, SUNY Upstate Medical University, Syracuse, NY.*

Purpose: BACKGROUND: There are no published data to support the ASGE recommendation to hold clopidogrel (CLP) 7-10 days before polypectomy (GIE'05). Cessation of CLP may result in life threatening ischemic events. At our institution CLP is not routinely held prior to colonoscopy. AIM: To assess post-polypectomy bleeding (PPB) rate, risk factors and outcome of PPB in patients on CLP.

Methods: We retrospectively reviewed electronic medical/pharmacy records of all patients on CLP who underwent colonoscopy (2002-07). Demographic, clinical, lab, polyp data & polypectomy methods were recorded. Post-procedure phone calls/clinic notes up to 6 weeks were abstracted. Management & outcome of PPB was reviewed. Univariate analysis was used to compare patients who had polypectomy on uninterrupted CLP (Gp A, n=145) with randomly selected patients not on CLP, who had polypectomy during same period (Gp B, n=1172).

Results: 222 patients had colonoscopy & 145/222 had polypectomy without interruption of CLP. ● CLP indications: CAD 68%, stroke 21%, PVD 7.5%, other 4.0%. ● Duration of CLP use: < 3m, 8.3%; 3-12m, 22%; >12m, 70%. ● Gp A: total polyps removed 383, mean polyp no. : 2.6/pt; polyp size: range < 5 to 30mm. 8.4% were ≥ 10 mm, 27.7% were 5 to 9mm. ● Polypectomy method: cold-snare 28.5%, hot-snare 51%, cold-biopsy 9.7%, hot-biopsy 5.5%, unknown 5.3%. ● There were no significant differences in polyp number or polypectomy method between Gps A & B. Mean age, sex, race, INR, platelets, CrCl, smoking, alcohol use, COPD & NSAID use were also comparable. Gp A had significantly more HTN (83 vs 65%), DM (39 vs 26%), CAD (81 vs 25%) & ASA use (53 vs 32%) than Gp B respectively (all p<0.05). ● PPB & outcome: PPB was significantly higher in the CLP group (8/145) (Table 1). Endoclips were applied in 3 pts for immediate bleeding, with good hemostasis. Delayed PPB occurred in 5 (median 10d); 3/5 with delayed PPB had significant bleeding requiring hospitalization & blood transfusion (pRBC mean 3.6 units). Two, required repeat colonoscopy with endoclip-placement in one. No surgical/ angiographic intervention was required. Average hospital stay was 3.7 days. There was no mortality. All patients with PPB on CLP also used ASA/other NSAIDs. 1/77 patients on CLP (no polypectomy) reported trivial rectal bleed one day post colonoscopy. Multiple logistic regression identified polyp number (OR 1.3, CI 1.2-1.4) & combined use of CLP & ASA/NSAID (OR 5.6, CI 2.2-14) as significant independent variables associated with PPB (p<0.001), but use of CLP alone was not a significant factor.

Conclusion: PPB rate is higher in patients on CLP. It is the concurrent use of CLP with ASA/NSAIDs and not CLP use alone that confers this increased risk. The overall outcome remains favorable.

Table 1. Postpolypectomy bleeding (PPB) with and without clopidogrel use

	Group A/CLP+ (n=145)	Group B/CLP- (n=1172)	p value
Total PPB	8 (5.5%)	25 (2.1%)	0.02 ϕ
Immediate-PPB	3 (2.1%)	13 (1.1%)	0.25
Delayed-PPB	5 (3.4%)	12(1.02%)	0.03 ϕ

ϕ p < 0.05

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COLORECTAL CANCER (CRC) SCREENING WITH OPTICAL COLONOSCOPY (OC) VS. CT COLONOGRAPHY (CTC): A COST EFFECTIVENESS ANALYSIS

M. A. Qadeer, MD, MPH,[1] J. L. Jensen, MPH,[2] A. D. Mukose, MBChB, MS,[2] C. Burke, MD,[1] M. E. Singer, PhD[2]. *1. Gastroenterology, Cleveland Clinic, Cleveland, OH; 2. Biostatistics and Epidemiology, Case Western Reserve University, Cleveland, OH.*

Purpose: CTC is recommended as one of the options for CRC screening by the US Multi-Society Task Force on Colorectal Cancer. However, its cost-effectiveness (CE) compared with OC has not been proven in all studies. Furthermore, these CE analyses were based upon only polyp size, but not on polyp pathology, CTC radiation risk or quality-adjusted life years (QALYs). We performed a cost effectiveness analysis utilizing these factors to compare CTC and OC.

Methods: For the base case, we used a hypothetical 50-year old person with an average risk of colon cancer who underwent first screening with one of the two strategies. All polyps detected on CTC would be referred for OC and approximately 75% of those referred would undergo OC due to differing adherence rates. We modeled a time horizon of 10 years and projected life expectancy. Effectiveness was measured as quality adjusted life years (QALY) and cancers detected or averted. Incremental cost-effectiveness ratios (ICERs) were calculated for cost per additional QALY gained, or cancer detected or averted. All polyps were divided into ≥10 mm, <10 mm high risk, <10 mm low risk and incident cancers. Transition probabilities from polyp to cancer to death, and test accuracies of CTC and OC were obtained from the literature review. Direct medical costs were estimated from Medicare reimbursements. Sensitivity analyses were performed for plausible variations in parameters. Cost and QALYs were discounted at 3%.

Results: For the base case analysis, on average, for each additional cancer detected or averted, 321 people would need to be screened with OC as opposed to CTC. For each additional QALY, we found that the ICER for OC was $1,766 compared with CTC, when all polyps detected by CTC would be referred for OC/polypectomy. The ICER increased to $3,759 if only polyps >10 mm were referred for OC (assuming a malignant potential for polyps <10 mm). If no malignant potential is assumed for <10 mm polyp, then the ICER increased to $42,449. The model was robust to plausible changes in parameters on sensitivity analysis for QALYs gained and cancers detected or averted.

Conclusion: CRC screening with optical colonoscopy appears to be both more effective and more cost-effective than CTC.

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QUALITY OF COLONOSCOPY IN ROUTINE CLINICAL PRACTICE: A POPULATION-BASED ANALYSIS

2008 ACG/Olympus Award

C. Ko, MD, MS,[1] J. A. Dominitz, MD, MHS,[1] W. Kreuter, MPA,[3] L. Baldwin, MD, MPH[2]. *1. Medicine, University of Washington, Seattle, WA; 2. Family Medicine, University of Washington, Seattle, WA; 3. Health Services, University of Washington, Seattle, WA.*

Purpose: The aim of this study was to perform a population-based assessment of colonoscopy quality and to examine factors influencing quality.

Methods: We used a nationally representative 20% sample of Medicare Carrier claims from 2003. Physician specialty was determined by linking to the AMA Physician Masterfile. We examined the indications for colonoscopy, completion rates, rates of polyp/tumor detection and biopsy/polypectomy, incidence of ER visits or hospitalizations within 30 days, and incidence of follow-up colon exams within 1 year.

Results: 389,276 outpatient colonoscopy exams were identified in 2003. Race/ethnicity and age were the patient characteristics with the greatest influence on colonoscopy quality, while colonoscopy volume and specialty were the most influential provider characteristics. Hispanics and American Indians were significantly less likely to have a screening or surveillance exam indication than other racial/ethnic groups. Polypectomy rates were highest in Asians, and lowest in Hispanics. Reporting of incomplete exams was highest in African-Americans and Hispanics. Incomplete colonoscopy reporting was similar between provider specialties, but was inversely associated with annual colonoscopy volume. Gastroenterologists had higher polyp detection and polypectomy rates compared to other specialties (44.8% vs. 34.9-42.7% for polyp detection, p<0.001; 27.1% vs. 17.7-23.1% for polypectomy, p<0.001). Five percent of patients had an emergency room visit and 6% of patients were hospitalized within 30 days of colonoscopy; the frequency of both events increased with patient age. Risk of hospitalization within 30 days was lower for exams performed by gastroenterologists (5.5%) or colorectal surgeons (5.6%) compared to exams by family medicine physicians (7.2%), general surgeons (7.9%), or internal medicine specialists (6.0%) (p<0.001). Colon perforation occurred in 0.1%, and lower gastrointestinal bleeding in 1.5%. Gastroenterologists had slightly lower rates of repeat colonoscopy within 1 year vs. primary care providers or general surgeons (4.6% vs. 5.3-6.2%, p<0.001).

Conclusion: Patient age is associated with significantly higher rates of incomplete colonoscopy and of subsequent emergency room visits or hospitalizations, suggesting that the risks and benefits of colonoscopy need to be considered carefully in older patients. Provider specialty is significantly associated with polyp detection and polypectomy rates, risk of hospitalization within 30 days, and use of follow-up colonoscopy. These results have strong implications for appropriate training and credentialing of practitioners providing colonoscopy services.

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OVER AND UNDER USE OF SCREENING COLONOSCOPY IN A POPULATION-BASED COHORT

2008 ACG/Olympus Award

J. Bazick, Medical student,[1] G. Cooper, MD[2]. *1. CWRU School of Medicine, Cleveland, OH; 2. Gastroenterology, University Hospitals, Cleveland, OH.*

Purpose: Current guidelines recommend colonoscopy every 10 years for people with a normal initial colonoscopy and no risk factors for colorectal carcinoma. There is evidence demonstrating that many individuals are not being screened appropriately, but there are less data on the prevalence of more frequent screening than recommended. The purpose of this study was to investigate the frequency and predictors of screening colonoscopy at shorter intervals than recommended by guidelines.

Methods: We identified 123,010 Medicare beneficiaries in 1998 without cancer who were age >=70 and enrolled in Medicare Part B without concurrent HMO enrollment. Of this cohort, 7729 were identified with having a colonoscopy without biopsy or polypectomy in 1998. In this group, 2087 were considered as average risk for colon cancer and 5642 were considered increased risk (family history, previous polypectomy or polyp diagnosis). Patients were followed five years before and five years after 1998, and additional colonoscopies during this time period were recorded.

Results: 46.6% of average risk patients with a negative colonoscopy in 1998 had one or more additional colonoscopies during 1999-2003. Among those with an additional colonoscopy, 45.5% also had polypectomy. 53.1% of increased risk patients with colonoscopy in 1998 had one or more additional colonoscopies from 1999-2003. 77.9% of the high risk patients with an additional colonoscopy also had polypectomy. Predictors of subsequent colonoscopy in both average and increased risk patients were age under 85 (odds ratio [OR] 2.06 95% CI 1.52-2.78 for average risk; OR 2.03 95% CI 1.61-2.56 for increased risk) and previous colonoscopy in 1993-1997 (OR 2.66, 95% CI 1.98-3.56 for average risk; OR 2.43, 95% CI 2.10-2.81 for increased risk). Females in the increased risk group were also more likely to receive subsequent colonoscopy (OR 1.23, 95% CI 1.10-1.38). There was no association of race or comorbidity with subsequent colonoscopy.

Conclusion: A significant number of average risk patients receive colonoscopy screening more often than the recommended interval of ten years. Conversely, many patients with higher than average risk of colorectal carcinoma undergo colonoscopy less frequently than recommended. Further studies should investigate additional predictors of follow-up and outcomes of these patients.

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TREATMENT OUT TO 1 YEAR WITH A GLP-2 ANALOG, TEDUGLUTIDE, SAFELY REDUCES PARENTERAL NUTRITION (PN) NEEDS IN PN-DEPENDENT SHORT BOWEL SYNDROME (SBS) PATIENTS

R. Gilroy, MD,[1] J. Allard, MD,[2] P. Bekker Jeppesen, MD,[3] D. L. Seidner, MD,[4] M. Pertkiewicz, MD,[5] L. Howard, MD,[6] S. O'Keefe, MD,[7] N. McGraw,[8] B. Messing, MD,[9] K. N. Jeejeebhoy, MD[10]. 1. University of Kansas Medical Center, Kansas City, KS; 2. Toronto General Hospital, Toronto, ON, Canada; 3. Rigshospitalet, Copenhagen, Denmark; 4. Vanderbilt University Medical Center, Nashville, TN; 5. Medical University of Warsaw, Warsaw, Poland; 6. Albany Medical Center, Albany, NY; 7. University of Pittsburgh Medical Center, Pittsburgh, PA; 8. NPS Pharmaceuticals, Bedminster, NJ; 9. Hopital Beaujon, Clichy, France; 10. St. Michael's Hospital, Toronto, ON, Canada.

Purpose: PN-dependent SBS patients have significant morbidity and mortality risks. The GLP-2 analog teduglutide (TG) reduced PN requirements in long-term PN-dependent SBS patients in a 24-week placebo-controlled study. We report the outcomes of the 28-wk extension study of TG treatment for up to 1 year and the results of crossover of placebo patients to TG.

Methods: Patients that completed the 24-wk placebo-controlled phase were eligible for the 28-wk extension study. Response was defined as maintaining, improving upon or developing a >/=20% reduction in weekly PN volume at Wk 28 of the extension phase. 65 of 71 (91%) eligible patients were enrolled in the extension phase. Previously TG-treated patients stayed on the same dose: 25 patients (16 responders) continued on TG 0.05 mg/kg/d and 27 (8 responders) continued on TG 0.1 mg/kg/d. Placebo-treated patients were randomized to receive TG 0.05 mg/kg/d (n=6) or 0.1 mg/kg/d (n=7) for 28 wks.

Results: In the 0.05 mg/kg/d TG group, 12/16 (75%) responders maintained their response during the 28-wk extension; 10/16 (62%) had further reductions in PN volumes. In the 0.1 mg/kg/d TG group, 6/8 (75%) responders maintained their response during the extension phase and 2/8 patients (25%) had further decreases in PN volumes. 3 patients were weaned from PN in the initial 24-wk phase (2 of 16 TG 0.05 mg/kg/d, 1 of 8 TG 0.1 mg/kg/d) and all remained off PN during the extension study. One additional patient in the TG 0.05 mg/kg/d was weaned from PN during the extension study. Mean weekly reductions from baseline in PN volume of 4.9 L (57%) and 3.3 L (27%) occurred with 0.05 and 0.1 mg/kg/d TG, respectively, at the end of the extension study. Among placebo-treated patients crossing over to TG, 100% (6/6) responded to TG 0.05 mg/kg/d and 29% (2/7) responded to TG 0.1 mg/kg/d. TG was safe and well tolerated for up to 1 yr; the most frequent adverse events were abdominal pain, nausea and vomiting, which were similar to the 6-month placebo group. Injection site reactions were significantly more frequent in the 0.1 mg/kg/d TG group.

Conclusion: TG was well tolerated out to 1 yr in PN-dependent SBS patients and provided the ability to safely reduce PN dependence. Most TG responders followed out to 1 yr maintained their response and many had additional PN reductions in this extension study. The majority of the placebo-to-TG group responded and significantly reduced PN needs. PN reductions seen in patients crossed-to-TG 0.05 mg/kg/d provide additional evidence of the roll for TG in PN-dependent populations.

Disclosure - Investigators teduglutide study 0600-005 (NPS Pharmaceuticals)
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A VALIDATED GLUTEN FREE DIET ADHERENCE SURVEY FOR ADULTS WITH CELIAC DISEASE

2008 ACG Lawlor Resident Award

S. Jamma, MD,[1] D. Leffler, MD, MS,[1] M. Dennis, RD, MS,[1] J. Edwards-George, PhD,[1] S. Magge, MD,[1] E. F. Cook, PhD,[2] D. Schuppan, MD, PhD,[1] C. P. Kelly, MD[1].
1. Gastroenterology, Beth Israel Deaconess Medical Center, Boston, MA; 2. Epidemiology, Harvard School of Public Health, Boston, MA.

Purpose: In recent years increasing number of individuals have been diagnosed with celiac disease (CD). In order to monitor clinical response in practice and research settings, it is essential to be able to measure gluten free diet (GFD) adherence in a standardized fashion. In this work, our aim was to develop valid and reliable measure of GFD adherence.

Methods: Domains and a bank of items felt to be important in GFD adherence were agreed on by an expert committee and patient focus groups and used to create a single questionnaire. The survey was administered to 150 individuals with biopsy proven celiac disease who then had IgA tissue transglutaminase titer measured and underwent a standardized evaluation by a nutritionist skilled in celiac disease. The questionnaire was then revised and administered to a second independent group of 50 individuals to insure validity.

Results: Using results from the initial validation cohort of 150 individuals a six item questionnaire was derived. The additive score based on these items was correlated with the dieticians global evaluation in both the initial and the validation cohorts ($p<0.0001$ using Pearson's Correlation Coefficient). Using ROC analysis the area under the curve for the initial and validation cohorts was 0.771 and 0.764, respectively. In contrast IgA tTG in the initial cohort performed less well with an area under the curve of 0.647. The resulting seven questions make up the first validated GFD adherence assessment.

Conclusion: The Celiac Dietary Adherence Test (CDAT) is a simple measure which appears to be superior to IgA tTG in assessing GFD adherence and allows for standardized evaluation of diet compliance. The CDAT may be useful in research settings or in clinical practice in areas where access to a dietician skilled in celiac disease is limited.

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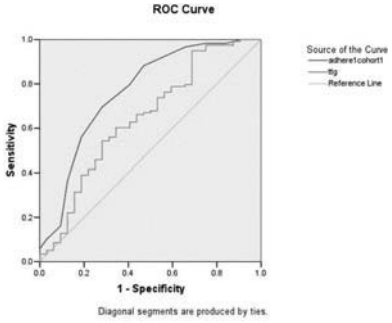


P1

IS IMMUNOFLUORESENCE STAINING FOR EOSINOPHIL DERIVED NEUROTOXIN USEFUL IN THE DIAGNOSIS OF EOSINOPHILIC ESOPHAGITIS?

2008 ACG Presidential Poster Award Recipient

J. A. Alexander, MD, G. Kephart, MS, K. Ravi, MD, D. A. Neumann, MD, H. Kita, MD, N. J. Talley, MD. Gastroenterology, Mayo Clinic Rochester, Rochester, MN.

Purpose: We have shown that patients with low level esophageal eosinophilia (1-20 eos/hpf) have similar demographics, dysphagia history, and endoscopic findings as patients with classic eosinophilic esophagitis (EoE) with 20 eos/hpf. Some of the low-level eosinophilia patients will have eosinophil counts >20 /hpf at a second endoscopy and will have resolution of their dysphagia with topical steroid therapy. Other low-level eosinophilia patients will have resolution of dysphagia with PPI therapy. Esophageal eosinophil counts can fluctuate with time, and maximum eosinophil counts in esophageal mucosa might not be the best diagnostic tool for the diagnosis of EoE. We performed immunofluorescence staining of esophageal biopsy specimens for Eosinophil Derived Neurotoxin (EDN) in several groups of patients to evaluate its potential use as a marker for EoE.

Methods: We performed staining for EDN with qualitative and semiquantitative analysis of esophageal biopsy specimens from four groups of patients: A) normals, B) low level eosinophilia –GERD patients (LL-GERD) (LA grade B-D esophagitis and dysphagia responding to PPI therapy), C) low level eosinophilia – emerging EoE patients (LL-EE) (> 20 eos/hpf on second endoscopy and dysphagia response to topical steroid therapy), and D) classical EoE patients (25 to 100 eos/hpf) . Specimens were scored on a 0-3 scale for intracellular (IC) and extracellular (EC) EDN deposition by two authors, and the scores were averaged.

Results: The semiquantitative results are displayed in table #1. IC and EC EDN scores were negligible in the normals and elevated in the other groups. .The EC EDN score and percentage of patients with an abnormal score (>1.3) trended to be higher in the EoE and LL- EoE groups. Qualitatively, intense extracellular EDN deposition was typically observed in the papillae and on the luminal surface of the epithelium in biopsies from the EoE patients, while deposition in the LL-GERD patients, with one exception, was scattered throughout the mucosa with relatively little uptake on the luminal surface and in the papillae. The LL-EoE group had a very similar pattern to the EoE group.

Conclusion: This pilot study suggests: 1) Patients with low level eosinophil density in esophageal biopsies have significant EDN immunofluorescence staining. 2) EDN staining particularly extracellular staining on the luminal mucosa has potential to be a better marker for EoE than maximum eosinophil count and should be further evaluated.

Table #1

Group	N	Maximum eos/hpf mean (range)	IC mean score (range)	EC mean score (range)	EC score >1.3
A) Normals	4	0	0.1 (0-0.5)	0.4 (0-0.5)	0/4
B) LL-GERD	6	10 (2-15)	1.2 (0.5-2.5)	1.4 (0.3-3.0)	2/6
C) LL-EoE	7	12 (4-20)	1.4 (1.2-1.9)	1.9 (1.3-2.7)	6/7
D) EoE	13	48 (25-100)	1.8 (1.1-2.5)	2.1 (1.0-2.8)	8/10

P2

MANOMETRIC PLACEMENT OF BRAVO CAPSULE AND ITS IMPACT ON DAY TO DAY DISCREPANCY IN MEASUREMENT OF ESOPHAGEAL ACID EXPOSURE

S. Ayazi, MD, F. Banki, MD, J. M. Leers, MD, A. Oezcelik, MD, E. Abate, MD, D. Liebertz, BS, BA, S. R. DeMeester, MD, J. C. Lipham, MD, J. A. Hagen, MD, T. R. DeMeester, MD. Surgery, University of Southern California, Los Angeles, CA.

Purpose: The wireless pH monitoring system (Bravo Capsule) is better tolerated and allows longer period of recording (48 hours) in patients evaluated for gastroesophageal reflux disease. The problem is that significant day to day discrepancy in measurement of acid exposure occurs. This variation is thought to be due to the sedation used during the endoscopic placement of the capsule. An alternative is placing the capsule transnasally based on motility measurements of the Lower Esophageal Sphincter (LES). We decided to assess if such a policy affects day to day discrepancy and if so, did the variability depend on the status of the gastroesophageal barrier.

Methods: Study population consisted of 310 patients who had Bravo capsule placed transnasally based on manometric measurements of the LES. Based on composite score patients were divided in 3 groups: both days abnormal, both days normal and those with score discrepancy between first and second day. LES characteristic were compared in these groups. In addition, in the group with discrepancy the response of LES to a test meal was studied by calculating a post/pre prandial acid exposure ratio.

Results: Of the 310 patients evaluated 60(19%) had a discrepancy in score between the two days, 127 had a normal score and 123 an abnormal score on both days. Of the 60 patients with discrepancy, 27 were abnormal the first day and 33 were abnormal the second day. Patients with abnormal esophageal acid exposure on both days tend to have more defective LES compared to those with abnormal score only in one day. (33.3%, 51.2%, p= 0.027). Sphincter characteristic comparison for all 3 groups is shown (table). In the 28 patients with discrepancy a test meal was given. Ten patients (36%) had an abnormal post/pre prandial acid exposure ratio on the normal day.

Conclusion: Manometric placement of Bravo capsule results in less discrepant pH recording between first and second 24 hours compared to previously reported placement via endoscopy. Patients with abnormal pH on both days tend to have a greater prevalence of defective valve than those with abnormal score on one day. This variability between the 2 days may represent impairment of gastroesophageal barrier in patients with early reflux disease.

	Normal pH on both days	Abnormal pH on one day	Abnormal pH on both days	p value
Total Length(cm)	2.9 (2.4-3.6)	2.7 (2.2-3.4)	2.3 (1.6-3.2)	0.0002
Abdominal Length (cm)	1.8 (1.4-2.3)	1.6 (1.0-2.0)	1.2 (0.8-1.8)	p<0.0001
Sphincter Pressure (mmHg)	14.9 (10.2-23.7)	13.7 (8.7-18.3)	9.2 (5.5-15.0)	p<0.0001
Prevelance of Defective Valve	17.3%	33.3%	51.2%	p<0.0001

P3

BRAVO® CATHETER-FREE pH MONITORING: NORMAL VALUES, CONCORDANCE, OPTIMAL DIAGNOSTIC THRESHOLDS AND ACCURACY

S. Ayazi, MD, J. C. Lipham, MD, G. Portale, MD, J. M. Leers, MD, A. Oezcelik, MD, E. Abate, MD, F. Banki, MD, S. R. DeMeester, MD, J. A. Hagen, MD, T. R. DeMeester, MD. Surgery, University of Southern California, Los Angeles, CA.

Purpose: Bravo® pH capsule is a new catheter-free intraesophageal pH monitoring system that avoids the discomfort and social embarrassment of an indwelling catheter. The objectives of this study were to: 1) obtain normal values for the first and second 24 hour periods of Bravo® recording in a series of 50 asymptomatic volunteers, and assess concordance between the two periods, 2) compare the normal values obtained for the first and second 24 hour recording period using the Bravo® pH capsule with those previously published for naso-esopahgeal pH catheter, 3) determine the optimal discriminating thresholds to distinguish patients with GERD from normal asymptomatic subjects and 4) validate the optimal threshold in a separate consecutive series of patients and identify the recording period with the greatest accuracy.

Methods: Normal values for the Bravo® were determined in 50 asymptomatic subjects for the first and second 24 hour periods of recording. The values were compared to each other and to published normal values obtained with naso-esopahgeal pH catheters. A test population of 50 subjects (25 asymptomatic, 25 GERD patients) was monitored with the Bravo pH capsule to determine optimal thresholds to discriminate between them. The thresholds for the first and second 24 hour period as well as the combined 48-hour recording period were validated by applying them to a series of 115 consecutive patients.

Results: Values in 50 normal subjects were similar in the first and second 24 hours of recording with the Bravo® capsule, but differed significantly from published data for the naso-esophageal pH catheter. The highest diagnostic accuracy occurs when the composite pH score is abnormal in either the first or second 24 hour recording period. The diagnostic yield in patients with indeterminate clinical evidence of GERD was 66%.

Conclusion: Variability in the pH measurement in normal subjects between a manometrically placed Bravo® capsule, a manometrically placed nasoesophageal catheter requires the utilization of normal values specific to the monitoring system. An abnormal composite pH score obtained with a manometrically placed Bravo® pH capsule in either the first or second 24 hour recording period is the most accurate method for confirming diagnosis of the GERD.

P4

INTRAEPITHELIAL EOSINOPHIL INFILTRATION IN PATIENTS WITH GERD: CORRELATION WITH DYSPHAGIA

S. Ayazi, MD,[1] J. A. Hagen, MD,[1] P. Gholami, MD,[2] A. L. Tang, MD,[1] S. R. DeMeester, MD,[1] J. C. Lipham, MD,[1] F. Banki, MD,[1] P. Chandrasoma, MD,[3] T. R. DeMeester, MD,[1] M. M. Kline, MD[2]. 1. Surgery, University of Southern California, Los Angeles, CA; 2. Medicine, University of Southern California, Los Angeles, CA; 3. Pathology, University of Southern California, Los Angeles, CA.

Purpose: The clinical entity eosinophilic esophagitis (EE) most commonly presents with dysphagia and is associated with large numbers of intraepithelial eosinophils at all levels of the esophagus. Dysphagia is also a common complaint of patients with gastroesophageal reflux disease (GERD), yet little attention has been paid to the presence of eosinophils in these patients. The aim of this study was to investigate the relationship between dysphagia and the number of eosinophils in patients with proven GERD.

Methods: The data from 3159 patients referred to our esophageal function laboratory from 1999-2007 were reviewed. Patients with GERD (positive 24hour pH test) who complained of dysphagia were included. In order to assess the relationship between eosinophil secretory products and dysphagia, patients with mechanical causes for dysphagia (large hiatal hernia (>4cm), post anti-reflux surgery, esophageal stricture) and named esophageal motor disorders (achalasia, criopharyngeal dysfunction) were excluded. The patients were divided into 3 groups based on the presence of dysphagia as their primary, secondary or tertiary symptom. A control group consisted of 25 patients with proven GERD and no dysphagia. Biopsies taken from the gastroesophageal junction (GEJ) and from the esophageal body 3-5 cm above the GEJ were analyzed by a single experienced pathologist. Forty high power fields (HPF) were examined at each level and the number of intraepithelial eosinophils was counted per HPF. The highest number of eosinophils per HPF was recorded and compared across the 4 groups.

Results: Seventy one patients, [42 M/29 F, median age 49 years (IQR: 41-59)] were included. Thirteen (20%) had asthma or allergy symptoms. Eosinophil counts didn't differ in those with or without asthma/allergy symptoms (p=0 .534.) Dysphagia was the primary symptom (Sx) in 13(18%), secondary symptom in 34(48%) and tertiary symptom in 24(34%). The number of eosinophils per HPF differed significantly between the 4 groups (table), with the highest number of eosinophils in patients with a primary symptom of dysphagia. Similar findings were noted when eosinophil counts were compared separately for biopsies from the GEJ (p=0.0057) and the esophageal body (p=0.0063).

Conclusion: There is an association between the number of intraepithelial eosinophils and the symptom of dysphagia in patients with GERD. Patients with dysphagia as their primary symptom have significantly more intraepithelial eosinophils than those with lesser degrees of dysphagia. These findings suggest that the eosinophil may play a role in causing dysphagia.

	Primary Sx (n=13)	Secondary Sx (n=34)	Tertiary Sx (n=24)	No Dysphagia (n=25)	p value
Eosinophil count Median (IQR)	31 (2-66)	3 (0-33.5)	0 (0-3)	0 (0-3)	0.0005

P5

LONG TERM OUTCOMES AND PREDICTORS OF PROGRESSION IN BARRETT'S ESOPHAGUS AND INDEFINITE DYSPLASIA

S. Achra, MBBS, G. A. Prasad, MD, MS, Y. Bhardwaj, MBBS, R. J. Baddreddine, MD, N. S. Buttar, MD, K. T. Dunagan, LPN, L. S. Lutzke, LPN, L. S. Borkenhagen, RN, FNP, K. K. Wang, MD. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.

Purpose: Barrett's esophagus (BE) predisposes to esophageal adenocarcinoma. Indefinite dysplasia (IND)is a poorly characterized subset of BE, conventionally combined with low grade dysplasia (LGD) for management purposes. The natural history and outcomes of patients with IND and BE is poorly characterized. We aimed to define the natural history, outcomes and predictors of progression (high grade dysplasia and/or carcinoma) of a cohort of patients with BE and indefinte dysplasia.

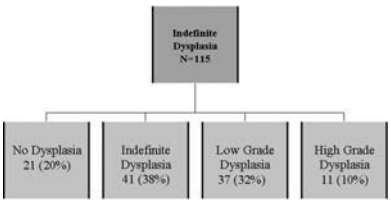
Methods: We identified all patients with IND and BE from a pathology database at Mayo Clinic Rochester between 1997 and 2007. Histologic diagnoses were confirmed by a gastrointestinal pathologist in all patients. Patients with preexisting or coexistent LGD, high grade dysplasia (HGD) or carcinoma were excluded. Demographic, clinical, endoscopy and pathology data were extracted from review of medical records. Standard statistical tests were used to summarize data and assess rates of progression.

Results: 115 patients were identified(Mean age 59 years (SD 15); 77% males). Median BE segment length was 5 cm(IQR 3-8). 36 (31%) had prevalent IND and the rest had incident IND (with initial pathology being no dysplasia). 99% of patients were treated with PPIs. The mean follow up following diagnosis of IND was 36 months (SEM 4.3). 5 patients did not undergo surveilllance endoscopy after the diagnosis of IND and BE. Surveillance endoscopy was performed in the rest with 4 quadrant biopsies taken every 2 centimeters of the BE segment. 8 patients (7%) underwent endoscopic mucosal resection for nodular lesions. The outcomes of patients with IND are shown in figure 1. No patient developed carcinoma.11 (10%) of patients progressed to HGD. A substantial proportion regressed to no dysplasia (10%) or did not progress beyond IND (38%). The median time to progression to HGD was 56 months (IQR 12-96m). Comparison of variables in progressors and non progressors to HGD is shown in table 1.

Conclusion: Patients with IND and BE appear to have a small but significant risk of progression to HGD. Longer BE segment length and nodularity appear to predict a higher risk of progression to HGD in these patients.

Predictors of progression in Indefinite Dysplasia and Barrett's esophagus

Variable	Progressors (11)	Nonprogressors (104)	p value
Age (mean)	60y	59y	0.85
Male Gender (%)	73%	77%	0.75
BE segment length (mean)	7.1 cm	5.4 cm	0.16
Nodularity on EGD	72%	0%	<0.001
Incident IND dysplasia (%)	36%	53%	0.29



Outcomes of patients with Barrett's Esophagus and Indefinite Dysplasia

P6

A NOVEL ENDOESOPHAGEAL MAGNETIC DEVICE TO PREVENT GASTROESOPHAGEAL REFLUX

M. Bortolotti, MD,[1] A. Grandis, VD,[2] G. Mazzero, MD[1]. 1. Internal Medicine and Gastroenterology, University of Bologna, Bologna, Italy; 2. Department of Veterinary Morphophysiology and Animal Productions, University of Bologna, Bologna, Italy.

Purpose: The endoscopic methods to prevent gastroesophageal reflux (GER) show a scarce effectiveness and may narrow the esophageal lumen,sometimes leading to dysphagia(Clin Gastro Hepatol 2005;3:831).The aim of this study was to demonstrate the possibility of implanting by endoesophageal way a magnetic valve in the esophageal submucosa,close to lower esophageal sphincter(LES),to strengthen the incompetent LES.

Methods: The device consists in a couple of small magnetic plaques of about 5x 20x1.5 mm destined to be implanted by means of a special endoluminal device in the esophageal submucosa close to LES in 5 esophago-gastric specimens taken from swines.The delivery device serves to make two pockets in the submucosa one in front of the other,where the magnets are deployed,first in one side and after in the opposite one,with the contrary polarities face to face,so that they can attract themselves, closing the lumen.A series of 5 slow pull-throughs with a thin side-hole manometric catheter was carried out in each specimen before and after the insertion of the magnets and the mean pressure values were compared by means of Student t test for paired data.

Results: The new HPZ showed a length of about 2 cm and a pressure of 14.2±1.27 mmHg(mean±SD),significantly($p<0.001$)higher than that measured before the insertion of the magnetic valve(1.5±0.26 mmHg).

Conclusion: The present research demonstrated that it is possible to create at LES level a new HPZ that is considered sufficient to prevent GER(N Engl J Med 1982;307:151),by implanting in the esophageal submucosa of swine gastroesophageal specimens,close to LES,a magnetic device by means of a special endoluminal delivery probe.The main advantage of this system,beside its reversibility and the possibility of tailoring the HPZ for each patient by choosing magnets with different magnetic force,shape and size,lies in the fact that the magnetic valve does not give a rigid lumen closure,as that obtained with other endoscopic methods,but creates a"dynamic closure",that may allow an easy content transit, when the magnetic plaques are detached by the endoesophageal pressure.As a matter of course,before considering this magnetic valve a simple and effective non-surgical solution of the GER problem,it is necessary to perform"in vivo"experiments in animals by using magnets covered with bio-compatible materials and with a proper attraction force,that does not damage the tissues,but is able to strengthen LES to prevent GER.

P7

THE PREVALENCE OF GASTROESOPHAGEAL REFLUX IN PATIENTS WITH PARADOXICAL VOCAL FOLD MOTION

J. Boger, MD, J. Gurevich-Uvena, MA CCC-SLP, E. Frizzel, MD, W. E. Norris, MD, C. L. Maydonovitch, BS, J. L. Perry, MD, J. T. Laczek, MD, R. K. Wong, MD. Walter Reed Army Medical Center, Washington, DC.

Purpose: Paradoxical vocal fold motion (PVFM) is an inappropriate adduction of the true vocal folds, which causes airway obstruction and inspiratory stridor. PVFM may lead to wheezing and is often mistaken for asthma, and patients are treated with glucocorticoids and beta-agonists inappropriately. There is a body of evidence stating that irritation of the vocal folds may cause or exacerbate PVFM. One-third of PVFM patients have been shown to report GERD symptoms, but studies to evaluate PVFM patients with pH monitoring have all been small (< 10 subjects). We studied patients with PVFM to determine the prevalence of GERD in this population as diagnosed by esophagogastroduodenoscopy (EGD) or 48-hour esophageal acid monitoring.

Methods: Patients diagnosed with PVFM by flattened inspiratory loop on pulmonary function testing underwent EGD with BRAVO capsule placement at 6 cm proximal to SCJ. All patients abstained from acid suppression agents (PPI's, H2RA's) for 7 days prior to the EGD. 48 hours of pH monitoring was performed with the BRAVO capsule. Patients were considered to have a diagnosis of GERD if they had any evidence of erosive esophagitis on EGD or if they had a positive Johnston-Demeester (JD) score (>22) during the second 24-hour period of pH monitoring by BRAVO capsule.

Results: 32 patients (20 females, mean age 42 + 16 yrs) with PVFM completed the study. 31% (10/32) of subjects had a positive JD score, 50% of which had significant combined upright and supine reflux. On EGD, 18.8% (6/32) had evidence of esophagitis. Two subjects with esophagitis had a normal JD score. In this study the prevalence of GERD in PVFM was 37.5% (12/32, 95% CI 21.1-56.3%). Of GERD positive subjects, 50% (6/12) had evidence of esophagitis and 50% had atypical or no symptoms of GERD. GERD pos and GERD neg groups were similar in mean age (43 + 16 yrs vs. 41 + 16 yrs, P = 0.708) and sex (female, 50% of GERD pos vs. 70% of GERD neg, P = 0.452).

Conclusion: GERD prevalence in this study was 37.5%. This suggests a high prevalence of GERD in the PVFM population. Because of this, PVFM patients should be studied for GERD, especially since many are asymptomatic. This may also suggest that GERD plays a role in the pathogenesis of PVFM.

P8

HIGH RESOLUTION ESOPHAGEAL MANOMETRY (HRM): TOPOGRAPHICAL MAPPING OF ESOPHAGEAL MOTOR FUNCTION IN SCLERODERMA

P. M. Dionisio, MD,[1] W. L. Griffing, MD,[2] H. J. Garcia, PA-C,[2] J. DiBaise, MD,[1] G. E. Burdick, MD,[1] V. Sharma, MD,[1] M. Crowell, PhD[1]. 1. Gastroenterology, Mayo Clinic Scottsdale, Scottsdale, AZ; 2. Rheumatology, Mayo Clinic Scottsdale, Scottsdale, AZ.

Purpose: Scleroderma esophagus is associated with fibrosis of smooth muscle with consequent loss of LES tone and peristalsis. Conventional esophageal manometry utilizes limited pressure sensors to characterize contractile patterns. HRM utilizes 36 closely spaced, solid-state pressure sensors to provide a more detailed assessment and topographical mapping of esophageal function. HRM has not been adequately described in scleroderma patients. We hypothesized that topographical mapping and isocontour pressure plots would enhance description of clinically relevant abnormalities of peristaltic function in scleroderma patients.

Methods: HRM was completed using a solid-state manometry catheter with 36 circumferential sensors spaced at 1-cm intervals. Data visualization and reduction were performed using Manoview analysis software. LES tone was measured as the end-expiratory pressure during resting. LES residual pressures were assessed as the lowest mean residual pressures over a 3-s interval post-swallow using the eSleeve method. The Distal Contractile Integral (DCI) was calculated from 30 mmHg isobaric contour plots. Measures were derived from 5cc water swallows (n=640). Esophageal motor function was characterized by topographical pressure parameters: 1) esophagogastric junction (EGJ) tone, 2) deglutitive EGJ relaxation, 3) contraction amplitudes, and 4) peristaltic dysfunction. All results are reported as percentages of the total or the mean (SD).

Results: HRM was attempted in 65 scleroderma patients and completed in 64 (51±8yrs; 54F). One patient was excluded due to inability to pass the probe beyond the EGJ. The classic Scleroderma pattern, defined as the lack of a continuous pressure domain above an isobaric contour of 30 mmHg in the distal esophageal segment in any swallow and a mean LES pressure <10 mmHg, was found in only 37/64 (58%) of patients. Hypotensive end-expiratory LES tone (<10 mmHg) with normal peristaltic function and EGJ relaxation was seen in 4/64 (6%). Low-amplitude peristaltic contractions with normal intermittent simultaneous, multi-peaked contractions were noted in the distal body of 8 patients (13%). Four patients (6%) demonstrated vigorous, high-amplitude peristaltic contractions in the esophageal body consistent with Nutcracker esophagus. An additional 5 patients (9%) demonstrated normal motor function. Unique pressure topography was observed among the subtypes noted for DCI, basal LES, and LES residual pressures.

Conclusion: These data support the hypothesis that topographical mapping and isocontour pressure plots using high-resolution manometry enhance the description of clinically relevant abnormalities of peristaltic function in scleroderma patients, with a variety of altered motor patterns.

P9

POST 9/11 GERD: A NEW ENTITY

R. Rajapaksa, MD, Q. Cheng, PHD, M. Liu, PHD, M. Fernandez-Beros, PHD, J. Reibman, MD. Medicine, NYU School of Medicine, New York, NY.

Purpose: The World Trade Center Environmental Health Center (WTCEHC) was established to respond to emerging health issues related to the attack on 9/11/01 in New York City. The WTCEHC serves individuals who were exposed to WTC dust or fumes, including residents, office workers, New York City employees, volunteers and individuals involved in debris removal and clean-up. Although there have been several studies addressing the pulmonary effects of WTC exposure, the effects of WTC exposure on esophageal disease has not been well characterized. The aim of this study was to assess the incidence of and nature of post 9/11 GERD symptoms.

Methods: Participants were self-referred for medical symptoms and WTC exposure in Southern Manhattan in the year after 9/11. A questionnaire was administered to all patients presenting to WTCEHC. This questionnaire contained questions assessing the presence of GERD symptoms (heartburn and/or "acid indigestion"), and their onset,frequency, duration, and treatment.

Results: The first 1575 individuals in WTCEHC treatment program were enrolled between August 2005 and November 2007. The study population was comprised of 537 clean-up workers, 515 local workers, 324 residents,167 rescue workers, and 32 individuals with other types of exposure. There was a slight male preponderance (54%) and the mean age was 48 years (Table 1). Of the total population, 10% reported experiencing GERD symptoms prior to 9/11 and 55% reported the onset of GERD symptoms after 9/11 (Table 2). Post 9/11 GERD was associated with race with Whites having the highest rate of symptoms (p<.0001). Post 9/11 GERD was also associated with an increased BMI (p=.0002). When compared with respiratory symptoms, post 9/11 GERD was associated with post 9/11 cough (p=.003), post 9/11 wheeze (p<.0001) and post 9/11 shortness of breath with exertion (p<.0001).

Conclusion: A large proportion of individuals exposed to WTC dust and fumes developed new GERD symptoms after 9/11. There appeared to be an association of the development of post 9/11 GERD and race, BMI, and respiratory symptoms. Further studies are ongoing to evaluate these patients and further characterize their esophageal disease through pH testing and endoscopy.

Patient demographics

	Total	Resident	Worker	Clean-up	Rescue
Gender, % (n)					
male	54 (850)	52 (169)	46 (238)	55 (295)	79 (132)
female	46 (725)	48 (155)	54 (277)	45 (242)	21 (35)
Age,mean (range)	48 (17-87)	53 (17-87)	50 (20-86)	43 (22-72)	46 (24-83)
Race, %					
Asian	12	44	9	1	4
White	45	37	44	43	66
Black	15	8	31	4	11
Native American	1	0	1	1	2
Other	27	19	15	51	17

GERD symptoms (n=1575)

	GERD symptoms before 9/11 % (n)	GERD symptoms after 9/11 % (n)
Total	10 (151)	55 (825)
Rescue workers	12 (20)	59 (93)
Residents	13 (39)	46 9141)
Local workers	12 (60)	50 (251)
Clean-up	6 (28)	65 (327)

P10

ARE TROUBLESOME GERD-RELATED SYMPTOMS REFLECTING CHARACTERISTICS OF THE DISEASE OR THE PATIENT?

E. Rey, MD,[1] J. Zapardiel, MD,[2] M. Munoz, MD,[2] E. Sobreviela, PhD[3]. 1. Gastroenterology Unit, H.C.U Clinco San Carlos, Madrid, Spain; 2. Medical Department, Astrazeneca Spain, Madrid-Spain, Spain; 3. Biometric Unit, Quinitiles IBERIA, Madrid, Spain.

Purpose: Definition of gastroesophageal reflux disease (GERD) is a debatable issue. It has been proposed that typical symptoms are constitutive of GERD if they are considered by the subjects as "troublesome" (Montreal Consensus). However, it is unknown to what extent reporting symptoms as troublesome is dependent on characteristics of subjects or symptoms themselves, and what are the differences between symptoms reported as troublesome and not, both in symptomatic subjects with and without PPI treatment. Our aim was to evaluate the differences between troublesome (TS) and non troublesome symptoms (NTS) and wich are the factors associated with TS in primary care subjects. We also aim to evaluate what the factors are associated with persistent GERD (persistence of TS) despite PPI therapy.

Methods: Design: multi-centric cross-sectional survey. Patients attending Primary care centres in Spain consulting with heartburn or acid regurgitation were recruited. All of them completed a set of questionnaires, including a question to self-define their symptoms as TS or NTS ("Do you consider your heartburn and/or regurgitation symptoms as troublesome?"). Frecuency of symptoms was collected using the RDQ and GIS questionnaires. Data regarding sociodemographic variables, comorbidities, co-medications and treatment (drug and doses) were collected by the primary care physician. A logistic regression model was constructed to predict the presence of TS in patients without PPI therapy. Another logistic regression model was contructed to assess factors associated with TS under PPI treatment.

Results: 4,574 patients were included; 1,887 without previous PPI treatment and 2,596 on PPI treatment. Among those without PPI treatment, 1,650 reported their symptoms as troublesome, while 237 did not. Patients with TS were slightly older, male gender was more frequent, and a higher proportion suffered from hypercholesteremia. In the regression model to predict TS, all the variables were symptom-related except hypercolesteloremia: frequency of regurgitation, frequency of epigastric burning pain, and frequency of sleeping problems. Of those on PPI treatment, 2,596 reported TS and 238 did not. There were not differences between patients with TS and TNS in subject's related factors, but smoking. In the regression model, factors associated with TS on PPI therapy were all symptom-related: frequency of regurgitation and frequency of sleeping problems.

Conclusion: The symptom perception as troublesome depended mostly on the characteristic of the symptoms, especially the frequency of acid regurgitation and nocturnal symptoms. The same variables are considered as predictive factors of TS symptoms in naïve patients and patients under PPI treatment.

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P11

WHEN ESOPHAGEAL RINGS ARE PRESENT BUT EOSINOPHILS ARE SPARSE: IS DEGRANULATION A FACTOR?

W. Cobell, MD,[1] A. Georgelas, MS,[2] G. Gleich, MD,[2] K. Leiferman, MD,[2] F. Clayton, MD,[3] K. Thomas, BS,[1] J. C. Fang, MD,[1] K. Peterson, MD, MSci[1]. 1. Gastroenterology, University of Utah, Salt Lake City, UT; 2. Dermatology, University of Utah, Salt Lake City, UT; 3. Pathology, University of Utah, Salt Lake City, UT.

Purpose: The diagnosis of eosinophilic esophagitis (EoE) is based on clinical symptoms, endoscopic findings and histology. Current histologic guidelines require >15-20 eosinophils per HPF. However, some patients present with symptoms and endoscopic findings suggestive of EoE, but biopsies fail to meet histologic criteria. We hypothesized that such patients would have eosinophilic degranulation similar to EoE patients.

Methods: Subjects were chosen from our institution's endoscopic database based upon their histologic and endoscopic findings. 10 EoE (>20 eos/HPF), 8 "suspicious for EoE" (dysphagia, endoscopic rings/furrows, but <20 eos/HPF (range 5-17)), and 5 normals (only a rare eos/HPF) were chosen. Tissue sections were stained with rabbit anti-human MBP and anti-human EDN. Degranulation was scored 0-4 by blinded expert immunodermatologist via previously established criteria.

Results: Definite EoE patients had increased proximal MBP and EDN staining versus controls (p=0.0001 and p=0.0003 respectively). Suspicious for EoE patients had increased MBP and EDN staining versus controls (p< 0.002 for both). There was no difference in MBP and EDN staining between the definite and suspicious for EoE patients proximally. The intensity MBP and EDN staining correlated with eosinophil counts (0.72 and 0.65 respectively, p<0.001).

Conclusion: Patients with definite EoE and suspicious for EoE have increased eosinophil degranulation compared to normals. Definite EoE and suspicious for EoE patients have similar degranulation proximally but suspicious for EoE patients have less eosinophil degranulation distally. Eosinophilic degranulation is present within the esophagus of many patients with esophageal rings/furrows and results in an underestimation of eosinophil counts. Thus, patients with "ringed esophagus" who fail to meet the diagnostic criteria of 15-20 eos HPF may truly have an eosinophilic infiltrate underdiagnosed due to degranulation.

	Definite EoE	Suspicious for EoE	Normal	p value
Proximal Median MBP ± STDEV	1.0 ± 1.3	0.75 ± 0.72	0 ± 0	p=0.0001 (Definite EoE vs. Normal) p<0.002 (Suspicious for EoE vs. Normal)
Proximal Median EDN ± STDEV	4.0 ± 1.1	2.5 ± 1.4	0 ± 0	p=0.0003 (EoE vs. Normal) p<0.002 (Suspicious for EoE vs. Normal)

P12

RELATIONSHIPS BETWEEN INHIBITION OF GASTRIC AND ESOPHAGEAL ACIDITY IN GERD PATIENTS BEING TREATED WITH A PROTON PUMP INHIBITOR

J. D. Gardner, MD,[1] S. Sloan, MD,[2] M. Robinson, MD,[3] P. Miner, MD[3]. 1. Science for Organizations, Mill Valley, CA; 2. Janssen Pharmaceutica, Titusville, NJ; 3. Oklahoma Foundation for Digestive Research, Oklahoma City, OK.

Purpose: Pharmaceutical companies sometimes measure effects of a proton pump inhibitor (PPI) on gastric pH but not esophageal pH, even though the PPI is intended to treat gastroesophageal reflux disease (GERD). Gastric acidity is typically quantified as time gastric pH<4; however, this measure underestimates the magnitude of the effect of the PPI on gastric acidity compared to measuring integrated acidity. Our aim is to compare values for inhibition of integrated gastric acidity to corresponding values for inhibition of integrated esophageal acidity in GERD subjects being treated with a PPI, and to compare values for inhibition of integrated acidity to corresponding values for inhibition of time pH<4.

Methods: Esophageal and gastric pH was recorded in 27 subjects with GERD who experienced heartburn at least 4 times/week for at least 6 months. Recordings (n=189) were performed at baseline and on days 1, 2 and 8 of treatment with 20mg omeprazole and 20mg rabeprazole in a randomized, 2-way crossover fashion. Inhibition of acidity was calculated using data from baseline and day 8 of treatment (n=54).

Results: Inhibition of integrated esophageal acidity over 24 hours (85-3%, mean-SEM) and during nighttime (89-3%) was significantly higher (P<0.0002) than inhibition of integrated gastric acidity during 24 hours (70-4%) and nighttime (69-4%). Inhibition of integrated esophageal acidity during daytime (80-3%) did not differ significantly (P=0.376) from inhibition of integrated gastric acidity during daytime (76-4%). Inhibition of time esophageal pH<4 over 24 hours (63-4%) and during nighttime (64-4%) was significantly higher (P<0.005) than inhibition of time gastric pH<4 during 24 hours (48-3%) and nighttime (40-3%). Inhibition of time esophageal pH<4 during daytime (59-4%) did not differ significantly (P=0.645) from inhibition of time gastric pH<4 during daytime (57-4%). All values for inhibition of integrated acidity were significantly higher (P<0.0001) than corresponding values for inhibition of time pH<4.
Conclusion: The present results indicate that using PPI inhibition of gastric acidity to infer PPI inhibition of esophageal acidity will underestimate the extent of inhibition of esophageal acidity during 24 hours and nighttime, but not during daytime. Furthermore, measuring inhibition of time pH<4 will significantly underestimate the magnitude of PPI inhibition of both gastric and esophageal acidity during all periods compared to measuring inhibition of integrated acidity.
Disclosure - Dr. Gardner is resident of Science for Organizations,a comany that provides consulting services to pharmaceutical and biotechnology companies. Dr. Sloan is an employee of Janssen.
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P13

ABNORMAL GERD PARAMETERS DURING AMBULATORY pH MONITORING (PHM) PREDICT THERAPEUTIC SUCCESS IN NONCARDIAC CHEST PAIN (NCCP)
V. Kushnir, MD, M. J. Hersh, MD, G. S. Sayuk, MD, MPH, C. Gyawali, MD, MRCP.
Gastroenterology, Washington University School of Medicine, Saint Louis, MO.
Purpose: We have previously proposed an hierarchical system of evaluating GERD evidence in NCCP, using acid exposure time (AET) elevation, symptom association probability (SAP) and symptom index (SI) in sequence. The value of these parameters in predicting therapeutic success in NCCP has not been systematically evaluated in outcome studies.
Methods: 98 subjects with NCCP (51±1.2 yr, 75F, duration of symptoms 7.3±0.4 yr) underwent pHM off antisecretory therapy. Distal esophageal AET (abnormal if ≥4.0), SAP (positive if p<0.05), and SI (abnormal if ≥50%) were calculated; symptom severity was assessed on a 10 mm visual analog scale. Subjects were interviewed 2.7±0.1 yr after the pH study to determine degree of symptom improvement (HDR=high degree response, definite, sustained symptom improvement). Linear regression analysis determined independent predictors of HDR.
Results: 52 subjects (53.1%) had abnormal AET, 26 (26.5%) had positive SAP, and 25 (25.5%) had positive SI. 61 (62.2%) had any of these GERD indicators. Esophageal motor pattern was determined by high resolution manometry in 92 subjects; 47.8% had a spastic disorder, 16.3% had hypomotility, and 35.9% were normal. All subjects received initial pharmacologic antireflux therapy (ART); 25.5% later underwent antireflux surgery; 46.9% were also treated with neuromodulators. With therapy, mean symptom scores improved from 6.3±0.3 at the time of the pH study to 2.9±0.3 on follow-up interview (p<0.001). 58 subjects (59.2%) achieved HDR, and another 29.6% had moderate symptom improvement. On univariate analysis, HDR was significantly associated with positive SAP (p=0.003) and elevated AET (p=0.015), but not demographics, SI esophageal motor pattern or psychiatric comorbidity. Frequency of HDR was highest when subjects had both elevated AET and positive SAP (88.2% HDR); intermediate when only one parameter was abnormal (elevated AET alone: 71.4% HDR, positive SAP alone: 66.7% HDR), and lowest when neither parameter was abnormal (32.4% HDR, p<0.001 across groups by ANOVA). In linear regression analysis containing demographics, GERD indicators, psychiatric comorbidity, and esophageal motor pattern, positive SAP was retained as a significant predictors of HDR (p=0.004); elevated AET trended towards significance (p=0.05). 73.5% of subjects indicated ART was the most effective treatment, while 10.2% had the most relief from neuromodulators; 16.3% reported no sustained relief from any form of therapy.
Conclusion: Positive SAP predicts therapeutic success of GERD management in NCCP. Response to ART is best when both SAP and AET are abnormal and worst when both are normal. These results support the importance of GERD, the relevance of SAP testing during ambulatory pHM, and the value of ART in NCCP.
Disclosure - Dr. Gyawali: Speaker's Bureau and Research Support from Sierra Scientific

P14

EFFECTS OF INTRADUODENAL NUTRIENT INFUSION ON CCK LEVELS, LES PRESSURE, AND GASTROESOPHAGEAL REFLUX (GER)
B. E. Lacy, PhD, MD, FACG,[1] L. Paquette, RN,[1] M. L. Kelley, MD,[1] J. Carter, MD,[2] J. Weiss, MS[3]. 1. Division of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH; 2. Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH; 3. Community & Family Medicine, Dartmouth Medical School, Hanover, NH.
Purpose: Background: Fats are associated with increased GER and CCK (cholecystokinin) is thought to play a role. The contribution of other nutrients to GER is not well described. Aims: Evaluate the effects of intraduodenal nutrient infusion on serum CCK levels, lower esophageal sphincter (LES) pressure, and GER.
Methods: 24 healthy asymptomatic Caucasian volunteers were studied. A water-perfused, 6 cm Dent sleeve catheter (Dentsleeve International Ltd) was positioned across the LES fluoroscopically; an infusion port was located in the 2nd portion of the duodenum. An impedance-pH catheter (Sandhill Scientific) was attached to the catheter with the pH probe 5 cm above the upper border of the LES. After a 1-hour accommodation period baseline CCK levels were measured. Volunteers were randomized to receive one of 3 separate 60 kcal nutrient infusions over 30 minutes (2 cc/min): fat (F; Microlipid, Novartis Medical Nutrition); carbohydrate (C; Polycose, Ross Nutrition); or protein (P; Beneprotein, Novartis Medical Nutrition). All substances were dispersed in normal saline. Blood samples were drawn 5, 10, 15, and 25 minutes after nutrient infusion. LES resting pressure was measured at baseline and 60 minutes after nutrient infusion. Reflux events were categorized as either acid or non-acid in nature using a pH cut-off of 4.0.
Results: No statistically significant difference was found among the 3 groups with regards to demographics, number of reflux events, number of acid events or percent of time with acid. A trend was noted for increased reflux and acid exposure events in the fat group. CCK levels were significantly higher in the fat group compared to the other 2 groups at 10, 15, and 25 minutes after nutrient infusion. The mean post-infusion LES pressure was significantly lower than mean baseline LES pressure in the F group (p=0.02).
Conclusion: Intraduodenal fat infusion led to a statistically significant increase in CCK levels in normal volunteers, while protein and carbohydrate did not. Reflux events were more frequent in volunteers infused with fat compared to protein or carbohydrate, although this did not reach statistical significance. LES pressure decreased significantly after fat infusion. Further studies are needed to better define the relationship between fat infusion, CCK release, LES pressure, and GER.

N=24 subjects	Fat (F) Mean (+/-SD) N = 8	Carbohydrate (C) Mean (+/-SD) N = 8	Protein (P) Mean (+/-SD) N = 8	p-value for differences between groups
Demographics				
Age	32.4 (10.9)	26.0 (4.4)	29.3 (9.0)	0.35
Female (N%)	6 (75)	3 (37.5)	3 (37.5)	0.22
BMI	22.8 (3.2)	20.9 (2.9)	23.8 (2.2)	0.14
# Reflux Events	15.3 (13.4)	7.0 (9.7)	11.6 (8.6)	0.33
# of Acid Events	6.3 (9.0)	2.9 (5.6)	0.9 (1.1)	0.23
% of time - acid exposure	5.9 (11.2)	0.6 (0.7)	0.7 (1.0)	0.46
Time Point - CCK levels	Fat	Carbohydrate	Protein	
Baseline	4.3 (2.7)	5.1 (1.7)	5.4 (2.6)	NA
5 mins	5.5 (3.3)	4.1 (1.0)	5.3 (1.9)	0.11
10 mins	8.4 (3.3)	5.3 (1.4)	5.2 (2.2)	0.01
15 mins	11.4 (9.4)	5.4 (1.6)	5.8 (3.3)	0.03
25 mins	9.6 (6.4)	5.1 (1.6)	5.4 (3.2)	0.02
LES Pressure (mm Hg)	Fat	Carbohydrate	Protein	
Baseline (mm Hg)	16.3 (1.6)	17.4 (2.7)	17.6 (2.0)	0.63
Post-infusion (mm Hg)	13.8 (4.0)	17.1 (2.2)	16.8 (1.2)	0.04
Mean pressure difference within nutrient group	-2.9 (2.6)	-0.3 (1.5)	-0.9 (1.5)	0.03
p-value for pressure differences within nutrient group	0.02	0.65	0.13	

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P15

EFFICACY AND SAFETY OF RADIOFREQUENCY ABLATION FOR BARRETT'S ESOPHAGUS WITH HIGH GRADE DYSPLASIA: THE WASHINGTON UNIVERSITY EXPERIENCE

A. Y. Oza, BA, MD, D. Early, MD, S. A. Edmundowicz, MD. Internal Medicine Division of Gastroenterology, Washington University, St. Louis, MO.

Purpose: The BARRX® system is an alternative to esophagectomy for patient with Barrett's esophagus (BE) and high grade dysplasia (HGD). It applies uniform, controlled radiofrequency ablation (RFA) at a consistent depth to remove the epithelial layer of cells of the esophageal wall allowing re-epithelialization by normal squamous mucosa. We report our single center experience using BARRX® RFA in BE patients with HGD.

Methods: We carried out a retrospective review of all BE patients (pts) with biopsy documented HGD treated with the BARRX® procedure at our institution from 2005 to 2008. The primary outcome was the histologic clearance of both intestinal metaplasia and dysplasia. Nodular BE was treated with EMR prior to RFA. All pts were treated with a combination of HALO 360® and HALO 90® ablation at 3 month intervals until all endoscopically visible BE was ablated. Pts were maintained on twice daily proton pump inhibitors. Follow up endoscopies were scheduled at 3 to 6 month intervals with jumbo forceps biopsies of the ablated mucosa, and any mucosa suspicious for persistent BE. All pathology was interpreted by Washington University pathologists. Pts enrolled in multicenter prospective treatment studies of HGD were excluded.

Results: Nineteen pts were identified that had initiated or completed BARRX® treatment. (77.2% male, mean age 72.3 years, all Caucasian). The mean length of BE was 6.32 cm. Five patients had short segment (< 3cm) BE (SSBE) and 14 had long segment BE (LSBE). One patient with LSBE is continuing active ablation. Eighteen patients completed RFA and were analyzed on an intention to treat basis. During therapy 2 patients (11%) progressed to adenocarcinoma (one patient developed invasive cancer), RFA was suspended, and both were not operative candidates. Sixteen patients have completed ablation therapy. In 12 patients (67%) after a median of 2.25 treatment sessions, there was complete histologic clearance of BE. In total, 83% of patients are free of dysplasia at follow-up. One pt relapsed with LGD 22 months after ablation. Complications occurred in 4 patients during treatment including chest pain (1), dysphagia (1), and strictures requiring a single balloon dilation (2).

Conclusion: BARRX® RFA treatment effectively eradicates dysplasia in 83% of patients with Barrett's esophagus and high grade dysplasia when analyzed on an intention to treat basis. Our results demonstrate adenocarcinoma can develop in patients with HGD undergoing ablative therapy. Long term follow up studies are needed to determine appropriate post RFA surveillance intervals, and the incidence of dysplasia recurrence.

Disclosure - Steven A. Edmundowicz M.D. is a compensated lecturer for Barrx®. Barrx® has also supported Dr. Edmundowicz's clinical reasearch at Washington University in the past.

P16

HOW MUCH ADDITIONAL PROCEDURE TIME IS REQUIRED TO OBTAIN MULTIPLE MUCOSAL SURVEILLANCE BIOPSIES IN PATIENTS WITH BARRETTS ESOPHAGUS?

A. Rackoff, MD,[1] S. Kucera, MD,[1] S. Tanimu, MD,[2] D. Yu, PhD,[3] W. Zhu, MS,[3] J. Barthel, MD[2]. 1. Division of Digestive Diseases, Univ of South Florida, Tampa, FL; 2. Division of Gastrointestinal Oncology, Moffitt Cancer Center, Tampa, FL; 3. Moffitt Cancer Center, Tampa, FL.

Purpose: We have observed that only 29% of patients referred for ablation of Barretts esophagus (BE) at our institution have had an appropriate number of surveillance biopsies based on systematic biopsy protocols. We speculate incomplete biopsy sampling may be related to the increased length of time required to perform these biopsies. We hypothesize that there is an identifiable number of mucosal biopsies that will consistently lengthen the total duration of EGD by multiples of the time to perform the observational component of the EGD and that the time required for each biopsy does not accumulate or decay with repetition.

Methods: We performed a prospective cohort study of patients presenting for BE surveillance or confirmatory endoscopy in preparation for BE ablation at Moffitt Cancer Center from January to May of 2008. The time to complete the observational component (OC) and the therapeutic component (TC) of the EGD were recorded. The OC was defined as the time from scope insertion to completion of forward inspection of the esophagus, stomach, and duodenum and then withdrawal back to the distal esophagus. The TC consisted of the total time required to complete all esophageal biopsies. Additionally, the time required to obtain the first and last two biopsies was recorded.

Results: Seventeen consecutive patients, 14 (82%) males and 3 (18%) females, were included in this study to date. The median OC time was 3.7 (range 2.1 – 10.6) minutes while the median TC time was 4 (range 2.5 – 17.3) minutes for a median of 8 (range 4-28) biopsies. The median time to obtain the first two and last two biopsies was 55 (range 36-74) seconds and 48 (range 34-147) seconds, respectively, which were not significantly different (p=0.80). A linear regression of TC time vs. number of biopsies obtained revealed that 36 seconds (R^2=0.96, p<0.0001) was needed for each biopsy obtained, or in other words, 7.1 biopsies could be obtained in the same time it takes to complete the OC.

Conclusion: Our preliminary data suggests that for each 7.1 biopsies obtained, the total time of the EGD is increased by a multiple of the OC time. This data demonstrates that adherence to strict BE surveillance guidelines significantly lengthens the total procedure time and provides a benchmark for future research and development of technologies that will minimize operator time and improve patient care.

P17

BARRETT ESOPHAGUS IS ASSOCIATED WITH A LOWER PREVALENCE OF *H. PYLORI* GASTRITIS AND A HIGHER PREVALENCE OF REACTIVE GASTROPATHY

G. Sharabi, MD, C. M. Schuler, MD, R. M. Genta, MD. Pathology, Caris Diagnostics, Irving, TX.

Purpose: The incidence of adenocarcinoma of the gastroesophageal (GE) junction, believed to originate from Barrett esophagus (BE) in most cases, is increasing in parallel with the decreasing prevalence of *H. pylori* infection; eradication of *H. pylori* has been suspected of causing an increase in GE reflux diseases (GERD), the main cause of BE. This nation-wide study was designed to compare the status of the gastric mucosa in a group of patients with histologically confirmed BE with that of a group of patients with a normal esophageal mucosa.

Methods: We analyzed electronic data from Caris Diagnostics, a specialized gastrointestinal pathology group receiving specimens from gastroenterologists operating in community-based endoscopy centers in 40 states. For each patient, the database includes demographic and clinical information, endoscopic findings, site of origin, and the histopathologic report for each biopsy. To identify the records for eligible gastric and esophageal specimens, we extracted data from all cases examined from 4/01/07 to 3/31/08. Extracted data were stored in a Microsoft Access database. Statistical calculations were performed using SigmaStat 3.5; chi-square test, Student's t-test and the Mann-Whitney Rank Sum Test for non-parametric data were used as appropriate. A p value < 0.05 was considered significant.

Results: A total of 8,605 patients had biopsies from both the stomach and the lower third of the esophagus; from these, we extracted 874 patients with a diagnosis of BE (10.1%); 2,844 patients had a diagnosis of normal esophageal mucosa (NEM). Patients with any type of esophageal inflammation, ulcers, erosions, and focal intestinal metaplasia at the GE junction not specifically diagnosed as BE were excluded. Patients with BE were more likely to be men (51.6% vs. 40.7% for those with NEM, p<0.001) and considerably older (median age = 63 years) than those with NEM (median age 52, p<0.001). BE patients had a lower prevalence of *H. pylori* gastritis (5.8% vs. 9.2%, p=0.002), but a higher prevalence of reactive gastropathy (30.2% vs. 26.4%, p=0.031); their greater prevalence of gastric intestinal metaplasia (5.7% vs. 4.6%) did not attain statistical significance. The clinical indication for endoscopy was GERD-related in 48.4% of patients with a diagnosis of NSM, but only in 38.1% of those who had histologically confirmed BE (p<0.001).

Conclusion: This nation-wide study indicates that only a minimal proportion of patients with BE are concurrently infected with *H. pylori*. In contrast, approximately one third have reactive gastropathy; a portion of these may be related to alkaline pancreato-duodeno-biliary reflux, which might contribute to the pathogenesis of Barrett esophagus.

Disclosure - Dr Sharabi, Dr Schuler and Dr Genta are employees of Caris Diagnostics.

P18

LOWER RATES OF HEALING OF EROSIVE ESOPHAGITIS (EE) IN NONWHITE GERD PATIENTS

P. Sharma, MD,[1] H. B. El-Serag, MD, MPH,[2] D. A. Johnson, MD,[3] J. T. Monyak, PhD,[4] M. Illueca, MD[4]. 1. University of Kansas Medical Center, Kansas City, MO; 2. Baylor College of Medicine, Houston, TX; 3. Eastern Virginia Medical School, Norfolk, VA; 4. AstraZeneca LP, Wilmington, DE.

Purpose: To test for an association of race with healing of different grades of EE in GERD patients treated with once-daily PPIs.

Methods: This post hoc analysis pooled data from 5 similarly designed, double-blind, multicenter RCTs of esomeprazole 40 mg vs omeprazole 20 mg (SH-QBE-0013, -0016, -0052) or lansoprazole 30 mg (D9612C00083, D9612L00046) for EE healing. Eligible adults had endoscopically verified EE, graded using the Los Angeles (LA) classification system. PPIs were given 30–60 min before breakfast. Endoscopy was repeated at wk 4 and 8 to assess EE status; patients healed (ie, no mucosal breaks) at wk 4 exited the study. EE healing rates are tabulated below by baseline LA grade (A–D) and self-reported race data (white or nonwhite [ie, all other reported races]). A proportional odds model tested for an association of race with baseline LA grade. Logistic regression models (LRMs) were fit with EE healing as the dependent variable and race as an independent variable. The LRM adjusted for treatment, study, baseline LA grade, age, sex, BMI, *H pylori* status, and hiatal hernia. A second LRM tested for interaction of race with the other factors.

Results: Mean age of the 11,027 patients was 47 y (59% men; 91% white). Nonwhite patients had less severe baseline EE (ie, LA grades A or B) (*P*<.0001; adjusted odds ratio [OR], 0.69 [95% CI, 0.61–0.79]). Race had a significant effect on wk-8 EE healing (*P*=.001; OR [nonwhite vs white], 0.75 [95% CI, 0.63–0.89]; Table). Less severe baseline LA grade, treatment, and increasing age (*P*<.0001 for each) and hiatal hernia (*P*=.0009) were associated with higher odds of EE healing; these factors had no significant interactions with race.

Conclusion: After adjustment for treatment, study, baseline LA grade, age, sex, BMI, *H pylori* status, and hiatal hernia, nonwhite patients were less likely to have healed EE after 8-wk PPI therapy, a finding worthy of further study.

EE healing rates (95% CI) by race and baseline LA grade (N=11,027)

Baseline LA grade	Race group	n (%)	EE healing rate, % (95% CI)
A	White	3106 (28.2)	91.4 (90.4-92.4)
	Nonwhite	371 (3.4)	86.8 (83.3-90.2)
B	White	3663 (33.2)	86.5 (85.4-87.6)
	Nonwhite	284 (2.6)	80.3 (75.7-84.9)
C	White	2507 (22.7)	79.7 (78.2-81.3)
	Nonwhite	252 (2.3)	79.0 (73.9-84.0)
D	White	773 (7.0)	71.7 (68.5-74.8)
	Nonwhite	71 (0.6)	62.0 (50.7-73.3)

Disclosure - Dr Sharma is a speaker for AstraZeneca, TAP, and Santarus and receives grant support from AstraZeneca, TAP, Barrx, and Olympus. Dr El-Serag is a consultant to and receives research grants from AstraZeneca and Takeda. Dr Johnson is a consultant for AstraZeneca, TAP and receives grant support from AstraZeneca, TAP and is on speakers bureau for AstraZeneca, TAP. Drs Monyak and Illueca are employees of AstraZeneca LP. Study supported by AstraZeneca LP.

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P19

ACCURACY OF ENDOSCOPIC ULTRASOUND FOR NODAL STAGING OF EARLY ESOPHAGEAL CANCER

F. Bhavan, MD,[1] D. Shackleton, MD,[2] S. A. Rodriguez, MD,[1] C. Corless, MD,[2] D. O. Faigel, MD[1]. 1. Department of Gastroenterology, Oregon Health & Sciences University, Portland, OR; 2. Department of Pathology, Oregon Health & Sciences University, Portland, OR.

Purpose: Endoscopic ultrasound (EUS) is the most reliable imaging modality for staging of esophageal cancer for depth of invasion (T-stage) and nodal status (N-stage). The depth of malignant invasion into the submucosa has been shown to correlate with presence of malignant lymph nodes. Tumors that invade more than 1/3 into the submucosa are recommended to have esophagectomy with lymph node dissection. We hypothesize that EUS is highly accurate for determining nodal status in early stage (T1) esophageal cancers and that further subdivision of the layers of mucosa and submucosa does not change the overall accuracy of nodal staging.

Methods: Charts were reviewed for all patients who underwent EUS from September 1, 2000 through December 31, 2007 at Oregon Health & Sciences University, and those who underwent EUS from July 1, 1996 through December 31, 2007 at Portland VA Medical Center, and were given a diagnosis of esophageal cancer with T-stage of T1. Patients who then underwent subtotal esophagectomy were included (n=36). Pre-operative EUS results were assessed, in addition to pathology reports. The pathology slides were then re-examined to measure the depth of malignant invasion. Tumors were assessed as being limited to the mucosa or invading the submucosa into the upper 1/3 (SM1), middle 1/3 (SM2) or deepest 1/3 (SM3).

Results: EUS staged 98 patients as T1N0 during the investigated period. Of these patients, 36 subsequently underwent subtotal esophagectomy. The average age of these patients was 67.2 years, with 5 of the 36 patients being female. Of the 36 patients, 3 were diagnosed with squamous cell cancer based on histology, with the remainder being adenocarcinoma. Additionally, 4 patients were documented to have poorly differentiated tumor grade, and only 2 with presence of lymphangitic invasion. The average tumor size measured was 14.6mm (range = 0 - 50mm). EUS correctly predicted the absence of positive lymph nodes in all 36 (100%) of these patients. Histopathologically, 4 of the patients had invasion extending to SM2 and SM3 layers, however, did not have any lymph node metastases. Of the well differentiated tumors, 1 of 12 had submucosal invasion. Whereas, of the moderate or poorly differentiated tumors, 11 of 24 had submucosal invasion (p=0.03). Other factors such as tumor size and presence of lymphangitic invasion, however, did not correlate with infiltration of malignancy beyond SM1.

Conclusion: EUS can accurately predict lymph node involvement in early (T1) esophageal cancers. The negative predictive value for EUS in assessing lymph node metastasis was very high (100%). Also, tumor differentiation correlates with submucosal invasion. EUS may therefore, be used to select patients suitable for local endoscopic therapy.

P20

A GLOBAL, EVIDENCE-BASED CONSENSUS ON THE DEFINITION OF PEDIATRIC GASTROESOPHAGEAL REFLUX DISEASE (GERD)

B. D. Gold, MD,[1] P. M. Sherman, MD, FRCP(C), FAAP[2]. 1. Emory University School of Medicine, Atlanta, GA; 2. The Hospital for Sick Children, Toronto, ON, Canada.

Purpose: The Montreal definition of GERD(1) established an evidence-based global consensus to define reflux disease in adults. There is a need to clarify terms related to reflux symptoms and signs in children by developing an international consensus on the definition of GERD.

Methods: A set of statements to define GERD in children was developed by a consensus group* employing the Delphi process. The group comprised 8 voting pediatric gastroenterologists with expertise in the field and 8 non-voting participants (chair, primary care physician and pediatrician, pediatric otolaryngologists and pulmonologist, neonatologists, and internal medicine-trained gastroenterologist). Statements were based on systematic searches of the literature employing Medline, EMBASE and CINAHL. Voting was conducted using a 6-point scale; consensus defined as agreement by 75% of the group. The strength of each statement was assessed using the GRADE(2)system.

Results: There were four rounds of voting. At the first workshop, many of the statements were separated for each of 3 age groups (newborns/infants, toddlers/children, and adolescents). In the final vote, consensus was reached on 98% of 59 statements. In this vote, 95% of the statements were accepted by 7 of 8 voters. Salient consensus items were: 1) GERD is present when reflux of gastric contents causes troublesome symptoms and/or complications, but this definition is complicated by unreliable reporting of symptoms by children under 8 years, 2) Utility of histology for the diagnosis of pediatric GERD is limited; its primary role is to exclude other conditions, especially eosinophilic esophagitis and esophageal infections, 3) Extra-esophageal conditions (chronic cough, laryngitis, hoarseness, dental erosions, and reactive airway diseases) may be associated with pediatric GERD, but causality remains to be established, 4) Barrett's esophagus has been re-defined. Population-based studies of reflux-based symptoms in children should be a future research priority.

Conclusion: A global definition of GERD in children has been developed. The statements arising should prove useful for the development of future clinical practice guidelines and in the establishment of high quality clinical trials to address unresolved issues. * Submitted on behalf of the chair (Philip M Sherman)and voting members of the group: Ulysses Fagundes-Neto, Benjamin D.Gold, Eric Hassall, Seiichi Kato, Sibylle Koletzko, Susan R.Orenstein, Colin Rudolph, Yvan Vandenplas Support and funding provided by INSINC Consulting Inc. through an unrestricted grant from AstraZeneca R&D Mölndal, who had no input into process, meetings, or output. 1. Vakil N et al. Amer J Gastroenterol 2006;101:1900–20. 2. Grade Working Group. BMJ 2004;328:1490–4

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P21

PLACEBO-CONTROLLED TRIAL OF 2 DOSES OF TAK-390MR, A PPI WITH NOVEL DUAL DELAYED RELEASE TECHNOLOGY, AS MAINTENANCE TREATMENT FOR PATIENTS WITH HEALED EROSIVE ESOPHAGITIS (EE)

C. W. Howden, MD,[1] L. Larsen, PhD,[2] R. Palmer, MPH,[2] M. Perez, MD[2]. 1. Division of Gastroenterology, Northwestern University, Chicago, IL; 2. Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL.

Purpose: TAK-390MR is a Dual Delayed Release™ formulation of TAK-390, an enantiomer of lansoprazole, designed to prolong the plasma concentration-time profile of TAK-390 and extend duration of acid suppression. This trial assessed the efficacy and safety of 2 doses of TAK-390MR in maintaining healed EE.

Methods: 451 patients with healed EE who had completed 1 of 2 acute healing trials were enrolled in this randomized, double-blind, 6-mo trial. Patients received TAK-390MR 60 (n=159) or 90 mg (n=152), or placebo (PBO; n=140) orally QD. The primary efficacy variable was the % of patients who maintained healed EE over 6 mo based on EGD evaluation at mo 1, 3, and 6; analyses were performed by life table and crude rate methods. Secondary variables of % of 24-h heartburn-free days and % of nights without heartburn, based on daily diaries, were analyzed by treatment group, and also by maintenance status (post hoc). Additional efficacy endpoints were mean heartburn severity and % of days without rescue medication (diary data), and GERD symptom investigator assessments.

Results: TAK-390MR 60 and 90 mg were statistically significantly superior to PBO for maintaining healed EE and controlling daytime and nighttime heartburn (**Table**). No significant differences were observed between the active treatment groups. Patients who maintained healed EE reported significantly greater symptom relief than those who relapsed (medians of 97% vs 31% for 24-h heartburn-free days; 100% vs 63% for heartburn-free nights, both $P<0.001$). TAK-390MR also showed superior efficacy vs PBO for mean severity of heartburn, % of days without rescue medication, and investigator-assessed GERD symptoms. Diarrhea, flatulence, gastritis (symptoms), and abdominal pain occurred more frequently with TAK-390MR than PBO.

Conclusion: TAK-390MR 60 and 90 mg QD were both significantly superior to PBO at maintaining healed EE and controlling heartburn, and were well tolerated. The majority of patients receiving TAK-390MR were heartburn-free for 94%–96% of treatment days.

Variable	TAK-390MR 60 mg	TAK-390MR 90 mg	Placebo
6-mo maintenance of healed EE by life table, % (CI) by crude rate†, % (CI)	86.6*(81.0-92.3) 66.4*(58.3-73.9)	82.1*(75.4-88.8) 64.5*(55.9-72.4)	25.7(17.0-34.4) 14.3 (8.4-22.2)
24-h days without heartburn during treatment, median %	95.8*	94.4*	19.2
Nights without heartburn during treatment, median %	98.3*	97.1*	50.0

***P<0.0025 vs. PBO using Hochberg's method of multiple comparisons.**
Crude rates consider patients who terminate prematurely as having relapsed even though the last endoscopy showed no relapse.

Disclosure - Colin W Howden - Speaker, consultant, advisory board member for TAP Pharmaceutical Products Inc. Lois Larsen,Robert Palmer and M. Claudia Perez all are TAP employees, TAP Pharmaceutical Products Inc., Lake Forest, IL.

P22

ERBB PATHWAYS IN BARRETT'S ESOPHAGUS AND ESOPHAGEAL ADENOCARCINOMA

V. J. Konda, MD,[1] J. Hart, MD,[2] A. Noffsinger, MD,[2] I. Waxman, MD,[3] M. Bissonnette, MD[1]. 1. Gastroenterology, University of Chicago, Chicago, IL; 2. Pathology, University of Chicago, Chicago, IL; 3. Center for Endoscopic Research and Therapeutics, University of Chicago, Chicago, IL.

Purpose: The molecular events driving progression of Barrett's metaplastic esophageal mucosa to cancer are incompletely understood. If better understood, these events could be used to target therapy. We hypothesize that neoplastic transformation is driven in part by intact ErbB signals in a subset of patients over-expressing ErbB in dysplastic tissue.

Methods: We assessed total EGFR and erbB2 by immunohistochemistry in resected esophageal mucosal specimens. Many of these large and intact mucosal tissues, obtained from patients with Barrett's and high-grade dysplasia or cancer, exhibit multiple different stages of neoplasia within the same specimen.

Results: We have done preliminary studies on EGFR and erbB expression in Barrett's tissue with dysplasia in EMR specimens from 6 cases. Four out of the 6 cases demonstrated EGFR overexpression in dysplastic tissue compared with adjacent non dysplastic BE. Similarly 5 of 6 cases had overexpression of erbB2 in the dysplastic tissue compared with adjacent non dysplastic BE tissue. Studies to assess intact ErbB signals including phospho-active ErbB receptors, and activated down-stream effectors pERK and pAKT are in progress.

Conclusion: The majority of tissue samples with Barrett's with dysplasia have overexpression of these receptors compared to adjacent non dysplastic Barrett's epithelium. If these pathways are activated in the Barrett's malignant transformation, they could be targeted with anti-ErbB therapy to prevent or treat esophageal adenocarcinoma at an early stage.

P23

ESOPHAGEAL EOSINOPHILIA AND HISTORY OF ATOPY IN PATIENTS WITH EROSIVE ESOPHAGITIS

M. Kovalak, MD,[1] K. Thomas, BS,[1] M. Go, MD,[2] K. Peterson, MD[1]. 1. University of Utah, Salt Lake City, UT; 2. Gastroenterology, VA Medical Center, Salt Lake City, UT.

Purpose: Reflux, eosinophilic esophagitis (EoE) and asthma/allergy are causes of esophageal eosinophilia. The relationship between these three conditions and the degree of eosinophilia associated with each is not completely understood. Reflux causes an eosinophilic infiltrate that is usually limited to the distal esophagus and rarely exceeds 20 eosinophils per high power field (hpf). With EoE, a greater degree of eosinophilia can be found more proximally in the esophagus. Asthma, seasonal and food allergies have also been associated with esophageal eosinophilia, and a history of atopy is common in patients who have been diagnosed with EoE. Our aim was to evaluate the association of esophageal eosinophilia and history of atopy in a cohort of patients with erosive esophagitis.

Methods: A retrospective chart review was performed on a group of patients with erosive esophagitis who presented with dysphagia for upper endoscopy. Patients included in the analysis had both mid and distal esophageal biopsies and completed a validated atopy questionnaire. A patient was identified as being atopic if they reported a history of asthma, seasonal (rhinitis, conjunctivitis, hay fever) or food allergies. Additional patient characteristics included age and gender. EoE was defined as >20 eosinophils/hpf in any of the mid and/or the distal esophageal biopsies.

Results: 28 patients were included in the analysis. Patient age ranged from 30 to 89 years old (median 59). 22 of the 28 patients (79%) were men. 10 patients had Los Angeles (LA) Grade A erosive esophagitis, 10 had LA Grade B, 5 had LA Grade C and 3 had LA Grade D. The range of esophageal eosinophilia was 0 – 64 eosinophils/hpf in mid esophageal biopsies and 0-39 eosinophils/hpf in distal esophageal biopsies. 5 of the 19 patients (26%) with mid esophageal eosinophilia had greater than 20 eosinophils/hpf. 11 of the 28 patients (39%) patients were identified as having atopy. Distal eosinophil counts were significantly greater in patients with a history of atopy compared to those without atopy (p= .02). When comparing median eosinophil counts, patients with atopy had significantly greater mid (p=.01) and distal (p=.02) eosinophil counts.

Conclusion: Eosinophilia is common in this patient population with endoscopic reflux. However, 18% of patients had mid esophageal eosinophilia to a degree that is consistent with EoE criteria. A history of atopy was found in patients with mid and distal eosinophilia. Patients with reflux and atopy may have significant esophageal eosinophilia and should be considered for EoE evaluation.

P24

TAK-390MR MAINTAINS RELIEF OF GASTROESOPHAGEAL REFLUX DISEASE (GERD) SYMPTOMS AND IMPROVEMENTS IN QUALITY OF LIFE IN GERD PATIENTS WITH HEALED EROSIVE ESOPHAGITIS

R. Mody, PhD, MBA,[1] L. Larsen, PhD,[2] M. C. Perez, MD,[1] B. L. Pilmer, RN, BSN,[1] O. Dabbous, MD, MPH[1]. 1. TAP Pharmaceuticals Products Inc., Lake Forest, IL; 2. Abbott, Abbott Park, IL.

Purpose: Overall treatment success for patients with erosive esophagitis (EE) includes healing of erosions and improvement in patient-reported outcomes (PRO) such as symptom severity and quality of life (QOL). The efficacy of TAK-390MR vs. placebo in maintaining symptom relief and QOL improvements over 6 months was assessed in patients with healed EE.

Methods: 896 patients with healed EE were enrolled into one of two clinical trials for a 6 month treatment period: First study compared TAK-390MR 30mg/60mg to placebo and second study compared TAK-390MR 60mg/90mg to placebo. Patient Assessment of Upper Gastrointestinal Disorders-Quality of Life (PAGI-QOL) and Symptom Severity Index (PAGI-SYM) were used for assessing QOL and symptom severity, respectively. PAGI-QOL includes 30 items summarized by five subscales of daily activities, clothing, diet/food habits, relationship, psychological well-being and distress and a total score. PAGI-SYM includes 20 items summarized by six subscales of nausea/vomiting, fullness/early satiety, bloating, upper abdominal pain, lower abdominal pain, heartburn/regurgitation and a total score. The two questionnaires were completed at Day -1 (final visit of EE healing trials), Months 1, 3, 6 (final visit).

Results: In the first study, there were statistically significant differences between placebo and TAK-390MR 30mg group on subscales of diet and food habits, psychological well-being and distress and PAGI-QOL total score and between placebo and TAK-390MR 60mg group on subscales of diet and food habits. These significant differences were the result of maintenance of improved QOL and decreased symptom severity for the TAK-390MR groups and decreased QOL and increased symptom severity for the placebo group from Day -1 to the final visit. Similar statistically significant differences between placebo and both TAK-390MR groups were observed for the heartburn/regurgitation subscale and PAGI-SYM total scores. Most other subscales showed the same trend in favor of the TAK-390MR groups versus placebo, although the differences were not statistically significant. In the second study, statistically significant differences were observed between placebo and TAK-390MR 60mg/90mg groups for all PAGI-QOL subscales and total score (except the relationship subscale for TAK-390MR 90mg group) and all PAGI-SYM subscales and total score for the change from Day -1 to final visit.

Conclusion: At all doses studied, subjects with healed EE who received maintenance treatment with TAK-390MR maintained improved QOL and symptom relief compared to those treated with placebo.

Disclosure - All authors are or were employees of TAP Pharmaceutical Products Inc when the study was conducted.

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THE EXPRESSION OF EPIDERMAL GROWTH FACTOR RECEPTOR IN *H. PYLORI* INFECTED INTESTINAL METAPLASIA AND GASTRIC CANCER

2008 ACG Presidential Poster Award Recipient

N. Nakajima, MD, PhD,[1] Y. Ito, Ms,[1] S. Ota, MD,[1] S. Kobayashi, MD,[1] K. Yokoyama, MD, PhD,[1] A. Uno, MD, PhD,[1] N. Kinukawa, MD, PhD,[2] N. Nemoto, MD, PhD,[2] M. Moriyama, MD, PhD[1]. 1. Dept. of Gastroenterology & Hepatology, Nihon University School of Medicine, Tokyo, Japan; 2. Pathology, Nihon University School of Medicine, Tokyo, Japan.

Purpose: The model of gastric cancer (GC) is proposed in which superficial gastritis is followed by chronic gastritis (CG), intestinal metaplasia (IM) and GC. Infection with *H. pylori* is one of the causalities for GC. Epidermal growth factor receptor (EGFR) is a receptor as a transmembrane glycoprotein with tyrosine kinase activity. It is thought to play a central role in cancer growth and progression. Overexpression of EGFR has been reported in many adenocarcinomas. The inhibitors of EGFR have recently shown antitumor activity and an overall survival benefit in many patients. IL-16, a pleiotrophic cytokine, is involved in the pathophysiological process of chronic inflammatory diseases. The aim of this study is to determine the changes in the expression of EGFR on IM and GC as well as the effect of *H. pylori* infection and IL-16 on epithelial cell proliferation and EGFR expression in gastric cells *in vitro*.

Methods: Gastric biopsies, were classified by histological findings as CG without *H. pylori* infection (CG-), CG with *H. pylori* infection (CG+), IM without *H. pylori* infection (IM-), IM with *H. pylori* infection (IM+) and GC with *H. pylori* infection (GC+). For *in vitro* studies, AGS cells were incubated with combinations of IL-16 and *H. pylori*. Gastric epithelial cell proliferation was studied by BrdU uptake. The expression of EGFR was studied by ABC, ELISA and RT-PCR.

Results: IL-16 expression was detected in all *H. pylori* infected gastric mucosa. In CG, EGFR was significantly increased by *H. pylori* infection (CG-:7.30±1.38% vs. CG+:19.22±2.79%, $p<0.01$). In *H. pylori* infected mucosa, there was no significant difference on the EGFR protein levels between CG+ and IM+ (CG+:19.22±2.79% vs. IM+:13.53±4.11%), but in *H. pylori* infected gastric mucosa, EGFR expression increased in GC+ (29.43±3.53%, $p<0.01$) than CG+ and IM+. *In vitro* studies:*H. pylori* infection alone significantly decreased BrdU uptake and EGFR protein levels. Administration of IL-16 increased BrdU uptake and EGFR protein on AGS cells which was decreased by *H. pylori* infection. Co-incubation with IL-16 increased the expression of EGFR mRNA on *H. pylori* infected AGS cells. Pre-incubation with tyrosine kinase inhibitor, AG1478 reduced the expression of EGFR mRNA on *H. pylori* infected AGS cells which was increased by IL-16 administration.

Conclusion: The expression of EGFR in long-term *H. pylori* infected gastric mucosa may indicate an early stage in carcinogenesis, because it appears before the histologically evident tumor. The expression of IL-16 by *H. pylori* infection can be a trigger for expression of EGFR, and it may also a factor for gastric carcinogenesis. The combination of chemotherapy drugs with the inhibitors of EGFR may be one of the potential treatments for gastric cancers.

% of AGS only (24h)	*H.pylori* 10^5cfu/ml	*HP*+IL-16 10^{-10}M	*HP*+IL-16 10^{-9}M
BrdU uptake	77.34±2.41*	98.70±3.85**	98.91±1.23**
EGFR protein	79.38±2.67*	94.98±2.24**	93.77±1.84**
EGFR mRNA	90.64±14.46	136.54±5.51**	105.24±17.94

***= significant difference from AGS cells only**

****=significant difference between with and without IL-16 on AGS cells**

***p*<0.05 was taken as statistically significant.**

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THE EXPRESSION OF HER2 IN *HELICOBACTER PYLORI* INFECTED INTESTINAL METAPLASIA AND GASTRIC CANCER

N. Nakajima, MD, PhD,[1] Y. Ito, Ms,[1] S. Ota, MD,[1] S. Kobayashi, MD,[1] K. Yokoyama, MD, PhD,[1] A. Uno, MD, PhD,[1] N. Kinukawa, MD, PhD,[2] N. Nemoto, MD, PhD,[2] M. Moriyama, MD, PhD[1]. 1. Dept. of Gastroenterology & Hepatology, Nihon University School of Medicine, Tokyo, Japan; 2. Pathology, Nihon University School of Medicine, Tokyo, Japan.

Purpose: Gastric cancer (GC) arise through a multistep process from chronic gastritis (CG) and intestinal metaplasia (IM) and finally to invasive GC. Long-term infection with *H. pylori* is one of the causalities for GC. Overexpressions of HER2, a transmembrane glycoprotein with tyrosine kinase activity, has been reported in many adenocarcinomas including stomach. HER2 is a successfully exploited target molecule in biomolecular therapies of solid tumors. IL-16 is a proinflammatory cytokine that induces migration of CD4+ T lymphocytes. IL-16 has been implicated in the pathogenesis of various chronic inflammatory diseases. The properties of IL-16 suggest that it may be involved in the pathophysiological process of chronic inflammatory diseases. Thus it could be a factor in the final development of cancer. The aim of this study was to determine the changes in the expression of HER2 in IM and GC as well as the effect of *H. pylori* infection and IL-16 on epithelial cell proliferation and HER2 expression in gastric cells *in vitro*.

Methods: *H. pylori* infected gastric biopsies, were classified by histological findings as CG, IM or GC. CG without *H. pylori* infection (CG-), was used as a control. For *in vitro* studies, AGS cells were incubated with combinations of IL-16 and *H. pylori*. Gastric epithelial cell proliferation was studied by BrdU uptake. The expression of HER2 was studied by ABC, ELISA and RT-PCR.

Results: IL-16 expression was detected in all *H. pylori* infected gastric mucosa. In CG with *H. pylori* infection, HER2 protein expression increased significantly(CG-: 5.58±3.37% vs. CG:7.56±3.36%,$p=<0.05$). In *H. pylori* infected mucosa, the HER2 protein expression was significantly higher in IM (12.01±7.46%) and GC (13.01±6.57%) than in CG (7.56±3.36%)($p=<0.05$)*In vitro* studies: *H. pylori* infection alone significantly decreased BrdU uptake, HER2 protein and HER2 mRNA expression. Administration with IL-16 significantly increased BrdU uptake, HER2 protein and HER2 mRNA expression on AGS cells which was decreased by *H. pylori* infection. Pre-incubation with tyrosine kinase inhibitor, AG1478 reduced the expression of HER2 mRNA expression which was increased by IL-16 administration.

Conclusion: The expression of HER2 may indicate an early stage in carcinogenesis because it appears before the histologically evident tumor. IL-16 expression which was stimulated by

long-tern infection of *H. pylori*, increased the expression of HER2. This HER2 expression may be one of the important factors for gastric cancer induction by *H. pylori* infection, and the expression of HER2 can be a marker for gastric carcinogenesis. The combination of chemotherapy drugs with the inhibitors of HER2 may be one of the potential treatments for gastric cancers.

% of AGS only	*H.pylori* 10^{5} cfu/ml	*HP*+IL-16 10^{-10} M	*HP*+IL-16 10^{-9} M
BrdU uptake	83.34±15.96*	84.88±6.61	89.1±15.36**
HER2 protein	86.85±13.60*	89.99±6.50	97.00±11.60**
HER2 mRNA	70.47±5.72	108.33±11.19**	79.70±8.86

***= significant difference from AGS cells only**
****=significant difference between *H. pylori* and *H. pylori*+IL-16 on AGS cells**
p<0.05 was taken as statistically significant

P27

THE ADDITION OF LIQUID GASTRIC EMPTYING TO A SOLID GASTRIC EMPTYING STUDY INCREASES DETECTION OF GASTROPARESIS

H. A. Ziessman, MD,[1] P. I. Okolo, MD,[2] G. E. Mullin, MD,[2] C. Ankit, MD[1]. 1. Nuclear Medicine, Johns Hopkins University, Baltimore, MD; 2. Gastroenterology, Johns Hopkins University, Baltimore, MD.

Purpose: Standard teaching is that only solid gastric emptying scintigraphy is needed to diagnose gastroparesis because liquid emptying is less sensitive and often normal until the disorder is advanced. However, we have seen numerous patients with prolonged liquid but normal solid emptying. The purpose of this investigation was to determine if liquid gastric emptying has added diagnostic value when obtained in addition to solid emptying for detection of gastroparesis.

Methods: Sixty consecutive patients (age 18-65, 39 male, 21 female) referred for suspected gastroparesis had sequential clear liquid and solid gastric emptying scintigraphic studies the same morning. Three were diabetics, 8 had GER, none had prior gastric surgery. They were on medications as prescribed by the referring physician, although none were known to affect emptying. The patients initially ingested 300 ml water with 0.2 mCi In-111 DTPA and 1 minute gamma camera images were acquired for 30 minutes. They then ingested a standardized egg substitute meal (Tougas, et al) labeled with Tc-99m sulfur colloid, 2 mCi, and images were acquired at 0,1,2,3,and 4 hours. A half-time of emptying was quantified for the liquid studies (Chaudhuri, et al) and the percent emptying at each time interval for the solid studies (Tougas, et al). The results of the two studies were analyzed.

Results: Both solid and liquid emptying studies were normal in 50% of patients. Both studies were delayed in 10%. The solid study showed delayed emptying in 23% of patients. The liquid study was delayed in 33%. Solid emptying was delayed and liquid was normal in 13%. Solid emptying was normal but liquid emptying was abnormal in 27%. Of those patients with normal solid emptying, 31% had delayed liquid emptying. The addition of patients with delayed liquid emptying to those with delayed solid increased the rate of gastroparesis detection from 23% to 40%.

Conclusion: The addition of liquid to solid gastric emptying scintigraphy increased the detection rate of gastroparesis compared to the solid emptying study alone. Both studies should be performed routinely to maximize sensitivity for detection of gastroparesis.

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CHRONIC PROTON PUMP INHIBITOR THERAPY INCREASES FUNDIC GLAND POLYPS: HOW MUCH IS TOO MUCH?

M. R. Ally, MD,[2] G. R. Veerappan, MD,[1] T. J. Duncan, MD,[1] J. L. Perry, MD,[1] C. L. Maydonovitch, BS,[1] E. M. Osgard, MD,[1] R. K. Wong, MD[1]. 1. Gastroenterology Service, Walter Reed Army Medical Center, Washington, DC; 2. Medicine, Walter Reed Army Medical Center, Washington, DC.

Purpose: To investigate the association of fundic gland polyps (FGP)with various doses and durations of Proton Pump Inhibitor(PPI)Therapy.

Methods: A cohort study of consecutive patients undergoing elective upper endoscopy for a variety of indications between March and September 2007 were enrolled in a prospective study. Endoscopists noted and removed all gastric polyps in this patient population. No patients with Familial Adenomatous Polyposis were included in this study. Pathologists confirmed diagnosis of FGP based on histologic findings. All patients completed a questionnaire prior to endoscopy in regards to PPI use and length of therapy (no PPI use, 1-48 months, >48 months). Dosage of PPI (once daily vs. twice daily) was obtained via a thorough chart review of the electronic medical record.

Results: 400 patients [50% male, mean age (SD) 52 (15) years, 56% Caucasian] were evaluated in our study. 263 patients (65.8%) reported PPI use at time of endoscopy and 43 patients (10.8%) had FGP [no PPI's (10), PPI's 1-48mo (18), PPI's >48 mo (15)]. On univariate analysis, FGP were associated with Caucasian race vs. other races (14.3% vs 6.3%, P=0.014), and chronic PPI therapy (>48 months) vs. 1-48mo use or no PPI use (30.6% vs. 7.8%, P<0.001). PPI use 1-48 months was not associated with increased FGP compared to no PPI use (P=0.841). There was a linear association between dosage of PPI therapy and FGP (twice daily, 16.7% > once daily, 10.4% > no PPI 7.3%; P=0.028). On logistic regression analysis, Caucasian race and length of PPI therapy were identified as independent predictors of FGP. Caucasians were 2.3 times more likely develop FGP (OR 2.3, 95% CI 1.1-4.9). Patients on PPI's for >48 months were 5.1 times more likely to develop FGP compared to PPI use (1-48mo) or no PPI use (OR 5.1, 95% CI 2.1-12.6).

Conclusion: These results show Caucasians and patients on PPI therapy for greater than 48 months have an increased risk of developing FGP. Dosage of therapy (once daily vs. twice daily) did not seem to impact development of FGP. This study confirms the association of long term PPI use and FGP, which has beed described minimally in the published literature.

P29

A SIMPLE FORMULA TO IDENTIFY PATIENTS WITH ADVANCED STAGE GASTRIC ADENOCARCINOMA

E. H. Choi, MD,[1] M. Mansour, MD,[2] W. Strum, MD[1]. 1. Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA; 2. Internal Medicine, Scripps Clinic, La Jolla, CA.

Purpose: Definitive staging of gastric adenocarcinoma (GAC) involves surgical resection and extensive lymph node dissection. A patient's comorbidities may often preclude a surgical procedure or render the decision to proceed to surgery a difficult one. However, without staging, it is difficult to provide an accurate prognosis. The average 5-year survival of patients with Stage I GAC is 60-86%, however, patients with stage II, III and IV GAC have 5-year survival rates of 34, 20 and 7%, respectively. In addition, observational studies have demonstrated that the natural history of GAC differs between ethnicities. We hypothesize that assessing for the age, serum total protein (TP), albumin (Alb) and hemoglobin (Hgb) at the time of diagnosis can accurately assess for advanced stage GAC in a non-Asian cohort of patients.

Methods: A review of the electronic medical records of the Scripps Clinic and Green Hospital from 1997-2008 was performed to identify patients with a de novo diagnosis of GAC with subsequent surgical staging. Adenocarcinomas involving the gastroesophageal junction were excluded. Data regarding cancer stage, ethnicity, age, TP, Alb and Hgb at the time of diagnosis were collected. A "staging score" was also developed to simultaneously assess for all four factors: Staging score = (Hgb x TP x Alb) / age. Patients of Asian descent were not evaluated in this investigation.

Results: There were 70 de novo diagnoses of GAC in the study period with 56 cases staged by surgical resection. Forty-six of the GAC cases were of a non-Asian ethnicity and comprised the study cases. Although a trend towards significance was observed, no single factor of age, TP, Alb or Hgb demonstrated a significant difference between early and advanced stage GAC (Table 1). However, the staging score demonstrated a statistically significant difference between stage I and stage II-IV GAC (p=0.04). Using a staging score cut-off of 255, the positive and negative predictive values of this test for Stage I GAC were 44.0 and 95.7%, respectively.

Conclusion: We conclude that patients with a staging score of less than 255 are highly likely to have an advanced stage of GAC. This formula provides a simple and inexpensive method of identifying a cohort of patients, who are likely to have a poorer prognosis. The ability to recognize patients with an unfavorable prognosis before surgical staging provides clinicians and patients useful prognostic information and may potentially assist in their decision to pursue aggressive therapy. A prospective study to validate this scoring system is warranted.

Table 1. Patient Characteristics: Early versus Late Stage Gastric Adenocarcinoma

	Stage I (n=12)	Stage II-IV (n=34)	p-value
Age (years)	71.7 +/- 11.3	75.3 +/- 10.7	NS
Serum total protein (g/dL)	6.7 +/- 0.8	6.2 +/- 0.9	NS
Albumin (g/dL)	3.5 +/- 0.5	3.1 +/- 0.6	NS
Hemoglobin (g/dL)	12.2 +/- 2.7	11.0 +/- 2.8	NS
Staging Score	346.4 +/- 164.9	255.6 +/- 132.2	0.04

NS = Statistically non-significant

P30

A RANDOMIZED, SINGLE-BLIND, PLACEBO-CONTROLLED, ONE-WEEK, PILOT STUDY OF THE EFFECT OF NAPROXEN 500 MG BID, ASPIRIN 81 MG DAILY, CELECOXIB 200 MG DAILY, OR CLOPIDOGREL 75 MG DAILY ON THE HEALING OF GASTRODUODENAL LESIONS

A. E. Dikman, BA,[1] S. Sanyal, BA,[1] C. von Althann, BA,[1] J. Desai, MD,[1] C. Bodian, DrPH,[2] A. Brooks, PhD,[3] N. Bamji, MD,[1] L. B. Cohen, MD,[1] K. M. Miller, MD,[1] J. Aisenberg, MD[1].
1. Medicine (Gastroenterology), Mount Sinai School of Medicine, New York, NY;
2. Anesthesiology, Mount Sinai School of Medicine, New York, NY; 3. Environmental and Occupational Health Science Institute, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, NJ.

Purpose: Many individuals with gastroduodenal ulcers (GDUs) require on-going NSAIDs for analgesia, or anti-platelet therapy for CV prophylaxis. The aim of this pilot study was to evaluate the effect of these agents on the biology of ulcer healing in humans, using a novel ulcer model and scoring system.

Methods: In a single-blind, single-site, placebo-controlled pilot study, healthy volunteers were randomized to naproxen 500mg BID, celecoxib 200mg QD, aspirin 81mg QD, clopidogrel 75mg QD, or placebo. Exclusion criteria included: H pylori; the use of concomitant NSAID, anti-coagulant or anti-ulcer medication; smoking; previous ulcer; and CV disease. During a baseline endoscopy, 4 superficial antral lesions and 2 superficial duodenal lesions were created using a stereotyped method with standard biopsy forceps. After 7 days on study drug, subjects underwent repeat endoscopy during which the lesions were videotaped for scoring. Each lesion was later scored by a 3-person adjudication committee. The scorers gave each lesion a cumulative injury score ranging from 0 (low) to 8 (high). The cumulative injury score incorporated the adjudicator's observations regarding four characteristics of the lesion: erythema, edema, exudate, and size. The adjudicators graded each characteristic on a scale of 0 (low) to 2 (high). We had previously demonstrated (using a set of 100 lesions, which were scored independently by 4 investigators) that the inter-observer correlation for this injury score was good to excellent (intra-class correlation coefficient of 0.672 in the antrum and 0.832 in the duodenum). The primary endpoint for the pilot study was the mean residual injury score of the antral and duodenal lesions at final EGD. The secondary endpoint was the percentage of grossly unhealed (injury score ≥5) antral and duodenal lesions at final EGD.

Results: 125 patients were enrolled and 107 completed the study. There were no significant adverse events. The results for lesion healing are presented in the table.

Conclusion: Our 8-point scoring system is a validated method for assessing lesion appearance. Stereotyped endoscopic biopsy provides a safe and useful model for studying ulcer healing in humans. Naproxen impairs ulcer healing in humans more than aspirin or celecoxib, while clopidogrel does not appear to impair healing.

	Mean lesion injury score		Subjects with ≥1 unhealed lesion (%)	
	antrum	duodenum	antrum	duodenum
Placebo	2.9	2.2	33.3	12.5
Clopidogrel	2.7	2.6	32.0	28.0
Aspirin	3.2	2.2	52.6	21.1
Celecoxib	3.2	2.7	61.9	23.8
Naproxen	4.3*	4.0**	72.2***	61.1*

*p<0.05 versus each other treatment groups, **p<0.05 versus placebo, clopidogrel, and aspirin (p=0.06 versus celecoxib), ***p<0.05 versus placebo and clopidogrel

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DETECTION OF *H. PYLORI* FROM PATIENTS WITH PPIS TREATMENT

X. Meng, MD, PhD,[1] M. Scheer, MD,[2] T. Tsang, MD[2]. 1. ENH Research Institute, Evanston Northwestern Healthcare, Evanston, IL; 2. Medicine, Northwestern University Feinberg School of Medicine, Evanston, IL.

Purpose: The CLOtest assay is widely used in clinical practice to detect the urease enzyme of *H. pylori* in gastric mucosal biopsies. The rapid urease tests depend on the activity of bacterial urease. It may give a false negative result in patients who have recently been taking PPIs, H2-receptor antagonists (H2RAs), antibiotics, or bismuth-containing compounds. Because the rapid urease tests sensitivity is reduced under certain circumstances, a negative result does not necessarily indicate the absence of *H. pylori* infection. This study was to assess the diagnostic value of a multiplex PCR assay to detect *H. pylori* infection and to further evaluate the negative results from the CLOtest.

Methods: This study was performed on the same urease test gastric specimen by CLOtest from 553 patients with dyspepsia symptoms undergoing endoscopy at Evanston Northwestern Healthcare. Post clinical record review indicated that there were 113 individuals had been taking PPIs before endoscopy. The CLOtest was performed first and after the result was read, the same specimen was collected from the CLOtest gel. From those specimen, the DNA was isolated and the one-step multiplex PCR was performed.

Results: Positive results were achieved in 46.82 %(206/440) from those patients without taking PPIs and 55.75% (63/113) from those patients who had been taking PPIs recently. However, by using CLOtest, only 1.77% individuals were positive (2/113) from the same group with taking PPIs.

Conclusion: Our results indicated that PPIs affect *H. pylori* detection rate by CLOtest method, but not by PCR. Therefore, the *H. pylori* testing by current methods should be carefully reviewed, especially if the patients who have recently been taking PPIs, H2-receptor antagonists (H2RAs), antibiotics, or bismuth-containing compounds, to ensure that the result is not a false-negative and it would be better that the negative samples of CLOtest were further confirmed by our multiplex PCR assay to ensure the correct diagnosis.

	N	CLOtest +	CLOtest -	PCR +	PCR -
PPIs +	113	2	111	63	50
PPIs -	440	31	409	206	234
Total	553	33	520	269	284

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PREVALENCE OF *HELICOBACTER PYLORI* INFECTION IN GASTRIC BIOPSY SPECIMENS: A NATIONAL STUDY

C. M. Schuler, MD, R. H. Lash, MD, M. H. Saboorian, MD, R. M. Genta, MD. Caris Diagnostics, Irving, TX.

Purpose: Although the prevalence of *H. pylori* infection is believed to be decreasing in industrialized countries and in emerging economies, recent data from the US are unavailable. This study was designed to evaluate the prevalence of *H. pylori* infection in gastric biopsy specimens from a large nationwide sample of subjects who underwent esophagogastroduodenoscopy between 4/2007 and 3/2008.

Methods: We analyzed electronic data from Caris Diagnostics, a specialized gastrointestinal pathology group receiving specimens from gastroenterologists operating in community-based endoscopy centers in 40 states. For each patient, the database includes demographic and clinical information, summary of the endoscopic report, site of origin, and the histopathologic report for each biopsy. To identify the records for eligible biopsy specimens we extracted data from all cases with a report date within the 12-month period from 4/01/07 to 3/31/08. Data were stored in a Microsoft Access database. Statistical calculations were performed using SigmaStat 3.5; chi-square test, Student's t-test and the Mann-Whitney Rank Sum Test for non-parametric data were used as appropriate. A p value < 0.05 was considered significant.

Results: We extracted 78,909 unique patients (48,432 women, 61.4%) who had undergone gastric biopsy. Their median age was 56 years (range 0-103). Chronic Active Gastritis (CAG, the quintessential histopathologic expression of *H. pylori* infection) was diagnosed in 11,084 patients (14.05%) and *H. pylori* organisms were detected histologically in 9,492 subjects (12.03%, median age 56 years; 57.6% women). The prevalence of infection was 5.2% in children (<18) and 11.6% in elderly patients (>70); the peak prevalence rate (12.3%) was in patients aged 45 to 65. A high prevalence of *H. pylori* (>18%) was found in cases from NY and IL, as well as Puerto Rico (29%); the lowest rate was in KS (3.8%). Intestinal metaplasia (IM), detected in 7.3% of all patients, was twice as prevalent in *H. pylori*-positive (12.6%) than in *H. pylori*-negative (6.5%) subjects (OR = 2.04; 95% CI 1.90 – 2.18). Irrespective of their *H. pylori* status, patients with IM were older than those without (65 vs. 56, $p < 0.0001$).

Conclusion: This large nation-wide study indicates that the US population has a low prevalence of *H. pylori* infection, comparable to that of other industrialized countries. As expected, children had less than half the prevalence of adults. In contrast to serologic studies, infection rates in older Americans were lower than those of middle-aged subjects, suggesting that frequent antibiotic treatments and the widespread chronic use of proton-pump inhibitors may result in the unintentional eradication of the infection in large segments of the population.

Disclosure - Christopher M. Schuler, M.D., Richard H. Lash, M.D., M. Saboorian, M.D., and Robert M Genta, M.D., All employees of Caris Diagnostics, Irving, Texas

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THE COST-EFFECTIVENESS OF HIGH-DOSE INTRAVENOUS ESOMEPRAZOLE IN PEPTIC ULCER BLEEDING - A US COST PERSPECTIVE

A. Barkun, MD,[1] V. Adam, MD,[1] J. Sung, MD,[2] E. Kuipers, MD,[3] J. Mössner, MD,[4] D. Jensen, MD,[5] R. Stuart, MD,[6] J. Lau, MD,[2] H. Granstedt, MSc,[7] T. Lind, MD[7]. 1. Division of Gastroenterology, McGill University Health Center, Montreal, QC, Canada; 2. Institute of Digestive Diseases, Chinese University of Hong Kong, Shatin, Hong Kong, China;
3. Department of Gastroenterology and Hepatology, Erasmus MC University Medical Center, Rotterdam, Netherlands; 4. Medizinische Klinik und Poliklinik II, University of Leipzig, Leipzig, Germany; 5. David Geffen School of Medicine at UCLA and CURE Digestive Diseases Research Center, Los Angeles, CA; 6. Glasgow Royal Infirmary, Glasgow, United Kingdom; 7. AstraZeneca R&D, Mölndal, Sweden.

Purpose: A recent multinational clinical trial (ClinicalTrials.gov identifier: NCT00251979) has shown that esomeprazole (ESO), given as a continuous high-dose intravenous (iv) infusion followed by an oral regimen after successful endoscopic therapy for peptic ulcer bleeding (PUB), is effective in preventing re-bleeding.

Methods: A decision-tree model was developed to compare the cost-effectiveness of ESO (80mg infusion over 30min, then 8mg/h for 71.5h) to placebo for prevention of re-bleeding in patients who had undergone successful endoscopic hemostasis for PUB. Both groups received oral esomeprazole 40mg once daily from days 4 to 30. The model adopted a 30-day time horizon using a US third-party payor perspective. Clinical probabilities for re-bleeding and length of hospital stay were taken from the recent trial. Per diem hospitalization costs (including physician fees) were extracted from national US databases, expressed in 2007 US$. Other assumptions were determined from the literature. The robustness of the model was determined by sensitivity analyses.

Results: 30-day re-bleed rates were 7.7% for ESO (n=375) and 13.6% for placebo (n=389), respectively. Average costs per patient for each group were US$14,290 and US$14,240, respectively. The incremental cost-effectiveness ratio was US$913 per re-bleed averted with ESO. Sensitivity analyses of baseline assumptions revealed robust results, with the ESO strategy even being dominant (more effective and less costly) with small variations in assumptions.

Conclusion: ESO, given as a continuous high-dose iv infusion followed by an oral regimen after successful endoscopic therapy for PUB, improves outcomes at a modest increase in costs in a US health care environment.

Disclosure - Dr. Barkun - AstraZeneca: PUB Steering Committee Member and Grant/Research Support Dr. Adam - AstraZeneca: Grant/research support Dr. Sung - AstraZeneca: PUB Steering Committee Member and Grant/Research Support Dr Kuipers - AstraZeneca: PUB Steering Committee Member and Grant/Research Support Dr Mössner - AstraZeneca: PUB Steering Committee Member and Grant/Research Support Dr Jensen - AstraZeneca: PUB Steering Committee Member and Grant/Research Support Dr. Stuart - AstraZeneca: PUB Steering Committee Member and Grant/Research Support Dr. Lau - AstraZeneca: PUB Steering Committee Member and Grant/Research Support E Nauclér, Dr. Kilhamn H Granstedt, Dr. Liljas and Dr. Lind are all employees of AstraZeneca
This research was supported by an industry grant from AstraZeneca

P34

LEND (LEVOFLOXACIN, ESOMEPRAZOLE, NITAZOXANIDE AND DOXYCYCLINE) FOR THE TREATMENT OF PREVIOUSLY NON-RESPONSIVE *HELICOBACTER PYLORI*

P. Basu, MD, K. Rayapudi, MD, J. Esteves, MD. Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY.

Purpose: *Helicobacter pylori* (HP) gastritis and peptic ulcer disease are global threats for gastric carcinoma including MALT tumors and pancreatic cancer. The WHO has even classified HP as a type 1 carcinogen. Multiple therapeutic regimens have been explored to eradicate HP with variable success rates due to progressive drug resistance and virulent bacterial gene expression (CagA type). For example, metronidazole and clarithromycin are considered the "backbone" of most HP regimens, however *in vitro* resistance to these antibiotics has been reported to be as high as 40% and 13% respectively. In addition, tolerability and patient compliance with these regimens can be problematic. This study evaluates a quadruple drug regimen, three antibiotics and a proton pump inhibitor (PPI), for the eradication HP in patients that have previously failed therapy.

Methods: Thirty (n= 30) patients whom had previously failed an HP regimen (ages 20-65) with diverse ethnicity and demographics were evaluated. The previous regimens included: 9 (30%) failed rifaximin, omeprazole and levofloxacin (ROL) therapy, 10 (33.33%) failed lansoprazole, amoxicillin, and clarithromycin therapy (LAC), 1 (3.3%) failed rifabutin, amoxicillin and pantoprazole therapy (RAP) and 10 (33.33%) patient regimens were not fully identified. The diagnosis of HP gastritis or peptic ulcer disease was made using endoscopy and stool antigen testing. All patients were given LEND therapy (Levofloxacin 250 mg with breakfast, Esomeprazole 40 mg before breakfast, Nitazoxanide 500 mg twice daily with meals and Doxycycline 100 mg at dinner) for a total of 10 days with a wash out time of 6 weeks from any prior antibiotic or PPI use. HP eradication was confirmed by stool antigen testing 2 weeks after cessation of therapy (Quest Laboratory, Teterboro, NJ). Patients with active gastrointestinal bleeding, on non steroidal anti-inflammatory drugs, warfarin and histamine-2 receptor blockers were excluded from the study.

Results: In an intent to treat analysis, the eradication of HP was documented in 27/30 (90%) patients. The three failures were in patients that did not complete the full course of therapy, 2 (6.7%) complained of nausea and abdominal bloating with irregular bowel pattern and 1 (3.3%) stopped therapy due to non-specific itching that resolved without medical intervention. Overall the regimen was well-tolerated.

Conclusion: This open label prospective trial demonstrates that LEND (Levofloxacin, Esomeprazole, Nitazoxanide, and Doxycycline) is a highly active regimen for the treatment of *Helicobacter pylori* in patients that have previously failed therapy. A large randomized controlled clinical trial will further establish the therapeutic superiority of this regimen.

Disclosure - Dr. Basu- Speakers Bureau: Axcan Pharma, Salix, TAP, Santoris, AstraZeneca, Abbott Dr. Rayapudi- None Dr. Esteves- None

P35

PERCUTANEOUS ENDOSCOPIC GASTROSTOMY (PEG) TUBE PLACEMENT IN PATIENTS ON ANTIPLATELET AGENTS: IS THERE AN INCREASED RISK OF BLEEDING?

R. Friend, DO, A. Lufadeju, MD, R. A. Menin, MD, P. O. Katz, MD. Medicine, Albert Einstein Medical Center, Philadelphia, PA.

Purpose: PEG tube placement is a common endoscopic procedure. A number of patients requiring PEG tubes are on antiplatelet agents. Little data exist that address the risk of post operative bleeding when PEG is performed with the patient still on antiplatelet agents. Aim: To determine the frequency of bleeding in patients taking Aspirin, Clopidogrel or both while having PEG tube placement and if this was affected by the number of days these agents were held prior to the procedure.

Methods: We performed a retrospective review of 537 patients who had PEG tubes placed from1999 - 2007. Exclusion criteria included use of anticoagulants, an INR> 1.7, intubated patients, platelet count < 50,000/μL, and incomplete documentation. Bleeding criteria was defined as hemoglobin drop > 2 gm/dl, melena or hematochezia within 48hrs of the procedure, the need for infusion of blood products or repeat endoscopy and readmission within one week of discharge for any GI bleeding. Patients divided in two groups. Group A (Aspirin, Clopidogrel or both within 5 days of the procedure): Group B (controls not on antiplatelet agents). History of PPI/H2 blocker, NSAIDS, SSRI's or Steroid use and previous ulcer disease were recorded.

Results: 214 (64.8%) patients were included in Group A (Ages 27-98, median 79), and 116 (35.1%) were in Group B (Ages 22-100, median 78); 207 patients were excluded due to improper documentation. Bleeding was seen in 11 (5.1%) patients in Group A: 2 out of 85 patients on Aspirin alone and 2 out of 46 patients on Clopidogrel alone. (p = 0.215 and 0.140 respectively compared to controls); 7 out of 72 (10%) on Aspiring/Clopidogrel bled (p= 0.01 vs. controls). In Group B, 3 (2.6%) patients bled. Among bleeding patients, 2 were on Aspirin alone also on a NSAID and steroid; In the Clopidogrel alone group 2 patients were on NSAID and SSRI at the time of procedure. Bleeding patients were managed by stopping the respective drug/s, blood transfusion (required in 1 patient, 1 units of PRBC). No patient needed repeat endoscopy and there were no mortalities. Most patients in Group A stopped taking the antiplatelet agents 2-3 days prior to the procedure. All episodes of bleeding occurred if PEG placed between days 0-3 of stopping meds. No patients taking a PPI in this study bled.

Conclusion: The combination of ASA and Clopidogrel increases the risk of post PEG bleeding especially when patients are on concomitant use of SSRI's, NSAIDS and steroids 2) Aspirin or Clopidogrel does not appear to significantly increase the risk of bleeding in patients undergoing PEG procedure. 3) Though bleeding appears to be minor, elective PEG should not be performed in patients on more than one antiplatelet agent.

P36

SELF REPORTED PRACTICE PATTERNS AMONG HIGH VOLUME PRESCRIBERS OF HP ERADICATION THERAPIES

S. George, PharmD, MS,[1] N. Vakil, MD[2]. 1. Conexus, Tampa, FL; 2. Medicine, Marquette University, Milwaukee, WI.

Purpose: The ACG Management of *Helicobacter pylori* (HP) Practice Guidelines were published in 2007. Often it takes time for guidelines to be incorporated into a clinical setting. We assessed physician self-reported practice patterns to the new ACG Guidelines.

Methods: Utilizing IMS prescription claims data for 2007 we identified the top decile physicians who prescribed branded HP eradication therapies. We developed a survey around the Guidelines. The Likert-scale survey was reviewed and tested by a group of clinicians prior to distribution to the identified physicians in April 2008.

Results: A total of 124 physicians responded to the survey (15 Internal Medicine; 17 Family Practice, 91 Gastroenterology). Seventy-five percent of the respondents said they were highly likely to prescribe a HP eradication therapy based on guidelines. For first line therapy, 56% vs 6%, reported very often using clarithromycin based triple therapy (CTT) or bismuth based quadruple therapy (BQT), respectively. Compared to the Guidelines, optimal CTT therapy is for 14-days, 35% reported prescribing CTT between 7-10 days. Compared to the Guidelines, 25% reported that they very often asked patients about their previous antibiotic therapy. Gastroenterologists (15%) reported that >21% of patient referrals had a previous trial of CTT therapy, despite contiuned symptoms. Treatment failure of 16-20% was reported by 16% and 7% with CTT and BQT, respectively. Despite the lack of widespread susceptibility testing, resistance rates of 16-20% were reported by 21% vs 13%, with CTT and BQT, respectively. Forty-four percent of the respondents indicated that resistance patterns would be extremely influential to their practice. A total of 32% of the respondents indicated that they very often confirm eradication, of this group 92% would re-test if patients have continued symptoms.

Conclusion: This is the first survey to assess physician practice patterns to the 2007 ACG Management of *Helicobacter pylori* (HP) Practice Guidelines. This shows the perceived importance of resistance, indicates that practitioners do not collect information as they should on previous antibiotic usage, first line CTT usage is high despite low eradication rates, and there is low incidence of testing to confirm eradication among practitioners.

Disclosure - Dr George - Consultant: Axcan Pharma, Speakers Bureau: Dr Vakil - Consultant: Axcan Pharma

P37

PATIENTS AT RISK FOR GASTROINTESTINAL BLEEDING INFREQUENTLY RECEIVE PROTON PUMP INHIBITOR THERAPY AT DISCHARGE: A SINGLE CENTER EXPERIENCE

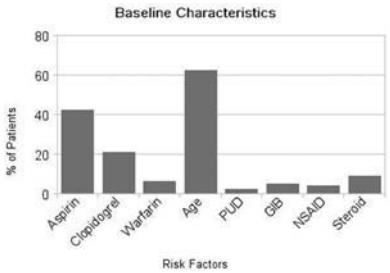
A. H. Levy, MD, P. O. Katz, MD. Department of Medicine, Division of Gastroenterology, Albert Einstein Medical Center, Philadelphia, PA.

Purpose: To determine the rate at which patients with myocardial infarction and risk factors for gastrointestinal bleeding who are discharged on aspirin and or clopidogrel are also discharged on PPI co-therapy.

Methods: Medical records of patients discharged from a single teaching hospital over a four-month period with a diagnosis of myocardial infarction were located retrospectively. Deidentified charts were reviewed for use of PPI, aspirin, and clopidogrel, as well as the following risk factors for gastrointestinal bleeding: age greater than or equal to 60 years, history of gastrointestinal bleeding, history of peptic ulcer disease, and use of warfarin, NSAIDs, or steroids.

Results: 164 discharges were identified, and 143 were included for review. Excluded patients had died or had incomplete charts. Mean age was 64 years (range 32-96), and 52% were male. Overall, PPI was prescribed in 40/89 (45%) discharges of patients with at least 1 risk factor for gastrointestinal bleeding who were discharged on aspirin and or clopidogrel. For those patients discharged on aspirin alone, the rates of PPI prescribing in patients with one, two, or three or more risk factors were as follows: 11/29 (38%), 4/13 (31%), 1/2 (50%). For patients discharged on aspirin combined with clopidogrel, the rates of PPI prescribing in patients with one, two, or three or more risk factors were: 13/36 (36%), 5/7 (71%), 2/3 (66%). In patients discharged on clopidogrel alone, the rates of PPI prescribing in patients with one, two, for three or more risk factors were: 0/2 (0%), 4/5 (80%), 0/0 (0). PPI therapy was discontinued during hospitalization (and at discharge) in 9/22 (41%) patients who were admitted on PPI. In patients who had PPI discontinued, 6/9 (66%) had at least one risk factor for gastrointestinal bleeding.

Conclusion: A minority of patients with myocardial infarction and risk factors for gastrointestinal bleeding were discharged on appropriate proton-pump inhibitor co-therapy. Some patients had PPI therapy discontinued despite risk factors for gastrointestinal bleeding.



P38

PIES (PREDICTORS OF IMPROVEMENT AFTER ELECTRICAL STIMULATION) IN GASTROPARESIS

N. Siddaiah, MD,[1] W. Johnson, PhD,[3] R. E. Schmieg, MD,[4] S. Weeks, MD,[2] J. Salameh, MD,[4] T. Abell, MD[1]. 1. Digestive Diseases, University of Mississippi Medical Center, Jackson, MS; 2. Medicine, University of Mississippi Medical Center, Jackson, MS; 3. Epidemiology and Biostatistics, University of Mississippi Medical Center, Jackson, MS; 4. Surgery, University of Mississippi Medical Center, Jackson, MS.

Purpose: Objective criteria to predict response to Gastric Electrical Stimulation (GES) in medically-refractory gastroparesis (GP) have not been identified. Temporary GES (tGES) (GIE. 2005;61: 455-6) improves GP symptoms and may be used to assess response to permanent GES (pGES). We examined long term outcomes in a large group of GP patients to define clinical and tGES-derived mucosal electrogastrogram criteria that may predict outcome to pGES.

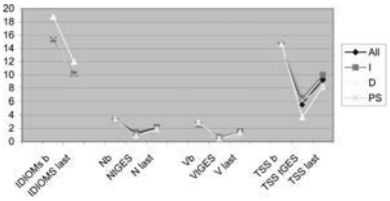
Methods: 394 consecutive GP patients (320 F, 74 M, mean age 43 years) were consented for GES over 15 years, with diagnoses: 240 idiopathic(ID), 103 diabetes mellitus(D) and 51 post-surgical(PS). To predict response to pGES 150 patients underwent tGES prior to pGES (ID 88, D 40, PS 22). All patients were assessed by symptom scores [nausea (N), vomiting (V), and total symptom (TSS)] and IDIOMS (a HRQOL measure) at baseline (b), after tGES (t) and at the latest (L) follow-up after GES, as well as a ratio (Rt) of frequency to amplitude in tGES mucosal EGG. Linear regression determined independent variables predicting the latest vomiting score.

Results: Median follow-up was 57 months (range 10 months to 12 years). In analysis by etiology, virtually all patients (I, p <0.001, DM, p ≤0.001 and PS, p ≤ 0.001) had very good responses. Among all GP patients linear regression analysis identified 3 predictors of improvement in vomiting scores: pt age, baseline vomiting score and Rt. In subset analysis, these predictors were most significant for ID. Among all categories of GP, linear regression analysis identified a low Rt derived by the use of mEGG as the single best predictor of response to tGES and pGES.

Conclusion: Permanent GES for severe GP results in significant and sustained improvement of overall symptoms and quality of life. The independent predictors of response (age, Vb score, and Rt) were most significant in ID patients. Rt derived from endoscopic tGES mucosal EGG is an accurate predictive criterion of symptom improvement with GES, especially improvement in vomiting. Future studies with larger sample sizes may identify and standardize these and other factors that may predict outcomes after GES.

Subset Analysis

Independent Variable	All	Idiopathic	Diabetic	Post-surgical
	t(p)	t(p)	t(p)	t(p)
Age	-2.49(0.001)	-1.86(0.06)	-1.2(0.23)	0.28 (0.78)
Vb	3.5(<0.001)	3.23(0.001)	1.79(0.08)	1.04(0.31)
Rt	2.61(<0.01)	2.35(0.02)	-0.56(0.57)	1.060.3)



Symptom Outcome: IDIOMs, Nausea (N), vomiting (V) and total symptom score (TSS) at baseline (b) after temporary GES (tGES) and at the latest (last) date of evaluation (last). All parameters showed significant improvement (see text for p values)

Disclosure - Dr Abell—investigator and consultant for Medtronic. GES was licensed from the U of TN Research Corporation when Dr Abell was a faculty member there.

P39

USEFULNESS AND DISCRIMINANT VALUE OF ROME III QUESTIONNAIRE IN DYSPEPTIC PATIENTS WITHOUT ANTI- SECRETORY THERAPY

S. Abid, MD, FACG, S. Siddiqui, MBBS, W. Jafri, MD, FACG. Medicine, Aga Khan University, Karachi, Pakistan.

Purpose: To evaluate the usefulness of Rome III questionnaire for the diagnosis functional dyspepsia (FD) and to discriminate between Postprandial Distress Syndrome (PDS) and Epigastric Pain Syndrome (EPS) in patients with dyspepstic symptoms.

Methods: Consecutive patients, who were not on proton pump inhibitors, were asked to participate. Rome III questionnaire was used to identify the patients as having FD and PDS or EPS as groups. Gastro-duodenal biopsies, liver function tests and ultrasound were also done.

Results: Out of 272 patients 191 (70%) fulfilled the Rome III criteria of Functional Dyspepsia (FD). PDS variant was found in 17 (9%) patients, EPS in 109 (57%) and overlap between EPS and PDS was present in 56 (29%) and 9 (5%) patients did not fit the Rome III criteria of either category. Diagnosis of FD was established in 136 (71%) patients only. Gastritis was present in 116 patients (85%), Duodenitis in 44 (32%) and *Helicobacter pylori* infection in 70 (51%) patients. Among 55 patients (29%) who were found to have organic diseases, EPS was seen in 35 (64%), PDS in 5 (9%) and overlap in 15 (27%) patients. Underlying organic causes were gastric or duodenal ulcers 14, Barrets esophagus; 5, chronic liver disease; 7, gall stones; 5, giardiasis and celiac disease in 3 each. Gastric carcinoma, Crohns disease and gastric polyps were seen in one patient each.

Conclusion: The study indicates that 1/3 of patients who fulfilled the Rome III criteria for functional dyspepsia actually had organic disease. Almost 1/3rd of the patients did not qualify in one of the sub-group of functional dyspepsia. Epigastric pain syndrome and overlap with post prandial distension were the dominant groups in dyspeptic patients. There is a need to define an overlap group in Rome III criteria for functional dyspepsia.

P40

BILIARY TRACT CANDIDIASIS: INSIGHTS INTO A RISING DISEASE ENTITY

P. Lenz, MD, B. Conrad, MD, T. Kucharzik, MD, W. Fegeler, MD, H. Ullerich, MD, E. Hilker, MD, A. Heinecke, MD, W. Domschke, MD, D. Domagk, MD. Dept. of Medicine B, University of Muenster, Muenster, Germany.

Purpose: Infections of the biliary tract with Candida and other fungal species have increasingly been revealed in the last few years. Based on the retrospective data in literature, we initiated a prospective study investigating the incidence, predispositions and coherences of biliary tract candidiasis.

Methods: In 143 consecutive endoscopic retrograde cholangio-pancreatographies (ERCP) of 123 different patients, bile samples were taken and mycologically analyzed. Additionally, buccal smears and stool samples were obtained to get an impression of the mycological transient intestinal flora and to estimate the possibility of an intestinal contamination of bile. Clinical and laboratory parameters were statistically evaluated.

Results: In 54 of 123 patients we found Candida species in the bile (44% of the cases). In only 7 patients, candidiasis was suspected endoscopically prior to mycological proof (positive predictive value = 0.6). In most of the cases, the fungus was differentiated as Candida albicans or glabrata, rarely as Candida parapsilosis, tropicalis or other subspecies. Seventy-four percent of the patients suffered from immunosuppression (e.g., post-transplant status, malignancy, long-term antibiotic therapy, diabetes). According to our results, immunosuppression was significantly correlated with bile duct candidiasis (p = 0.0091). A suggestive, but not significant coherence was found between positive fungal cultures and prior endoscopic sphincterotomy (p = 0.0556) or previous ERCP (p = 0.0868). Biliary candidiasis was found nearly equally in patients with and without gallbladder (p = 0.4765). The detection of biliary candidiasis was neither correlated with a positive fungal culture of buccal smears (p = 0.0722) nor with positive fungal culture of stool samples (p = 0.0860).

Conclusion: The biliary system is frequently affected by Candida species. Positive fungal cultures of bile samples are not just contamination artifacts. This has to be taken into account when designing an anti-infectious treatment for cholangitis or even more cholangiosepsis. Especially in immunosuppressed patients or recipients of long-term antibiotic therapy, physicians should screen for biliary tract candidiasis during endoscopic examination. According to our data, it cannot be excluded that previous manipulation of the biliary tract increases biliary infections.

P41

ADIPONECTIN POLYMORPHISMS AND SERUM ADIPONECTIN LEVELS IN SEVERE ACUTE PANCREATITIS

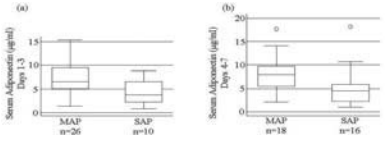
A. Sharma, MD, V. Muddana, MD, J. Lamb, PhD, D. C. Whitcomb, MD, PhD, G. I. Papachristou, MD. Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA.

Purpose: Acute pancreatitis (AP) is an acute inflammatory event that originates within the pancreas. Most patients develop mild AP (MAP); however, in some patients, there is an exaggerated systemic inflammatory response that results in severe AP (SAP). Obesity is a known risk factor for developing SAP. Adipokines released from adipose tissue play a role in the inflammatory response to injury. We hypothesize that adipokines such as adiponectin mediate the effect of obesity in AP.

Methods: AP patients and controls were enrolled. SAP was defined as the presence of remote organ failure. The single nucleotide polymorphisms (SNPs) of interest in adiponectin (+45 T/G and +276 G/T) were evaluated by polymerase chain reaction (PCR) amplification and DNA sequencing. Serum samples were quantitatively assayed for adiponectin levels.

Results: There were 133 patients with AP (108 with MAP and 25 with SAP) and 133 healthy controls. No associations between the two adiponectin SNPs and AP susceptibility or severity were found. There were 60 patients (27 with MAP and 33 with SAP) for whom serum adiponectin levels were available. Serum adiponectin levels from days 1-3 were significantly lower in SAP patients (n=10; median: 3.74; range: 0.83-8.92 mg/ml) than in MAP patients (n=26; median: 6.58; range: 1.31-15.37 mg/ml) (p=0.02). There were no statistically significant differences in serum adiponectin levels among patients with different genotypes at the +45 and +276 loci. However, when the analysis was restricted to lean patients only, serum adiponectin levels were lower in patients with the +45 T/G genotype (n=2; median: 3.18; range: 1.18-5.18 mg/ml) than the +45 T/T genotype (n=20; median: 8.07; range: 3.02-18.20) (p=0.05); there were no patients with the G/G genotype in this subgroup. Multivariate logistic regression controlling for BMI, +45 locus genotype, and sex showed that serum adiponectin level from days 1-3 was a significant predictor of SAP (p=0.03; OR:0.36, 95% CI: 0.14-0.90). A receiver operating characteristics (ROC) curve using serum adiponectin levels from days 1-3 as the predictor for severity had an area under the curve (AUC) of 0.75.

Conclusion: Adiponectin polymorphisms did not alter the risk of developing AP or SAP. Serum adiponectin levels were lower in patients with SAP and can be helpful in predicting the severity of AP.



P42

THE DIAGNOSIS OF ACINAR CELL CARCINOMA (ACC) OF THE PANCREAS VIA ENDOSCOPIC ULTRASOUND GUIDED FINE NEEDLE ASPIRATION (EUS-FNA): A NEW APPROACH

D. Yamini, MD,[1] J. Tongson-Ignacio, MD,[2] K. Chang, MD,[1] J. G. Lee, MD,[1] R. Muthusamy, MD[1]. 1. Medicine/Gastroenterology, University of California, Irvine, Orange, CA; 2. Pathology, University of California, Irvine, Orange, CA.

Purpose: ACC is a rare but increasingly recognized pancreatic malignancy which exhibits a clinical course that is in between that of pancreatic neuroendocrine tumors (PNT) and pancreatic adenocarcinoma (PA). Accurate diagnosis of this distinct pancreatic tumor is important

because it modifies the prognosis and may impact subsequent clinical management. A review of the existing literature reveals that the diagnosis of ACC has been made primarily via intraoperative means. We investigated if a less invasive technique, EUS-FNA, can provide adequate cellular material to attain a preoperative diagnosis of ACC.
Methods: After obtaining institutional review board approval, we reviewed the records of all patients from January 2001 to May 2008 at our institution who underwent EUS-FNA of a pancreatic mass. Patients with a cytologic diagnosis of ACC on EUS-FNA were included in this series. The data abstracted included patient age, gender, presenting symptoms, tumor location, the number of passes via EUS-FNA necessary to achieve a diagnosis of ACC, needle size used, specimen quality and adequacy, and surgical findings, if surgery was performed.
Results: We identified 10 patients with a diagnosis of ACC obtained via EUS-FNA during the study period. The cytologic diagnosis via EUS-FNA included 7 patients with ACC only, two patients with a mixture of ACC/PNT, and one with a poorly differentiated adenocarcinoma suggestive of ACC. The mean age was 63.4 (range 29-87), with a M:F ratio of 6:4. Presenting symptoms included abdominal pain, weight loss, new-onset diabetes, pancreatitis, jaundice, ascites, and anemia. Tumor locations were: head (2), body (4), tail (3), and diffuse (2). The mean number of FNA passes performed was 1.5, with 70% of the patients achieving a diagnosis on the first pass. Needle size was 22 or 25 G for all EUS-FNA. All specimen were satisfactory for evaluation, with the specimen quality being highly cellular in 9/10 and scant to moderately cellular in the remaining patient. Two patients underwent subsequent laparoscopic radical subtotal distal pancreatectomies, with one undergoing an accompanying splenectomy. Surgery confirmed the diagnosis in the first patient, while a mixed ACC/PNT was seen in the second.
Conclusion: The present case series is the largest to report EUS-FNA as a diagnostic modality for ACC. Our results suggest that EUS-FNA is a feasible, accurate, and minimally invasive alternative to previous techniques used in identifying ACC. EUS-FNA of pancreatic masses should be considered preoperatively to identify this variant pancreatic tumor because of its distinctly different prognosis when compared to PNT or PA. This information will allow for a more accurate prognosis and may impact treatment choice.

P43

FEASIBILITY OF ENDOSCOPIC INTRA-DUCTAL BALLOON CRYOTHERAPY IN THE BILE DUCT USING A SWINE MODEL

J. Horwhat, MD,[1] W. E. Norris, MD,[1] P. Young, MD[2]. 1. Walter Reed Army Medical Center, Washington, DC; 2. Dept of Medicine, National Naval Medical Center, Bethesda, MD.

Purpose: The purpose of the study is to evaluate the technical feasibility and histologic effects of endoscopically guided balloon-catheter delivered cryotherapy in the common bile duct in a swine model.
Methods: This study was approved by the Walter Reed Army Medical Center Department of Clinical Investigation and the Uniformed Services University of the Health Sciences IACUC. Following an overnight fast, 4 Yorkshire swine were sedated, endotracheally intubated and anesthetized. Each animal underwent an endoscopic retrograde cholangiopancreatogram(ERCP) .Following a cholangioram, the bile duct was recannulated with a Boston Scientific 3mm wide x 4 cm long Polarcath balloon catheter over a 0.014 inch guidewire. Once the balloon catheter was inserted into the duct, the catheter was slightly withdrawn until the balloon was seen at the ampullary orifice. The balloon was then attached to the inflation device and inflated from 2 to 9 times. The catheter was stable during inflations. The endoscopic and fluoroscopic portions of the procedure were recorded. Three of the animals were observed for 72 hours and one for 16 days. At 72 hours, three animals underwent a repeat ERCP. The procedure was videotaped.The animals were euthanized and taken for necropsy. The portion of the duodenum containing the ampulla and the entire bile duct up to 2 cm beyond the bifurcation of the bile duct were placed en bloc into formalin. Histologic sections were taken from the treated segments and from the untreated segments. The tissue was embedded in paraffin and sectioned for analysis.
Results: The mean size of the bile duct of the animals prior to balloon inflation was 5.3±1.08 mm. The mean size of the bile duct following the treatment was 4.3±.08 mm (p=0.086).No strictures were seen on the subsequent cholangiograms. All animals had some necrosis of the bile duct mucosa. One animal demonstrated multifocal mucosal to transmural (focal) necrosis of the bile duct. The ductal necrosis was associated with inflammation along with varying degrees of fibroplasia. There was significant inflammation of the periductal fat. There was abundant fibroplasia in these areas, along with necrosis, and multifocal fibrinoid necrosis. In most instances, there is healthy bile duct submucosa interposed between areas of mucosal necrosis and steatitis. No animals demonstrated circumferential necrosis of the bile duct mucosa. The necrosis was focal to multifocal in all animals.
Conclusion: Endoscopic Inta-ductal balloon Cryotherapy in the bile duct is feasible. The results of this initial pilot study will lead to to a larger study to ascertain safety, dosimetry and potential for efficacy

P44

DO US REGIONS WITH THE HIGHEST RATES OF OBESITY HAVE THE HIGHEST FREQUENCY OF HOSPITAL DISCHARGES FOR PANCREATIC ADENOCARCINOMA? AN ANALYSIS OF US SECULAR TRENDS

2008 ACG Presidential Poster Award Recipient

B. E. Young, MD, A. Brown, MD, MS Clin Epi. Beth Israel Deaconess Medical Center, Boston, MA.

Purpose: Pancreatic adenocarcinoma (Panc CA) is a lethal disease. Obesity has been described as an independent risk factor for pancreatic cancer. The goal of this study was to determine if regions in the United States that have the highest percentages of obesity also have the highest frequencies of hospital discharges with adenocarcinoma of the pancreas.
Methods: We used the National Inpatient Sample (NIS) database in order to determine the frequency of cases of Panc CA seen in US hospitals. The NIS is the largest all-payer inpatient care database in the United States. The NIS contains discharge data collected from over 1,405 hospitals in 38 states. The NIS represents a 20% stratified sample of US hospitals. We searched the NIS database for all discharge diagnoses with ICD-9 code 157.0 -157.9, which identified all cases of neoplasms of the pancreas body, head, tail, pancreatic duct, islet cells and NOS. We selected all cases from 1997-2006. We determined the frequency of pancreatic cancer by dividing the total number of hospital discharges with Panc CA by the total number of discharges per year. We then determined the frequency of pancreatic cancer cases in four US regions, the South, Northeast, West and Midwest. We then compared the frequency of Panc CA hospital discharges per region with national statistics on the percentage of the obese adult population for all 50 states obtained from the Centers for Disease Control Behavioral Risk Factor Surveillance Data (CDCBRF) (1997-2006). We also stratified by race and gender. We also looked at the in-hospital mortality for Panc CA by region.
Results: During the period from 1997-2006 there were a total of 325,477 hospital discharges with Panc CA of the head, body, tail, duct, islet cells and NOS . During this period the Southern region of the United States had the highest frequency of discharges with Panc CA. The Western region generally had the lowest frequency of Panc CA. Comparison to the CDCBRF surveillance data revealed that the Southern regions of the US had the greatest percentages of obese adults in the United States. The Northeast and Western regions had the lowest percentages of obese adults in the United States. Stratification by race and gender did not change the observed trends. Mortality varied by year and by region, but did not show the same trend as cancer incidence in the South.
Conclusion: These data indicate that US regions with the highest percentage of adults with obesity also have the highest frequency of hospital discharges with Panc CA, while mortality is variable. Further population based studies are needed to determine the strength of the association between the percentage of the adult population that is obese and the development of pancreatic adenocarcinoma.

P45

GLYCEMIC CONTROL IN PATIENTS POST TOTAL PANCREATECTOMY (TP) FOR INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM (IPMN)

L. H. Jamil, MD,[1] J. Stauffer, MD,[2] S. Meek, MD,[3] K. R. Gill, MD,[1] M. Raimondo, MD,[1] T. Woodward, MD,[1] A. Chindris, MD,[3] J. H. Nguyen, MD,[2] K. J. Martin, MD,[2] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL; 2. Surgery, Mayo Clinic, Jacksonville, FL; 3. Endocrinology, Mayo Clinic, Jacksonville, FL.

Purpose: Diabetes Mellitus (DM) after total pancreatectomy (TP) is often thought to be difficult to manage. The notion that it causes brittle diabetes in up to 25% could adversely influence the decision to perform TP which is other wise the treatment of choice for main duct or multifocal IPMN. It is still not clear if that has changed with recent medical advances, or if the underlying pancreatic disease affects glycemic control post TP. Only one French study of 10 patients found that glycemic control can be managed successfully after TP for mucinous pancreatic tumors.
Methods: A retrospective chart review of patients that have undergone TP for IPMN at our institution to evaluate glycemic control
Results: We identified 15 patients who underwent TP for IPMN. The mean age was 69 (range 47-78), 3 males, 12 females. Three patients were excluded because the available follow up data was less than 2 months. The mean follow was 20 months (2-43 months), mean BMI at time of surgery 24.8 Kg/m2 (19-35.5), and approximately 1 year out was 21.4 Kg/m2 (15.8-32, data on 10 patients). Only 1 patient had DM type 2 prior to surgery, and 2 patients had symptoms of pancreatic insufficiency. All patients were started on an insulin drip post surgery, and were discharged on a sliding scale. In addition, patients were given either Lantus insulin (9 patients), Insulin 70/30 (1 patient), or Levemir (1 patient) based on the discretion of the endocrinologist. Patients were also discharged on pancreatic enzyme supplements. Only one patient developed hypoglycemia that required admission to the emergency room, where she was treated with intravenous Dextrose 50% and discharged home. Other patients had occasional hypoglycemia noted during blood sugar monitoring, with minimal or no symptoms at home. All these episodes were managed by the patients, none requiring glucagon therapy or hospital admission. Current insulin regimens include Lantus insulin (7 patients, mean dose 11 U/day, range 4-24), insulin pump (3 patients), Humalin (1 patient), and levemir (1 patient). The most recent HbA1c mean was 7.28 (range 5.2-8.6, data for 10 patients), and overall mean HbA1c was 7.3 (range 5.85-8.2, data for 10 patients). Most patients continued on pancreatic enzyme supplements to avoid malabsorption, with its potential negative effects on glycemic control. Only 2 patients continued to complain of steatorrhea because of intolerance of medications (1), and inadequate dosing (1).
Conclusion: Glycemic control following TP for IPMN can be well managed and controlled with a variety of insulin therapy regimens. Fear of DM following TP for IPMN should not preclude surgery when indicated.

P46

RADIAL VS. LINEAR EUS IN EVALUATION OF SUSPECTED PANCREATIC CANCER. IS IT SUFFICIENT TO USE LINEAR EUS ALONE?

L. H. Jamil, MD,[1] K. R. Gill, MD,[1] S. A. Gross, MD,[1] J. Crook, PhD,[2] M. Raimondo, MD,[1] T. Woodward, MD,[1] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL; 2. Biostatistics, Mayo Clinic, Jacksonville, FL.

Purpose: Endosonography is widely used for diagnosis and staging of pancreatic cancer. The radial endoscopic ultrasound (R-EUS) provides high quality cross sectional images, but cannot guide fine needle aspiration (FNA). Linear EUS (L-EUS) has the ability to guide FNA but has a limited field of view. Use of both endoscopes may improve pancreatic cancer staging, but is less efficient. In this study, we evaluated the accuracy of R-EUS and L-EUS endoscopes alone and in combination for the detection and staging of pancreatic malignancies

Methods: Patients suspected of having a pancreatic mass underwent R-EUS and L-EUS evaluation by 1 of 3 experienced endosonographers. Patients were randomized to which procedure was performed first. If an FNA was required, it was performed after completing both examinations. Examinations were recorded in a standardized order; (pancreas body-from stomach, pancreatic head-from duodenal bulb, pancreas uncinate-from 3rd duodenum, liver, and mediastinum). Offline reviews of recorded procedures were then performed by 2 EUS endoscopists, neither of whom had performed the procedure, and were blinded to the findings of the original exam and alternative endoscope. IRB approval was obtained.

Results: To date a total of 14 patients (study ongoing) underwent EUS for suspected pancreatic malignancy. One patient was excluded because of defective recording. T staging agreed in 8/13 (62%) (Table 1). In the other 5 cases, R and L each labeled 2 separate patients as T4, while L and R labeled them as T2 and T3 respectively. In one patient, the radial did not identify a T2 lesion. N staging agreed in 9/13 (70%) (Table 2). In M staging, R identified 1 M stage, which was not seen by L exam. Limitations: Small number of patients, TNM staging was based on recorded procedures, and not real time

Conclusion: Based on reviewing recorded R and L EUS, there is poor agreement in TNM staging between R and L EUS. Patients suspected of having a pancreatic tumor should undergo both procedures for proper staging evaluation

Table 1 Comparison of T Staging by R-EUS and L-EUS. Total 13 patients. Number represents number of patients for each T stage by corresponding procedure

		T staging by L-EUS		
		T 4	T 1-3	No Tumor
T staging by R-EUS	T 4	1	2	
	T 1-3	2	5	
	No Tumor		1	2

There was an agreement in 8/13 patients (62%).

Table 2 Agreement of lymph node staging evaluation by R-EUS and L-EUS. Numbers represent number of patients corresponding to N stage

		N staging by L-EUS	
		N 0	N 1
N staging by R-EUS	N 0	7	3
	N 1	1	2

There was an agreement in 9/13 patients (70%)

P47

DOES RATE OF GROWTH DIFFERENTIATE BETWEEN MUCINOUS AND NON-MUCINOUS PANCREATIC CYSTS?

K. Kulkarni, MD, N. Schamberg, MD, R. Gonzalez, MD, S. Sarkaria, MD, M. Pochapin, MD, F. Schnoll-Sussman, MD. Division of Gastroenterology and Hepatology, Weill Cornell Medical Center, New York-Presbyterian Hospital, New York, NY.

Purpose: The natural history of pancreatic cysts is not clearly defined. It has been suggested in the surgical and radiologic literature that surveillance with cross-sectional imaging for cysts less than 3 cm in size is adequate management. The goal would be to identify cysts that are increasing in size, warranting early intervention. We sought to identify clinical or radiologic parameters that might predict the presence of mucinous cysts (MC) and, more importantly, if the rate of growth can reliably differentiate a MC from a non-mucinous cyst.

Methods: The charts of patients that underwent EUS for a pancreatic cyst from 1999-2006 were reviewed. Each subjects' EUS report was reviewed and the location, size, morphology and results of cyst fluid analysis were obtained. Each cyst was characterized as mucinous, non-mucinous or malignant based on cyst fluid analysis, fluid cytopathology and surgical pathology (when available). Patients with multiple cross-sectional imaging studies prior to EUS were identified and the rate of annual growth of the cystic lesion was calculated. Receiver operating characteristic (ROC) analysis was performed to evaluate the ability of rate of growth to differentiate between mucinous and non-mucinous cysts and between malignant and non-malignant lesions.

Results: We identified 194 consecutive patients that underwent EUS for the evaluation of pancreatic cysts at our center. Mean age of subjects was 66 years (±13.7) and 75% were female. The size of the cyst on EUS correlated with the presence of a mucinous cyst (p=0.02). Age, gender, the presence of symptoms, and location of the cyst in the pancreas did not predict the presence of mucinous lesions. Forty-seven patients (24%) had multiple imaging studies prior to EUS. ROC analysis demonstrated that the rate of growth did not help to distinguish MC from non-mucinous cysts (AUC=0.61). However, a rate of growth greater than 0.5 cm per year predicted a malignant cyst (ROC AUC=0.89, sensitivity 83%, specificity 78%).

Conclusion: A rate of growth greater than 0.5 cm per year suggests the presence of malignancy in a pancreatic cystic lesion. However, rate of growth by cross-sectional imaging cannot reliably distinguish between mucinous and non-mucinous cysts. Stability in size on cross-sectional imaging does not rule out the possibility of a pre-malignant mucinous cyst. Therefore further evaluation by EUS-FNA of cysts that are amenable to aspiration is warranted.

P48

ELEVATED SERUM CREATININE AS A MARKER OF PANCREATIC NECROSIS IN ACUTE PANCREATITIS

V. Muddana, MD, D. C. Whitcomb, MD, PhD, A. Khalid, MD, A. Slivka, MD, PhD, G. I. Papachristou, MD. Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA.

Purpose: Pancreatic necrosis is a serious complication of acute pancreatitis. The identification of simple laboratory tests to detect subjects at risk of pancreatic necrosis may direct management and improve outcome.To study the association between routine laboratory tests and the development of pancreatic necrosis in patients with acute pancreatitis.

Methods: In a cohort of 185 prospectively enrolled patients with acute pancreatitis for Severity in Acute Pancreatitis study (SAPS), patients with contrast enhanced computerized tomography performed were selected (n=129). Serum hematocrit, creatinine and urea nitrogen on admission and peak values within 48 hours of admission were analyzed. The volume of intravenous fluid resuscitation was calculated for each patient.

Results: Thirty-five of 129 (27%) patients had evidence of pancreatic necrosis. Receiver operating characteristic curves for pancreatic necrosis revealed an area under the curve of 0.79 for admission hematocrit, 0.77 for peak creatinine and 0.72 for peak urea nitrogen. Binary logistic regression yielded that all three tests were significantly associated with pancreatic necrosis ($p<0.0001$) with the highest odds ratio of 34.5 for peak creatinine. The volume of intravenous fluid resuscitation was similar in patients with and without necrosis. Low admission hematocrit (<44.8%) yielded a negative predictive value of 89%; elevated peak creatinine (>1.8 mg/dL) within 48 hours yielded a positive predictive value of 93%.

Conclusion: We confirm that a low admission hematocrit is negatively associated with the development of necrosis in patients with acute pancreatitis. In contrast, an increase in creatinine within the first 48 hours is positively associated with pancreatic necrosis. This finding may have important clinical implications and warrants further investigation.

Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy of admission Hct and peak Cr within 48 hours as predictive tests for the development of PNec.

	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)
Admission HCT	70.6	83.7	61.5	88.5	80.2
48-hour peak Cr	41.2	98.9	93.3	82.1	83.5

P49

ANTIBIOTIC PROPHYLAXIS REDUCES THE INFECTIOUS COMPLICATIONS AND MORTALITY IN SEVERE ACUTE PANCREATITIS: PRACTICAL REVIEW AND META-ANALYSIS OF 12 TRIALS

R. Rahman, MD, F. Bukeirat, MD, Y. Ostrinsky, MD. Digestive Diseases, WVU, SOM, Morgantown, WV.

Purpose: Acute pancreatitis is commonly encountered in our daily practice and is associated with significant morbidity and mortality.The role of prophylactic antibiotics is still unsettled since studies evaluating its benefits have produced disparate results. This meta-analysis was conducted to examine the role of antibiotics in severe acute pancreatitis to reduce the infectious complications and mortality.

Methods: A computer-assisted search in PubMed, Medline, Embase, Current Contents, and OVID, covering the period January 1970 to December 2007 was performed. Identified trials were rated and classified into two levels and data was extracted.

Results: A total of 12 trials were identified and included 908 subjects. There was no difference in baseline characteristics of the patients in antibiotic or placebo group. The rate of infection in antibiotic prophylaxis group (Figure 1) is significantly lower than control group (25% vs. 40%, $\chi2 = 19.45$, $p<0.01$, OR = 0.41, 95% CI 0.21-0.80). The difference in mortality rate in these two groups (Figure 2) is also statistically significant (8% vs. 15%, $\chi2 = 7.01$, $p<0.01$, OR = 0.56, 95% CI 0.36 – 0.87). The pooled sub analysis according to different time frame and antibiotic also revealed similar results.

Conclusion: Our study showed a significant reduction in overall infection rate and mortality in the antibiotic group. We recommend the use of antibiotics for most cases of severe acute pancreatitis; as we live in a new era where our in-patient population is much sicker and more severely ill than those ten or twenty years ago, when the admission criteria were much less stringent. Clinicians should consider antibiotics that have adequate penetration into the pancreatic tissue such as imipenem for 10-14 days.

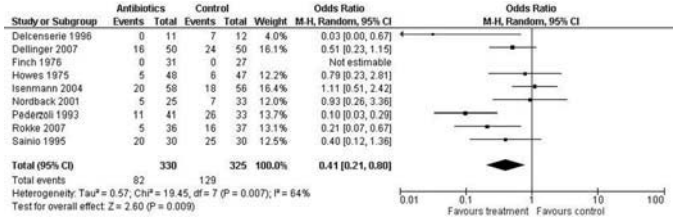


Figure 1

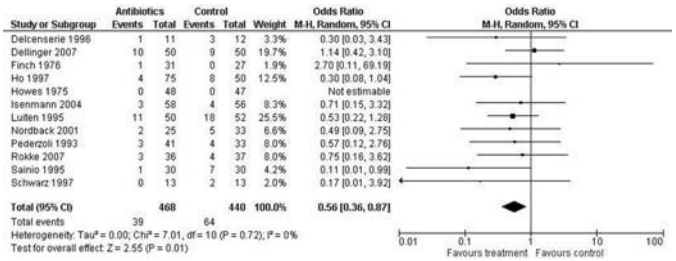


Figure 2

P50

Poster Withdrawn

P51

ACTUAL INCIDENCE OF ACUTE PANCREATITIS IN CYSTIC TUMOR OF PANCREAS

J. Seo, MD,[1] J. Ryu, MD,[1] S. Lee, MD,[2] J. Park, MD,[1] K. Yang, MD,[1] Y. Kim, MD,[1] Y. Yoon, MD[1]. 1. Department of Internal Medicine and Liver Research Institute, Seoul National University College of Medicine, Seoul, South Korea; 2. Department of Internal Medicine, Seoul National University Bundang Hospital, Seongnam, South Korea.

Purpose: Although most patients with pancreatic cystic lesion have nonspecific symptoms, some patients may experience pancreatitis at the time of diagnosis or suffer from relapsing pancreatitis throughout their medical illness. The aim of this study is to investigate 1) the incidence of acute pancreatitis in patients with cystic tumor of pancreas and 2) clinical manifestation of acute pancreatitis.

Methods: Cystic tumors of pancreas detected from 2000 to 2007 were retrospectively reviewed more than 3months in SNUH. A total of 447 patients with cytic tumor were as follow ; mucinous cystic neoplasm(117), serous cystadenoma(63), intraductal papillary mucinous neoplasm(IPMN, 267). Mean follow-up periods were 28.4±24.5 months (range 3.0-83 months). Acute pancreatitis was defined as the presence of acute abdominal pain, elevation of serum and urinary levels of pancreatic enzymes and abnormal radiologic finding. Patients with a known cause of acute pancreatitis were excluded.

Results: The incidence of acute pancreatitis with cystic tumor of pancreas was (2 %, 9/447). Initial laboratory findings were serum amylase(556±686.8 IU/dl), lipase(1148±235.8 IU/dl) and CRP(7.8±9.2). 8 of all patients were focal pancreatitis (ranson score 1-2, CT severity index score 1-2) and One patient showed diffuse edematous pancreatitis with extrapancreatic fuild collection (ranson score 4, CT severity index score 4). All patients were successfully managed with medical treatment. Cystic tumor with acute pancreatitis were as follow; intraductal papillary mucinous tumor(7), mucinous cystic tumor(1), serous cystic tumor(1). Main site of cyst(88.8%, 8/9) was head and uncinate process and mean size of cyst was 2.4±0.9 cm. Six (66.6%) of 9 patients had recurrent acute pancreatitis. Among 6 patients, IPMN was 5 patients and serous cystadenoma was 1 patient. Mean episode of acute pancreatitis was 2.3(2-4). The time interval of relapse was 8.6±4.7 months. Four(66.6%) of 6 recurrent pancreatitis underwent surgical resection. Decisions of surgery were suggesting premalignant lesion(3) and severe abdominal pain(1) during follow up. The final diagnoses of patients after surgery were invasive IPMN(2), non invasive intraductal papillary mucinous carcinoma (1),and serous cystadenoma(1).

Conclusion: Acute pancreatitis is caused by cytic tumor of pancreas show low incidence(2%) and mild clinical course. However, cystic tumor of pancreas, especially IPMN, may induce acute recurrent pancreatitis. Cystic tumor with acute recurrent pancreatitis may be considered as surgical resection

P52

EVALUATION OF INTRAHEPATIC CHEMOTHERAPY INDUCED SCLEROSING CHOLANGITIS BY ENDOSCOPIC THERAPY: INCIDENCE AND OUTCOME ANALYSIS

T. S. Shinde, MD,[1] S. Alaguguraswamy, MD,[2] M. Roh, MD,[3] A. Kulkarni, MD[2]. 1. Medicine, Allegheny General Hospital, Pittsburgh, PA; 2. Gastroenterology, Allegheny General Hospital, Pittsburgh, PA; 3. Surgical Oncology, Allegheny General Hospital, Pittsburgh, PA.

Purpose: To assess the incidence of chemotherapy induced sclerosing cholangitis (CISC) and to evaluate the efficacy and outcome of endoscopic therapy in the management of CISC. Floxuridine (FUDR) is a fluorinated pyrimidine antimetabolite which is infused through the hepatic artery for the treatment of hepatic metastasis from colorectal cancer. Several adverse reactions to this drug are observed; the most severe of them is chemotherapy induced sclerosing cholangitis (CISC), which has an incidence of 8% to 26%.

Methods: Outpatient surgical oncology records were reviewed to identify the patients with liver metastasis from colorectal cancer who received intrahepatic FUDR chemotherapy between January 1998 and January 2006. These patients were then cross referenced with our endoscopic retrograde cholangiopancreatography (ERCP) database. Additional information was obtained by review of medical records.

Results: Sixty-six patients (26 females and 40 males) received infusional intrahepatic chemotherapy for liver metastasis secondary to colon cancer. The mean age at presentation was 62.13 years (range 36-81 years). Sixteen patients developed CISC secondary to FUDR (13 males and 3 females). Cholangiogram revealed bismuth type one stricture in two patients, type two in five patients, type three in five patients, type three-A in three patients, and type three-B in one patient. All patients had ERCP to alleviate the presenting symptoms. An improvement in the stricture was seen in nine patients, over an average period of 13.54 months and with 3.78 average numbers of ERCPs. Improvement in stricture was remarkable to the point that removals of stents were possible in all nine patients. The grade and extent of biliary stricturing minimally changed in one patient. Stricture progression was noted in five patients with average numbers of 2.8 ERCPs; two out of these five patients had a placement of percutaneous biliary drains without improvement in stricture over the average period of thirty months (range 24-36 months). In one patient an endoscopic therapy was unsuccessful in transversing the stricture.

Conclusion: The incidence of CISC in our study is 24.2% which is in agreement with prior studies. Our study proves that an endoscopic therapy is an effective method for palliation of symptoms as well as for the improvement of CISC strictures as measured and confirmed by biochemical parameters and fluoroscopic findings. This finding is novel and contradicts the existing literature in regards to the role of endoscopic therapy in treatment of CISC strictures. Our study also suggests that CISC strictures which do not respond to endoscopic therapy are highly unlikely to respond to other treatment modalities.

P53

DESPITE AGGRESSIVE HYDRATION, HEMATOCRIT AND URINARY TRYPSINOGEN ACTIVATION PEPTIDE (U-TAP) PREDICT SEVERITY EARLY IN PATIENTS WITH ACUTE PANCREATITIS

I. M. Wall, DO,[1] N. L. Badalov, MD,[1] J. Braha, DO,[1] K. Vaizman, MD,[1] A. Torok, MD,[1] P. Lock, DO,[1] J. Li, MD, FACG,[1] K. Iswara, MD, FACG,[1] S. Tenner, MD, MPH, FACG[2]. 1. Gastroenterology, Maimonides Medical Center, Brooklyn, NY; 2. Medicine/Gastroenterology, State University of New York, Brooklyn, NY.

Purpose: Clinicians have difficulty determining severe disease early in the course of acute pancreatitis(AP). An elevated hematocrit(HCT) at admission(>44), and/or a HCT that fails to fall within the first 24 hours, have been shown to predict severe disease in patients with AP (Am J Gastroenterol 1998;93:2130-4). We have also previously shown that urinary TAP obtained within 6-24 hours of admission identifies all patients who will develop severe AP (Am J Gastroenterol 2002; 97: 1973-7). The management of patients with AP has improved as clinicians have become more aware of the importance of early aggressive intravenous hydration. Agressive hydration, though beneficial in patients with acute pancreatitis, may affect the ability of HCT and TAP in determining severity.

Methods: In order to clarify this issue, we prospectively evaluated the ability of Admission HCT, 24 hour HCT and TAP to predict severe disease in a consecutive cohort of patients with AP. TAP was assessed as previously described (ELISA, Biotrin, Dublin). The rate of hydration was carefully assessed by reviewing patient flow sheets. Patients enrolled were followed until discharge.

Results: 72 patients with AP were included in the study, mean age 59 + 14, 38 female, 34 male patients. 10/72 patients had severe disease (Atlanta Symposium), 8 with organ failure (OF), 2 with pancreatic necrosis (PN), 3 with both OF and PN. Logistic regression showed that an elevated TAP predicted the development of OF ($p = 0.002$), PN ($p = 0.05$), and an increased LOS ($p = 0.04$). Using a TAP of 10 ng/dl as a cut-off, all patients with severe AP were correctly identified (negative predictive value 100%, positive predictive value 87). Although a decrease in the 24 hour HCT distinguished patients with mild vs severe disease ($p = 0.003$), the admission HCT was not accurate($p = 0.22$). When stratifying for patients with adequate hydration, defined by initial hydration over the first 24 hours at a rate of 250 – 400 cc/hour adjusted for BMI, 49/72 patients met this criteria. In this group of 49 patients,admission HCT did not correlate with outcome. However, the 24 hour HCT remained accurate in determining severe AP($p = 0.03$). In patients whose HCT failed to fall during the first 24 hours, patients were more likely to have OF, PN ($p=0.04$), and an increased length of stay ($p =0.02$). Despite aggressive hydration, the ability of TAP to distinguish patients with mild vs severe disease was also unchanged, negative predictive value 100%, positive predictive value 78%.

Conclusion: We conclude that while an admission HCT greater than 44 will not be useful in assessing severity in patients who become adequately hydrated, the 24 hour HCT and TAP level remain important markers of severity in patients with AP.

P54

PANCREATIC STENT-INDUCED DUCTAL INJURY: CLINICAL PRESENTATION AND OUTCOMES OF ENDOSCOPIC THERAPY

Y. Bakman, MD,[1] M. Freeman, MD[2]. 1. Department of Internal Medicine, University of Minnesota, Minneapolis, MN; 2. Pancreas and Biliary Center, Division of Gastroenterology, University of Minnesota, Minneapolis, MN.

Purpose: Pancreatic duct (PD) stent placement is increasingly performed for prevention of post-ERCP pancreatitis in patients at high risk. PD stents can result in injury especially in normal ducts, but the clinical significance and outcomes of subsequent endoscopic therapy are not known.

Methods: Patients included all those referred from outside facilities to a single pancreaticobiliary center for management of stent-induced PD injury over 3 years. All pts had initially normal PD diameter without evidence of chronic pancreatitis, and all PD stents were placed for prevention of post-ERCP pancreatitis.

Results: 7 pts were referred for symptomatic PD stent-induced duct injury. At initial outside ERCP, all had small caliber (< or = 3mm) PD with normal PD anatomy (n=5) or pancreas divisum (n=2). Indication for initial ERCP with prophylactic PD stent placement was suspected SOD with empirical biliary +/- pancreatic sphincterotomy without SO manometry (n=5), or minor papillotomy for pancreas divisum with acute recurrent pancreatitis (n=1) or marginally elevated lipase (n=1). All had conventional polyethylene 5F (n=6) or 7F (n=1) stents <4cm in length in place for <2 weeks, except one pt who was lost to follow up with stent in place for one year. At presentation at a mean interval of 19 months after 1st ERCP, all pts had recurrent abdominal pain requiring hospitalization; of these 5/7 (71%) had acute recurrent pancreatitis, and 3/7 (43%) were on daily narcotics. By secretin MRCP/EUS/ERCP, all had a PD stricture within 2cm of major or minor papilla and 5/7 (71 %) upstream PD dilation (mean 4.6mm, [3mm-8.2mm]). 2/5 (40%) pts undergoing EUS had new parenchymal changes suggestive of chronic pancreatitis. All patients were treated with pancreatic sphincterotomy (if not done already), balloon dilation of stricture, and placement of multiple 3-5 F soft polymer pancreatic stents depending on duct diameter; all but one required multiple (2-11) ERCPs for therapy. All had improvement or resolution of pancreatic strictures and recurrent pancreatitis. 4/7 had sustained clinical response with resolution of pain, 1/7 fair response with repeated ERCPs, and 2/7 poor response, with referral for total pancreatectomy with auto-islet transplantation.

Conclusion: PD stent-induced ductal injury with significant clinical consequences can occur after a relatively brief interval of stenting using conventional polyethylene 5F stents. Endoscopic therapy is moderately effective but some patients develop irreversible damage. Further investigation is required to determine prevalence and risk factors for stent-induced injury and to improve configuration and material of stents.

P55

PATIENT CHARACTERISTICS OR TYPE OF BILIARY ANASTOMOSIS WITH OR WITHOUT T-TUBE PLACEMENT DOES NOT INFLUENCE BILIARY COMPLICATION RATE AFTER LIVER TRANSPLANTATION

T. I. Abu-Rajab Tamimi, MD,[1] M. A. Parsi, MD,[2] S. Agrawal, MD,[1] M. R. Sanaka, MD,[2] R. Lopez, MS,[3] N. N. Zein, MD[2]. 1. Internal Medicine Institute, Cleveland Clinic, Cleveland, OH; 2. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH; 3. Quantitative Health Sciences, Cleveland Clinic, Cleveland, OH.

Purpose: Biliary complications remain a substantial cause of morbidity following liver transplantation and can lead to reduced patient and graft survival. There are conflicting data on whether different patient characteristics or differences in surgical techniques would affect biliary complication rates after liver transplantation. Our purpose was to evaluate the effect of patient characteristics and surgical technique on development of biliary complications after liver transplantation.

Methods: Patients that underwent liver transplantation at our institution during a two year period (2004-2005) were identified. Information collected included age, gender, indication for transplantation, type of biliary anastomosis, and whether a T-tube was placed during the surgery. Immediate and late post operative biliary complications were recorded. Univariable Cox proportional hazards models were used to estimate the hazard rates for factors of interest.

Results: Two hundred and thirteen liver transplantations were performed in 202 patients. Eleven patients (5.4%) had two liver transplantations. Seventy seven patients (38.1%) underwent duct-to-duct anastomosis without T-tube placement, 97 patients (48.0%) underwent duct-to-duct anastomosis with T-tube placement, 21 patients (10.4%) underwent Roux-en-Y choledochojejunostomy, and 7 patients (3.5%) underwent choledochoduodenostomy. Median follow-up period was 12 months (Q25, Q75: 2, 21). A total of 76 biliary complications occurred in 55 patients (27.2%). The biliary complications were as follows: 36 (47.4%) duct-to-duct anastomotic strictures, 25 (32.9%) duct-to-duct anastomotic leaks, 6 (7.9%) non-anastomotic ischemic strictures, 4 (5.3%) biliary enteric anastomotic strictures, 3 (3.9%) biliary enteric anastomotic leaks, 1 (1.3%) cystic duct leak, and 1 (1.3%) gallbladder fossa leak. Age, gender, indication for transplantation or type of biliary anastomosis with or without T-tube placement did not influence the complication rate.

Conclusion: Patient characteristics or type of anastomosis with or without T-tube placement does not influence biliary complication rate after liver transplantation.

P56

LARGE CELL WIDTH EXPANDABLE METAL STENTS FOR ENDOSCOPIC BILATERAL STENT WITHIN STENT PLACEMENT OF MALIGNANT HILAR BILIARY OBSTRUCTION

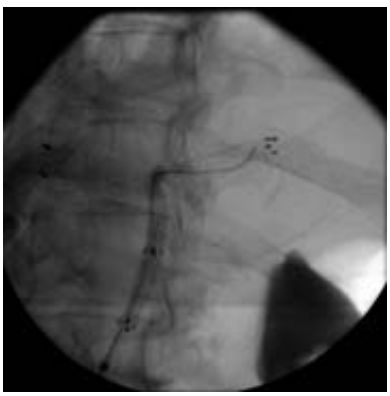
P. Chahal, MD, T. H. Baron, MD, B. Petersen, MD, M. D. Topazian, MD, C. J. Gostout, MD. Gastroenterology, Mayo Clinic, Rochester, MN.

Purpose: Placement of biliary stents is effective for palliation of unresectable hilar malignant biliary obstruction. However, when bilateral self-expandable metal stents (SEMS) are used it can be technically challenging. In many studies side by side placement is performed, though it is unclear if this is the most anatomical and functional approach. We describe the technical feasibility and effectiveness of deploying bilateral SEMS with 'stent-within-stent' approach using stents with a large cell width.

Methods: After diagnostic ERCP is performed, a guidewire is passed selectively into the duct of interest. The first SEMS (Flexxus, ConMed, Billerica, MA,) is deployed across the bifurcation. The guidewire remains in place and the delivery system is removed. Over the wire a standard accessory (catheter or occlusion balloon) passed into the first stent. The wire is withdrawn into the catheter and redirected to the contralateral intrahepatic system through the interstices of the initial SEMS. In some cases the interstices requires balloon dilation. The second SEMS is deployed through the interstices of the initial SEMS.

Results: From August 2002-November 2007 this technique has been successfully used in 21 patients with malignant hilar obstruction (15 men, 6 women; mean age 63.7 +/- 13.9 years). Etiology of biliary obstruction was cholangiocarcinoma in 14, metastatic pancreatic cancer in 4, metastatic colon cancer in 2 and B-cell lymphoma in 1 patient. Biliary drainage was successfully established in all cases resulting in clinical improvement of obstructive symptoms. Follow-up was obtained to assess need for endoscopic re-intervention and patient mortality. Mean follow-up was 6.14 +/- 3.6 months. There were one early (5%) and seven (33%) late stent occlusions, which required endoscopic re-intervention. Thirty day mortality was 10% (2 deaths).

Conclusion: This simple technique utilizing an open cell expandable metal stent is technically feasible, easy and allows bilateral placement of SEMS in patients with unresectable hilar malignancy.



P57

GABEXATE FOR PREVENTION OF POST-ERCP PANCREATITIS: A META-ANALYSIS

A. Choudhary, MD,[1] M. L. Bechtold, MD,[1] S. R. Puli, MD,[1] M. R. Antillon, MD,[1] W. Pais, MD,[1] M. O. Othman, MD,[2] P. Roy, MD[1]. 1. Division of Gastroenterology, University Hospital of Missouri, Columbia, MO; 2. Division of Gastroenterology, University of New Mexico, Albuquerque, NM.

Purpose: Acute pancreatitis is a common complication of ERCP. Over the years, attempts have been made to identify agents to prevent this complication. Since the activation of proteases has been implicated in the pathogenesis of post-ERCP pancreatitis, gabexate, a protease inhibitor, has been used in an attempt to prevent pancreatic damage related to ERCP. However, results have been inconsistent. We conducted a meta-analysis to evaluate the use of prophylactic gabexate for the prevention of post-ERCP pancreatitis.

Methods: MEDLINE, Cochrane Central Register of Controlled Trials & Database of Systematic Reviews, PubMed, and recent abstracts from major conference proceedings were searched (through 10/07). RCTs comparing prophylactic gabexate to placebo or control for the prevention of post-ERCP pancreatitis were included. Standard forms were used to extract data by two independent reviewers. The effects of gabexate were analyzed by calculating pooled estimates of post-ERCP pancreatitis, hyperamylasemia, hospital stay, grade of pancreatitis, and mortality. Separate analyses were performed for each outcome by using odds ratio (OR) or weighted mean difference (WMD). Random effects model was used. Publication bias was assessed by funnel plot. All studies were graded by Jadad scores. Heterogeneity among studies was assessed by calculating I2 measure of inconsistency.

Results: Six RCTs (N=2,827) met the inclusion criteria. Dose of gabexate ranged from 300 mg – 1 gm. All studies started gabexate infusions 30-90 minutes prior to the procedure. The duration of gabexate infusion ranged from 2-12 hours. Gabexate infusion did not decrease the odds of post-ERCP pancreatitis (OR 0.65, 95% CI: 0.36–1.18, p=0.16), hyperamylasemia (OR 0.96, 95% CI: 0.78–1.17, p=0.69), mortality (OR 0.59, 95% CI: 0.15–2.29, p=0.44), or abdominal pain (OR 0.92, 95% CI: 0.42–2.03, p=0.84). A trend was observed for milder pancreatitis in gabexate patients but was not statistically significant (OR 0.71, 95% CI: 0.39–1.30, p=0.27). Sub-group analysis of trials using longer infusions (> 12 hours) and larger doses (> 1 gram) did not decrease post-ERCP pancreatitis (OR 0.58, 95% CI: 0.15–2.20, p=0.44 and OR 0.58, 95% CI: 0.15–2.20, p=0.44 respectively). No significant publication bias was present.

Conclusion: Gabexate administration before ERCP does not prevent post-ERCP pancreatitis, hyperamylasemia, mortality, and pain.

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OUTCOMES OF INTERVENTIONAL ERCP IN HEREDITARY PANCREATITIS

J. Dever, MD,[1] S. Irani, MD,[2] R. A. Kozarek, MD[2]. 1. Internal Medicine, Virginia Mason Medical Center, Seattle, WA; 2. Gastroenterology, Virginia Mason Medical Center, Seattle, WA.

Purpose: Hereditary Pancreatitis (HP) is an autosomal dominant disease characterized by recurrent acute pancreatitis progressing to chronic pancreatitis. In addition to supportive measures, traditional treatment has included surgical decompression or resection. There are limited data evaluating the outcomes and role of interventional ERCP in HP. The aims of this study were to evaluate patients with HP before the first and after the first and last interventional ERCP(s).

Methods: From 1990 to 2008, 21 patients with HP received care at our institution and were retrospectively assessed for response to therapeutic ERCP. Medical records were reviewed and a telephone survey was conducted to obtain information. Data collected included documentation of hereditary etiology, ERCP interventions and complications, pancreatic surgeries, pre and post ERCP pain levels, daily oxycodone equivalent usage, yearly hospitalizations, incidence of diabetes, and pancreatic enzyme usage. Statistical methods included a Wilcoxon Signed Rank test and a box plot background. A box plot gives a compact display of the distribution of a variable. Each measure of a change has been calculated as the pre ERCP value minus a post ERCP value; Differences greater than zero indicate a benefit from the procedure.

Results: 21 patients underwent a total of 87 interventional ERCPs (mean 4, range 1-9) and were followed up for a mean period of 5 years (2-212 months). Interventions included sphincterotomy, stone extraction, duct dilation, and stent placement. The mean patient age at diagnosis, first ERCP, and follow up was 15, 19 (2-39), and 28 years, respectively. 11 of 12 patients (92%) who received surgical therapy required subsequent interventional ERCPs. Pre and post first ERCP mean pain scores decreased from 8.3 to 3.2 (p = .001) and post last ERCP scores decreased to 2.7 (p = .001). Yearly hospitalizations decreased from 5.7 to 1.9 (p < .001) and then to 1.6 (p = .001). Daily oxycodone equivalent usage decreased from 39 mg to 34 mg (p = .7) and then to 9.4 mg (p < .05). Complications included pancreatitis in 3% with no perforations, bleeding, or infection.

Conclusion: 1) Despite decompressive or resective surgeries in 12 of 21 patients, the majority (92%) developed subsequent complications and required endoscopic therapy. 2) Endoscopic management for amenable lesions often requires multiple ERCPs. 3) Interventional ERCPs in patients with HP is associated with decreased pain, analgesic usage, hospitalizations, and episodes of recurrent pancreatitis.

Surgical Therapy

Patient No.	Before 1st ERCP	After 1st ERCP	Subsequent ERCP
1		Distal pancreatectomy	Yes
3		LPJ (Puestow)	Yes
6		LPJ (Puestow)	Yes
8	Roux-Y Cystjejunostomy	Jejunostomy revision	Yes
9	Whipple		Yes
11	Roux-Y Cystjejunostomy		Yes
15	Distal pancreatectomy		Yes
16	LPJ (Puestow)	Revision; Distal pan	Yes
17	LPJ (Puestow)		Yes
18		LPJ (Puestow)	No
19	LPJ (Puestow)		Yes
20	LPJ (Puestow)		Yes

P59

LONG-TERM FOLLOW-UP OF PANCREATIC NECROSIS WITH CT SCAN: WILL THE PANCREAS REGENERATE?

M. R. Lohse, BA,[1] D. M. Hough, MBChB,[3] S. S. Vege, MBChB, PhD[2]. 1. College of Medicine, Mayo Clinic, Rochester, MN; 2. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 3. Radiology, Mayo Clinic, Rochester, MN.

Purpose: Long-term follow up studies about pancreatic regeneration following necrosis in acute necrotizing pancreatitis (ANP) are very few and such regeneration was rarely reported. The aims of this study were to assess whether areas of pancreatic necrosis can regenerate into viable pancreatic tissue by examining follow-up CT scans one year or more after the initial diagnosis of ANP, and examine the incidence of obstructive pancreatitis, an important complication of ANP.

Methods: The patient population was comprised of Mayo Clinic patients with ANP diagnosed between 2000 and 2002 that had contrast-enhanced CT scans as part of their initial evaluation within one week of onset of symptoms. Subjects were selected for the study if they had follow-up CT at least 1 year after their initial diagnosis, allowing evaluation of the pancreas for regeneration of viable tissue. A dedicated radiologist assessed all the initial CT studies to determine the extent of necrosis and presence of fluid collections. The subsequent CT evaluations were examined to determine regeneration of the pancreas in areas of initial necrosis and whether ductal dilatation had developed.

Results: Fifteen patients with ANP and follow-up CT anywhere from 1 to 6 years after initial diagnosis comprised the study group. On follow-up CT, 13 (87%) of these patients demonstrated atrophy of the previously necrotic area of pancreas or residual necrosis. However, in 2 (13%) of the patients, there was apparent regeneration of viable parenchyma. One of these patients exhibited <30% necrosis of the pancreas on initial CT, while the other patient initially had >50% necrosis. Both patients had peri-pancreatic fluid collections on initial CT that were decreased or resolved on follow-up. Four (27%) patients developed ductal dilatation suggesting obstructive pancreatitis.

Conclusion: In this long-term CT follow-up study of ANP, pancreatic regeneration of necrotic areas was very rare, and atrophy was the common end result. Obstructive pancreatitis was not an uncommon sequela of ANP. These results might be useful when counseling patients with ANP about their long-term outcomes of the disease.

P60

ROLE OF ENDOSCOPIC ULTRASONOGRAPHY AND A TRIAL OF TRICYCLIC ANTIDEPRESSANTS IN PATIENTS WITH SUSPECTED SPHINCTER OF ODDI DYSFUNCTION III

S. C. Reddymasu, MD, S. Singh, MD, M. Oropeza-Vail, RN, M. Olyaee, MD. Kansas University Medical Center, Kansas City, KS.

Purpose: Endoscopic retrograde cholangiopancreatography (ERCP) with sphincter of Oddi manometry (SOM) and sphincterotomy in patients with suspected Sphincter of Oddi dysfunction (SOD) III often leads to an unpredictable treatment response and might be associated with a high incidence of post procedure pancreatitis. The purpose of this research is to describe upper abdominal endoscopic ultrasonography (EUS) findings in a group of patients with suspected SOD III and evaluate the role of trial of tricyclic antidepressants (TCA) in helping symptoms thereby reducing the need for ERCP with SOM and sphincterotomy in this scenario.

Methods: Over a 12 month period, 17 patients (all female) with suspected SOD III (Recurrent episodes of right upper quadrant and epigastric pain with normal liver enzymes and pancreatic enzymes and no evidence of common bile duct or pancreatic duct dilation on imaging studies) were referred to our center for consideration of ERCP with SOM and possible sphincterotomy. Prior to performing ERCP with SOM, patients were asked to undergo an upper abdominal endoscopic ultrasonography (EUS). If the EUS findings were insufficient to explain the cause of pain, patients were placed on a TCA. Patients underwent ERCP with SOM if pain did not improve with at least a 2 month trial of TCA.

Results: Mean age of patients was 49 years (Range 22-73yrs). EUS findings were normal in 16 (94%) patients, 1 patient had choledocholithiasis who later underwent ERCP with stone extraction. 12/16 patients were on amitriptyline (dose 10-25 mg/day), and the other 4 were on nortriptyline (dose 10-20 mg/day). 3/16 patients (19%) subsequently underwent ERCP with SOD manometry as their symptoms did not improve with TCA. All these patients were treated with endoscopic sphincterotomy as their SOD pressures were high (> 40mm Hg).

Conclusion: Conclusions: 1) Upper abdominal EUS is non-diagnostic for abdominal pain in the majority of patients with suspected SOD III 2) A therapeutic trial of TCA seems to be a reasonable option to pursue prior to proceeding with endoscopic sphincterotomy in this cohort of patients

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OCCLUSION RATE AND COMPLICATIONS OF PLASTIC BILIARY STENTS IN PATIENTS UNDERGOING NEOADJUVANT CHEMORADIOTHERAPY FOR PANCREATIC CANCER ASSOCIATED WITH BILIARY OBSTRUCTION

B. R. Boulay, MD, MPH, S. R. Gordon, MD. Section of Gastroenterology & Hepatology, Dartmouth-Hitchcock Medical Center, Lebanon, NH.

Purpose: Malignant biliary obstruction is a common presenting feature of pancreatic ductal adenocarcinoma. ERCP with placement of biliary stent is the favored method of relieving obstruction in those patients who are not surgical candidates or are planning to receive pre-operative chemoradiotherapy. Because of cost issues and theoretical concerns about surgical resection of metallic stents, plastic biliary stents are usually chosen to relieve biliary obstruction in those patients who plan to receive neoadjuvant chemoradiotherapy prior to surgical resection. We reviewed the stent patency rates, need for additional procedures and outcomes of this approach in our institution.

Methods: Patient data and outcomes were obtained from ERCP database and chart review of all patients with pancreatic ductal adenocarcinoma associated with biliary obstruction who underwent plastic biliary stent placement prior to receiving neoadjuvant chemoradiotherapy in anticipation of eventual surgical resection.

Results: Between 9/03 and 12/07, 50 patients with resectable or locally advanced pancreatic adenocarcinoma and biliary obstruction had a plastic biliary stent placed endoscopically prior to receiving neoadjuvant chemoradiotherapy. In those patients who underwent surgery, the median time from stent placement to surgery was 152 days (range 71-228 days). 22 patients (46%) had stents which remained patent throughout their neoadjuvant therapy. The remaining 28 patients (54%) required repeat ERCP for stent exchange a median of 83 days after original stent placement (range 14-183 days): 14 were due to abnormal liver enzymes or jaundice, 13 were due to ascending cholangitis, and one was a planned stent exchange after 3 months to prevent obstruction. 17 patients (61%) required hospitalization for either biliary obstruction or cholangitis. The median duration of hospital stay associated with stent exchange was 3 days (range 2-13 days).

Conclusion: In the majority of patients receiving neoadjuvant chemoradiotherapy for pancreatic adenocarcinoma, the duration of patency for plastic biliary stents was far shorter than the time required to complete neoadjuvant therapy. Stent occlusion resulted in the need for repeat procedures and frequent hospitalizations. Longer patency rates for metallic biliary stents and recent data suggesting that metallic biliary stents can be placed without complicating pancreaticoduodenectomy suggest that metallic biliary stents may be a better choice and more cost effective for patients with pancreatic cancer associated with biliary obstruction who are planning to receive pre-operative chemoradiotherapy. This approach deserves further study in this patient population.

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PREVALANCE OF ACUTE PANCREATITIS IN SICKLE CELL DISEASE

S. Jasti, MD,[1] V. Williams, MD,[1] A. Vamadevan, MD,[1] P. Gillette, MD,[3] F. G. Gress, MD[2]. 1. Medicine, SUNY Downstate Medical Center, Brooklyn, NY; 2. Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY; 3. Hematology/Oncology, SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: The prevalence of acute pancreatitis (AP) in sickle cell disease (SCD) is not known. Sparse data is available in the literature. Gallstones, one of the leading causes of AP in the general population, are frequently found in patients with SCD. Kings County Hospital Center (KCHC), in Brooklyn, has a large population with sickle hemoglobinopathies. We aim to find the prevalence of AP and to assess clinical outcomes in this subset population; where abdominal pain includes many differential diagnoses not limited to sickle crisis. Therefore knowing the prevalence of AP and its outcomes should help to improve the management of SCD.

Methods: Adult SCD patients followed at KCHC were identified via a retrospective electronic medical record search using ICD-9 codes. Diagnosis was confirmed by reviewing high performance liquid chromatography. Acute pancreatitis was defined as meeting two of the three following criteria: 1. Elevated amylase and lipase (both defined as three times upper limits of normal range) 2. Radiological evidence of pancreatitis 3. Abdominal pain. Clinical outcomes evaluated were morbidity [measured by length of stay (LOS)] and mortality.

Results: We identified 445 patients with a diagnosis of SCD. 68.1% (n=303) had hemoglobin SS (Hb SS), 25.2% (n=112) hemoglobin SC (Hb SC), 6% (n=27) had sickle trait, and 0.7% (n=3) had sickle/β thalassemia trait. In this group, 7% (n=32) had acute pancreatitis, 28 patients with Hb SS, 3 with Hb SC and one patient with sickle trait. The etiology of AP in Hb SS was attributed to gallstones in 71.4% (n=20), alcohol in 7.1% (n=2), small bowel obstruction or Tylenol toxicity in 3.6% (n=1 for each) and idiopathic in 14.3% (n=4). In Hb SC disease, the etiology was gallstones in 66.7% (n=2) and idiopathic in 33.3% (n=1). One subject with sickle trait had AP due to colonic perforation from diverticulitis. Mean LOS in Hb SS patients with AP was 10.6 days (D) for gallstone etiology, for alcohol - 16.5 D, and for idiopathic - 11.25 D. In Hb SC patients the mean LOS was 12.5 D for the gallstone group. Death attributed to AP occurred in one Hb SS patient (3%).

Conclusion: Patients with sickle cell disease have a prevalence of acute pancreatitis similar to the general population. Gallstone-related AP is the predominant etiology of pancreatitis in SCD followed by idiopathic. The average LOS for SCD patients with AP ranged between 10.6 – 16.5 D. Although rare, death as a result of AP can occur in patients with SCD. Therefore, it is important to consider AP in SCD patients presenting with acute abdominal pain. Further studies that examine the relationship of AP and sickle cell flares, its severity, and its effect on outcomes including LOS, complications, management and survival are ongoing.

Diagnosis	Etiology of Acute Pancreatitis	Number of Patients (percentage)	Mean Length of Stay (days)
Hb SS	Gallstone	20 (71.4%)	10.65
	Idiopathic	4 (14.3%)	11.25
	Alcohol	2 (7.1%)	16.5
	Small bowel obstruction	1 (3.6%)	73
	Tylenol toxicity	1 (3.6%)	11
Hb SC	Gallstone	2 (66.7%)	12.5
	Idiopathic	1 (33.3%)	17
Sickle trait	Colonic perforation	1 (100%)	11

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INTERACTION BETWEEN PSYCHIATRIC AND AUTOIMMUNE DISORDERS IN CELIAC DISEASE PATIENTS IN THE UNITED STATES

2008 ACG Presidential Poster Award Recipient

S. Garud, MD, MPH, D. Leffler, MD, MS, M. Dennis, RD, MS, S. Jamma, MD, J. Edwards-George, PhD, D. Saryan, BS, C. P. Kelly, MD. Gastroenterology, Beth Israel Deaconess Medical Center, Boston, MA.

Purpose: Prior studies have shown a significant association between celiac disease (CD), psychiatric disorders including depression and anxiety, and multiple autoimmune diseases. However there is significant variation between populations and the correlation between CD and psychiatric disorders has not been studied in the United States (US). Our aim was to determine the prevalence of psychiatric and autoimmune disorders in CD patients in the US and to evaluate for interactions between autoimmune disease and psychiatric disorders in CD.

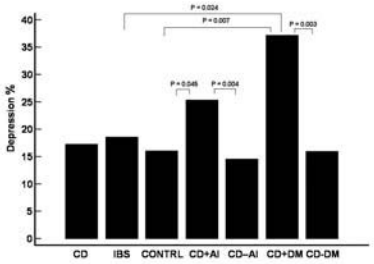
Methods: In this case control study the prevalence of psychiatric and autoimmune disorders was compared in 600 biopsy proven CD patients, a chronic gastrointestinal disorder control group of 200 irritable bowel syndrome (IBS) patients diagnosed by gastroenterologists and 200 control patients with no active gastrointestinal disorder. Diagnoses of psychiatric and autoimmune disorders were obtained from medical records. The sample size gave 80% power to assess a 10% difference in prevalence between CD and control populations for either aggregated autoimmune diseases or psychiatric disorders. Chi square test was used to analyze categorical data.

Results: The prevalence of depression in CD was 17.2% and was similar to that in IBS (18.5%) (P = 0.74) and controls (16%) (P = 0.79). Anxiety showed a trend towards higher prevalence in CD (8.7%) as compared to controls (4.5%) (P = 0.07) and was significantly higher in the IBS group (12%) as compared to controls (P = 0.01). In CD patients the prevalence of type I DM (5.8%) was significantly higher than that for IBS (1.5%) (P = 0.03) and controls (2%) (P = 0.05). CD patients with type I DM had higher prevalence of depression (37.1%) than those without type I DM (15.9%) (P < 0.01)

Conclusion: Prevalence of depression and anxiety in CD is similar to the general population while the prevalence of multiple auto-immune disorders in CD is increased. The increased prevalence of type I DM in CD is a significant confounding variable in assessing the prevalence of depression in the CD population and may explain the high level of depression seen in some studies.

Prevalence of various psychiatric and autoimmune disorders

	CD (%)	IBS (%)	Control (%)	P value (CD and Control)	P value (IBS and Control)	P value (CD and IBS)
Depression	17.2	18.5	16.0	0.79	0.60	0.75
Anxiety	8.7	12.0	4.5	0.08	0.01	0.21
Any Psych Disorder	25.2	27.5	26.0	0.89	0.82	0.58
Hypothyroid	13.0	7.0	6.5	0.02	1.0	0.03
Type 1 DM	5.8	1.5	2.0	0.46	1.0	0.02
Any Autoimmune Disorder	24.3	12.5	10.0	<0.001	0.53	<0.001



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TEDUGLUTIDE, A GLP-2 ANALOG ENHANCES INTESTINAL STRUCTURE IN SHORT BOWEL SYNDROME (SBS) PATIENTS DEPENDENT ON PARENTERAL NUTRITION (PN)

K. Tappenden, PhD,[1] M. Pertkiewicz, MD,[2] R. Gilroy, MD,[3] J. Allard, MD,[4] M. Kunecki, MD,[5] H. Sauerwein, MD,[6] N. McGraw,[7] P. Bekker Jeppesen, MD,[8] B. Messing, MD[9]. 1. University of Illinois, Urbana, IL; 2. Medical University of Warsaw, Warsaw, Poland; 3. University of Kansas Medical Center, Kansas City, KS; 4. Toronto General Hospital, Toronto, ON, Canada; 5. Pirogow Hospital, Lodz, Poland; 6. Academic Medical Center, Amsterdam, Netherlands; 7. NPS Pharmaceuticals, Bedminster, NJ; 8. Rigshospitalet, Copenhagen, Denmark; 9. Hopital Beaujon, Clichy, France.

Purpose: Given the human suffering and healthcare burden associated with intestinal failure, therapies to enhance intestinal function could reduce PN dependence of inflicted individuals. Teduglutide (TG), a degradation resistant analog of the intestinotrophic peptide glucagon-like peptide-2, promises to be such a therapy.

Methods: Our objective was to determine if TG administration expands the digestive and absorptive epithelium in the residual intestine in PN-dependent subjects with SBS. In this multicenter prospective, randomized, double-blind, placebo-controlled study, 83 subjects were dosed at 1 of 3 treatments for 24 weeks: placebo, TG 0.05 mg/kg/day or TG 0.10 mg/kg/d. Endoscopic biopsies of small (placebo, n=9; 0.05, n=17; 0.10, n=20) or large intestine (placebo, n=9; 0.05, n=20; 0.10, n=22) were obtained at weeks 0 and 24. Crypt-villus architecture was quantified on hematoxylin and eosin stained mucosal sections using light microscopy. Mucosal deoxyribonucleic acid (DNA), ribose nucleic acid (RNA) and protein concentration were quantified using fluorometry, absorptiometry and the Bradford technique, respectively.

Results: Small intestinal villus height changed -19%, +54% and +39% in the placebo, 0.05 and 0.10 groups, respectively. When expressed as a change from baseline, villus height in both the 0.05 (p=0.0065) and 0.10 (p=0.0024) groups exceeded that of placebo. Intestinal crypt depth was increased in TG 0.10 when compared to the placebo in both the small (p=0.0082) and large intestines (p=0.0219); whereas TG 0.05 had a numerical, but statistically insignificant, increase in crypt depth in the small (p=0.1967) and large intestines (p=0.1347). Mucosal DNA, RNA and protein concentration (μg/mg tissue) were not altered by TG in either the small or large intestinal mucosa.

Conclusion: These data indicate that TG induced expansion of the mucosal epithelium of adult patients with SBS and may therefore enhance their capacity to digest and absorb orally consumed nutrients. The DNA, RNA and protein composition of TG remodeled mucosa did not differ from placebo, indicating that the tissue generated did not differ in cellular size or composition than that originally present; nor were excessive cellular proliferation, multi-nucleated cells, or other evidence of malignant processes observed. These TG-induced increases in the absorptive intestinal mucosa provide valuable insight into a promising clinical therapy that may reduce long-term PN dependence for individuals with intestinal failure.

Disclosure - Dr. Tappenden - Investigator teduglutide CL0600-004 Study (NPS Pharmaceuticals)

This research was supported by an industry grant from NPS Pharmaceuticals

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HISTOPATHOLOGIC MANIFESTATIONS OF MICROSCOPIC COLITIS IN CELIAC DISEASE

J. Yang, MD,[1] J. Cheng, MD, PhD,[1] B. Govind, MD,[2] P. H. Green, MD, FACG[2]. 1. Department of Medicine, Sound Shore Medical Center, New Rochelle, NY; 2. Columbia University, New York, NY.

Purpose: To evaluate the histopathologic association between celiac disease (CD) and microscopic colitis (MC) and its subtypes: lymphocytic colitis (LC) and collagenous colitis (CC).

Methods: Patients with pathology-confirmed LC and CC were identified from 1009 patients with CD at the Celiac Disease Center of Columbia University since 1981. Duodenal biopsies were graded as: Marsh I-II, partial villous atrophy (PVA) and subtotal/total villous atrophy (S/TVA). Statistical analysis was conducted by Chi-square or Fisher's Exact test.
Results: MC was identified in 4.3% (44) of the patients (11 as CC (1.1 %) and 33 as LC (3.2%)). Mean age at diagnosis of CD is statistically significant younger than that of MC (42.7±19.0 vs. 53.2±14.7, p<0.0001). A significant association was observed between MC and the degree of villous atrophy. Individuals with MC tended to present with more severe villous atrophy (S/TVA) compared to individuals with CD alone (76.2% vs 49.3%, P =0.002). Patients with CC tended to present with less severe villous atrophy, compared to patients with LC (40% vs 87.5%, P = 0.006). In addition, there was a significant association between the condition first diagnosed (MC or CD) and severity of villous atrophy. Those patients with CD diagnosed prior to or simultaneously with the MC had a greater rate of S/TVA, than those in whom the MC was the initial diagnosis (73.1% vs 40%, P = 0.02). There was no association between the location and extent of colonic inflammation and degree of villous atrophy (P = 0.59).
Conclusion: Microscopic colitis appears to occur more frequently in CD with more severe villous atrophy. This finding is more specific for LC. The type of disease first diagnosed (microscopic colitis versus celiac disease) affected the severity of villous atrophy at the time of celiac disease diagnosis. These findings cannot, however, distinguish between the relative effect of inflammation at one site (duodenal or colonic) and the severity of inflammation at the other site.

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SEARCHING FOR CELIAC DISEASE IN THE URBAN JUNGLE: YIELD OF SMALL BOWEL BIOPSIES IN PATIENTS WITH IRON DEFICIENCY ANEMIA IN A DIVERSE URBAN POPULATION

2008 ACG/AstraZeneca Senior Fellow Abstract Award

S. Jafri, MD, D. Awasthi, MBBS, A. Madan, MD, FACP. Gastroenterology, University of Texas Health Science Center, Houston, TX.

Purpose: Isolated iron deficiency anemia (IDA) can be sole presentation in 0-6% of patients with occult celiac disease. Celiac disease is diagnosed in 6-8% of patients with iron deficiency anemia by small bowel biopsies in numerous studies involving American rural and European populations. There is a paucity of data on the efficacy of Small Bowel biopsies in diverse urban populations. It is a routine practice among gastroenterologists to perform random duodenal biopsies in patients with iron deficiency anemia. Diagnostic yield of routine duodenal biopsies, mainly identification of celiac disease, differs in various populations and geographic regions. The aim of this study is to assess the usefulness of routine duodenal biopsies during esophagogastroduodenoscopy (EGD) in patients presenting with iron deficiency anemia in a diverse urban population.
Methods: Patients who were referred to our clinic for evaluation of iron deficiency anemia (Hemoglobin<12g/dl, MCV<82) from 2004-2007 underwent EGD and colonoscopy. Patients with documented recent GI bleed, ulcerative or malignant disease on endoscopies were excluded from the study. Included patients, who had normal EGD and colonoscopic evaluation, underwent at least four distal duodenal biopsies looking for celiac disease. Iron studies, Vitamin B12, folate, electrolytes and prothrombin time were measured in all patients.
Results: Total of 298 patients with iron deficiency anemia and negative EGD and colonoscopy were included in the study. There were 144 males and 154 females. The mean age was 52.8 years. Forty one percent of patients were Caucasian, 36% African American, 15% Hispanic and 5% Asian. Fifteen percent of patients with measured TSH had an abnormal thyroid function. Mean lab values revealed hemoglobin 9.8+2.4 g/dl, hematocrit 29.2%, Iron 42 ug/dL, Iron saturation 16%, and Vitamin B12 850 pg/mL. Small bowel biopsy finding were normal in two hundred and twenty eight patients (76.5%), Nonspecific duodenitis in sixty-nine patients (23.2%) and celiac disease in only one patient (0.3 %). None of the patients with negative biopsies for celiac disease had any clinical, metabolic or endoscopic signs of malabsorption. The patient with celiac disease had scalloping and fissuring of duodenal folds, diarrhea, steattorhea, hypocalcemia and hypoalbuminemia (p<0.05).
Conclusion: The yield of random duodenal biopsies in routine work up of asymptomatic patients with iron deficiency/microcytic anemia in a diverse urban population is very low. Duodenal sampling during esophagogastroduodenoscopy in a diverse urban hospital setting still has a diagnostic benefit in patients with clinical and laboratory signs of malabsorption in addition to iron deficiency anemia.

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NO-SHOW RATE OF ACCEPTED POSTERS AT THE ANNUAL ACG MEETING,2007

N. S. Mann, MD, MS, PhD, DSc, K. R. RansiBrahamnkul, MD. Gastroenterology, Univ. of Calif. Davis, Folsom, CA.

Purpose: It is our impression that at the annual ACG meetings some posters after having been accepted are not being displayed on the poster boards.We wanted to find out how many accepted posters were not being presented.We also wanted to find out how many presenters were physically present to discuss the posters during the designated hours.
Methods: On Tuesday,Oct 16,2007 between the hours 12:30 pm to 1:45pm we went around the poster area with two objectives:(a)to see how many of the accepted posters were not actually put up for display(b)To see how many of the poster presenters were physically present to discuss their posters.
Results: Of the 322 accepted posters on Oct16,2007,four were withdrawn.Out of the 318 accepted posters 18(5.6%) were not displayed.Out of these 18,nine were from USA,two each from Iran and India,one each from Brazil,Egypt,Japan,Pakistan,and U.K.In the case of 300 displayed posters,in 97 instances(32.3%) the presenters were not physically present at their posters.There were 14 posters which had won the Presidential Poster award;on these 14 posters in 6 instances(43%)the presenters were absent.
Conclusion: 5.6% of the accepted posters were not displayed.Poster presenters were not present at their posters in 32.3% instances;among Blue-Ribbon award winners 43% of the presenters were not present at their posters.Failure to display accepted posters and being physically absent from posters during designated hours should be considered scientific misconduct.To rekindle and maintain interest in posters,we recommend,from 12 noon to 1:00pm all other activities,including commercial exhibits be curtailed.

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THE ASSOCIATION BETWEEN *H. PYLORI* INFECTION AND MIGRAINE: SYSTEMATIC EVALUATION OF 1084 CASES WITH QUALITATIVE META-ANALYSIS

N. S. Mann, MD, MS, PhD, DSc. Gastroenterology, Univ. of Calif. Davis, Folsom, CA.

Purpose: *H. pylori* infection may be associated with extraintestinal vascular diseases(Ital J Gastro Hepatol1998;30(suppl3);S 307) such as Raynaud,s Disease, ischemic heart disease and migraine.In vitro H.pylori is known to produce histamine(Z. Gastroenterolo 1996:34:116).Histamine can cause headache i.e. histamine cephalalgia(Horton,s Cephalalgia).We evaluated the publications dealing with this subject and performed a qualititative meta-analysis.
Methods: Pub Med search for *H. pylori* and migraine with no language barrier(1995—2007) was done. More papers on this subject were added manually after reviewing relevant articles.A meta-analysis was performed using the qualitative research methods already established(Eval Rev9:627—643,1985: The Lancet 358:483—488,2001).Quantitative data can be used to perform qualitative meta-analysis.To facilitate the process of qualitative meta-analysis summary sheets of various publications were created and relevant information was noted.
Results: From 1995 to 2007,search of the publications yielded 1084 cases of H.pylori infection associated with migraine.Gender information was available in 525 cases. There were 182/525 (34.6%) men and 343/525(65.4%) women.Although there seemed to be a trend supporting the association between H.pylori and Migraine,some significant studies contradicted it. Many studies showed that eradication of H.pylori in migraine patients ameliorated the problem of migraine. The data about the association between H.pylori with migraine AND aura vs migraine without aura was also inconclusive.Some studies suggested oxidative stress as the mechanism for this assocation.Patients with hepatitsB-related cirhosis,H.pylori and migraine may benefit from H.pylori eradication.
Conclusion: Although there are strong indications regarding the association between H.pylori and migraine, more prospective case-control studies are needed to settle this issue.

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***CLOSTRIDIUM DIFFICILE* INFECTION: NOT ONLY FOR COLON ANYMORE!**

A. Konda, MD,[1] L. H. Jamil, MD,[2] M. C. Duffy, MD, FACG[1]. 1. Gastroenterology and Hepatology, William Beaumont Hospital, Royal OaK, MI; 2. Gastroenterology and Hepatology, Mayo Clinic, Jacksonville, FL.

Purpose: To describe the clinical features and outcome of isolated small bowel infection or Clostridium difficile (C.diff) enteritis (CDE).
Methods: Forty four patients with prior colectomy and C.diff infection were identified using discharge diagnosis codes. Eleven patients with a prior 'complete' colectomy and a C.diff positive diarrheal illness were isolated and their chart details analysed.
Results: Six men and five women had positive stool C.diff toxin A and/or B. They were generally elderly with multiple comorbidities, average age being 64 years (range 25-82). Ten patients had a complete colectomy with ileostomy or ileoanal anastomosis. One had ileorectal anastomosis but with proximal loop ileostomy. Preoperatively, clinical suspicion for C.diff was present in 1 patient despite negative toxin assay, 1 had positive toxin and 1 had pseudomembranes at surgery. CDE occurred in the same admission of colectomy in 2 pts, 5 had infection within 6 months and one had infection 52 years after surgery. The majority of patients (8/11) received antibiotics prior to CDE, with fluoroquinolones being the most common. Four pts were on concomitant corticosteroids. The most common symptoms were diarrhea or increased ileostomy output up to5 liters/day (10), severe dehydration with hypotension or positive orthostatics (3), and acute renal failure (8). Fevers with vague abdominal pain were the only symptoms in one. Only 2 of 8 pts who had CT scan had abnormal findings suggestive of small bowel disease. Endoscopy was performed in 2 pts but did not aid diagnosis. Standard therapy with metronidazole or PO vancomycin or both was generally successful in eradicating the infection. Two pts had recurrent infections requiring a prolonged taper of vancomycin. The average hospital stay was 17 days. No patient died from CDE.
Conclusion: C.diff enteritis should be considered as differential diagnosis in patients presenting with high volume ileostomy output or severe diarrhea after ileoanal anastomosis, especially in association with acute renal failure. Deaths can be prevented with early diagnosis, aggressive rehydration and antibiotic therapy. Metronidazole or PO vancomycin therapy is effective in most cases. CDE can occur at any time after the surgery; 50% of our cases occurred within 6 months of surgery. C.diff infection should no longer be considered a disease limited to the colon.

P70

DIGESTIVE DISEASE DISPARITIES IN THE PREVALENCE AND SCREENING OF HISPANIC POPULATION IN OMAHA, NEBRASKA

H. Lazarte, MD, C. Pureti, MD, H. Fasanya, MD, J. O'Brien, MD. Gastroenterology, Creighton University, Omaha, NE.

Purpose: The Hispanic population in the United States of America, according to the 2004 U.S. Census Bureau update, is now the largest minority group yet medical research in this population is limited. It is more so in the area of digestive diseases. Our aim with this study was to elucidate better the prevalence and screening on some common digestive diseases. Our data was obtained from a Creighton University primary care clinic that serves the Hispanic population of Omaha, NE.

Methods: This is a retrospective study of 630 randomly selected clinic charts. Each chart was reviewed for medical, social history, clinical presentation, and health screening of eleven common digestive diseases in the United States. The one-sample z-test for proportions was used in all statistical analyses.

Results: 630 patient charts were reviewed. 240 patients were male; 390 were female. 370 patients were 19 to 50 years old; 230 patients were aged 50 to 79. No statistical difference existed between the study population and the U.S. population with regards to the prevalence of colorectal cancer (CRC). However, of 230 persons eligible for CRC screening, 22.3% ($p<0.05$) were offered screening which is below the 42.5% of eligible U.S. patients who underwent screening in year 2000. The prevalence in cholethiasis in the study population was 18% ($p<0.05$) which is higher than the U.S. published prevalence. 157 (25%) patients have GERD in the study population which is higher than U.S. population prevalence. This is higher than recently published reports among the Hispanic population. 6 patients (1%, $p<0.05$) had Hepatitis B, which is below the U.S. population prevalence. In addition, one patient had Hepatitis C (0.3%) but no significant statistical difference existed when compared to the U.S. population. No difference in IBD, IBS and PUD were noted. The Body Mass Index could be calculated for all but 32 patients. 170 were obese (BMI 30 to <35), and 210 were morbidly obese (BMI>35). The prevalence of obesity and morbid obesity is 63% ($p<0.05$), U.S. prevalence is 30%.

Conclusion: Our findings reflect some similarities to already existing data, but also there were surprising differences. This population has a higher prevalence of Gastroesophageal reflux disease when compared to the U.S. population, which is in contrast to data found in the literature. In addition, Hepatitis B was found to have much lower prevalence than reported in the literature. These differences have no clear etiology. Also, there is a marked disparity in colorectal cancer screening when compared to the U.S. population. The reason for this disparity is also unclear and need further investigation. Lastly, the prevalence for obesity and morbid obesity in this population was found to be much higher.

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SURVIVAL OF PATIENTS WITH SMALL BOWEL NEUROENDOCRINE TUMORS

K. K. Patel, MD, S. Serbowicz, BS, S. Itzkowitz, MD, N. Harpaz, MD, PhD, M. K. Kim, MD, MSc. Division of Gastroenterology, Mount Sinai School of Medicine, New York, NY.

Purpose: Neuroendocrine tumors(NETs)are the most common small bowel malignancy. Because these rare tumors have variable clinical courses, the European NETS classification was established to help predict outcome. The aim of this study was to study the relationship of several demographic and histopathologic features of the ENET system with overall survival.

Methods: 134 patients with small bowel neuroendocrine tumors, diagnosed between 1992-2005, were identified by querying the Mount Sinai Gastrointestinal Pathology Database. These patients were treated and referred by a variety of physicians and surgeons affiliated with Mount Sinai. We performed a retrospective review of demographic and histopathologic data of these patients. Data collected included age, gender, primary tumor size, tumor number, nodal/metastasis status, stage, and tumor grade (Ki-67). We ascertained survival status of each patient by querying the National Death Index(NDI). Statistical analysis was performed using Kaplan-Meier survival curves, and log rank test to determine differences between groups.

Results: 74/134 (55%) patients were female. The mean age at time of pathologic diagnosis was 60.2 years. The average size of the primary tumor was 1.9 cm (range 0.4-11 cm). 34%(43/121) of patients had multiple tumors. 81% (77/94) of patients had locoregional nodal involvement. Approximately half of patients had a Ki-67 analysis performed. 31 patients (23%) were identified as deceased as of December 31, 2005. The overall mean survival was 4.28 years. Age over 60 at time of diagnosis was significantly associated with worse survival(Figure 1). There was a trend toward improved survival for patients with Grade 1 vs. Grade 2 or 3 tumors (p=0.61). No significant difference between survival of patients based on gender, tumor count, tumor size, or stage was detected.

Conclusion: This analysis of a large cohort of patients with small bowel NETs confirms that older age at diagnosis predicts worse survival. We suspect that further analysis may demonstrate that low tumor grade predicts improved survival. Further study is required to clarify the potential of the histopathologic markers used in the ENET system in predicting prognosis of small bowel carcinoids.

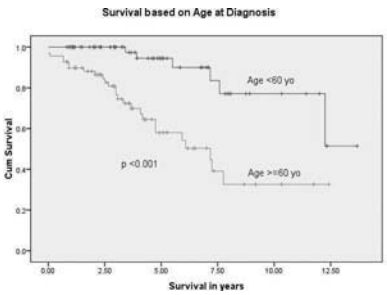

Figure 1. Kaplan-Meier analysis of survival based on age at time of pathologic diagnosis.

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A RETROSPECTIVE STUDY OF SMALL INTESTINAL BACTERIAL OVERGROWTH IN PATIENTS WITH BLOATING

W. Cobell, MD,[2] K. Hilden, MS,[1] A. K. Tuteja, MD,[1] J. C. Fang, MD[1]. 1. Division of Gastroenterology, University of Utah, Salt Lake City, UT; 2. School of Medicine, University of Utah, Salt Lake City, UT.

Purpose: Many patients (80-90%) with IBS consider bloating their most bothersome symptom. Recent studies suggest a link between abdominal bloating and/or irritable bowel syndrome (IBS) and small intestinal bacterial overgrowth (SIBO). The prevalence of SIBO in patients with bloating, with or without IBS, is unknown. We determined the prevalence of SIBO in patients referred for lactulose breath test (LBT) and response to treatment for SIBO in patients with bloating.

Methods: Selection criteria for enrollment included; >18 years of age and LBT with bloating as a symptom at the UUHSC from Jan 2004 to May 2007. A chart review was performed to collect information including; indication for LBT, LBT results, presence or absence of IBS and treatment and response. SIBO was diagnosed by LBT. An LBT positive result was defined as an early rise (<90 min) in hydrogen (>20 ppm) or methane (>12 ppm). IBS was diagnosed clinically. A positive response was defined as moderate or greater improvement by patient or physician subjective criteria. Chi square or Fisher's exact test were used to make comparisons between groups.

Results: A total of 255 breath tests were performed. There were 169 patients with bloating as a symptom (9 with no result). The mean age for patients with bloating was 47.6 years ± 15.8, 69% were female. The prevalence of positive SIBO in patients with bloating was 51% (82/160). The prevalence of positive SIBO was different between patients referred for bloating vs. referred for other reasons ((82/160 (51%) vs. 27/86 (31%), p=0.004)). The prevalence of positive SIBO in patients with bloating and IBS was 22/42 (52%). There was no difference in the prevalence of SIBO in patients with and without IBS ((22/42 (52%) versus 62/118 (46%) p=NS)). 82% (28/34) of patients with bloating and positive LBT responded to antibiotic treatment vs. 33% (3/9) of patients with bloating and negative LBT (p=0.008, OR=9.3). Patients were followed for 10.4 ± 7.7 months for response.

Conclusion: In patients with bloating referred for LBT, SIBO positivity was significantly higher than in patients referred for other reasons. In patients with bloating, SIBO positivity was not different in patients with and without IBS. Patients with bloating and positive SIBO by LBT are significantly more likely to respond to antibiotic Rx than patients with bloating and negative SIBO by LBT. Further investigation of factors associated with bloating, SIBO and response to antibiotic therapy is warranted.

P73

ARE MARSH PATIENTS REALLY CELIAC PATIENTS?

C. C. Cortelezzi, dr, M. Parravicini, dr, G. Chianese, dr, M. Lombardini, dr, S. Segato, dr. Gastroenterology Unit, Azienda Ospedaliera Macchi, Varese, Italy.

Purpose: The duodenal biopsy is regarded as the gold standard in the diagnosis of celiac disease when biopsy samples are correctly orientated .The endomisyal antibodies (EMA) are virtually 100% specific for celiac disease,but sensitivity correlates with the degree of villous atrophy .According to Marsh's classification, the increase in intraepithelial lymphocytes (IEL) is one of the histological abnormalities which is compatible with the diagnosis of celiac disease. The experts disagree as to whether a gluten-free diet is necessary in this condition. The aim of the study was to investigate the histological and clinical effects of the gluten free diet in patients with increase in IEL.

Methods: The study was made on 17 patients (12 women, 5 men, median age 42yrs, range 23-69) who were negative for AGA/EMA, infections caused by H .Pylori, autoimmune disorders, IBD and for use of NSAIDS . (group A). All patients underwent upper gastrointestinal endoscopy and duodenal biopsy; immunohistochemical staining with anti-CD3 monoclonal antibody was used to visualize intraepithelial lymphocytes on forceps biopsy. Each patient was examined according to symptoms and quality of life and this was reported with visual analogic scale(VAS) In the same way the study was made on 12 patients(8 women, 4 men, median age 41 yrs, range 25-51) as a control group (group B). Data of IEL were analysed by t-Student's test and data of quality of life were analysed by the Wilcoxon test Then, group A was kept on gluten free diet and group B was kept on normal gluten containing diet.

Results: One year later, after the second examination, group A showed an improvement in quality of life (p 0,0001) and histological condition (p0,0004) with statistically significant difference. On the contrary group B showed an improvement in histological condition (p0,0255) but not in quality of life (p0,825)

Conclusion: The clinical improvement on a gluten-free diet is not diagnostic for celiac disease: the improvement might be due to a placebo response in IBS patients or to a generic intolerance to gluten. The relationship between IEL and diet is ambiguous and variations in the number of intraepithelial lymphocytes occur also in diet-free patients .Patients with increase of IEL should not be kept on a gluten -free diet.

P74

PROSTAGLANDIN RECEPTOR ACTIVATION PROPERTIES OF LUBIPROSTONE

J. Cuppoletti, PhD,[1] D. H. Malinowska, PhD,[1] R. Ueno, MD, PhD[2]. 1. Molecular and Cellular Physiology, University of Cincinnati, Cincinnati, OH; 2. Sucampo Pharmaceuticals, Inc,, Bethesda, MD.

Purpose: Lubiprostone is used clinically to treat chronic idiopathic constipation. It a prostone(derived from metabolites of prostaglandins) that activates ClC-2 Cl^- channels with EC_{50} of 20 nM (Cuppoletti *et al* AJP 287:C1173, 2004) and increase intestinal salt and water secretion. Basil *et al* (BJP 154:126, 2008)suggested that lubiprostone is an EP_1 and EP_4 receptor agonist, and that these effects are related to its clinical efficacy and/or side effects. The present study determined the activities of lubiprostone on recombinant prostaglandin receptors.

Methods: Lubiprostone binding to recombinant EP_1, EP_4 and FP receptors was assayed by Millipore Corporation, Bioscience Division (St. Charles, MO), using Chemiscreen calcium optimized FLIPR cell lines containing high levels of the promiscuous G protein, Galpha15, to enhance coupling of the receptor to the calcium signaling pathway. These cells were transfected with cDNA containing either full-length human EP_1, EP_2, splice variant 6 of EP_3, EP_4 or FP receptors. Triplicate assays of lubiprostone effects were carried out with PGE_2 or $PF_{2\alpha}$ as a positive control. In all cases, the readout was relative fluorescence units related to $[Ca^{2+}]_i$ through

calcium release activated calcium ion channel (CRAC) measured by Fluo-4 relative fluorescence.
Results: Measured agonist activity of PGE_1 on EP_1, EP_2, EP_3 and EP_4 receptor-expressing cells generated EC_{50} values of 7.46, 49.82, 3.86 and 31.18 nM respectively. Agonist activity of $PGF_{2\alpha}$ on FP receptor-expressing cells gave an EC_{50} of 3.40 nM. There was no agonist activity of lubiprostone on EP_2, EP_4, or FP receptor-expressing cells (EC_{50}>1000 nM). There was weak agonist activity of lubiprostone on EP_1 and EP_3 receptor-expressing cells with EC_{50} values of 330 nM and 280 nM respectively.
Conclusion: Lubiprostone does not act as an agonist on EP_2, EP_4 or FP receptors. Agonist activity is very low on EP_1 and EP_3 receptors, with respective EC_{50} values 44 times and 75 times higher than for PGE_2 on the two EP receptors. This is about 15 times higher than the EC_{50} for activation of ClC-2 Cl^- channels. In conclusion, lubiprostone is a weak EP_1 agonist and lacks EP_4 agonist activity, and despite results from indirect studies (Basil, *et al*, BJP, *ibid*), the clinical pharmacology and/or side effects of lubiprostone are not due to these activities.
Disclosure - Dr. Cuppoletti consultant to Sucampo Pharmaceuticals, Inc, grant support, stock options. Dr. Malinowska, spouse of Dr. Cuppoletti Dr.Ueno, CEO of Sucampo Pharmaceuticals, Inc
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ENTEROSCOPY WITH REAL TIME VIEWER: THE FIRST 100 CASES
G. Macedo, MD, PhD, FACG, A. Machado, MD, S. Lopes, MD, R. Gonçalves, MD, C. Rolanda, MD, P. Pereira, MD, M. Marcelino, MD. Gastroenterology Unit, H.S.Marcos, Braga, Portugal.
Purpose: Capsule enteroscopy (CE) has revolutionized our in identifying small bowel lesions, and it stands nowadays in a crucial place in the study of establishing diagnosis of several clinical situations in which the small bowel plays the main role. We reviewed our clinical experience using the real time viewer, we were allowed to confirm the capsule location (in order to check caudal progression and natural propulsion throughout the GI tract), closely monitoring image and position.
Methods: In a 18 month period, we evaluated 100 consecutive patients, mean age 53 (9-88) years old, in a predominantly male cohort of patients (62), using the Endocapsule System (Olympus) with Real Time Viewer.
Results: Main indications were anemia and obscure GI bleeding (66), Crohn s disease (21), celiac disease (10), along with suspected small bowel tumors, iatrogeny and recurrent abdominal pain. Documentation of any responsible lesion was observed in 92 cases, stressing that in 2 emergent situations, this procedure allowed the identification of a bleeding Meckel s diverticulum, that prompted an oriented elective enterectomy. Capsule retention ocurred once, in a Crohn s stenotic ileal loop, and capsule recovery was managed with ileocolonoscopy dilation. In 6 cases, we had to use the introducer to overcome the crycopharyngeal area and pyloric deformity.
Conclusion: Capsule Enteroscopy with Real Time Viewer, with early detection of stagnation and close monitoring the progression, was an extremely useful tool in diagnosing small bowel conditions, providing significant clinical insight in a high number of patients.

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COMPARISON OF PATHOLOGY AND LOCATION OF FINDINGS BETWEEN CAPSULE ENDOSCOPY (CE) AND SINGLE BALLOON ASSISTED ENTEROSCOPY (SBAE) IN PATIENTS WITH OCCULT GASTROINTESTINAL BLEEDING
2008 ACG Presidential Poster Award Recipient
M. R. Sanaka, MD,[2] A. G. Choure, MD,[1] J. Santisi, RN,[2] M. Dodig, MD,[2] R. Lopez, MS,[2] B. Upchurch, MD,[2] J. J. Vargo, MD[2]. 1. Internal Medicine, Cleveland Clinic, Cleveland, OH; 2. Gastroentrology, Cleveland Clinic, Cleveland, OH.
Purpose: Capsule endoscopy (CE) is a good diagnostic tool to examine the entire small bowel mucosa. Most experts advocate CE as initial diagnostic test before more invasive enteroscopy to determine the cause of gastrointestinal bleeding (GIB) after a negative upper endoscopy and colonoscopy. In general, up to 3 months between the CE and SBAE is accepted as a permissible time interval. The aims of this study were to evaluate: 1. Diagnostic yields of CE and SBAE in patients with occult GIB, 2. Agreement or concordance between the findings detected on CE with SBAE and 3. If time interval between the two procedures was a predictor for agreement or concordance between CE and SBAE.
Methods: Patients referred to Cleveland Clinic endoscopy center for single balloon assisted enteroscopy (SBAE) after CE for occult GIB during the years 2006-2008 were included. CE and SBAE reports were reviewed for pathologic findings, location of findings as well as the time interval between the two procedures. There were a total of 156 patients out of which 70 patients had both SBAE and CE reports available and were included in the analysis. Out of these 62 had a CE done before SBAE and 24 had locations recorded for both procedures. The time interval between the two procedures was recorded as: less than 1 month, 1-3 months and greater than 3 months.
Results: The mean age of patients was 66 years and 54.5% were females. Among the 70 patients that had both CE and SBAE done, 55.7% had a positive SBAE finding and 84.2% had a positive CE finding ($p < 0.003$, McNemar's test). Overall 48.6% had a positive finding in both procedures and 8.6% had a negative finding in both. 37.5% had a positive CE but a negative SBAE and 7.1% had a negative CE but a positive SBAE. Among the 24 patients who had locations recorded, 18 or 75% had a moderate agreement on the location (kappa 0.58). Among the 42 patients who had procedures done within 3 months of each other, the kappa value for agreement between findings was 0.28 (poor agreement). There was no evidence to suggest a significant trend towards change in agreement or concordance as time increases between the procedures both for findings ($p=0.27$) and location of findings ($p=0.49$).
Conclusion: CE is a more sensitive diagnostic test than SBAE and should be the initial diagnostic test in patients with occult GIB. However, there is a small group of patients in whom SBAE may be diagnostic and potentially therapeutic, despite negative CE. Further studies are needed to identify this subgroup of patients in whom SBAE may be the preferred initial diagnostic test compared to CE. The agreement or concordance between CE and SBAE is only modest and it may not change with increasing time interval between the two procedures.

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DUODENAL INTRAEPITHELIAL LYMPHOCYTOSIS: A DISTINCT CONDITION WITH A SEASONAL INCIDENCE?
C. M. Schuler, MD, G. M. Lindberg, MD, R. M. Genta, MD. Caris Diagnostics, Irving, TX.
Purpose: Duodenal Intraepithelial Lymphocytosis (DIL, >20 lymphocytes/100 epithelial cells of an architecturally normal duodenum) has been associated with celiac disease as well as with *H. pylori* gastritis; however, no cause or associations are found in the majority of cases, and its prevalence in the population, particularly in relation that of celiac disease, is not known. This study was designed to address these issues.
Methods: We analyzed data from Caris Diagnostics, a gastrointestinal pathology practice that receives specimens from gastroenterologists operating in community-based endoscopy centers in 40 states. The database includes demographic and clinical information, endoscopic findings, site of biopsy origin, and histopathologic interpretation for each biopsy. To identify the records for eligible duodenal biopsies we reviewed all cases for the 12 month period between 4/01/07 to 3/31/08. Extracted data were stored in a Microsoft Access database. Statistical calculations were performed using SigmaStat 3.5; chi-square test, Student's t-test and the Mann-Whitney Rank Sum Test were used as appropriate. A p value < 0.05 was considered significant.
Results: There were 29,296 duodenal biopsies. DIL was diagnosed in 1,251 biopsies (4.3%); "consistent with celiac sprue" or "variable villous atrophy, suggestive of celiac sprue" (these two are amalgamated as CCS) in 686 (2.3%). To study the relationship between DIL and *H. pylori*-gastritis, we selected the 20,464 unique patients who also had gastric biopsies. Of these, 850 (4.1%) had DIL and 347 (1.7%) had CCS. DIL patients were more likely to be female (OR = 1.57, 95% CI 1.34 – 1.84) and younger (median age = 44 years, vs. 51 for subjects with no DIL; p<0.001). Although children (<18) were slightly more likely than adults to have DIL (OR = 1.22) the trend was not significant. A strong positive association was found between DIL and *H. pylori*-gastritis (15% of DIL patients had *H. pylori* infection, vs. 9.8% of patients without DIL - p<0.001, OR = 1.61, CI 1.32 – 1.95) while an equally strong negative association was detected between CSS and *H. pylori*-gastritis (only 5.8% of CSS patients had *H. pylori* infection). During the data analysis, it was noted that DIL was diagnosed twice as often between January and April (5.8% of all duodenal biopsy diagnoses) than between June and September (2.9%). No seasonal trend was detected in the diagnosis of CCS.
Conclusion: This nation-wide study of duodenal biopsies suggests that DIL may be the histologic hallmark of a distinct condition, which differs from celiac sprue in age and sex prevalence. Although strongly associated with *H. pylori* infection, the seasonal incidence suggests a possible environmental exposure as contributing factor.
Disclosure - Drs. Lindberg, Schuler, and Genta are employees of Caris Diagnostics, Irving, Texas.

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DOES FATIGUE PLAY A ROLE IN HEPATIC ENCEPHALOPATHY-ASSOCIATED DRIVING IMPAIRMENT?
2008 ACG Presidential Poster Award Recipient
J. S. Bajaj, MD, M. Hafeezullah, MD, Y. Zadvornova, MD, E. Martin, MD, K. Saeian, MD FACG. Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI.
Purpose: Hepatic encephalopathy, both minimal (MHE) and overt (OHE), is associated with driving impairment on a simulator. Fatigue, especially that associated with continuous driving, can also adversely affect driving. The aim was to study the effect of fatigue on simulator driving performance in cirrhotics with OHE and MHE compared to those without MHE & controls .
Methods: Cirrhotics without psychoactive drugs & age/education-matched controls who were current drivers were administered a standard psychometric battery consisting of number connection test-A & B, Digit symbol & Block Design tests. Based on test impairment 2 SD beyond controls on at least 2 tests, cirrhotics were diagnosed as with/without MHE. Age-matched OHE patients adherent on lactulose & without asterixis were also included. All subjects underwent a driving simulation after simulation training. The simulator consists of at least 25 minutes of continuous driving under controlled circumstances. The outcomes noted were total errors,collisions,speeding, road-edge excursions & center-line crossings. The simulation time was then divided into two halves in all subjects. To assess the effect of fatigue, the performance on all outcomes in the 2nd half was compared to the 1st half of the simulation between & within groups. ANOVA was used to study simulation performances between groups.
Results: 93 cirrhotics (50 MHE, 25 MHE- & 18 OHE) and 63 controls were included. There was no significant difference in age (MHE 52yrs, MHE- 51 yrs, OHE 52 yrs & ctrls 51 yrs, p=0.7), average driving miles/wk (MHE 45, MHE- 39, MHE 35 & ctrls 40, p=0.5) and simulator task completion time in minutes (MHE 30,MHE- 33,OHE 32 sec & ctrls 30,p=0.4) between groups. None of the cirrhotics had asterixis on examination. 4 subjects (3 cirrhotics and 1 control) developed reversible simulator sickness and were excluded from analysis. Driving performance in OHE patients was significantly worse than other groups in most outcomes at baseline (1st half: Table) as well as in the 2nd half (Table). Simulator performance on most outcomes significantly worsened in the 2nd half in MHE, MHE- and control groups compared to the 1st half but not in OHE (Table).
Conclusion: Continuous driving fatigue results in deterioration of simulator performance in cirrhotics with and without MHE. In contrast OHE patients have baseline profound driving impairment which is independent of continous driving fatigue.

Driving performance in first and second half of the simulation

	MHE+ (n=49)	MHE- (n=24)	OHE (n=17)	Controls (n=62)
Errors 1st half	10 ± 1.5	3 ± 1	12 ± 3 †	6 ± 1
Errors 2nd half	15 ± 1.0*	10 ± 1*	15 ± 1 †	11 ± 1*
Collisions 1st half	0.7 ± 0.2	0.3 ± 0.3	0.6 ± 0.4	0.3 ± 0.8
Collisions 2nd half	1.3 ± 0.2* †	0.3 ± 0.1	0.9 ± 0.3	0.7 ± 0.8*
Speeding 1st half	0.6 ± 0.2	0.5 ± 0.2	2.4 ± 0.9 †	0.3 ± 0.1
Speeding 2nd half	1.2 ± 0.2*	1.0 ± 1.7*	2.3 ± 0.8 †	0.4 ± 0.1
Center crossings 1st half	4.3 ± 1.0	1.1 ± 0.4	6.4 ± 2.5 †	2.4 ± 0.5
Center crossings 2nd half	7.6 ± 0.5*	5.6 ± 0.3*	6.7 ± 0.7	5.5 ± 0.3*
Road excursions 1st half	4.4 ± 0.8 †	1.1 ± 0.5	2.5 ± 0.7	2.4 ± 0.7
Road excursions 2nd half	3.9 ± 0.5	2.3 ± 0.2*	3.3 ± 0.6	2.9 ± 0.3

***: significantly worse performance between the first and second half, : significantly worse performance between groups.**

P79

Poster Withdrawn

P80

LONG-TERM OUTCOME OF CHRONIC HEPATITIS B PATIENTS INITIALLY TREATED WITH ADEFOVIR DIPIVOXIL IN A COMMUNITY PRACTICE

N. B. Ha, BS,[1] R. T. Garcia, MD,[2] H. N. Trinh, MD,[2] H. A. Nguyen, MD,[2] K. K. Nguyen, MD,[2] B. S. Levitt, MD,[2] N. H. Nguyen, BA,[1] M. H. Nguyen, MD, MAS[3]. 1. Pacific Health Foundation, San Jose, CA; 2. San Jose Gastroenterology, San Jose, CA; 3. GI and Hepatology, Stanford University Medical Center, Palo Alto, CA.

Purpose: Chronic hepatitis B (CHB) patients treated with adefovir dipivoxil (ADV) achieved virologic response (HBV DNA <200 IU/mL) at 51%, 71-75%, 78-79%, and 65-68% after 1, 2, 3, and 4 years, respectively. ADV resistance developed at a rate of 0%, 3%, 11%, and 18% after 1, 2, 3, and 4 years. These efficacy and resistance rates were derived from registration trials in which patients were treated following rigid study protocols. There are few data on long-term outcomes of treatment with ADV in real-life clinical settings. Our goal is to evaluate the outcome of patients initially treated with ADV and to determine virologic response and the presence of detectable ADV resistance.

Methods: We performed a retrospective cohort study of 156 consecutive CHB patients who were started on antiviral treatment with ADV 10 mg daily between 01/01/02 and 01/01/06 at a community U.S. GI clinic.

Results: Mean treatment duration was 34±14 months (range: 6-72), 62% were treatment-naïve, 99% were Asians, and 73% were males. Mean age was 49±13 years, mean weight was 65±11 kg, mean baseline ALT was 105±118 U/L, mean baseline HBV DNA was 4.92±2.30 Log IU/mL, and 72% of patients were HBeAg negative. Virologic response (HBV DNA <60-100 IU/mL) was achieved in 63%, 77%, 85%, and 86% of patients at 1, 2, 3, and 4 years (Table 1). After 4 years of treatment, 14% still had detectable HBV DNA: 4 (8%) were non-compliant, 2 (4%) had partial response, and only 1 (2%) had confirmed detectable ADV resistance. After 4 years of antiviral therapy (n=51), 53% were still on ADV monotherapy, 33% were switched to a different antiviral drug, and 14% were on 2-drug combination therapy.

Conclusion: Patients who started antiviral treatment with ADV in a real-life clinical setting responded well with high rates of virologic response and minimal detectable ADV resistance. The primary reason for failure to achieve virologic response was non-compliance, rather than viral resistance. Therefore, for long-term treatment of CHB patients, more emphasis should be directed towards patient compliance to antiviral treatment.

Table 1. Treatment outcome for CHB patients initially treated with ADV through 4 years

	YEAR 1 n=156	YEAR 2 n=150	YEAR 3 n=127	YEAR 4 n=61
HBV DNA Undetectable	99 (63%)	116 (77%)	108 (85%)	44 (89%)
Persistently Undetectable	99	116	102	38
Breakthrough then Undetectable	0	0	6	6
Due to Non-compliance	0	0	3	3
Due to Detectable Resistance	0	0	3	3
HBV DNA Detectable	57 (37%)	34 (23%)	20 (16%)	7 (14%)
Primary Non-response	11	7	1	0
Partial Response	45	19	8	2
Non-compliance	1	0	0	0
Breakthrough				
Due to Non-compliance	0 (0%)	5 (3%)	8 (6%)	4 (8%)
Due to Detectable Resistance	0 (0%)	3 (2%)	3 (2%)	1 (2%)
Excluded in Analysis	n=0	n=8	n=28	n=106
Lost to Follow-up	0	6	14	15
Labs at Time of Analysis Pending	0	0	14	90

P81

INCREASING INTRA-ABDOMINAL PRESSURE INCREASES HEPATIC VENOUS PRESSURE GRADIENT (HVPG) IN CIRRHOTIC PATIENTS

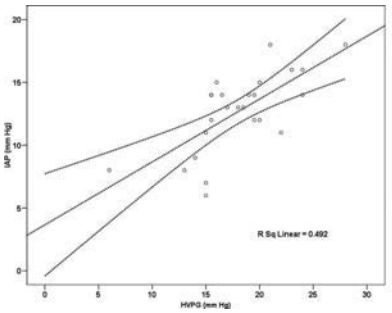
P. Jain, MD, A. Kumar, MD, DM, P. Sharma, MD, DM, S. K. Sarin, MD, DM. Gastroenterology, G B Pant Hospital, New Delhi, India.

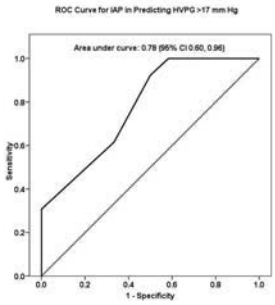
Purpose: Ascites causes elevation of intra-abdominal pressure (IAP). In cirrhotic patients, increased IAP increases intra-variceal pressure, portal pressure, and azygos blood flow, which may have detrimental consequences. HVPG closely reflects the portal pressure but is relatively invasive. We investigated whether in patients with ascites; the level of IAP has any correlation with level of HVPG.

Methods: Consecutive patients with cirrhosis and ascites were enrolled. Patients of SBP were excluded. They underwent HVPG and simultaneous IAP measurement. The IAP was measured by introducing a long 16G needle into the peritoneal cavity in right iliac fossa in supine position, and connecting the end of the needle to the pressure transducer, taking atmospheric pressure at mid-axillary line as the zero reference point. Blood and ascitic fluid samples were also obtained for analysis. The patients were not on any diuretics and no paracentesis was done in previous 1 wk.

Results: 25 patients were included in the study (median age 38 [range 14 to 62] yrs, 88% males). The etiology of cirrhosis was alcohol in 9 (36%), HBV in 9 (36%), cryptogenic in 5 (20%), and HCV in 2 (8%). The median Child-Pugh score was 10 (range 7 to 14). The median grade of varices was II (range I to IV) and 3 patients had history of variceal bleed. The mean HVPG was 18.0±4.4 mm Hg and the mean IAP was 12.7±3.2 mm Hg. There was a significant positive correlation between HVPG and IAP (Spearman's rho 0.703, p<0.01) (Figure 1). There was no correlation between HVPG and serum albumin ascitic fluid gradient (SAAG), serum albumin, serum sodium, ascitic fluid albumin, or central venous pressure. A subgroup analysis of Child-Pugh C patients (n=15) was done and the correlation coefficient between HVPG and IAP further improved (Spearman's rho 0.814, p<0.01). An ROC curve was prepared (Figure 2) for IAP in predicting high HVPG (>17 mm Hg). The AUROC was 0.78 (95% CI 0.60, 0.96). The best cut-off value of IAP in predicting high HVPG was >11.5 mm Hg. The mean IAP in bleeders was higher than non bleeders, though not statistically significant (14±2 vs 12.5±3; p=0.454).

Conclusion: In portal hypertensive cirrhotic patients, increase in IAP due to ascites closely correlates with the HVPG levls. IAP could be used as an alternative to HVPG especially in decompensated cirrhotics, and be used to predict variceal bleed. High IAP could have deleterious effects on variceal hemodynamics and may contribute to the rupture of the varices.





P82

RISK SCORE FOR PREDICTING THE LACK OF RESPONSE TO ANTIVIRAL TREATMENT IN PATIENTS WITH CHRONIC HEPATITIS C VIRUS INFECTION

I. A. Hanouneh, MD,[1] M. Ascha, Medical Student,[2] A. E. Feldstein, MD,[3] R. Lopez, MS,[4] N. N. Zein, MD[2]. 1. Internal Medicine, The Cleveland Clinic, Cleveland, OH; 2. Gastroenterology and Hepatology, The Cleveland Clinic, Cleveland, OH; 3. Pediatric Gastroenterology and Cell Biology, The Cleveland Clinic, Cleveland, OH; 4. Quantitative Health Sciences, The Cleveland Clinic, Cleveland, OH.

Purpose: In patients with chronic hepatitis C virus (HCV) infection, several independent predictors of the lack of response to antiviral therapy have been identified. **Aim:** To develop a simple risk score that predicts the lack of sustained virologic response (SVR) to pegylated interferon alfa and ribavirin (PEG/RBV) combination therapy for chronic HCV infection.

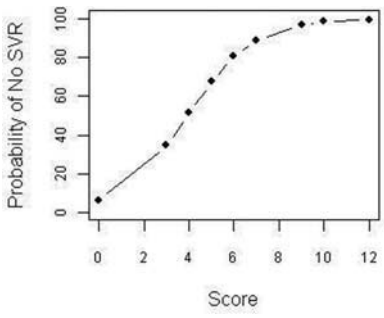
Methods: We reviewed the medical records of all adult patients with chronic HCV infection who were treated for the first time with PEG/RBV between 2002 and 2005 (n=282). A logistic regression analysis was performed to conduct a risk score that predicts the lack of SVR. The final model consisted of ethnicity, genotype, metabolic syndrome, and advanced hepatic fibrosis. Each factor in the validation set was assigned a score as in Table-1.

Results: Overall, SVR was achieved in 108 (47%) patients. The median risk score was 6.5 (P25, P75: 4, 7) for the patients who did not achieve SVR and 4 (P25, P75: 0, 4) for those who did (P<0.001). The failure rates increased significantly as the risk score increased (6.5% for a score of 0, 21% for 2, 34% for 3, 51% for 4, 67% for 5, and 80% for 6) (Figure 1). The area under curve (AUC) was estimated to be 0.86 (95% CI: 0.76, 0.96). A score of 5 or more yielded the best sensitivity (70%) and specificity (88.9%) for prediction of lack of SVR.

Conclusion: If validated in larger prospective trials, our risk score is a simple scheme that provides a basis for therapeutic decision making in patients with chronic HCV infection.

Table-1: Risk Score for prediction of lack of SVR

Factor	Parameter Estimate (SD)	Points
Metabolic Syndrome	0.99 (0.45)	2
Non-Caucasian	1.29 (0.50)	3
Advanced Fibrosis	1.67 (0.52)	3
Genotype 1	1.78 (0.49)	4



P83

HEPATITIS B VIRUS GENE MUTATION AND ITS CLINICAL SIGNIFICANCE IN HUMAN LIVER DISEASES

P. Kar, MD, DM,[1] A. Malik, PhD,[1] A. Husain, PhD,[2] B. C. Das, PhD,[3] R. Gondal, MD,[4] M. P. Sarma, MSc[1]. 1. Medicine, Maulana Azad Medical College, New Delhi, India; 2. Bio science, Jamia Millia Islamia, New Delhi, India; 3. Institute of Cytology and Preventive Oncology(ICMR), Noida, India; 4. Department of Pathology, G.B.Pant Hospital, New Delhi, India.

Purpose: The study was designed to 1. Detect and characterize mutations in the precore/core and surface genes using PCR-SSCP of the hepatitis B virus and finally confirming by direct sequencing.2. To study the clinical and biochemical profile and the final outcome of patients harboring mutant forms of the HBV virus and that of the wild type.

Methods: The study included a total of 331 patients (Acute Viral Hepatitis: 115), (Fulminant Hepatitis: 40), (Chronic Hepatitis: 116), (Liver Cirrhosis: 30), (Hepatocellular carcinoma: 30) who were admitted in the wards of Lok Nayak Hospital, New Delhi, India. Surface, Pre-core and Core regions of the viral genome were amplified with the help of PCR. Surface, Pre-core and Core regions of the viral genome were screened for the presence or absence of mutations by SSCP.Ligase chain reaction was performed specifically for the presence or absence of W28stop codon mutation. Purified products were sequenced with respect to the forward and reverse primers in an automated DNA sequencer. The obtained sequences of the above described regions of the viral genome were compared with reference strain from the Gene bank.

Results: Precore, core and surface mutations accounted for 20 %(23/115), 8.6% (10/115) and 9.5% (11/115) respectively in patients of acute viral hepatitis. Precore and core mutations accounted for 47.5% (19/40) of the fulminant hepatitis cases. Precore and core mutations accounted for 13.7% (16/116) while surface mutations accounted for 8.6% (10/116) of the cases of chronic hepatitis B. Precore and core mutations were observed in 46.6% (14/30) of the cases of HCC. Stop codon mutations were observed in all the categories. A clear association of genotype D and genotype A was documented in this particular study but the frequency of genotype D (70%) was higher compared to genotype A (30%) with response to the different types of liver diseases evaluated .

Conclusion: 1) the study suggested that the prevalence of Precore mutation was significantly higher in fulminant hepatitis cases compared to acute viral hepatitis and chronic hepatitis .2) the prevalence of Precore stop codon G1896 (W28 stop) was seen in all clinical categories and therefore it rules out its association with any particular spectrum of liver disease. 3) The study revealed that HBeAg does not necessarily associate with W28 stop mutations. 4) G1896 Precore mutation was specifically associated with genotype D .5) Core gene mutations were found to have no genotype specificity.6) Prevalence of genotype D was seen in 70% of the cases of different type of liver diseases while 30% were constituted by genotype A .7) A118 and A128 surface mutants was specifically associated with genotype D.

P84

EPIDEMIOLOGY AND OUTCOME OF HEPATITIS B IN A US COMMUNITY

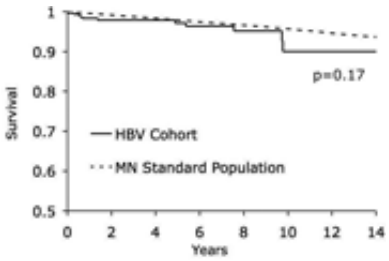
W. Kim, MD,[1] S. Asrani, MD,[1] J. Benson, BA,[2] J. Petz, RN[1]. 1. Division of Gastroenterology and Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 2. Division of Biostatistics, Mayo Clinic College of Medicine, Rochester, MN.

Purpose: Globally, hepatitis B virus (HBV) infection is known to be a major cause of chronic liver disease, cirrhosis and hepatocellular carcinoma. However, population-based data about the impact of HBV infection in the US are scarce. We examined the demographic characteristics and survival of a cohort of community residents with HBV infection.

Methods: Population-based epidemiologic research can be conducted in Olmsted County because medical care is virtually self-contained within the community and there are only a limited number of healthcare providers that serve the population. Using established resources for epidemiologic research, we expanded and updated a previously reported cohort (Hepatology 2004;811) of community residents with HBV infection. The increased number of subjects and longer follow-up allowed assessment of survival of the cohort members, in comparison to the age-, gender- and race- (white versus non-white) specific Minnesota standard population.

Results: The updated cohort consisted of 401 unique community residents, including 210 new subjects that were not included in the initial report. The mean age of the cohort was 33.1 years (standard deviation[SD]=15.0). Men accounted for 60% of the cohort. Among those whose race was specified, the majority (48%) was Asian, followed by African (34%), Caucasian (9%) and Native American (2%). The subjects were followed for a mean of 6.2 (SD=7.0) years. In the figure, the comparison of survival between the HBV cohort and the standard population showed no significant difference.

Conclusion: In this Midwestern US community, HBV was most common among immigrants from endemic countries in Asia and Africa. In this cohort of relatively young community residents with HBV infection, no significant increase in mortality was found up to 14 years of follow-up. These data suggest that the majority of subjects with HBV infection in the community fare well over a long period of time and highlight the need for careful selection of candidates for antiviral therapy in the community setting.



P85

SPONTANEOUS ALT FLARES IN ASYMPTOMATIC HBEAG NEGATIVE CHRONIC HEPATITIS B VIRUS INFECTED PATIENTS PRESENTING WITH NORMAL ALT

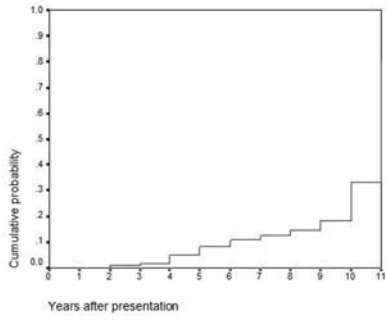
M. Kumar, MD, DM,[1] R. Chauhan, MSc, Phd,[1] N. Gupta, MD,[1] S. Hissar, MBBS,[1] P. Sakhuja, MD,[2] S. K. Sarin, MD, DM[1]. 1. Gastroenterology, GB Pant Hospital, New Delhi, India; 2. Pathology, GB Pant Hospital, New Delhi, India.

Purpose: There is no information on the frequency and factors predictive of spontaneous hepatitis flares among asymptomatic HBeAg negative chronic Hepatitis B virus (CHBV) infected patients presenting with normal ALT from the Indian continent.

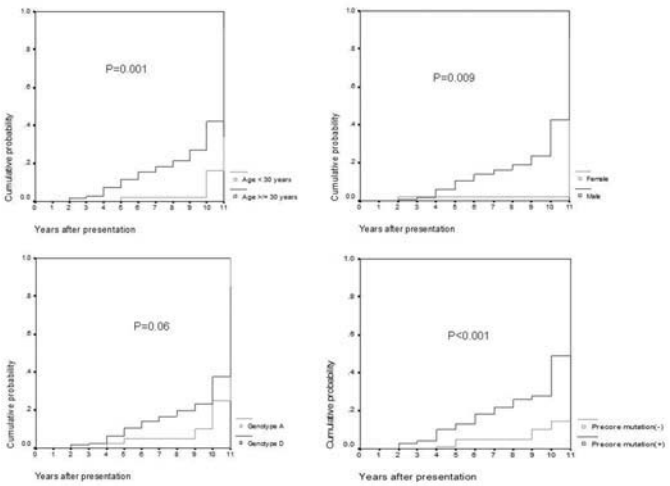
Methods: A total of 217 asymptomatic HBeAg negative/ anti-HBe positive CHBV infected patients presenting with normal ALT were prospectively followed up. Spontaneous hepatitis flare was diagnosed when ALT levels rose to more than twice the ULN, accompanied by HBV DNA levels of ≥ 5 logcopies/mL or 100 fold rise in HBVDNA from the previous levels.

Results: 161(74.2%) were males, and the mean (±SD) age at presentation was 35.3±13.4 years. During a median follow up of 69.0 (12-144) months, spontaneous ALT flares occurred in 43 patients with an annual rate of 4.3%. The cumulative probabilities of ALT flare were 10.83% and 47.29 % respectively, after 5 and 10 years of follow-up. Multinomial logistic regression analyses showed that the probability of hepatitis flares correlated significantly with age ≥30 years at presentation [OR (95% CI): 5.31(1.53-18.39); P=0.008], male sex [OR(95% CI):4.54(1.01-20.76); P=0.05] and presence of precore mutation[OR(95% CI): 10.99(3.67-32.92) ;P < 0.001].

Conclusion: The annual rate of ALT flare of hepatitis B in asymptomatic HBeAg negative CHBV infected patients with normal ALT at presentation is estimated at 4.3%. Presence of precore mutants, male sex and age ≥30 year at presentation are independent predictors of ALT flare.



Actuarial analysis of the cumulative probability of spontaneous hepatitis flare in asymptomatic HBeAg negative CHBV infected patients with normal ALT at presentation.



Cumulative probability of spontaneous hepatitis flare according to (A) age at presentation<30 or≥30 years, (B) sex (C) HBV genotype and (D) presence of precore mutants.

ABSTRACTS POSTERS SUNDAY

P86

STATIN ENHANCES CISPLATIN INDUCED EFFECT ON HEPATOMA CELL LINES

D. N. Roberts, MD, T. Bader, MD, W. Berry, BS, S. Sureban, PhD, S. Anant, PhD. Digestive Diseases Section, University of Oklahoma, Oklahoma City, OK.

Purpose: Hepatocellular carcinoma (HCC) is the fifth most common malignancy worldwide and continues to pose a therapeutic challenge. For those unable to undergo transplantation, radiofrequency ablation, or chemoembolization, systemic chemotherapy is utilized without proven effect. The combination of statins and standard chemotherapeutic agents in vitro is lacking.

Methods: We exposed two hepatoma cell lines, HepG2 and PLC/PRF/5, to varying concentrations of the statins: fluvastatin, lovastatin, pravastatin, and simvastatin. We also evaluated the effect of cisplatin at 10μM with lovastatin and simvastatin at 5 and 10μM. Cells were collected at 48 hours for flow cytometry analysis. Proliferation assay was used to evaluate the effects of tamoxifen and statins in biologically attainable concentrations to examine if any synergistic effect exists with these agents. Student's t-test and analysis of variance calculations were performed to validate the results from the proliferation assays.

Results: All statins inhibited proliferation of the two hepatoma cell lines; however pravastatin had the weakest effect of the four consistently. At 72 hours, lovastatin at 5μM inhibited proliferation to 76% of control in the HepG2 cells at 75% in the PLC/PRF/5 cells. Cisplatin alone at 10μM inhibited to 47% and 75% respectively. The combination of lovastatin 5μM with cisplatin 10μM inhibited to 41% and 59% respectively. Lovastatin 10μM with cisplastin 10μM inhibited to 37% and 54%, whereas lovastatin alone at this concentration inhibited to 67% and 66% in the HepG2 and PLC/PRF/5 cell lines. Simvastatin 5μM inhibited proliferation to 73% of control in the HepG2 and 69% in the PLC/PRF/5 cells. Combined with cisplatin 10μM, the HepG2 cells were inhibited to 39% and 49%. Flow cytometry data suggests that the primary effect of anti-proliferation was not apoptosis but increased cell numbers in the G0/G1 stage of the cell cycle. Interestingly, despite tamoxifen and the various statins having a strong anti-proliferative effect on these cells independently, their anti-proliferative properties were negated when combined in assays for both cell lines.

Conclusion: Statins continue to offer promise as a beneficial adjuvant therapy to standard treatment HCC regimens. Further testing should be performed in prospective trials to confirm a survival benefit, and based on our in vitro data, it appears that trials utilizing statins other than pravastatin would show an even greater survival improvement.

P87

IMPACT OF SCREENING FOR HEPATOCELLULAR CARCINOMA ON SURVIVAL

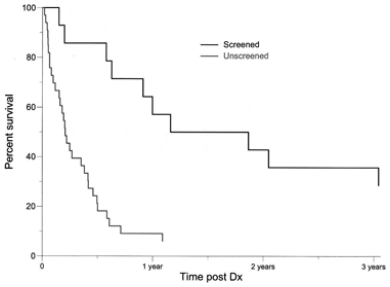
D. N. Roberts, MD,[1] T. Bader, MD,[1] C. E. Aston, PhD[2]. 1. Digestive Diseases, Internal Medicine, University of Oklahoma Health Sciences Center, Veterans Affairs Medical Center, Oklahoma City, OK; 2. General Clinical Research Center, Department of Pediatrics, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

Purpose: Screening for hepatocellular carcinoma (HCC) in patients with chronic liver disease has been based on expert opinion since randomized controlled trials are lacking in the United States.

Methods: We retrospectively reviewed patients diagnosed with HCC in the past seven years within the Oklahoma City Veterans Affairs Medical Center. Parameters examined were: cause of liver disease, if screened or not, the stage/size of lesions when initially detected, the forms of treatment, and outcome.

Results: Forty-seven patients were diagnosed from 2000 through 2006 with HCC having biopsy proven or multi-phased CT of diagnostic appearance with supportive alpha-fetoprotein (AFP). A rising incidence of HCC has been noted in this short period of time from three in 2000 to twelve in 2006. Co-existent chronic hepatitis C and alcohol consumption were the leading etiologies. On initial imaging, at least 33/47 (70%) had lesions that were too large for transplantation (OLT). Screened patients included 14/47. Nine of the fourteen screened patients (64%) had lesions less than 3.5cm in greatest dimension on initial discovery allowing 7/14 to undergo treatment with OLT, radio-frequency ablation, chemoembolization, or systemic chemotherapy. One year survival in those screened was 57% compared to 9% in those who were not screened. The median survival in those screened was 425 days compared to 75.5 days in the patients who were not screened (T-test, p=0.0012; Mann-Whitney, p=0.000049). Three patients underwent OLT with median survival of 1321 days, all of whom were living at the time of the analysis.

Conclusion: Screening for HCC in our population appears to have resulted in improved survival. The gentler slope in survival curve of screened patients suggests that lead time bias was not an important factor. The difference in survival seen in our patient population is probably the result of OLT. There were not enough patients to confirm the survival benefit of other treatment modalities.



P88

RESPONSE TO HEPATITIS A/B VACCINE ALONE OR IN COMBINATION IN PATIENTS WITH CHRONIC HEPATITIS C VIRUS (HCV) AND ADVANCED FIBROSIS

R. K. Sterling, MD, MSc, S. Kramer, MPH, C. Hofmann, RN, P. G. Smith, RN, BSN, M. L. Shiffman, MD. Virginia Commonwealth University, Richmond, VA.

Purpose: Patients (pts) with HCV may be at risk for exposure to hepatitis A (HAV) or hepatitis B (HBV) due to high-risk behaviors and those with advanced fibrosis are at increased risk of severe outcomes with acute HAV, HBV, or both. Although response to HAV vaccine may not be affected by chronic liver disease, the response to HBV vaccine is low. Because there are no data on whether combined HAV/HBV vaccine increases HBV response in pts with chronic liver disease and advanced fibrosis, we conducted a retrospective cohort analysis to evaluate the response using a HAV/HBV vaccine alone or in combination.

Methods: A total of 284 HCV positive pts with advanced fibrosis (Ishak 3-6) were analyzed. The efficacy and risk factors of HAV/HBV vaccine response was evaluated using antibody testing. Those who received the Havrix HAV, Engerix HBV, or the TWINRIX A/B combination vaccine were compared. Response was defined as the presence of anti-HAV or anti-HBV surface antibody in pts who tested negative for HAV and HBV prior to vaccination. Clinical factors between responders and non-responders to each vaccine were compared in univariate analysis and multivariable logistic regression model, controlling for age, sex, Ishak score, BMI, and diabetes was used to identify independent predictors of vaccine response.

Results: One hundred and sixty two pts (mean age 55.5, 71.6% male, 59.3% white, 53.7% Ishak 3-4, 46.3% Ishak 5-6) were tested for prior exposure to HAV and HBV. Prevalence of no prior exposure was 69.8% to HAV and 82.1% to HBV. Of the 162, 80 (49.4%) were vaccinated: 36.3% with HAV, 15% with HBV, and 48.8% with Twinrix. HAV response was 72.4% in those receiving the Havrix compared to 76.9% receiving the Twinrix (p= 0.671), while HBV response was 41.7% in pts receiving the Engerix compared to 59.0% in those vaccinated with the Twinrix (difference 17.3%, 95% CI: 0.54-7.48; p=0.292). The presence of diabetes (DM) was identified as a risk factor in reduced HBV response (p=0.01) and an interaction between DM and African American race was found to be signifciant in reduced HAV response (p=0.04).

Conclusion: Because response to both HAV and HBV vaccine alone or in combination are lower than expected in pts with HCV and advanced fibrosis, our data confirm that pts with HCV be vaccinated early in their disease. Although not significant due to small sample size, our data also suggests that response to combination A/B vaccine may increase response to HBV and justifies larger studies to test this hypothesis.

P89

IMPACT OF INDICATION FOR ADMISSION ON HOSPITAL OUTCOMES AMONG PATIENTS AWAITING LIVER TRANSPLANTATION

J. Williams, MD,[1] A. Maninang, NP,[1] A. L. Samuelson, MD,[1] M. E. Morgan, MD,[2] A. Kamal, MD,[2] A. Ahmed, MD[1]. 1. Division of Gastroenterology and Hepatology, Liver Transplant Program, Stanford University School of Medicine, Stanford, CA; 2. Division of Gastroenterology, Santa Clara Valley Medical Center, San Jose, CA.

Purpose: While studies have shown growing transplant lists and longer transplant waiting times, there is a paucity of data about pre-transplant hospitalizations. We aimed to investigate the causes and outcomes of pre-transplant hospitalizations among liver transplant candidates.

Methods: A retrospective chart review was performed of pre-transplant patients awaiting liver transplantation (suitable candidates successfully listed for liver transplantation based on minimal listing criteria) who were admitted to our institution from June 2005 to June 2007. Data pertaining to the presenting symptoms, history of present illness, physical examination findings, laboratory tests, imaging studies and past medical history were collected. Length of stay (LOS), Intensive Care Unit (ICU) admission, rehospitalization, and inpatient mortality were compared between the different reasons for admission.

Results: One hundred twenty one transplant candidates accounted for 230 hospital admissions (mean number of admissions per patient 1.9, range 1-6). Mean age at time of admission was 54.5 years (range 20-70), and 65.6% of patients were male. The mean length of stay was 6.8 days. Admission for spontaneous bacterial peritonitis (SBP) or other infection was more likely to result in prolonged hospitalization (47% vs. 26%, p = 0.003) and in-hospital mortality (18.9% vs. 2.2%, 0 <0.001) than admission for all other indications. Patients admitted for infectious complications were also more likely to require ICU stays (46% vs. 18%, p < 0.001).

Conclusion: Given the growth in the pool of liver transplant candidates and increase in waiting times, improved understanding of liver transplant candidates' hospitalization patterns is needed. Infections are responsible for a significant proportion of pre-transplant hospitalizations and in-hospital mortality. Continued analysis of pre-transplant hospitalizations among liver transplant candidates is required to develop focused interventions to help improve patient outcomes and lower cost in this patient population.

P90

PREVALENCE OF VITAMIN D DEFICIENCY IN CHRONIC LIVER DISEASE

J. O. Arteh, MD, MBBS,[2] S. Narra, MD, MBBS,[1] S. Nair, MD, MBBS[1]. 1. Gastroenterology, University of Tennessee, Memphis, TN; 2. Internal Medicine, University of Tennessee, Memphis, TN.

Purpose: Vitamin D deficiency has been reported in association with cholestatic liver diseases such as Primary biliary cirrhosis. Some studies have suggested that cirrhosis can predispose to osteoporosis due to alteration in calcium and vitamin D homeostasis. The aim of this study is to determine the prevalence of vitamin D deficiency in patients with chronic liver disease.

Methods: 118 consecutive patients (43 Hepatitis C patients with cirrhosis; 57 Hepatitis C patients without cirrhosis; 18 Non Hepatitis C patients with cirhhosis) seen at the Methodist Hepatology clinic had their 25-OH vitamin D levels measured. Severity of Vitamin D deficiency was graded as mild (levels between 20-32 ng/ml), moderate (levels between 7-20 ng/ml) and severe (levels < 7 ng/ml) respectively with normal being > 32 ng/ml.

Results: 109/118 (92.4%) patients had some degree of vitamin D deficiency. In the Hepatitis C cirrhosis group: 16.3% (7/43) had mild, 48.8% (21/43) had moderate and 30.2% (13/43) had severe vitamin D deficiency. In the Hepatitis C non cirrhotic group the numbers were: 22.8% (13/57), 52.6% (30/57) and 14% (8/57) respectively. In the non HCV cirrhosis group the numbers were: 38.9% (7/18), 27.8% (5/18) and 27.8% (5/18) respectively. Severe vitamin D deficiency (level < 7 ng/ml) is more common among cirrhotics.

Conclusion: Vitamin D deficiency is universal (92%) in patients with chronic liver disease and at least one third suffer from severe deficiency. Measurement of vitamin D levels and replacement should be part of care to cirrhotic patients.

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CLINICAL SIGNIFICANCE OF SERUM LEVELS OF VASCULAR ENDOTHELIAL GROWTH FACTOR AND BASIC FIBROBLAST GROWTH FACTOR IN HEPATOCELLULAR CARCINOMA

Y. K. Chawla, MD, DM,[1] B. Sharma, MSc, MPhil,[1] N. Saini, MSc, PhD,[1] R. Srinivasan, MD, PhD,[2] A. Chakraborty, MSc, PhD,[3] A. Duseja, MD, DM,[1] R. Dhiman, MD, DM,[1] N. Kalra, MD,[4] A. Behera, MS[5]. 1. Hepatology, PGIMER, Chandigarh, India; 2. Cytology,, Chandigarh, India; 3. Experimental Medicine & Biotechnology,, Chandigarh, India; 4. Radiology,, Chandigarh, India; 5. General Surgery,, Chandigarh, India.

Purpose: Hepatocellular carcinoma (HCC) is characteristically a hypervascular tumor and its progression is closely related to angiogenesis. Vascular endothelial growth factor (VEGF) and basic fibroblast growth factor (bFGF) are the two among the other angiogenic factors that may have a role to play in HCC. In this study, we determined the serum VEGF and bFGF levels and their correlation with clinicopathological features of HCC.

Methods: Forty HCC patients (22HBV, 9HCV, 9NBNC) with mean age 57.25 ± 11.16 years(38 M: 2 F), 45 cirrhosis patients(18HBV, 15HCV, 12NBNC) with mean age 48.82 ± 11.34 years (31 M:14 F), 45 chronic hepatitis patients (23HBV, 22HCV) with mean age 39.02 ± 12.66 years(42 M: 3 F), and 30 healthy subjects with mean age 46.82 ± 10.96 years(20 M: 10 F), were tested for serum VEGF and bFGF by commercially available ELISA kits (R & D system Inc., Minneapolis, MN). Clinical details of patients were recorded and CT/MRI done in all patients with HCC. HCC was diagnosed on the basis of EASL (European Association for the study of the liver) criteria.

Results: Serum VEGF levels were significantly elevated in patients with HCC (399.53 ± 239.53 pg/ml) compared with cirrhosis (174.14 ± 104.07 pg/ml), chronic hepatitis (142.94 ± 44.16 pg/ml) and healthy subjects (92.63 ± 29.71 pg/ml). Likewise the serum levels of bFGF were significantly elevated in patients with HCC (27.39 ± 16.41 pg/ml); when compared with cirrhosis (22.58 ± 14.00 pg/ml); chronic hepatitis (21.95 ± 12.49 pg/ml) and healthy subjects (11.92 ± 10.04 pg/ml). The differences in the levels of the above two markers in patients with cirrhosis, chronic hepatitis and healthy subjects were not significant between themselves. The serum levels of VEGF and bFGF were no different in patients with HBsAg+ve, antiHCV+ve and NBNC HCC. A positive correlation however was seen between the tumor size and VEGF levels ($p = 0.001$). High serum VEGF levels were also associated with the portal vein invasion in HCC.

Conclusion: High serum levels of VEGF and bFGF are observed in patients with HCC. High VEGF levels may indicate portal vein invasion. Further studies with a larger number of patients with HCC need to be done.

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IS THE NASH CRN HISTOLOGICAL SCORING SYSTEM FOR THE NAFLD GENERALIZABLE? EXPERT HEPATOPATHOLOGIST VS. COMMUNITY GENERAL PATHOLOGIST

R. Juluri, MD,[1] R. Vuppalanchi, MD,[1] J. Olson, MD,[2] M. L. Van Natta, MHS,[3] O. Cummings, MD,[1] N. Chalasani, MD[1]. 1. Medicine-Gastroenterology, Indiana University, Indianapolis, IN; 2. Pathology, Witham Health Services, Lebanon, IN; 3. Center for Clinical Trials, The Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD.

Purpose: The NIH-funded NASH Clinical Research Network has recently developed and validated a histological scoring system whose principle component is the "NAFLD Activity Score" (NAS). The NAS is based on the degree of steatosis, inflammation and ballooning. In addition, this scoring system consists of fibrosis score and establishing a diagnosis of definite NASH based on pattern recognition. However, the generalizability of this new scoring system to a community setting has not been evaluated. Therefore, we conducted a study to evaluate the performance of a community-based general pathologist, as compared to an expert hepatopathologist, in assessing liver histology in patients with NAFLD according to the NASH CRN scoring system.

Methods: 47 consecutive patients with suspected NAFLD had two cores of liver tissue obtained at the time of their liver biopsy. Histological assessment of H&E stained liver biopsy slides were scored in a systematic and blinded fashion by the community general pathologist and the expert pathologist on two separate occasions 3 months apart. Coefficient of concordance (Kappa statistic) was utilized to assess the intra- and inter-observer agreement in the interpretation of histological features. A Kappa value of 0.2 – 0.39 was considered as "fair", 0.4 - 0.59 as "moderate", 0.6 – 0.79 as "substantial" and ≥ 0.8 as "perfect" agreement.

Results: Mean age was 47 ± 9.9, 50% were female, BMI 33.2 ± 6.2 kg/m2 and 40% were diabetic. The mean (s.d.) length of the biopsy sample was 25 ± 5 mm. The intra-and inter-observer agreement for various histological features are shown in the Table. Intra-observer agreement for the community pathologist for steatosis, lobular inflammation, NAS and diagnosis of NASH was comparable to that of the expert pathologist, but it was significantly lower for fibrosis (fibrosis stage kappa = 0.48 [0.28-0.68] for general pathologist vs. 0.80 [0.69-0.9] for expert pathology). The inter-observer agreement between the community and the expert pathologist was "substantial" for steatosis, "moderate" for lobular inflammation, NAS, and the NASH diagnosis, and "fair" for ballooning and fibrosis. The general pathologist and the expert pathologist diagnosed definite NASH in a similar proportion of patients (56% vs. 57%), but their inter-observer agreement was only moderate (kappa=0.46) as they both diagnosed different levels of NASH (borderline vs. definite) in different subjects.

Conclusion: Clinically important differences exist between community general pathologist and expert hepatopathologist when they assess liver histology in patients with NAFLD according to the NASH CRN histological scoring system. More studies are needed to understand the significance of this observation.

Inter- and intra-observer agreement between community general pathologist and expert hepatopathologist (n =47).

	Intra-Observer		Inter-observer
Histologic features	Community General Pathologist	Expert Hepatopathologist	
	Kappa* (95% CI)	Kappa*(95% CI)	Kappa* (95% CI)
Mean Grade			1st reading
Steatosis (0-3)†	0.71 (0.55-0.87)	0.77 (0.62-0.92)	0.62 (0.45-0.80)
Lobular Inflammation (0-3)†	0.39 (0.17-0.61)	0.51 (0.27-0.75)	0.44 (0.23-0.65)
Ballooning (0-2)†	0.43 (0.23-0.64)	0.68 (0.51-0.84)	0.25 (0.11-0.38)
Fibrosis (stage)†	0.48(0.28-0.68)	0.8 (0.69-0.90)	0.35(0.19-0.52)
NAFLD Activity Score (1-7)†	0.58 (0.46-0.71)	0.61 (0.49-0.74)	0.40 (0.28-0.52)
Diagnosis of NASH (0-2)†	0.80 (0.65-0.95)	0.81 (0.65-0.96)	0.46 (0.24-0.67)

***weighted; P-value < 0.001 for all kappas. values in parenthesis include numerical scores according to scoring system.**

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SERUM CONCENTRATION-DEPENDENT HEPATOTOXICITY IN INDIVIDUALS RECEIVING ORAL SALSALATE

R. Juluri, MD, S. Gupta, MD, R. Vuppalanchi, MD. Medicine-Gastroenterology, Indiana University, Indianapolis, IN.

Purpose: Drug induced liver injury can either be intrinsic which is dose-dependent and predictable or idiosyncratic which is generally thought to be dose-independent and unpredictable. We report our experience with salsalate induced liver injury that exhibited relationship with serum salsalate concentrations.

Methods: 11 adults with documented HIV infection (CD4 count ≥ 350/μL) not receiving any antiretroviral therapy and no known underlying liver disease were enrolled into this study where each participant received salsalate (Disalcid®) 1500mg orally twice daily for 8 weeks. Serum liver chemistries and salicylate levels were measured at baseline, four and eight weeks after the initiation of salsalate treatment.

Results: Four patients developed elevated aminotransferases by 4 weeks following the initiation of salsalate whereas other 7 participants exhibited no increase in liver biochemistries. Two of the subjects with elevated aminotransferases had associated symptoms consisting of nausea, vomiting, fever, fatigue and abdominal discomfort at weeks 2 and 3 after the initiation of salsalate treatment, respectively. Serum salicylate concentration measured 24-48 hours after stopping the salsalate was 11mg/dL in both subjects. The symptoms resolved promptly upon stopping the study medication and aminotransferases normalized in both individuals. Two additional subjects also had elevated aminotransferases at week 4 without any symptoms and their serum salicylate concentrations were 17mg/dL and 21mg/dL, respectively. Upon dose reduction to 750 mg twice daily, liver biochemistries in both of these individuals normalized and were able to complete the study. Total serum bilirubin and alkaline phosphatase remained normal throughout the study period in all four individuals. The baseline characteristics of the 4 individuals who exhibited hepatotoxicity from salsalate were not different from 7 individuals who had normal liver biochemistries throughout the study period (see table). However, serum salicylate concentration in these 4 subjects with liver injury at week 4 were significantly higher than in those with normal liver biochemistries (15 ± 4.9 vs. 5.1 ± 0.4 mg/dL, p=0.027).

Conclusion: This observation supports the notion that there may be some dose dependency in idiosyncratic drug induced liver injury.

Selected Characteristics of individuals with and without Salsalate hepatotoxicity

	Individuals with hepatotoxicity (n=4)	Individuals without hepatotoxicity (n=7)
Age (years, mean ± s.d.)	35 ± 5.8	38 ± 12
Males	3	5
BMI (kg/m2, mean ± s.d.)	25.5	26.9
Serum AST (IU/L)		
Baseline	27.5±6.5	23±3.8
Week 4	246±222	22±11.4
Week 8	43±17.7	23±12
Serum ALT (IU/L)		
Baseline	26.5±9	19±8.6
Week 4	482±450	26±4.8
Week 8	116.5±89	28±14.5
Salicylate concentration (ng/ml)		
- Week 4	15±4.9	5.14±0.37
Week 8	<5	5.3±0.81

¶ P-value=0.027; Includes values from week 2 labs in one patient and week 3 labs in another patient

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INCREASED RISK OF PREDIABETES IN NONCIRRHOTIC CHRONIC HEPATITIS C PATIENTS WITH PERSISTENTLY NORMAL ALANINE AMINOTRANSAMINASE LEVELS; 5- YEAR FOLLOW -UP STUDY

S. Lee, fellow, Y. Cho, professor, J. Yun, fellow, H. Kim, professor, J. Park, professor, D. Park, professor, C. Sohn, professor, W. Jeon, professor, B. Kim, professor. Internal medicine, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea.

Purpose: An epidemiologic link between chronic hepatitis C virus(HCV) infection and type II diabetes mellitus (DM) has been established. The purpose of this study is to investigate whether noncirrhotic, HCV infected patients with persistently normal alanine aminotransaminase levels who didn't receive the antiviral therapy have an increased risk of prediabetes and to the evaluate changes of risk factors for prediabetes during 5 years follow up.

Methods: We conducted this 5-year follow up study of 62 people(male 34, female 28) who were consecutive eligible noncirrhotic, HCV infected patients with persistently normal alanine aminotransferase levels, and the control group of 172 subjects (male 101, female 71) without liver disease matched by age, sex, body mass index, and life styles. We compared the initial baseline metabolic parameters such as BMI, lipid profile, HOMA-IR, HbA1C, and the incidence of hypertension, prediabetes and type II DM with the time of the follow-up in both groups.

Results: There was no significant change of metabolic parameters during 5-year follow up in both groups, but in HCV group fasting insulin level and HOMA-IR were high compared to the initial baseline, and cumulative incidence of impaired glucose tolerance (IGT) was higher in HCV group than normal control group (HCV: 12/62, 19.3% VS Control: 9/172, 5.23%, P=0.001). Multivariate analysis showed HCV infection was independent risk factor of IGT (OR = 3.47: 2.64-4.15, P<0.001).

Conclusion: HCV infection was the independent risk factor of insulin resistance. In HCV-infected patients without antiviral treatment serum fasting glucose or insulin level should be closely monitored for the risk of prediabetes development.

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EFFICACY AND SAFETY OF LONG-TERM ORAL ADMINISTRATION OF PIOGLITAZONE FOR TREATMENT OF NONALCOHOLIC FATTY LIVER DISEASE

2008 ACG Presidential Poster Award Recipient

M. Matsushita, MD,[1] Y. Takahashi, MD,[2] Y. Kobayashi, MD[2]. 1. Gastroenterology, Haibara General Hospital, Makinohara, Japan; 2. 2nd Division Department of Internal Medicine, Hamamatsu University School of Medicine, Hamamatsu, Japan.

Purpose: Clinical reports regarding long-term pioglitazone treatment for nonalcoholic fatty liver disease (NAFLD) are limited. The aim of this study was to evaluate the efficacy and safety of its administration over a long period.

Methods: A total of 37 patients (19 males, 18 females; median age 62 years old) with NAFLD were enrolled. All subjects had moderately elevated ALT and ultrasonographically-proven fatty liver, while each was negative for hepatitis B and C and had a negative titer for auto-antibodies in serological examinations. None consumed alcohol. For treatment, we administered pioglitazone at 15 or 30 mg daily, and ALT, γ-GTP, FFA, TG, TC, HDL-C, HbA1c, FBS, IRI, HOMA-IR, and body weight findings were analyzed. At 24 weeks after beginning treatment, we used ALT values to classify the subjects into the Early Normalized (normal ALT) and Others groups, then analyzed clinical data using a Mann-Whitney U test.

Results: ALT values improved to a normal range in 38.7% of the subjects at 24 weeks, 36.7% at 48 weeks, and 50% at 96 weeks after beginning administration of pioglitazone. Insulin sensitivity and lipid metabolism showed significant improvements. Weight gain was recognized,but it was not significant in any of the subjects. Pioglitazone treatment for 1 subject was withdrawn because of itching, while no other significant side-effects of therapy were noted in the others.

Conclusion: The efficacy of long-term pioglitazone treatment for nonalcoholic fatty liver disease was satisfactory and no severe side effects from its administration were observed.

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STANDARD ULTRASOUND EXAMINATION OF THE LIVER DOES NOT CORRELATE WITH APRI SCORE OR HISTOLOGICAL LEVEL OF FIBROSIS IN A POPULATION WITH HEPATITIS C

S. V. Sagi, MD,[1] P. Guturu, MD,[1] R. D. Soloway, MD,[1] N. Snyder, MD,[1] S. Xiao, MD[2]. 1. Internal Medicine, University of Texas Medical Branch, Galveston, TX; 2. Pathology, University of Texas Medical Branch, Galveston, TX.

Purpose: In the management of patients(pts) with liver disease, ultrasound(US) examinations of the liver are commonly ordered to estimate hepatic fibrosis as well as to monitor the development of hepatocellular cancer in patients with chronic hepatitis C (HCV). Our aim was to test the utility of US to detect fibrosis in a group of patients with chronic hepatitis C who have undergone determination of the aspartate aminotransferase/platelet ratio index (APRI) score and liver biopsy

Methods: Out of the pool of pts examined at our institution within the last year, 195 have had an ultrasound examination within 6 months of a pretreatment staging liver biopsy. 9 patients with HIV co-infection, 1 patient with autoimmune hepatitis and 12 patients with Hepatitis B were excluded, because the APRI and histological fibrosis scores have not been validated in these groups. 54 pts had incomplete data. Thus, 119 patients were studied: APRI <0.4 = 17, 0.4-1.5 = 75, >1.5 = 27. The following ultrasound criteria were utilized: Liver size: small, normal, or enlarged; nodularity: + or -; echogenicity: normal, increased or coarse; spleen size: normal or >12 cm = enlarged;Liver biopsy fibrosis was scored 0-4 on the Batts-Ludwig scale.Data was analyzed using SAS 9.1® statistical software.

Results: The correlation coefficient between fibrosis stage and APRI across all values was 0.505 (p<.0001). Limiting the APRI to the indeterminant range (0.4-1.5), the score was 0.460 (p<.0001). The correlation coefficient between fibrosis stage and ultrasound score was 0.167(p = 0.069, ns)for all stages of fibrosis and 0.372(p = 0.0278)when limited to stage 3 and 4 fibrosis on biopsy . Limiting to APRI between 0.4-1.5, the correlation between ultrasound score and fibrosis was 0.099 (p=0.398).

Conclusion: Confirming previous studies, The APRI score significantly correlates with fibrosis stage when all samples are compared or when the comparison is limited to APRI values in the indeterminant range (0.4-1.5). In contrast the ultrasound score correlates with fibrosis score only in patients with advanced fibrosis . The addition of ultrasound score to APRI does not improve correlation with fibrosis score. Examination of traditional criteria for evaluation of liver ultrasound studies does not add significantly to the detection of hepatic fibrosis over and above APRI, in patients with well compensated chronic hepatitis C.

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ACUTE RENAL FAILURE IN HOSPITALIZED PATIENTS WITH CHRONIC HCV INFECTION: AN ETIOLOGICAL AND PROGNOSTIC EVALUATION

S. K. Satapathy, MD, DM,[1] C. Lingisetty, MD,[2] S. Chaudhari, MD, FACP,[2] A. Chaudhari, MD,[2] S. Williams, MD[3]. 1. Liver Diseases, Mount Sinai Hospital Medical Center, New York, NY; 2. Medicine, New York Medical College/Metropolitan Hospital, New York, NY; 3. Gastroenterology, New York Medical College/Metropolitan Hospital, New York, NY.

Purpose: Acute renal failure (ARF) unrelated to cryoglobulinemia, its prevalence and prognosis have not been studied systematically in patients with chronic HCV infection.

Methods: Charts of 568 chronic HCV infected patients with at least 3 months follow up were reviewed for ARF events using proportional increases in serum creatinine from baseline by chart review (median follow -up of 39 months). Eighty-five patients were excluded because of lack of enough clinical data or insufficient follow up.

Results: One hundred twenty-four ARF events occurred in 64 patients. Pre-renal etiology was responsible in 88 (71%) episodes of ARF, followed by intrinsic renal etiology in 50 (40%) [21 with intrinsic renal at outset +29 with pre-renal onset progressing to ATN]. Sixty-eight (55%) ARF events recovered completely, but in 43 (34%) recovery was partial. Patients with ARF events with higher baseline serum creatinine levels (>1.2 mg/dl) had a distinctly prolonged recovery pattern (P < 0.0001, OR: 3.409, 95% CI: 1.912-6.079). A higher prevalence of ARF was observed in patients with diabetes mellitus (70.3% vs. 38%, P = 0.0001), and hypertension (48.4% vs. 16.2%, P = 0.0001) and with history of intravenous drug abuse (44.4% vs. 29%, P = 0.013). Binary logistic regression analysis revealed that elevated baseline serum creatinine (P= 0.0001, OR: 7.081, 95% C.I., 2.606-19.237), a history of IVDU (P= 0.001, OR: 0.274, 95% C.I., 0.132-0.569), presence of diabetes mellitus (P=0.002, OR: 0.324, 95% C.I., 0.158-0.667), and higher age (P = 0.032, OR: 1.043, 95% CI 1.004-1.084) were significant predictors of ARF events.Of the 64 patients who ever had an episode of ARF, prevalence of CKD [(29.7%) vs. 3.8%,P < 0.0001), and ESRD (17% vs. 1%, P < 0.0001) were significantly more common compared to patients who never had an episode of ARF.

Conclusion: ARF is common in patients with chronic HCV infection, and occurs significantly more commonly in presence of comorbid conditions like DM, hypertension, and history of IVDU. Prior renal dysfunction is an important determinant of ARF. Significant proportions of the patients who ever had an episode of ARF progress to CKD and ESRD.

Etiologies of Acute Renal failure

ARF-Prerenal (N=88)	**Frequency**
Nausea, Vomiting, Diarrhoea, Excessive diuresis, Dehydration, LVP	42(47.72%)
Hypotension	18(20.45%)
Infection related	16(18.18)
GI bleed	9(10.2%)
Hepatic Encephalopathy	9(10.2%)
Worsening Ascites	5(5.7%)
Diabetic Ketoacidosis	3(3.4%)
Congestive Heart Failure	2(2%)
Hepato-renal syndrome	1(1%)
Uncontrolled Hypertension	1(1%)
Drug Induced	1(1%)
Undetermined	3(3.4%)
ARF-Renal (N=50) [21 intrinsic renal+29 ATN with pre-renal onset]	
Pre-renal leading to Acute Tubular Necrosis	29(58%)
AGN	1(2%)
Contrast Induced nephropathy	3(6%)
Drug Induced	3(6%)
NephroticSyndrome	2(4%)
Sepsis	5(10%)
Pyelonephritis	1(2%)
Spontaneous bacterial peritonitis and Hepato-renal syndrome	1(2%)
Rhabdomyolysis	5(10%)
ARF -Post Renal (N=2)	
Urethral Stricure	2
Undetermined (N=13)	13

***124 ARF events in 64 Chronic HCV infected patients. # The etiologies of ARF events(n=127) although segregated as isolated events as shown above, multiple etiologies were responsible in a number of cases.**

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ACUTE, CLINICALLY EVIDENT HEPATITIS C VIRUS INFECTION AND LIVER INJURY: A CLINICO-PATHOLOGICAL SUMMARY OF FIVE PATIENTS

A. D. Smith, MB, ChB,[1] R. A. Burbridge, MD,[1] J. W. Gentile, ANP,[1] C. D. Guy, MD[2].
1. Medicine, Duke University, Durham, NC; 2. Pathology, Duke University, Durham, NC.

Purpose: Clinically evident acute (or recent) hepatitis C virus (HCV) infection and liver injury is uncommon, in contrast to chronic HCV infection and associated liver disease. However, the clinical and laboratory features of overt recent HCV infection are not dissimilar to other etiologies of acute hepatitis, i.e. fatigue, anorexia, pale stools and dark urine; serum aminotransferase concentrations are typically elevated significantly. Therefore, because clinically overt acute HCV infection is uncommon and alternative diagnoses demand consideration, e.g. autoimmune hepatitis (AIH), liver biopsy may be undertaken. A recent report drew attention to the spectrum of observed histologic abnormalities, such as those concerning for large bile duct occlusion.

Methods: We describe five patients with what we believe was clinically evident acute HCV infection and liver injury, all of whom required and underwent liver biopsy on clinical grounds.

Results: Five adult patients (two men; median age 41 years [range 19-47]) presented for further evaluation of acute severe liver injury, either without (two patients) or with symptoms – malaise, anorexia, nausea, abdominal pain, pale stools and dark urine. The means of recent HCV exposure was as follows: sexual (two), intranasal (two), and intravenous (one). Pertinent data are contained in the table. Alternative causes of acute severe liver injury (viral, autoimmune, drug-induced, metabolic and alcoholic) were excluded as far as possible by history-taking and laboratory testing. However, because liver injury was so marked, and in three patients alternative or additional explanations existed (Wilson's disease, AIH) liver biopsy was undertaken. Unlike classic descriptions of morphologic changes in acute viral hepatitis, namely lobular hepatocyte swelling/ballooning and acidophil necrosis, pigment-laden macrophages, and/or canalicular cholestasis (all five biopsies revealed these changes), two of the biopsy specimens demonstrated portal tract expansion by edema, with many neutrophils and evidence of bile duct injury. Chronic inflammation was minimal. This raised concern for a primary biliary process, e.g. large duct obstruction. Furthermore, one of these two specimens revealed numerous portal eosinophils concerning for drug reaction.

Conclusion: All five patients had laboratory evidence of acute severe liver injury. Symptomatic patients had lower serum albumin, but higher total serum bilirubin and alanine aminotransferase (ALT) concentrations than those without symptoms. Moreover, this difference distinguished those patients with histological changes concerning for an underlying biliary process from those who did not in two of three cases. Timing between infection and liver biopsy might explain these differences.

	Sex	Alb (mg%)	BR (mg%)	PT (s)	AST (U/L)	ALT (U/L)	ALP (U/L)	HCV (IU/mL x1000)
One	F	2.7	6.2	14.1	949	1293	174	6.4
Two	F	4.6	0.8	10.2	836	698	156	>5000
Three	M	2.8	6.5	13.5	239	1956	210	224
Four	M	4.5	0.7	10.7	606	1468	181	166
Five	F	3.7	6.4	12.1	649	1736	208	1560

P99

FULMINANT AUTOIMMUNE HEPATITIS INDUCED BY INFLIXIMAB THERAPY: A RARE CASE REPORT

S. K. Satapathy, MD, DM,[1] C. Aloman, MD,[1] S. Ward, MD,[3] Y. Lam, MD,[2] P. Ells, MD,[2] M. Fiel, MD,[3] J. Del Rio Martin, MD,[4] T. Schiano, MD[1]. 1. Liver Diseases, Mount Sinai School of Medicine, New York, NY; 2. Gastroenterology/Medicine, State University of New York/Stony Brook University Hospital, Long Island, NY; 3. Pathology, Mount Sinai School of Medicine, New York, NY; 4. Liver Transplantation, Recanati-Miller Transplantation Institute, New York, NY.

Purpose: Infliximab, a chimeric monoclonal antibody that binds the tumor necrosis factor α (TNFα), is used in the treatment of rheumatoid arthritis(RA) and Crohn's disease(CD). Previous cases of significant secondary liver disease associated with infliximab treatment have been reported in patients with RA, CD, and psoriatic arthritis including one case with fulminant hepatic failure(FHF)needing orthotopic Liver transplantation.

Methods: We report one additional case of FHF in a 25 yr Old man with RA who developed a FHF secondary to autoimmune hepatitis with infliximab treatment.

Results: A 25-year old man with Juvenile Rheumatoid Arthritis and Still's disease who was on Infliximab (300 mg IV infusion once every three weeks) since the last three years was transferred from a different hospital to our center with jaundice, lethargy, poor appetite and rapidly worsening liver function tests. His aspartate aminotransferase (3,575 IU/mL), alanine aminotransferase (4,521 IU/mL), alkaline phosphatase (121 IU/mL),total bilirubin(16.6 mg/dl)and direct bilirubin (12.5 mg/dl) levels were significantly elevated at admission. Partial thromboplastin time (PTT 41.1) and prothrombin time (PT 40 sec) were also elevated with INR of 4.1 at admission and which continued to rise on follow-up. He had no history of hepatic diseases, exposure to hepatotoxic or illicit drugs, or alcohol abuse. Multiple laboratory tests were done for hepatitis A (IgM/IgG Anti-HAV), B(HBsAg, antiHBS, antiHbc, HBV DNA), C(anti-HCV and HCV PCR), E (IgG HEV), G(Hepatitis G RNA PCR) and cytomegalovirus(CMV DNA PCR), herpes simplex virus (IgG HSV-1), EBV caspid Ag (IgG Ab, IgM- Ab), EBV PCR, Varicella Zooster (IgG) and was notably all of which were negative. His Iron profiles were within normal limit (S. Iron 161, TIBC 171, Transferrin sat 94%). Alfa-1-antitrypsin was within normal range (171 mg/dl). His Ferritin levels were high likely reflecting the status of an acute phase reactant. AFP levels were mildly elevated (20.9 ng/Ml). Serum protein electrophoresis showed a polyclonal increase in the gamma region. He fulfilled autoimmune hepatitis type 1 criteria [ANA (1:320), ASMA (1:160) and Ds-DNA (+)] at admission. Despite aggressive treatment with oral prednisone he developed progressive hepatic failure. After the onset of hepatic encephalopathy on the 5th day of the hospital admission a liver transplant was performed successfully. Liver allograft was consistent with autoimmune hepatitis.

Conclusion: This case should alert rheumatologists and the hepatologist to the possibility of serious adverse reactions associated with the use of TNFα blockers and the potential to cause autoimmune hepatitis leading even to fulminant hepatic failure.

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SILENCING OF STEAROYL-COA DESATURASE INHIBITS PROLIFERATION AND INDUCES APOPTOSIS IN HUMAN HEPATOCELLULAR CARCINOMA

S. Bansal, MD,[1] M. Berk, MS,[2] J. Fung, MD, PhD,[1] A. E. Feldstein, MD[2]. 1. General Surgery, Cleveland Clinic, Cleveland, OH; 2. Cell Biology, Cleveland Clinic, Cleveland, OH.

Purpose: Hepatocellular carcinoma (HCC), the third most important cause of cancer death worldwide, survives various apoptotic insults during its growth and is highly resistant to currently available chemotherapy. We hypothesize that stearoyl-CoA desaturase (SCD), the rate limiting enzyme in the biosynthesis of monounsaturated fats, well known for its lipogenic potential, plays a critical role in maintaining these unique properties of HCC and support its survival. AIMS: To determine the expression and role of SCD in modulating human HCC proliferation and resistance to chemotherapy and to explore associated signaling pathways.

Methods: SCD expression was assessed by immunoblot analysis and immunohistochemistry in three human HCC cell lines (HepG2, Hep3B, PLC/PRF/5), HCC liver tissues (n = 20) and normal liver (n = 10) in the absence or presence of PI3K, JNK1/2, or p38 mitogen-activated kinase (MAPK) inhibitors. Cells were incubated in the absence or presence of different chemotherapeutic agents (Staurosporine-STS, 5-FU, Doxorubicin) and a time course of SCD expression, caspase 3 activation and apoptosis was assessed by immunoblot, Apo-1 and cell titer blue assay respectively. HCC proliferation was determined using WST-1 assay as well as BrdU staining. Finally, SCD expression was suppressed genetically using a siRNA approach or using pharmacological inhibitor 10,12 conjugated linoleic acid.

Results: SCD was strongly expressed in all three hepatoma cell lines as well as in all human HCC tissues. Increased SCD expression was blocked in the presence of the PI3K as well as JNK1/2 inhibitors but was not affected by the presence of p38 inhibitor. All three HCC cell lines showed low sensitivity to chemotherapy induced apoptosis with levels below 15% at 24 hours for all three drugs and resulted in a similar time-dependent upregulation of SCD as well as SREBP expression which parallel the degree of resistance to drug-induced apoptosis. Specific genetic or pharmacological SCD suppression resulted in inhibition of cell proliferation ($p < 0.001$) and significantly increase sensitivity to chemotherapy induced apoptosis (% apoptosis at 24 hrs: STS from 15% to 50%, $p<001$; 5-FU, from 5% to 25%, $p < 0.01$).

Conclusion: Our data suggest that increased SCD expression plays an important role in HCC development and resistance to chemotherapy induced apoptosis and this is in part mediated by PI3K/ JNK activation. Specific targeted interruption of this pathway in HCC could be a desirable approach in designing novel therapeutic strategies.

P101

HEPATITIS B KNOWLEDGE, ATTITUDES, AND SUSCEPTIBILITY IN AN IMMIGRANT CARIBBEAN COMMUNITY

F. Francois, MD, MS,[1] J. Frederick, MD,[1] N. Joseph, BA,[2] S. L. John, MD,[1] G. Elysee, BA,[1] M. Rey, MD[1]. 1. Medicine, NYU School of Medicine, New York, NY; 2. Medicine, George Washington School of Medicine, Washington, DC.

Purpose: Hepatitis B (HBV) is the most common underlying cause of liver cancer among immigrant populations, and the prevalence of HBV is 10-75 per 1000 blood donors in the Caribbean. Although Caribbean communities continue to grow in the U.S. little is known about how they are impacted by HBV. Our objective was to evaluate knowledge and attitudes about HBV, as well as susceptibility in an immigrant Caribbean community.

Methods: In-person interviews were conducted with Caribbean immigrant men and women attending four community-based health fairs during a six-month period. Knowledge, beliefs, and risk factors for HBV were assessed along with socio-demographic characteristics. Phlebotomy was performed on all consenting participants to determine HBV status.

Results: A total of 147 individuals (55% women) representing 9 Caribbean countries completed the screening sessions. The cohort had a mean age of 46 ± 15 years and had been in the U.S. for 14 ± 12 years. The formal education of 75% of the cohort was at High school level or below, and nearly half (48%) had a median household income below $24,000. While 7% of individuals self-identified as being at risk for HBV, 11% were found to have at least one risk factor. The most common identified HBV risk factors were multiple sexual partners (5%) and blood product transfusion (3%). The majority of individuals (70%) were either unsure or did not believe that HBV can be transmitted through sharing dirty needles. Only 28.5% correctly identified unprotected sex as a risk factor for HBV and only 21% believed that using condoms could help prevent its transmission. Men were significantly more likely to believe that HBV is inherited compared to women (41.8% vs. 14.7%; p=0.003) and they were less willing to seek medical attention if they tested positive for HBV (41.5% vs. 73.8%; p=0.001). The majority of individuals (67%) were susceptible to HBV with no detectable markers. Among the 47 individuals who tested positive for HBsAb, 42 (89%) had no prior history of vaccination. HBsAg positivity was confirmed in 1 individual.

Conclusion: In this representative community-based Caribbean immigrant cohort we identified significant knowledge deficits about HBV. By extension attitudes towards prevention and treatment of HBV may help increase its spread in the community. Studies should be extended to further characterize HBV seroprevalence in the immigrant Caribbean community and efforts should be made to develop and implement community-based HBV interventions aimed at improving knowledge and reducing risk of infection in this susceptible population.

P102

PILOT STUDY OF THE EFFECTS OF INTERFERON, WITH OR WITHOUT AN ANGIOTENSIN-2 RECEPTOR ANTAGONIST, ON THE EXPRESSION OF FIBROSIS-RELATED GENES IN THE LIVER OF PATIENTS WITH CHRONIC HEPATITIS C

J. Gross, MD, G. Gores, MD, S. M. Johnson, RN. Mayo Clinic, Rochester, MN.

Purpose: To assess the effects of peginterferon alfa-2a (PEG-2a), with or without valsartan (VAL), on the expression of fibrosis-related genes in the liver of patients with chronic hepatitis C.

Methods: Patients with chronic hepatitis C were offered participation if they had had a liver biopsy showing at least stage 2 (of 4) fibrosis, or stage 1 fibrosis with at least grade 2 (of 4) inflammation. We excluded patients with poor liver function, complications of portal hypertension, or excessive alcohol use, and those treated with interferon, ACE inhibitor, or A2RA within the previous 6 months. Patients were randomly assigned to 24 weeks of treatment with PEG-2a 180 mcg s.c. weekly, with or wihtout VAL 80 mg p.o. daily. Liver biopsies were performed at baseline and at 24 weeks. We used real-time PCR to determine the levels of gene expression in fresh-frozen liver tissue for alpha-smooth muscle actin (SMA), a marker of stellate cell activation, and transforming growth factor beta (TGF) and collagen type I (COL), markers of fibrogenic activity. Results were expressed as the ratio of mRNA to the ribosomal 18s subunit.

Results: Paired biopsy results are available on 5 patients treated with PEG-2a and 5 patients on PEG-2a + VAL thus far. From the beginning to the end of treatment, SMA gene expression declined by an average of 49% on PEG-2a + VAL, compared to 18% on PEG alone. In contrast, the expression of genes related to fibrogenesis (TGF and COL) uniformly increased in both treatment groups, from 2-fold to 16-fold. There were no significant changes in the histologic stages of fibrosis.

Conclusion: These preliminary results suggest that treatment with interferon can inhibit stellate cell activation and that this effect may be augmented by simultaneous treatment with the A2RA valsartan. The treatment-associated increase in markers of fibrogenesis is an unexpected finding and may represent a shift in stellate cell function from contractility to collagen production.

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P103

OUTCOMES IN 46 PTS WITH TYPE 1 HEPATORENAL SYND (HRS-1) TREATED WITH MIDODRINE AND OCTREOTIDE (MIDO/OCTR): CORRELATION WITH UNDERLYING LIVER DISEASE AND PATIENT DEMOGRAPHICS

Y. K. Karim, MD, E. M. Liu, MD, J. H. Lewis, MD. Department of Gastroenterology, Georgetown. University Hospital, Washington, DC.

Purpose: HRS-1 is often fatal with a reported median survival time of <2 wk untreated. Management includes IV fluids, albumin, renal replacement therapy (RRT), use of splanchnic vasoconstrictors (e.g. Mido/Octr), and liver transplant (OLT). Our goal was to assess the clinical characteristics of pts who developed HRS-1, and their outcome following treatment with Mido/Octr.

Methods: We retrospectively analyzed 46 HRS-1 pts for age, gender, etiology of ESLD, MELD score, initial serum creatinine,bilirubin, and INR, who met criteria of HRS-1 treated between 6/06 - 4/08 with Mido/Octr. Mido was given as 5-10mg t.i.d p.o. and Octr administered as 50-100 ug t.i.d. subcut. Pts were excluded if they did not fulfill criteria supporting the diagnosis of HRS-1; i.e., urine sodium >10, inadequate fluid challenge or failure to rule out other causes of acute renal failure. Outcomes after treatment with Mido/Octr were: resolution of HRS-1 with Mido/Octr, need for ongoing RRT but no OLT, resolution of HRS-1 after undergoing OLT [and possible renal transplant (CRT)], death awaiting OLT, and death after withdrawal of care.

Results: Hep C accounted for 18 (40%) of pts and 11 (24%) had ETOH cirrhosis. Of the remaining pts, 3 had viral hepatitis and ETOH, 4 autoimmune hepatitis, 1 NASH, 3 cryptogenic cirrhosis, 2 Hep B, and 4 with other causes (shistosomiasis, PBC or PSC). Sixty-one % were male, mean age was 48.4 yr (range 19-77 and average MELD score (calculated at initiation of treatment) was 44 (range 27-51). Eleven pts (24%) were maintained on Mido/Octr (mean duration 10.5 days), until OLT was performed. 40% of these patients were Hep C+, 73% were male, mean age was 42.6yr, and mean MELD 34.5. Two of these pts had a combined OLT/CRT. 25 pts (54%) died; 12 still requiring RRT and awaiting OLT, and the other 13 due to multi-organ system failure and/or sepsis. In the remaining 10 patients, 7 (5 men, mean age 32.4yr) had recovery of both renal and liver function, requiring no subsequent RRT or need for OLT on discharge. They were treated for a mean duration of 15 days with Mido/Octr. Three patients did not recover renal function with therapy, and have required RRT with stable liver function awaiting OLT in 2 instances.

Conclusion: While more than half of these 46 pts with HRS-1 receiving Mido/Octr died, this seems to be a lower mortality compared to historical controls. Survival appeared to be related to younger age and lower MELD scores, but not to the underlying liver disease. Mido/Octr allowed 24% of pts to survive until OLT and another 15% were discharged without residual renal dysfunction. A small proportion (6.5%) survived without OLT but require ongoing RRT. Controlled clinical trials of this regimen appear warranted.

P104

INCREASED RISK OF HEPATOCELLULAR CARCINOMA AMONG HISPANICS WITH HEPATITIS C

M. Kashi, DO,[1] R. Sanchez, BS,[3] R. T. Page, PA-C,[1] P. Brock, PA,[1] A. M. Herrera, MD, MPH,[1] G. B. Chisholm, MS,[2] A. M. Hoyumpa, MD[1]. 1. Gastroenterology and Nutrition, University of Texas Health Science Center at San Antonio, San Antonio, TX; 2. Epidemiology and Biostatistics, University of Texas Health Science Center at San Antonio, San Antonio, TX; 3. San Antonio Metropolitan Health District, San Antonio, TX.

Purpose: Hepatitis C is a major cause of hepatocellular carcinoma (HCC), particularly in patients with cirrhosis. We previously presented data showing that the incidence of cirrhosis in patients with hepatitis C attending the University's Hepatology Clinic in Bexar County, Tx is greater among Hispanics (30%) than Caucasians (12%) or African Americans (7%) (Hepatology 42:442A, 2005). Whether HCC is also increased among Hispanics remains to be established. AIM: a) To determine the risk of HCC in hepatitis C patients in Bexar County and b) to compare the risk of HCC among the Hispanic, Caucasian and African American ethnic groups.

Methods: Bexar County death certificates of individuals in which hepatitis C was listed as primary, secondary or contributing diagnosis were collected. This resource provided a unique opportunity to study not only the demographics but also the possible contributing factors in the development of HCC in patients with hepatitis C.

Results: There were 806 cases in which hepatitis C was listed on the death certificate from 1996 to 2005, inclusive. The number of hepatitis C steadily increased from 36 in 1996 to 121 in 2005. The corresponding number with cirrhosis rose from 34 to 98. Cases with HCC rose from 6 to 24. A comparison of the incidence of HCC among ethnic groups revealed: 20 % in 469 Hispanics, 9% in 274 Caucasians ($p < 0.001$), and 18 % in 57 African Americans ($p = 0.68$). The difference between Hispanics and African Americans was not significant. Overall, the risk of HCC was higher among males, 20 %, than among females, 9%, ($p< 0.001$); however, no significant gender differences were found among individual ethnic groups. Of possible contributing factors, significant alcohol use was higher among the Hispanics (57%) than the African Americans (40 %) ($p= 0.04$) but not among the Caucasians (49%). Diabetes was more common among the Hispanics (13 %) than among the Caucasians (8%) ($p= 0.03$) but not among the African Americans (12 %). Hepatitis B coinfection did not affect incidence of HCC; however, patients with HIV and/or AIDS were found to have a decreased incidence of HCC ($p= 0.03$). Among ethnic groups there was no difference in age at the time of death in hepatitis C, cirrhosis or HCC.

Conclusion: 1. Against a background of rising incidence of hepatitis C, there was a rising tide of cirrhosis in Bexar County, 2. This was associated with a higher risk of HCC in males, 3. The risk of HCC was 2.8 times higher among Hispanics ($p= <0.001$) and 2.5 times higher in African Americans ($p= 0.052$) compared to Caucasians, 4. These results suggest that ethnicity plays a role in the progression of Hepatitis C and HCC, and alcohol abuse, diabetes and HIV coinfection may be modifying factors.

P105

SYSTEMIC INFLAMMATORY RESPONSE SYNDROME (SIRS) AND CIRRHOSIS: ASSOCIATION WITH SEPSIS AND HIGH SHORT TERM MORTALITY

K. Madan, MD, DM,[1] S. J. Mahapatra, MBBS,[2] S. R. Mishra, MD,[2] A. Kumar, MD, DM,[2] R. Soni, MD,[2] H. Garg, MD,[2] S. K. Sarin, MD, DM[1]. 1. Hepatology, Institute of Liver and Biliary Sciences, New Delhi, India; 2. Gastroenterology, G B Pant Hospital, New Delhi, India.

Purpose: SIRS has been shown to be associated with development of minimal hepatic encephalopathy and hepatorenal syndrome in patients with cirrhosis. However, relationship of SIRS with infective complications and short term outcome in cirrhosis is not known.The study was aimed to evaluate the significance of presence of SIRS among newly diagnosed cirrhotics.

Methods: In a prospective, case control study design, all newly diagnosed cirrhotics were recruited and divided in to group1 (those with SIRS) and group 2 (those without SIRS). SIRS was diagnosed in presence of two of the following: Core temperature of Core body temperature of >/= 380c (1040F) or **Results:** Of the 56 new cirrhotics, 15 were excluded (severe anemia:5, cardiovascular co-morbidity: 5, renal failure:2, encephalopathy: 1, Pancreatitis 1, COAD:1). Most common etiology was alcohol (15/41), followed by Cryptogenic (12/41), HBV (8/41), HCV (5/41) and autoimmune cirrhosis (1/41). 18 of 41 (45%) had SIRS (group1) (14 at presentation and 4 had evidence of SIRS within 30 days of presentation) and 23 did not have SIRS (group2). Patients with SIRS had more advanced liver disease as evidenced by higher child's score [11 (6-13) in group 1 vs 8 (6-13) in group 2; p=0.02], MELD score [25(12-37) in group 1 vs 13 (8-27) in group 2; p=0.01] and higher AST levels [94 (51-724) in group 1 vs 67.5 (28-617) in group 2; p=0.02]. Higher number of patients with SIRS had infectious complications [8/14 (57.1%) in group 1 vs 1/13 (7.6%) in group 2; p=0.01]. 6 of 8 with SIRS had infection at baseline and 2 developed it on follow up. There were 3 deaths, all in group 1 and none in group 2 but the difference did not reach statistical significance. All deaths occurred in patients with sepsis than in those without sepsis [3/9 (33.3) vs 0; p=0.02).

Conclusion: Significant proportions of newly diagnosed cirrhotics have SIRS, which is associated with infective complications in most of them, leading to higher short term mortality. Cirrhotics with SIRS should be actively investigated for sepsis which should be treated aggressively.

P106

INCREASED MRNA EXPRESSION OF CCL22 IN HEPATOCELLULAR CARCINOMA WITH INFILTRATION OF FOXP3+ REGULATORY T CELL

N. Mitsuhashi, MD PhD,[1] F. Kimura, MD PhD,[2] H. Shimizu, MD PhD,[2] H. Yoshidome, MD PhD,[2] M. Ohtsuka, MD PhD,[2] A. Kato, MD PhD,[2] H. Yoshitomi, MD PhD,[2] K. Furukawa, MD PhD,[2] D. Takeuchi, MD PhD,[2] M. Miyazaki, MD PhD[2]. 1. Section for Medical Nanotechniques, Research Center for Frontier Medical Engineering, Chiba University, Chiba, Japan; 2. Department of General Surgery, Graduate School of Medicine, Chiba University, Chiba, Japan.

Purpose: Tumor-infiltrating lymphocytes are known to play an important role in the tumor-host reaction in various types of neoplasms including hepatocellular carcinoma (HCC). Chemokines and those receptors is sought to be a potent chemoattractant for lymphocytes. Although CXCR3 chemokines (CXCL9, CXCL10, CXCL11) for Th1 cells, and CCR4 chemokines (CCL17, CCL22) for regulatory T (Treg) cells have been shown to play the central roles for T cell migration, the mechanism of T cell infiltration in malignant tumor tissue is not fully understood, especially in HCC. The purpose of the present study was to estimate the correlation between mRNA expression of chemokines and tumor-infiltrating lymphocytes in HCC. Further we attempted the significance of chemokine expression in tumor progression.

Methods: Fresh surgical specimens were obtained from 32 HCC patients who had undergone curative partial hepatectomy in the Chiba University Hospital (Chiba, Japan). We assessed mRNA expression levels of CXCR3 and its ligands (CXCL9, CXCL10, CXCL11) for Th1 tumor infiltrating lymphocytes by real-time quantitative RT-PCR. Foxp3, CCR4 and its ligands (CCL17, CCL22) mRNA was also examined. T cell infiltration in HCC was assessed by immunohistochemistry using anti-human CD4, CD8, and Foxp3 antibody. Analysis of correlation among tumor-infiltrating lymphocyte, each chemokine mRNA, and clinicopathological features were performed.

Results: Tumor infiltrating cells were seen in various degrees in HCCs. The mRNA expression of CXCR3 and CXCR3 ligands (CXCL9, CXCL10, CXCL11) in HCC were lower than non-tumorous tissues. On the other hand, mRNA of CCR4, Foxp3, and CCR4 ligands (CCL17, CCL22) in HCC expressed significantly higher than non-tumorous tissues. Immunohistochemical analysis showed that the tumor infiltrating lymphocyte predominantly considered CD8+ T

lymphocytes. The number of Foxp3+ Treg cells that had infiltrated in HCC was significantly higher than non-tumorous tissues. Significant close correlations were observed between the number of total infiltrating lymphocytes in these HCC and the expression of CXCL11 mRNA. The number of infiltrating Foxp3+ Treg cells correlated with CCL17 and CCL22 mRNA expression in HCC. Further, higher gene expression of CCL22 in HCC was significantly correlated with longer disease free survival and overall survival after tumor resection.
Conclusion: These results indicate that increased gene expression of CCL22 may be a major factor for Treg infiltration and that may be a predictive marker for prognosis of HCC.

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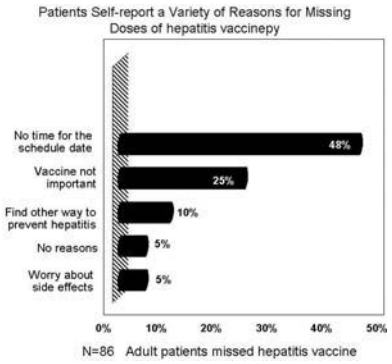
FIBROSING CHOLESTATIC HEPATITIS C AND VIRAL CLEARANCE IN THE POST TRANSPLANT SETTING: A REPORT OF 3 CASES
S. Moole, MD, T. Riley, MD, J. Liang, MD, I. Schreibman, MD. Division of Gastroenterology, Hershey Medical Center, Hershey, PA.
Purpose: Hepatitis C (HCV) is the leading indication for liver transplantation(OLT). HCV recurrence after OLT is universal. Fibrosing cholestatic HCV(FCH) is a severe form of HCV characterized by high viral loads, transaminitis & hyperbilirubinemia.
Methods: We describe 3 cases that underwent OLT for HCV. After immunosuppression was minimized, all 3 developed severe transaminitis with jaundice as well as loss of circulating HCV.
Results: Case1: 15 months after OLT, 53-yr-old male developed acute rise in LFTs(AST 295;ALT 209;ALP-734;T.Bili 1.8) with HCV RNA > 7 log IU/cc). Liver biopsy(Bx) was consistent with FCH. Antiviral therapy was started with PEG-Interferon(IFN) and Ribavirin(RBV). Complete viral clearance was noted. Despite viral clearance, the patient succumbed to hepatic decompensation. Case2: Three months after OLT, 44-yr-old male developed recurrent HCV with elevated LFTs and was started on IFN and RBV which was discontinued at 6 months due to depression. 12 months later, he was placed on Infergen. 22 months into therapy, an acute, severe transaminitis with jaundice was noted (ALT-252; AST-452; T.Bili-7.2). Bx showed interface hepatitis and canalicular cholestasis consistent with overlap features of rejection and FCH. A repeat HCV RNA was undetectable at <550 IU/ml. 5 years later, his HCV RNA is undetectable. Case3: 47-yr-old female with HCV and hepatocellular carcinoma underwent OLT. At 24-months post OLT, she developed a minimal transaminitis; bx was consistent with recurrent HCV. Immunosuppression was lowered and she subsequently developed major transaminitis associated with jaundice (ALT-1095; AST-1320; ALP-298; T.Bili-13.5). Bx showed interface hepatitis and fibrosis compatible with FCH. Immunosuppression was further lowered. A repeat HCV PCR was negative and viral load was undetectable. Antiviral therapy was not initiated due to spontaneous viral clearance. Despite viral clearance, she developed decompensated liver disease from advanced fibrosis and succumbed to her condition while awaiting re-transplant.
Conclusion: FCH is an uncommon but well described entity in immunosuppressed patients with HCV. A high index of suspicion and expert pathology review when encountered with cholestatic labs and high viral loads in post transplant patients is key to the early diagnosis and management of this serious yet potentially reversible condition. The unifying feature of these three patients is that all cleared HCV after a marked transaminitis when immunosuppression was lowered. This may indicate a robust immune response leading to viral clearance similar to what is seen in cases of acute Hepatitis B.

P108

OUTCOMES OF CHEST TUBE INSERTION FOR HEPATIC HYDROTHORAX
E. S. Orman, MD, A. S. Lok, MD. Department of Internal Medicine, University of Michigan, Ann Arbor, MI.
Purpose: Accepted management of hepatic hydrothorax includes sodium restriction and diuresis, followed by thoracentesis and transjugular intrahepatic portosystemic shunting (TIPS) for refractory cases. Case studies have reported a high rate of complications associated with chest tube placement. We describe the in-hospital as well as 3-month outcomes of patients who have had this procedure for hepatic hydrothorax.
Methods: A retrospective chart review was performed of all patients admitted to a tertiary care center over a 10-year period with a chest tube placed for hepatic hydrothorax. Patients with other pulmonary disease and those with previous liver transplants were excluded. Baseline demographic data were collected. Outcomes during the index admission and in the subsequent three months were analyzed.
Results: 17 patients were identified. The mean age was 55, and 41% were men. Cirrhosis was due to hepatitis C in 8 (47%) patients and alcohol in 5 (29%). On admission, 12 (70%) patients were taking diuretics, and 8 were taking multiple diuretics. Median MELD score was 14 (7–34). 15 (88%) had hyponatremia, and 7 (41%) had renal insufficiency. During hospitalization, 16 (94%) of the patients had at least one complication, and 12 (70%) had more than one. The most common complications were renal failure, defined as a creatinine increase of at least 0.5 mg/dl (in 11 patients, with 1 requiring hemodialysis), pneumothorax (7), and empyema (5). Two patients died during the index admission. Five had TIPS placement during the index admission; of these, 2 required thoracentesis after discharge, and one died. Two patients required repeat chest tube during the index admission; both survived to discharge but died within 3 months. Of the remaining 8 patients who survived to discharge, 2 required TIPS at a later date, and both survived, while 1 of the 6 patients who did not have TIPS died. In total, 6 (35%) patients died within 3 months of the index admission. Six (86%) of the 7 patients who received TIPS survived. Only 1 of the 3 patients who required repeat chest tube survived.
Conclusion: Chest tube insertion for hepatic hydrothorax carries significant morbidity and mortality, with questionable benefit.

P109

A STUDY OF NON COMPLIANCE WITH HEPATITIS VACCINE IN PATIENTS WITH CHRONIC HEPATITIS B OR HEPATITIS C
C. Pan, MD. Mount Sinai Services at Elmhurst Hospital, Mount Sinai School of Medicine, Flushing, NY.
Purpose: The management of patients with chronic hepatitis B (CHB) or hepatitis C (CHC) has become a great challenge. Giving hepatitis vaccine to those with no immunity to hepatitis is the standard of care in these patients. Initial vaccination is accepted by such patients, some are considered to be noncompliant with the subsequent dose of the vaccine. We studied self-reported reasons for non compliance with hepatitis vaccination among patients with CHB or CHC
Methods: A survey for patients with CHB or CHC who have missed the subsequent dose of vaccine for hepatitis A or B or both was undertaken. A survey instrument was developed. This survey was sent to the patients who failed to comply with vaccination schedule despite the reminders by telephone calls and letters.
Results: Among 127 patients who did not complete hepatitis vaccination after the initial dose, 86 responded (response rate = 68%). These included 53 males, and the mean age was 38 years (19-56). 65 patients were CHB and 21 were CHC. 75 patients (87%) had insurance coverage during the vaccination schedule. 79 were treatment naïve and 8 were on treatment for CHB. 53 patients did not return for follow up appointment after the first dose of vaccine. The reasons reported by the respondents of non compliance with vaccination are the followings: 48% reported no time for the schedule date, 25% reported healthy and vaccine was not important, 18% believed not at risk for other hepatitis due to life style changes or had their own ways to prevent other hepatitis, 10% were not aware of the need for subsequent vaccine, 5% had no reason, 5% were worried about the side effects, 4% were afraid of more blood tests, 3% wanted to wait until they had insurance or money.
Conclusion: Since the most common reason for non compliance was unable to accommodate vaccination schedule, providing a flexible schedule like two or three alternative vaccination dates might improve the compliance. In addition, further efforts should be made to educate patients for the importance of vaccination in chronic hepatitis and change their perceptions. Future studies are needed to develop and test the effectiveness of educational materials which may further improve patients' compliance.



P110

PREVALENCE OF HCV AND RISK OF HCV ACQUISITION IN HEPATITIS C SCREENING PROGRAMS IN ASIAN COMMUNITY IN NEW YORK CITY
C. Pan, MD,[1] K. Hu, MD,[2] C. Ding, BS,[3] E. Cheung, MD[4]. 1. Mount Sinai Services at Elmhurst Hospital, Mount Sinai School of Medicine, Flushing, NY; 2. Gastroenterology and Hepatology,, University of California, Irvine, Orange, CA; 3. Stony Brook University, Long Island, NY; 4. Gastroenterology and Hepatology, UC Davis School of Medicine, Davis, CA.
Purpose: Hepatitis C virus infection (HCV) has become a global public health problem. It is estimated that the overall prevalence of HCV infection is 1% to 2 % in most countries, but it varies geographically. A national survey in China found 3.2% or 38 million people, had HCV infection. In the US, Chinese immigrants represent the largest segment of Asian Americans (AA), but the prevalence of HCV and risk factors in AA are still unclear. This study is to evaluate the HCV seroprevalence rate in Asians residing in New York City (NYC), the risk factors associated with HCV infection in this population.
Methods: The survey and test reports were reviewed on a screening program conducted by Tzu-Chi Foundation in 2006 in Asian community in NYC with collection of 200 Asian individuals who had consented, and subsequently tested for HCV-Ab. Prior HCV-infected individuals were excluded.
Results: Of 200 persons screened, 135 (67.5%) were female, 3 were found to have positive HCV antibody and 1 had intermittent antibody. HCV RNA PCR used to confirm HCV infection in 3 of the above individuals. The infection rate in this screening was 1.5% with a mean age of 42.5. Prior to screening, self report HCV risk factors are shown on Table 1. All infected individuals were foreign born, annual income less than $30,000 and 66% had health insurance. The only risk factor identified in the infected individuals was blood transfusion prior to 1992.
Conclusion: This study suggested that the prevalence of HCV infection in the Asian community may be close to those in the general population. However, most common risk factors reported by screened individuals were tattoos or body piecing, followed by blood transfusion. While injection drug use has been highlighted as one of the most important risk factors in contracting HCV in the U.S., it appears not to be the common risk factor to the Asian community. Foreign born Asians with lower income levels and identifiable risk factors may be the better target for screening of HCV in the Asian community. Larger scale screening is needed to verify the above findings.

Table 1. Self-reported risk factors for the acquisition of HCV infection

Factors	Tattoos/Piecing	Blood Transfusion	Family HCV	Multiple sex partners	IV Drug Users	Nosocomal/occupational
%	9.45	6.50	4.98	2.49	0	0

P111

A SINGLE U. S. CENTER EXPERIENCE WITH DAILY HIGH DOSE CONSENSUS INTERFERON AND RIBAVIRIN IN HEPATITIS C PATIENTS WHO ARE RESISTANT TO PEG-INTERFERON AND RIBAVIRIN

K. D. Rothstein, MD, R. Koka, MD, H. Hargrove, PA, A. Fernandez, MD, S. Singh, MD, V. R. Araya, MD, S. J. Munoz, MD. Hepatology, Albert Einstein Medical Center, Philadelphia, PA.

Purpose: The majority of nonresponder and relapser patients with chronic hepatitis C are unable to achieve a sustained virologic response (SVR) with the combination of PEG-Interferon (PEG-IFN) and ribavirin (RBV), especially those who have genotype 1 and advanced disease. Consensus interferon (Interferon alfacon-1, CIFN) is a bio-optimized alfa interferon that exhibits increased in-vitro antiviral activity than the naturally occurring alfa interferons 2a and 2b. Improved response rates have been reported with high-dose CIFN therapy and RBV for patients who have failed to respond to PEG-IFN / RBV. This study will evaluate the efficacy and safety of high-dose daily CIFN and RBV in HCV patients who failed therapy with PEG-IFN / RBV.

Methods: Patients who had been treated with PEG-IFN/ RBV for HCV but did not obtain a SVR were eligible for treatment if they tolerated their previous treatment with PEG-IFN / RBV. Patients were given 27 ug of CIFN daily and RBV 400 mg BID during the first four weeks, followed by 18 ug daily and ribavirin 400 mg BID daily for the next eight weeks. At 12 weeks, CIFN was decreased to 15 ug daily while RBV was increased to 1,000-1,200 mg daily for 36 weeks.

Results: Fifty patients were enrolled in the study, 72% male with a mean age of 50 years old. 96% had genotype 1. 22% of patients had stage 2 fibrosis. 60% had stage 3-4 fibrosis, of which 44% of patients had cirrhosis. 76% of patients were nonresponders. 38 patients (76%) achieved an early virologic response (EVR) while 25 patients (50%) were undetectable at 12 weeks. 16 patients (52%) were undetectable at 24 weeks and 20 patients (40%) achieved an End-of-Treatment response (EOT). In an Intention to treat analysis (ITT) of the 50 patients who have completed 72 weeks of treatment, 20 patients achieved an EOT (40%) while 6 of these patients (12%) have achieved a Sustained Virological Response (SVR). Therefore, the relapse rate was 70%. Growth factors were used in over 40% of patients with corresponding dose reductions in 20%.

Conclusion: For HCV patients with advanced histologic disease who had previously failed therapy with PEG-IFN and RBV, the combination of high-dose CIFN and RBV is a well-tolerated and effective option. 12% of patients achieved a SVR. This SVR rate was limited by an extremely high rate of relapse. This relapse rate was similar to that seen in the DIRECT trial. It confirms the need for nonresponder studies with both higher doses of RBV and longer duration of treatment with CIFN in order to reduce the rate of relapse.

HCV RNA Viral Load	WK 12	WK 24	WK 48	WK 72
>2 LOG DECREASE	76%	----	----	----
UNDETECTABLE	50%	52%	40%	12%

Disclosure - Dr. Rothstein-Speakers Bureau:Three Rivers, Roche, Schering-Plough Dr. Munoz-Speakers Bureau:Three Rivers, Roche, Schering-Plough Dr. Araya-Speakers Bureau: Roche

P112

SUCCESSFUL TREATMENT OF HEPATITIS C WITH SUBSEQUENT REMISSION OF WALDENSTROM'S MACROGLOBULINEMIA: A CASE FOR ANOTHER EXTRAHEPATIC MANIFESTATION OF HEPATITIS C

K. D. Rothstein, MD,[1] D. Denny, MS 3,[1] O. Olugbesan, MD,[3] R. Restrepo, MD,[1] J. C. Leighton, MD[2]. 1. Hepatology, Albert Einstein Medical Center, Philadelphia, PA; 2. Oncology, Albert Einstein Medical Center, Philadelphia, PA; 3. Medicine, Albert Einstein Medical Center, Philadelphia, PA.

Purpose: Waldestrom's Macroglobulinemia (WM) is a rare cancer involving lymphocytes with fewer than 1,500 cases occuring in the United States annually. The median onset of WM is between 60-65 years of age. WM is classified by swollen lymph nodes, anemia, decreased levels of fibrinogen in the blood, neoplastic plasma cells in the bone marrow, and an increased viscosity of the blood due to an increased level of macroglobulins. A distinguishing feature of WM is the presence of the IgM monoclonal protein that is produced by the cancer cells and a decrease in levels of uninvolved immunoglobulins (Ig A and IgG). There have been conflicting studies with regards to an association between WM and Hepatitis C infection. We describe a 57 year old male who was diagnosed with WM as a result of his evaluation for Chronic Hepatitis C. Physical exam was significant only for mild splenomegaly. His initial evaluation revealed a Hepatitis C infection due to Genotype 1a with a HCV RNA of >1,000,000 copies/ml. The Rheumatoid Factor was strongly positive at 7,035 iu/ml. Total globulin was elevated at 5.4 g/dl. An IgM Kappa Monoclonal Protein detected on SPEP and his baseline IgM was 2,620 mg/dl. ANA was negative. An Oncologic evaluation was significant for hyperviscosity. A bone marrow biopsy revealed lymphoplasmocytic infiltrates consistent with WM. A liver biopsy was significant for Chronic Hepatitis C with grade 3 inflammation and stage 3 fibrosis. He underwent 48 weeks of treatment with 3 million units of Interferon-alfa 2b SQ thrice weekly and 1,000 mg of Ribavirin daily. He had an early virologic response and went on to obtain a sustained virologic response. His total globulin was back to normal (3.4 g/dl) at the end of treatment and the IgM was down to 904 mg/dl. The viscosity also returned to normal along with reversal of splenomegaly. It has now been over 5 years since treatment of his Hepatitis C was stopped - he remains in remission from both Hepatitis C and Waldenstrom's Macroglobulinemia. This case clearly supports the relationship between Hepatitis C and Waldenstrom's Macroglobulinemia since successful treatment of Hepatitis C subsequently resulted in a cure of Waldenstrom's Macroglobulinemia. Waldenstrom's Macroglobulinemia should be added to the list of extrahepatic manifestations of Hepatitis C.

Disclosure - Dr. rothstein-Speakers Bureau:Three Rivers, Roche, Schering-Plough

P113

DIGITAL IMAGE ANALYSIS OF ENDOSCOPIC IMAGES OF DIMINUTIVE POLYPS: DIFFERENTIATING ADENOMATOUS POLYPS FROM HYPERPLASIC POLYPS

2008 ACG Presidential Poster Award Recipient

A. Das, MD, FASGE, F. Li, MD, S. R. Gurudu, MD. Mayo Clinic, Scottsdale, AZ.

Purpose: Endoscopic digital images contain rich information on texture and color. There is increasing interest in differentiating tissue pathology based on the patterns of color and texture features of endoscopic images extracted by digital image analysis (DIA). Objective: In this study, we applied techniques of DIA to endoscopic images of diminutive polyps in order to identify the color and texture features of endoscopic images that may differentiate adenomatous polyps from hyperplastic polyps.

Methods: Methods: Our endoscopic image database was searched to retrieve and store digital images of diminutive polyps with diagnosis confirmed by histopathology. Texture analysis was performed on multiple regions of interest (ROIs) digitally selected in these images using the MatLab image processing toolbox; the following texture parameters were extracted: histogram (first order statistics) run-length and co-occurrence matrix (measuring features of runs of pixels and distribution of pairs of pixels), gradient analysis (spatial distribution of pixels), auto-regressive analysis (measurement of local interaction amongst pixels of different grey level values) and also wavelet analysis (which measures parameters of spatial frequency). Principal component analysis (PCA) was used for data reduction, and an artificial neural network (NN) based predictive model was built, trained and validated using the extracted texture features for classification of adenomatous polyps from hyperplastic polyps.

Results: Results: A total of 110 and 109 ROIs were selected from endoscopic images of 30 and 28 patients with diminutive adenomatous and hyperplastic polyps, respectively. The sensitivity and specificity of the multilayered perceptron neural network classification model were both 82% with an area under the receiver operating characteristic (ROC) curve of 0 .87. Three types of features of pixel distribution had high discriminatory power: Kurtosis (measure of the steepness of the pixel distribution), angular second momentum and horizontal and vertical grey level non-uniformity (parameters estimating the second order joint conditional probability density functions of spatial distribution of two neighboring pixels)

Conclusion: Conclusion: Results of this exploratory study suggest that the technique DIA may be a clinically useful adjunct for non-invasive automated diagnosis of diminutive colon polyps, particularly if available as a real-time application.

P114

IDENTIFICATION OF PROTEIN BIOMARKERS ASSOCIATED WITH LYMPH NODE METASTASIS IN COLORECTAL CANCER

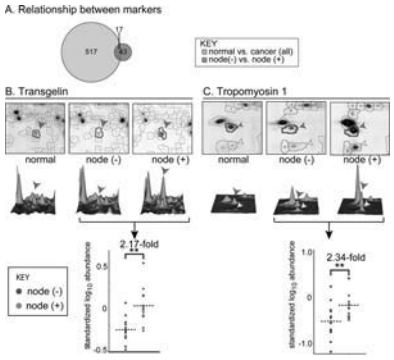
Y. Lin, MD,[1] J. R. Lee, MD,[2] P. F. Meeh, MS,[3] C. Farrell, BS,[3] P. Buckhaults, PhD,[3] R. H. Podolsky, PhD,[4] R. R. Schade, MD,[5] W. S. Dynan, PhD[1]. 1. IMMAG, Medical College of GA, Augusta, GA; 2. Dept. Pathology, Medical College of GA & VAMC, Augusta, GA; 3. South Carolina Cancer Center & Dept. Pathology & Microbiology, Univ. South Carolina, Columbia, SC; 4. CBGM, Medical College of GA, Augusta, GA; 5. Dept. Medicine, Medical College of GA, Augusta, GA.

Purpose: Lymph node metastasis is a key element in colorectal cancer (CRC) staging and thus patient management. Node status has shortcomings because it can only be ascertained post-surgically and is influenced by the number of nodes examined. We sought to identify proteins in primary tumors that are statistically and mechanistically linked to node status and might serve as surrogate biomarkers.

Methods: Comprehensive proteomic profiling was performed with matched cancer and normal mucosa (n=12 node-positive, 12 node-negative). Laser microdissected samples were analyzed by two-dimensional difference gel electrophoresis. About 1000 spots matched across >90% of the gels, providing ~45,000 derived protein abundance values. Significance Analysis of Microarray was used to identify spots that differentiate node-positive and node-negative samples or, separately, cancer and normal tissue overall. False discovery rate (FDR) thresholds were used to choose spots for mass spectrometry identification. Selected proteins were further investigated by immunohistochemistry (IHC).

Results: Application of a 15% FDR threshold revealed 43 (4.4%) spots differentiating node-positive and node-negative samples, compared to 517 (53%) differentiating cancer and normal overall. Surprising, there was no more overlap between these groups than would be predicted by chance (Fig. 1A). Transgelin, a regulator of actin polymerization, was the top-ranked marker differentiating tumors by node status, but did not significantly differentiate cancer and normal overall (Fig. 1B). Transgelin, which has not previously been reported as a marker of node status, is a direct target of TGF-β/Smad3-dependent signaling and mediates epithelial cell migration in vitro. IHC confirms elevation of transgelin in node-positive primary CRC samples and is currently being applied to a larger validation set. Other highly-ranked markers from this screen include a splice isoform of tropomyosin 1 (upregulated in node-positive, Fig. 1C), RACK1 (upregulated), and UDP-galactose-4-epimerase (downregulated).

Conclusion: Comparative proteomic analysis identifies candidate markers specific to node status, exemplified by transgelin, a novel marker mechanistically linked to epithelial cell migration.



P115

ORAL CYCLIC GUANOSINE MONOPHOSPHATE (CGMP) DESENSITIZES COLONIC AFFERENTS IN AN ANIMAL MODEL OF EXPERIMENTAL COLITIS

E. E. Ustinova, PhD,[1] A. P. Bryant, PhD,[2] T. L. Reza,[2] M. G. Currie, PhD,[2] M. A. Pezzone, MD, PhD[1]. 1. Medicine, University of Pittsburgh, Pittsburgh, PA; 2. Ironwood Pharmaceuticals, Inc., Cambridge, MA.

Purpose: Irritable bowel syndrome (IBS) is characterized by lower abdominal pain and/or discomfort in association with alterations in intestinal motility. Visceral afferent sensitization is thought to play a key role. Linaclotide, a novel, orally-administered agonist of guanylate cyclase-C receptors (GC-C) markedly increases intracellular and extracellular cGMP levels. Furthermore, linaclotide decreases visceral pain in animal models and reduced pain in an IBS-constipation study. To better understand these analgesic effects, we examined whether cGMP decreases pelvic afferent activity. The aim of this study was to explore the antinociceptive effects of cGMP in an animal model of colonic afferent sensitization.

Methods: Colonic sensitization was produced in female Sprague-Dawley rats by intra-rectal administration of trinitrobenzesulfonic acid (TNBS). Responses of colonic afferents to colonic distension (CD), capsaicin (CP, 0.1-5.0 µg), and Substance P (SP, 0.1–10 µg) were tested before and 30 min after intra-duodenal administration of cGMP (30 mg/kg) either 1 hour (n=8) or 8-10 days post-TNBS (n=8) and were compared to intra-rectal saline controls (n=12). Afferent activity was recorded in fibers sensitive to CD and CP from the fine bundles of the right pelvic nerve. Resting activity represented maximal activity recorded 1 min before each intervention. Changes in afferent activity calculated as number of impulses per minute were expressed as percent change from the resting firing rate.

Results: In intra-rectal saline controls, cGMP slightly increased baseline afferent firing rates but had no effect on the afferent response to CD or CP. The increase in afferent firing rates produced by SP, however, was significantly attenuated by cGMP (148 ± 34% vs. 989 ± 391%, $p<0.05$). One hour after colonic irritation, basal afferent activity was increased and not affected by cGMP; their responses to CD, CP (493 ± 233% vs. 1846 ± 569%, $p<0.05$), and SP (267 ± 65% vs. 964 ± 294%, $p<0.05$), however, were all significantly attenuated. Afferent responses to CD (>30 mm Hg) and cGMP measured 8-10 days after TNBS were similar to those recorded acutely. Afferent responses to SP were significantly reduced by cGMP 8-10 days after TNBS (255 ± 63% vs. 455 ± 58%, $p<0.05$), while responses trended towards normalization in response to CP.

Conclusion: Oral cGMP reduced the response of sensitized pelvic afferent neurons in rats to different stimuli, particularly those chemically responsive to SP. These findings suggest that the production and secretion of cGMP elicited by oral linaclotide may explain the activity of linaclotide on visceral pain. Additional studies are needed to further characterize the role of cGMP in attenuating afferent responses to noxious stimuli.

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P116

'TIME TO CHANGE': UTILIZATION OF MONITOR MOUNTED TIMERS TO IMPROVE WITHDRAWAL TIME DURING THE PERFORMANCE OF COLONOSCOPY

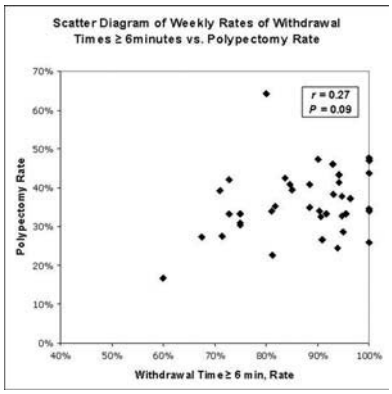
K. Weiser, MD, MPH, A. Toor, MD, P. Anderson, MD, M. Flynn, BA, L. Butterly, MD, D. Robertson, MD, MPH, K. Homa, PhD. Gastroenterology, Dartmouth Hitchcock Medical Center, Lebanon, NH.

Purpose: Little is known about how to change practice to achieve withdrawal times (WT) recommended by current guidelines. Our Section's previous attempts to improve performance in this area —by providing the endoscopist post-procedure feedback on WT— resulted in initial success but results were not sustained. The aim of this study was to determine whether intra-procedure feedback of WT, through the use of a timer, could lead to a sustained change in that measure.

Methods: Over a two month period, nurses identified all patients receiving a screening colonoscopy and recorded baseline WTs without endoscopist knowledge. Subsequently, a timer was placed on all endoscopy monitors and all WTs for screening colonoscopies were tracked. The main outcome of interest was overall sectional withdrawal time (observed over 23 weeks) comparing post timer intervention to baseline withdrawal times. A secondary outcome of interest was overall sectional polypectomy and adenoma detection rate (determined by chart review) comparing the same two periods as our main outcome measure. Statistical significance determined using chi2 and one-sided Fisher exact test.

Results: 104 screening colonoscopies were used to establish baseline performance. The mean WT was 7 minutes 19 seconds (± 3:08 min). 58/104 colonoscopies (55.8%) had WT ≥6 minutes. Following the initiation of timers, 528/566 (93.3%) with WT ≥ 6 min, Chi2, $p<0.001$. Mean WT was 8 minutes 9 seconds (± 2:15 min). There was a trend towards improved polyp find rate ($p=0.09$) No change in adenoma detection rate was noted. Adenoma detection rate in women, pre-intervention was 17.2%, and post intervention was 18.3%. Adenoma detection in men, pre-timer was 28.4% and post-timer was 30.4%.

Conclusion: Real time, intra-procedure feedback improved performance resulting in a significantly greater number of exams having WT≥6 minutes. The active, force-functioned, timer intervention resulted in sustained change in WT unlike prior passive education intervention and feedback which we had previously tried. Adherence to guidelines, even in a high performing endoscopy center, may result in higher polyp find rates and adenoma detection rates, but this needs further study.



P117

SESSILE SERRATED ADENOMAS: DEMOGRAPHIC, CLINICAL AND ENDOSCOPIC CHARACTERISTICS IN A PATIENT POPULATION

S. R. Gurudu, MD,[1] E. Heigh, BS,[2] R. I. Heigh, MD,[1] G. De Petris, MD,[1] J. A. Leighton, MD,[1] S. F. Pasha, MD,[1] I. Malagon, BS,[1] A. Das, MD[1]. 1. Mayo Clinic Arizona, Scottsdale, AZ; 2. Arizona State University, Phoenix, AZ.

Purpose: Hyperplastic polyps (HP) have usually been regarded as lesions with no malignant potential. However, a variant of HP with malignant potential called "sessile serrated polyp/adenoma (SSA)" is increasingly being recognized. Clinical characteristics of these polyps are not well known and there is no published practice guidelines regarding management of these polyps. We aimed to study demographic, clinical and endoscopic characteristics of patients with SSA.

Methods: Patients with SSA were identified by review of the pathology data base of Mayo Clinic Arizona from 2005 to 2007. Patient charts were reviewed for data on demographics and colonoscopies. Data on endoscopic characteristics of polyps, polypectomy methods used, synchronous adenomatous polyps or cancers, complications from polypectomy were collected and analyzed.

Results: Among patients undergoing colonoscopy, a total of 5991 patients were found to have polyps . Of these 171 (2.9%) patients had a total of 226 SSAs. Patients with SSAs were mostly white (164, 96%) with mean (SE) age of 65.9 (0.8) years. Ninety one patients were men (53%). The mean size of the SSAs were 8.1 (0.4) mm (range 2- 40 mm); 42% were 5 mm or less in size and 69% were 9 mm or less in size. Fifty-one per cent of SSAs were located in the cecum or ascending colon. All SSAs were sessile or flat in appearance. The mean (SE) number of polyps per patient was 3 (range 1-24). Approximately half (87, 51%) of the patients had synchronous polyps of other histological types. The commonest type of associated pathology in these synchronous polyps were tubular adenoma in 62 (49%) polyps, tubulovillous adenoma in 13 (10%) polyps and hyperplastic polyps were present in 50 (40%) polyps. Interestingly, synchronous adenocarcinoma was present in 7 (4%) cases and all these cancers were present in the cecum or ascending colon. Ninety seven percent of polyps were removed by colonoscopy and 2.7% required surgical excision. There was no complication associated with endoscopic resection of these polyps. The histopathology was consistent with typical SSA in 184 polyps (81%); 6.6 and 12% polyps were reported to have mixed features with adenomatous or hyperplastic components, respectively.

Conclusion: Among patients with colon polyps, 2.9% of patients found to have SSAs in our study population. Most of SSAs were located in the right side of the colon and were safely managed by colonoscopy. Synchronous lesions including adenomas and right sided colon cancers were not uncommon. Forty two percent of SSAs were less than 5 mm and 69% of SSAs were less than 9 mm in our study, and these polyps may not be detected or reported by CT colography.

P118

WHEAT DEXTRIN, PSYLLIUM, AND INULIN PRODUCE DISTINCT SHORT-CHAIN FATTY ACID (SCFA) PROFILES, FERMENTATION PATTERNS, AND GAS VOLUMES IN VITRO

D. A. Timm, BS,[1] M. Stewart, MS,[1] A. Paredes-Diaz, Ph D,[2] A. Hospattankar, MS, Ph D,[2] V. Savarino, MD,[3] J. Slavin, Ph D[1]. 1. Food Science and Nutrition, University of Minnesota, St. Paul, MN; 2. Medical Affairs, Novartis Consumer Health, Parsippany, NJ; 3. Internal Medicine, Gastroentrology Unit, Genoa, Italy.

Purpose: Bacteria in the gut ferment dietary fiber to produce gas and SCFAs mainly acetate, propionate, and butyrate. Too much gas in the gut is undesirable, resulting in distension, pain, and flatulence. SCFAs decrease the pH of the intestinal lumen, which may enhance mineral absorption and optimize the microflora. The current study was undertaken to examine the relationship among fermentation patterns, pH, gas volume, hydrogen concentration, and SCFAs with wheat dextrin (WD), psyllium (PS) and inulin using an in vitro fermentation system.

Methods: Estimation of fiber fermentation was done using an established in vitro fermentation method. Three fibers were compared: WD, PS, and inulin. Fibers were inoculated with human feces pooled from donors. A control treatment with no added fiber was used. Glucose served as a positive control. All treatments were run in triplicate and time points of 0, 4, 8, 12, and 24 hours were chosen to observe pH, gas volume, hydrogen concentration, and SCFA production. For all measurements ANOVA and Tukey's studentized range test were performed using SAS 9.1.

Results: All fiber treatments had a significantly lower pH than the control at hour 4 (P=0.0001). Between hours 4 and 8, pH dropped dramatically for inulin, while the pH of PS and WD decreased steadily through out the entire fermentation. At hour 24, the pH of WD and inulin were significantly lower than PS (P=0.0001). Inulin had the only substantial gas volume prior to hour 8. In all, inulin produced the highest volume of gas and PS the lowest (P=0.0001). Inulin also had the highest hydrogen concentration at hours 8, 12, and 24 (P=0.0001). In contrast, hydrogen concentrations of PS and WD did not vary from the control at hours 4, 12, and 24. The highest amount of total SCFAs at 24 hours was produced by WD with PS having the lowest (P=0.0013). The amount of acetate produced was similar for all fibers. Propionate production was highest in WD, while inulin created the most butyrate. Variations in the SCFA ratios were observed. The proportion of acetate, propionate, and butyrate for inulin (46:27:27) was different from PS (42:43:15), and WD (40:49:11) at 24 hours.

Conclusion: Overall, an inverse relationship was observed between SCFA production and pH with all three fibers. A direct association between total SCFA production and gas volume was seen with inulin alone. The rate of fermentation for inulin was faster and peaked between 4 and 8 hours as compared with PS and WD, which had peak fermentation rates between 8 and 12 hours. Differences in fermentation rate, gas production, and SCFA formation among WD, PS, and inulin may affect their tolerability and have therapeutic implications in digestive conditions, especially in the distal colon.

Disclosure - Alberto Paredes-Diaz - employee: Novartis Consumer Health, Inc. Ashok Hospattankar - Associate Director, Medical Affairs: Novartis Consumer Health, Inc.
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P119

RISK FACTORS OF PATIENTS WHO HAVE ONLY PROTRUDED ADENOMAS VERSUS THOSE WITH ONLY FLAT ADENOMAS

J. C. Anderson, MD,[1] B. Stein, MD,[2] C. J. Kahi, MD,[3] R. Rajapakse, MD,[2] Z. A. Alpern, MD[2]. 1. Gastroenterology, University of Connecticut, Farmington, CT; 2. Gastroenterology, Stony Brook University, Stony Brook, NY; 3. Gastroenterology, Indiana University, Indianapolis, IN.

Purpose: Identifying patients at risk for Flat Adenomas may aid in the detection of these lesions. Our goal was to determine the risk factors for Flat Adenomas in a diverse cohort of patients undergoing screening colonoscopy. We proposed to do this by comparing the risk factors of those patients who had only Flat Adenomas with those who had only Protruded Adenomas.

Methods: Consenting asymptomatic patients >40 yrs presenting for screening colonoscopy were prospectively enrolled. We collected age, gender, height, weight, education, family history of CRC, smoking history, meds (NSAID,HRT,insulin, Ca,statin), medical history, ETOH use, exercise/physical activity and a detailed 5 yr dietary history. A single endoscopist used an Olympus High Definition Colonoscope (170 deg FOV and 1080i signal)with an 8 minute withdrawal time. Polyps were photo-documented next to snare catheter for in-vivo size measurement and retrieved for histology and pathology size. Morphology was assessed using the Japanese Research Society Classification (JRSC). Polyps were classified into Flat Adenomas (lesions whose height was < 1/2 its diameter) or Protruded Adenomas. Patients were divided into 3 smoking categories: 1)Never smoked 2) Heavy Exposure: smoking >/= 20 pack yrs and still smoking or quit in past 10 yrs 3) Low Exposure: those who smoked < 20 pack yrs or quit > 10 yrs ago. We defined significant sized polyps as those that were > or = 6 mm because of the importance of this size in malignant potential as well as ease of morphological assessment. We excluded patients with small (<6 mm) adenomas as well as those patients with both Protruded and Flat Adenomas. Analysis was performed comparing those with only Protruded Adenomas or those with only Flat Adenomas to those without adenomas as controls.

Results: 600 patients (351 females/ 249 males) from 12/06 to 10/07 were screened. We detected adenomas in 217 patients and thus 383 patients with no adenomas were the controls. After excluding those with adenomas < 6 mm as well as those who had both Protruded and Flat Adenomas, 79 patients remained for analysis. 50 patients had only Flat Adenomas that were > or = to 6 mm and 29 patients had Protruded Adenomas that were > or = to 6 mm. The mutivariate analyses comparing each group to the 383 patients without adenomas are shown in the table.

Conclusion: Smoking was more likely to be a risk factor for patients with only Flat Adenomas. Those who only had Protruded Adenomas were more likely to be male and have a family history. Obesity was a risk factor for both subgroups. These data have implications for screening. For example, if it shown that chromoendoscopy with high definiton colonoscopes increases the yield of Flat Adenomas, smokers may require this method for screening.

Risk Factors for Patients with Only Flat Adenomas Versus those with Only Protruded Polyps

	Protruded Adenomas (>or=6mm) Only n=29	Flat Adenomas(>or=6mm)Only n=50	No Adenomas n=383
BMI>30	OR=2.21(1.03-4.75) n=13	OR=2.32(1.27-4.22) n=23	1.0 n=103
Family History	OR=5.40(1.61-18.22) n=4	OR=1.41(0.30-6.55) n=2	1.0 n=11
Smoking >/= 20 pack years	OR=1.97(0.80-4.87) n=8	OR=4.52(2.27-8.97) n=22	1.0 n=59
Male	OR=3.26(1.48-7.21) n=19	OR=1.35(0.74-2.45) n=22	1.0 n=141

P120

BODY WEIGHT IS AN INDEPENDENT RISK FACTOR FOR CALCIUM PHOSPHATE NEPHROPATHY WITH SODIUM PHOSPHATE COLONOSCOPY PREPARATION. A SIMULATION STUDY

E. D. Ehrenpreis, MD,[1] K. Varala, BS,[2] B. Hannon, PhD[2]. 1. Gastroenterology, Evanston/Northwestern Healthcare, Highland Park, IL; 2. Geography, University of Illinois, Urbana-Champaign, IL.

Purpose: Fleet Phospho-soda is a common colonoscopy preparation. A regimen involves the consumption of a total of 59.4 gm mono and dibasic sodium phosphate. An earlier pharmacokinetic study showed elevated levels of PO and a net calcium phosphate product (Ca x PO) higher than the crystallization coefficient (Ksp) after Fleet Phospho-soda. The normal Ksp for Ca x PO ranges from 60-65 g2/L2for a pH range of 5.0-7.5. Renal exposure in these conditions predisposes to calcium phosphate nephropathy.

Methods: Our group has developed a pharmacokinetic model using Stella (Isee Systems, Lebanon, NH). This icon-driven model simulates PO absorption, serum Ca and PO concentrations, renal phosphate uptake and resulting Ca x PO in the kidney. We investigated the effect of body mass, (hence the relational serum volume), on model parameters. Two patient groups were simulated in the model. Group I weighed 55 kg or lower and Group II weighed 100 kg and above. Simulations for 35-55kg for Group I and 100-120 kg for Group II were performed.

Results: Ca x PO exceeded Ksp after each dose in all subjects for varying lengths of time. Mean length of time for when Ca x PO was higher than Ksp was 1 hr after each dose in Group I, and 0.5 hrs only after second dose, in Group II. In all cases the peak concentration was reached 30-45 minutes after the dose was administered. Mean peak value of Ca x PO measured was 85 after dose 1, 90 after dose 2 in Group I and 54 after dose 1, 64 after dose 2 in Group II. Crystallization of Calcium phosphate, leading to formation of renal calculi, was modeled as random events occurring only while the Ca x PO remains higher than the Ksp. To test the frequency of crystallization in the two groups, simulation was run multiple times for each group. The mean number of runs resulting in crystallization of calcium phosphate in the kidney is 6.33 in Group I and 1.6 in Group II per 10 simulations. Crystallization events were observed in an average of 5 runs after first dose and an average of 6.33 runs after the second dose in Group I. Of the runs with crystallization after dose 1, additional crystallization was seen in 50% after dose 2.

Conclusion: These data suggest that assuming normal renal function individuals with lower body mass are at substantially higher risk for calcium phosphate nephropathy. Safe dosing of sodium phosphate colonoscopy preparations requires adjustment for body weight.

P121

COMPARISON OF GI TRANSIT PARAMETERS IN FUNCTIONAL/IDIOPATHIC VERSUS CONSTIPATION PREDOMINANT IRRITABLE BOWEL SYNDROME (IBS) PATIENTS ASSESSED BY WIRELESS PH/PRESSURE RECORDING CAPSULE

I. Sarosiek, MD,[1] S. Rao, MD,[3] H. P. Parkman, MD,[3] B. Kuo, MD,[3] W. D. Chey, MD,[3] J. DiBaise, MD,[3] R. Saad, MD,[3] J. Sarosiek, MD, PhD,[1] J. R. Semler, PhD,[2] R. McCallum, MD[1]. 1. Internal Medicine, Kansas University Medical Center, Kansas City, KS; 2. SmartPill Corporation, Inc., Buffalo, NY; 3. Multicenter Clinical Trial, SmartPill Team, Buffalo, NY.

Purpose: The SmartPill (SP) wireless pH/pressure recording capsule is utilized to assess gastric emptying (GET) small bowel transit time (SBTT) and colon transit time (CTT) in various GI motility disorders such as gastroparesis or chronic constipation (CC). Therefore, the aim of the study was to compare GET, SBTT, and CTT and whole gut transit time (WGTT) between two groups with chronic constipation: one group is diagnosed with functional (idiopathic) (FC) and another presents with IBS-C predominant symptoms, whereas a group of 39 healthy females served as the controls.

Methods: In a multicenter CC study 63 constipated subjects (55 F, 8 M mean age 49 (range 21-79) were enrolled based on their Rome II criteria. 45 (73%) were identified with functional constipation (FC) and 18 (27%) had IBS-C as an etiological factor. Fasting subjects swallowed the SP capsule immediately after eating a caloric breakfast (Smart Bar, 260 kcal).They were then equipped with a recording system and diary pages were given to capture meal and symptoms status for the duration of the study. The WGTT was measured from the time of ingestion of the SP until an abrupt loss of recording signal was observed. The time from ingestion to rise of pH exceeding pH 4.0 was defined as GET and a sudden drop of 1 pH unit >5 min was regarded as ileo-cecal (I-C) arrival time. By subtracting GET from I-C time, SBTT and subsequently CTT were calculated. Based on statistical analysis with Mann-Whitney Test results are presented as median and 25-75% range.

Results: The median WGTT in both CC groups was similar with 66h (43-97h) in FC group versus 65h (29-119) IBS-C population (p=0.958), which was significantly prolonged vs. normal female controls (p<0.05) The CTT was numerically but not statistically different between FC and IBS-C patients 45h (26-99h) versus 58h (20-108h) (p = 0.802) respectively, but significantly slower then for female normal subjects (p<0.05) The SBTT in these 2 groups of constipated patients was 4.3h (3-5) vs. 4.0h (3-4) (p=0.465) and similar to results in healthy female volunteers where SBTT is <5h. The GET in FC group 3.5ours (3-4h) was similar to and in IBS-C 3.4 hours (2-4h) (p=0.394) also within the normal limit for female controls (< 5 hours.

Conclusion: 1. From this study on chronic constipation in a female dominant population of patients, we conclude that WGTT and CTT are abnormally prolonged in both FC and IBS-C subgroups of CC while GET and SBTT remain normal and are similar in both groups. 2. Although pathophysiological concepts may be different regarding the two entities, the GI transit parameters, specifically WGTT and CTT findings do not separate these two etiologies of constipation.

Disclosure - Dr. McCallum-Advisory Committee Member: SmartPill Corporation, Inc.

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P122

THE CHARACTERISTICS OF SMALL AND DIMINUTIVE COLORECTAL POLYPS IN CAUCASIANS AND AFRICAN AMERICANS

S. Sharma, MD,[1] N. Verma, MD,[1] W. Wang, MD,[1] S. Gandhi, BS,[3] G. Guptill, BS,[3] V. Nannegari, MD,[1] A. Mapara-Shah, MD,[2] G. Brodsky, MD,[2] S. Richter, MD[2]. 1. Department of Internal Medicine, Albany Medical Center, Albany, NY; 2. Division of Gastroenterology, Albany Medical Center, Albany, NY; 3. Albany Medical College, Albany, NY.

Purpose: With the increasing availability of CT colonography, the clinical significance of small and diminutive polyps will become of increasing clinical importance. The ethnic differences in colorectal cancer incidences and rates have been previously identified in numerous studies, but fewer studies have examined the characteristics of colorectal polyps in an ethnic cohort. We sought to identify the racial distribution, advanced pathology, and prevalence of small and diminutive colorectal polyps as seen by conventional colonoscopy in an ethnically diverse cohort.

Methods: A retrospective review of all colonoscopies from July 2006 until June 2007. A total of 2951 colonoscopies were performed, 2881 had complete data. 1153 patients had colorectal polyps, after exclusion for incomplete anatomical location, age <18, IBD and polyposis syndromes; a total of 1037 patients had 1513 colorectal polyps. Advanced pathology was defined as polyps with high-grade dysplasia, >25% villous component, and carcinoma.

Results: The data was stratified by age and location; with average age for males being 56.9yrs, and female 58.2yrs. Males constituted 62.5% of all polyps evaluated. Of all the polyps studied, 43.1% were located in the proximal colon; with African Americans having 40.8% of their polyps in the proximal colon and Caucasians 44.2%. The overall prevalence of polyps was 30.5% and 28.8% in Caucasians and African Americans, respectively. Prevalence of polyps <10mm in size was 88.6% in Caucasians and 91.4% in African Americans. Diminutive polyps in Caucasians were 77.1% and in African Americans were 79.6%. Advanced pathology constituted 4.8% of all polyps evaluated. In African Americans, advanced pathology was 1.4% of polyps <10mm in size. In Caucasians, 2% of polyps <10mm contained advanced pathology; with 5 carcinomas noted in polyps <5mm in size.

Conclusion: Recent studies have demonstrated advanced pathology in small and diminutive polyps based on conventional colonoscopy. Out results demonstrate a clinically important number of small and diminutive polyps contain advanced pathology, and that there are ethnic differences in polyp distribution and pathology. The distribution, size and pathology of polyps <10mm in an ethnically diverse cohort must be evaluated in light of advances in CT Colonography for optimal screening, management, and prevention of colorectal cancer.

P123

PROSPECTIVE EVALUATION OF MISMATCH REPAIR PROTEIN EXPRESSION IN PRIMARY COLORECTAL CANCER

C. D. South, MD,[1] M. M. Yearsley, MD,[2] H. L. Hampel, MD,[3] W. L. Frankel, MD[2]. 1. Division of Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH; 2. Department of Pathology, The Ohio State University Medical Center, Columbus, OH; 3. Division of Human Genetics, The Ohio State University Medical Center, Columbus, OH.

Purpose: Immunohistochemical (IHC) stains for mismatch repair (MMR) proteins identify microsatellite unstable colorectal cancer(CRC) and help screen for Lynch Syndrome (LS). It has been suggested that CRC should be screened routinely for a MMR defect, but data are lacking on the practical application of this policy. We report our experience with the prospective evaluation of MMR protein expression in CRC.

Methods: All cases of primary CRC at a single institution were prospectively stained for the MMR proteins MLH1, MSH2, MSH6, and PMS2. Cases from outside institutions, biopsies, or metastatic resections were excluded. The stains were read by a GI pathologist and reported as absent or present protein expression. If a tumor exhibited absence of a MMR protein, the Genetics Program was informed. A genetic counselor then attempted to contact the patient to review the IHC result and offer consultation. Further testing was performed based on indication and patient preference with informed consent.

Results: From March 1, 2006 through October 31, 2007, 227 cases of primary CRC were diagnosed at our institution. Of these 16.3% (37/227) stained absent for one or two MMR proteins. All 37 individuals whose tumor stained absent for MMR proteins were successfully contacted by the clinical cancer genetics program. Of these 37 individuals 12 (32.4%) made an appointment with the clinical cancer genetics department. Six patients attended their appointment (6 cancelled). Five individuals underwent further genetic testing. One individual was found to have methylation of the MLH1 promoter. One was found to have a deleterious germline mutation of the MLH1 gene and one was found to have a deleterious germline mutation of the MSH6 gene. Reimbursement was obtained at a level similar to other IHC stains used in clinical practice.

Conclusion: IHC staining for MMR proteins is relatively easy to institute in the routine evaluation of CRC, does not lead to substantial additional testing, and is reimbursed at levels similar to other IHC stains. Furthermore, most patients are interested in testing and are willing to accept genetic counseling. Finally, a significant number of individuals can be identified with LS potentially leading to the early referral of at risk family members for high risk CRC screening/surveillance.

P124

MUC2 AND MUC5AC EXPRESSION IN ABERRANT CRYPT FOCI

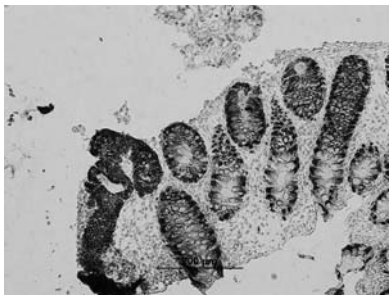
M. F. Tablang, MD,[1] C. Flynn, MD,[2] J. Levine, MD, PhD,[3] T. V. Rajan, MD, PhD[2]. 1. Internal Medicine, University of Connecticut Health Center, Farmington, CT; 2. Pathology, University of Connecticut Health Center, Farmington, CT; 3. Colon Cancer Prevention Program, University of Connecticut Health Center, Farmington, CT.

Purpose: Colorectal cancer is one of three most common cancers in the United States. The adenoma-carcinoma sequence is a widely accepted pathway to colorectal carcinogenesis. Recently, an alternative pathway has been recognized, based on the progression of colonic lesions with a serrated morphology. Alterations in mucin expression, particularly MUC2 and MUC5AC, have been identified in each of the steps in the serrated pathway, from serrated adenoma to mucinous carcinoma. The purpose of this study is to determine if dysregulated expression of MUC2 and MUC5AC occurs in aberrant crypt foci (ACF), the earliest lesions believed to participate in the serrated pathway.

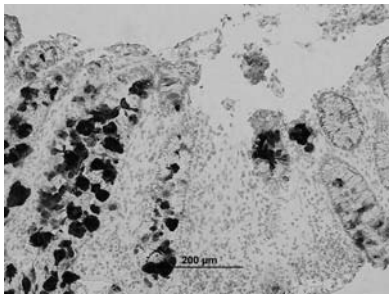
Methods: Immunohistochemical staining using antibodies for MUC2 and MUC5AC was performed on specimens of serrated ACF, distended ACF and normal crypts.

Results: MUC5AC expression was increased in all serrated ACF (15/15) compared to distended ACF (0/8) and normal crypts (0/7). MUC2 expression was seen in all crypts, but showed differential patterns of staining. MUC2 expression was diffuse in the cytoplasm in serrated ACF (0/0) while it was found predominantly at the base of the cells in distended ACF (8/8) and normal crypts (7/7).

Conclusion: MUC2 and MUC5AC are dysregulated in serrated ACF, the putative precursor of more advanced serrated lesions. These findings are a novel addition to the molecular modification already observed in ACF and reinforce the observation that alterations in mucin expression occur early in carcinogenesis and may serve as biomarkers.



MUC2 Staining in Serrated ACF



MUC5AC Staining in Serrated ACF

P125

THE YIELD OF REPEAT COLONOSCOPY FOR A POSITIVE FECAL OCCULT BLOOD TEST (FOBT) AFTER A PRIOR "CLEARED" COLONOSCOPY

B. Truta, MD, F. C. Ramirez, MD, FACG. Carl T. Hayden VA Medical Center, Phoenix, AZ.

Purpose: A positive FOBT triggers a colonoscopic exam in the majority of patients. Whether or not a colonoscopy should be still repeated after a positive FOBT once a prior "cleared" colonoscopy was performed, is controversial. Aim: To assess the yield of repeat colonoscopy in patients with positive fecal occult blood test and prior cleared colonoscopy.

Methods: The endoscopic reports of all colonoscopies performed at the VA Medical center between January 1998 and December 2007 were reviewed. Those with more than one colonoscopy, for which positive FOBT was at least one time indication, were first included; those patients with repeat colonoscopy for positive FOBT for reason of poor quality prep were excluded. We analyzed the results of the repeat colonoscopy and the factors associated with missed pathology using the information recorded in the electronic database.

Results: Of a total of 21,600 colonoscopies, 280 patients had more than one colonoscopy and had positive FOBT as of at least one-time indication. Of these, 27 (1%) were excluded because of poor quality preparation at the initial examination and 57 (22%) patients had repeat colonoscopy following a positive FOBT result. The findings in these 57 patients included: 3 (5%) with a newly diagnosed adenocarcinoma, and 19 (33%) with newly diagnosed adenomatous polyps. The average time interval between the colonoscopies was 4 years. There was a significant difference ($p < 0.02$) between the index and repeat colonoscopy in patients with missed pathology (cancer and adenomatous polyps) when the bowel preparation was suboptimal during the index colonoscopy. In addition, 9 of these patients had prior history of adenomatous polyps or CRC. Other findings at repeat colonoscopy included hemorrhoids (63%) and diverticulosis (46%).

Conclusion: 1) Despite a "cleared" prior colonoscopy for CRC, repeating the exam because of a positive FOBT yields significant pathology (5% adenocarcinomas and 33% newly diagnosed adenomas). 2) This new/missed pathology is significantly more frequent with a poor quality preparation at the initial examination and more likely in those with a history of adenomatous polyps or malignancy.

P126

A PILOT PROGRAM FOR SCREENING COLONOSCOPY IN THE UNINSURED: AN ANALYSIS OF FACTORS INFLUENCING SCREENING PARTICIPATION

W. Ahmad, MD, M. K. Hasan, MD, B. Williamson, RN, W. Tierney, MD. Internal Medicine, OUHSC, Oklahoma City, OK.

Purpose: Colonoscopy is now the preferred and most recommended method of screening but participation rates in the U.S. remain low. The aims of our study were to identify factors causing non-adherence to screening colonoscopy and to evaluate awareness of colon cancer screening in an uninsured patient population.

Methods: A pilot screening program was administered by the OK State Department of Health providing for a free colonoscopy to uninsured individuals over the age of 50 or with high risk features. All patients enrolled for this pilot program were entered in this study and a survey questionnaire was completed by the patients at the time of the procedure. The questionnaire addressed demographics, risk factors, patient awareness of colorectal cancer screening benefits, and patient perceived barriers. Colonoscopy results were documented for all patients. Informed consent was obtained and the study was IRB approved.

Results: 121 patients (40M;81F, mean age 53) were enrolled from 1/07-7/07 and all completed the colonoscopy. 89 (72.7%) were over age 50 and on questioning prior to the procedure 61 patients were completely asymptomatic and 60 patients had symptoms (constipation, diarrhea, hematochezia, altered bowel habits). 117 patients (96.7%) cited recommendation by their referring physician as the most important reason for proceeding. 58 patients (47.9%) were not aware of the benefits of screening colonoscopy. 70 patients (57.8%) were at least less likely to get colonoscopy done if not paid by the program and 65 patients (53.7%) reported they would definitely not get screening if not paid by the program. Only 31 patients (25.6%) were likely to get the test done if not paid by the program. When asked about non-financial obstacles 63 patients (52.1%) identified inconvenience of bowel preparation, 18 patients (14.9%) were afraid of cancer being diagnosed and 14 patients (11.6%) cited embarrassment. 32 patients (26.4%) had at least one tubular adenoma; 22 (18.2%) were 50 or older and 10 (8.3%) were younger than age 50. 16 of 32 patients (50%) with tubular adenomas were symptomatic and 16 (50%) were completely asymptomatic. Advanced adenomas were found in 12 patients (9.9%) including 1 patient diagnosed with colon cancer and 1 with high grade dysplasia.

Conclusion: The majority of uninsured patients are unlikely to undergo screening colonoscopy if not paid by a third party. Physician recommendation is paramount in this uninsured population and further efforts in educating this demographic group and creating financial access is critical to improving colorectal cancer screening rates.

P127

POLYETHYLENE GLYCOL (PEG) VS. SODIUM PHOSPHATE (NAP) FOR BOWEL PREPARATION: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS BY TREATMENT ARM

R. Juluri, MD, G. Eckert, MAS, T. F. Imperiale, MD. Medicine, Indiana University School of Medicine, Indianapolis, IN.

Purpose: While there are several head-to-head randomized controlled trials (RCTs) comparing PEG vs. NaP for bowel preparation, there are several other trials comparing either or both preps to less traditional ones. To incorporate all available evidence, we performed a meta-analysis of RCTs in which either PEG or NaP or both were used, the objective of which was to determine efficacy and patient adherence for elective colonoscopy.

Methods: We used the MEDLINE and EMBASE databases to identify English-language RCTs published from 1990-2007 that included either PEG and/or NaP in adults undergoing elective colonoscopy. We excluded trials with non-traditional doses or without categorical data on both prep quality and adherence. We dissembled the trials by design and aggregated them by treatment arm: for PEG - 4 L +/- adjunctive meds, 2L, and split-dose; for NaP – two 45 ml doses +/- adjunctive meds, and NaP tablets. Using weighted, summary-level proportions and 95% CI, we computed and compared prep quality (excellent, good, fair, poor) and % completing the prep.

Results: From identified 137 trials, we excluded 61, for a final trial N of 76 and patient N of 9,738. All trials used similar scales for rating bowel prep quality, and nearly all trials were investigator-blinded. The table below shows descriptive data, excellent or good prep quality and % completing the prep. Among treatment subgroups in which prep quality was better specified, %s with excellent prep quality were 35% (CI, 27-43%) for 4 L PEG alone; 37.7% (CI, 23-52%) for 2 L PEG; 34.8% (CI, 25-45%) for split-dose PEG; 42.4% (CI, 33-52%) for NaP solution; 44.4% (CI, 38-51%) for NaP with adjunctive meds; and 58.2% (CI, 49-67%) for NaP tablets. Overall, patients receiving NaP were more likely to complete the prep (97.3% [CI, 96-98%] vs. 90% [CI, 88-94%] for PEG); however, completion rates for 2L PEG (98%) and split dose PEG (95%) were comparable to NaP.

Conclusion: In this treatment-arm meta-analysis of NaP and PEG, NaP tablets resulted in a better quality prep than NaP solution, 2L PEG, and 4 L PEG alone. NaP is more likely to be completed overall; however, split-dose PEG appears comparable to NaP in both completion and prep quality.

Treatment Arm	# of Trial Groups	# of Patients	Mean Age, y (range)	% Good or Excellent (95% CI)	% Prep Completed (95% CI)
NaP Solution	30	2661	58.2 (51-84)	77.1 (72.4-81.7)	97.3 (96.1-98.5)
NaP Sol'n with adjunctive meds	5	420	56.3 (52-60)	68.7 (53.8-83.6)	92.9 (85.1-99.3)
NaP Tablets	7	1587	56.4 (55.8-58)	87.8 (82.9-92.7)	97.2 (95.1-99.4)
4L PEG	30	2914	56.6 (52-84)	74.8 (70.3-79.4)	89.9 (87.6-92.1)
4L PEG with adjunctive meds	5	391	64.7 (58-81)	73.5 (55.5-91.5)	95.3 (85.6-100)
2L PEG	14	1350	59.1 (54-62)	73.6 (64.9-82.3)	98 (95.8-100)
Split-dose PEG	4	415	55.1 (52-57)	79.7 (64.5-95.0)	95.4 (85.7-100)

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POLYETHYLENE GLYCOL (PEG) VS. SODIUM PHOSPHATE (NAP) FOR COLONOSCOPY PREPARATION: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

R. Juluri, MD, G. Eckert, MAS, T. F. Imperiale, MD. Medicine, Indiana University School of Medicine, Indianapolis, IN.

Purpose: To determine the efficacy of and adherence to PEG vs. NaP for bowel preparation (prep).

Methods: We used the MEDLINE and EMBASE databases to identify all English-language randomized controlled trials published between 1990 and 2007 that compared 4 L PEG vs. two 45 ml doses of NaP in adults undergoing elective colonoscopy. We excluded trials that lacked categorical data for both prep quality and adherence. We use a random effects model to calculate the pooled odds ratios (ORs) and 95% confidence limits for prep quality (excellent, good, fair, poor) and proportion completing the prep. Weighted proportions for each outcome were derived using the inverse of the variance for each trial.

Results: From 19 identified trials, we excluded 3 (no categorical data), for a final trial N of 16 and patient N of 2,521. All trials were investigated-blinded and used similar scales for rating bowel prep quality. 1,269 patients received PEG (mean age [range] = 59.7 [51-84] years, 50% men [36-69%]) and 1,252 received NaP (58.7 [48-84] years, 48% men [21-56%]. Among all 16 trials, patients receiving NaP were more likely to have an excellent or good prep quality (82% vs. 77%; OR=1.43; 95% CI, 1.01-2.00), a statistically heterogeneous result (P<0.0003), supporting use of a random effects model. Among a subgroup of 10 trials in which prep quality was reported in greater detail, there were no differences in the proportions of patients with excellent (34% vs. 27%), good (30% vs. 30%), fair (17% vs. 17%), and poor (4.7% vs. 7.7%) prep quality. Among nine trials that assessed prep completion rates, patients receiving 4L PEG were more likely not to complete the prep (9.8% vs. 3.9%; OR=2.57; CI, 1.14-5.81; P-value for heterogeneity <0.0001). Serious adverse effects were not described for either prep among the trials.

Conclusion: Among 16 head-to-head randomized trials of NaP vs. 4 L PEG, NaP was more likely to be completed by patients and to result in an excellent or good quality prep.

P129

FECAL INCONTINENCE IN WORKING WOMEN

S. McCormick, MD, S. Del Tufo, College Student, O. Lin, MD. Gastroenterology, Virginia Mason Medical Center, Seattle, WA.

Purpose: Fecal incontinence (FI) is a fairly common problem. Many studies focus on older women via questionnaires to patient populations. Though prevalence increases with age, it is seen among younger women as well. This study was undertaken to evaluate the frequency and severity of FI in working women.

Methods: A previously validated questionnaire (used by permission of the Mayo Foundation for Medical Education & Research) was made available to all women working in our institution, including doctors, nurses, administrators, technicians, secretaries, etc.

Results: 131 women responded. Respondents' ages ranged from their 20's to 60's. 42% (55/131) of respondents had had FI in the past year. FI was seen in all age decades, with 17% (4/24) of respondents in their 20's reporting FI within the past year, 48% (11/23) in their 30's, 31% (12/39) in their 40's, 58% (23/40) in their 50's and 100% (5/5) of those in their 60's. Symptoms began very early, with onset in a few women in their 20's and younger. Frequency of FI was less than once a month in 44% (24/55), about once a month in 29%, once to several times a week in 20% and daily in 7%. 22% used an antidiarrrheal agent to prevent episodes and 33% wore pads. Many aspects of life were moderately or severely affected by FI, including participation in sports (15%), ability to go shopping (13%), ability to travel by car (13%), and ability to eat before leaving home, ability to go out to eat, sex life and employment (9-11%). Only 7% had consulted a doctor in the past year for the problem.

Conclusion: FI is a common problem even among younger working women, with all ages affected, including women in their 20's. The extremely high percentage of affected women in our study (42%) likely reflects a response or self-selection bias of the women who chose to answer the survey. 27% of women with FI had symptoms at least weekly, and many used antidiarrheal agents or pads. Many aspects of life were affected, including employment. Few women discuss this problem with their doctors.

P130

THE METASTATIC LYMPH NODE RATIO (LNR) IS A POWERFUL PREDICTOR OF SURVIVAL AND RECURRENCE IN COLON AND RECTAL CANCER

E. Mignanelli, MBBS, V. Fazio, MD, E. Manilich, MS, R. Kiran, MBBS, MS, M. Kalady, MD, I. Lavery, MD. Colon and Rectal Surgery, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: The aim of this study is to evaluate whether the ratio of metastatically involved lymph nodes compared to the total number of nodes examined - the lymph node ratio(LNR), is a valid predictor of outcomes as compared to the nodal stage determined through TNM staging in Stage III colon and rectal cancer. This is the first study evaluating the value of LNR in rectal cancer.

Methods: Clinico-pathological details of 1551 patients with Stage III colon and rectal cancer undergoing resection were analyzed from a prospective colorectal cancer database. Using a Kaplan-Meier method, outcomes were evaluated at various ratios of involved nodes to the total examined in order to determine the ratio that predicted a maximal difference in overall survival (OS) and recurrence free rates (RFR) at 5 years. Multivariate analysis was performed by the Cox proportional hazard model.

Results: In colon cancer, maximal difference in OS and RFR was detected at a LNR of 19%. OS and RFR were significantly greater when LNR was <19% compared with LNR >19% (OS:65.9%vs38.3%,p<0.0001)(RFR:70.4%vs38.3%, p<0.0001). In rectal cancer the corresponding LNR value was 25% for OS and 24% for RFR (OS:59.2%vs 41.2%,p<0.0001) (RFR:61.2%vs41.5%,p<0.0001). These LNR values were significant predictors of OS and RFR irrespective of the number of nodes identified. When co-variate adjusted hazard ratios were estimated, LNR was a better predictor of OS and RFR for both colon (OS HR 2.26)(RFR HR 2.12)and rectal cancer (OS HR 1.60)(RFR HR 1.47) when compared with N1 and N2 stage by the TNM classification. This was especially true for rectal cancer.

Conclusion: LNR is a valid tool that could be incorporated into traditional staging strategies for colon and rectal cancer.

P131

SELF-EXPANDABLE METAL STENTS ARE EFFECTIVE AND USEFUL IN THE MANAGEMENT OF MALIGNANT COLORECTAL OBSTRUCTION

C. Noronha Ferreira, MBBS,[1] A. Marques, MD,[1] R. Palma, MD,[1] D. Serra, MD,[2] J. Velosa, MD, PhD,[1] E. Monteiro, MD, PhD[1]. 1. Serviço de Gastrenterologia e Hepatologia, Hospital de Santa Maria, Lisboa, Portugal; 2. Serviço de Gastrenterologia, Hospital da Luz, Lisboa, Portugal.

Purpose: Self-expandable metal stents (SEMS) are increasingly used as a bridge to surgery (BTS) and as a palliative intention (PI) in patients presenting with obstructive colorectal cancer.Teh aim of the study was to determine the efficacy and outcome of SEMS in relieving colorectal obstruction due to neoplastic lesions

Methods: We carried out a retrospective study in patients who underwent endoscopic placement of colorectal SEMS under fluoroscopic guidance between 2004 and 2007.

Results: A total of 62 SEMS were placed in 58 patients, of which 34 were male patients. The average age was 72.2 ± 13.4 years. Twenty two patients presented with occlusive symptoms. Cancer types: Colorectal cancer– 56; Neoplastic colonic invasion - 2 (uterus – 1; urinary bladder – 1). Stricture location: Sigmoid colon – 39; Rectum – 10; Descending colon – 2; Splenic flexure – 2; Transverse colon – 2, Hepatic flexure -2; Ascending colon – 1. Indication for SEMS placement: Palliative intention (PI) – 44 patients; Bridge to surgery (BTS) - 14 patients. Three patients in the PI group required a second SEMS placement: Stent obstruction due to tumour growth – 2; Stent migration -1. SEMS types utilized: Ultraflex precision – 17, Wallstent - 17, Hanarostent – 16, Wallflex - 12. Technical and clinical success was achieved in 98.3% (57/58). Incomplete expansion and deployment of the SEMS occurred in one patient. Complications were detected in 13.8% (8) patients. Immediate complications (≤ 48 h of SEMS placement): Perforation – 1; Colovesical fistula – 1; Localized perforation resolved with conservative treatment -1. Late complications (> 1 week after SEMS placement): Perforation – 2; Stent obstruction by tumour in growth – 2; stent migration -1. The late complications occurred between 19 – 332 days after SEMS placement. There was no association between complications and the SEMS type utilized. Only one death occurred due to SEMS related perforation complicated by sepsis and multi-organ failure. The average time till surgery in the BTS patients was 22.6 ± 21.3 days. The average follow up period was 241.6 ± 275.7 days. During this period, there were 33 deaths: PI group – 30; BTS group - 3. With the exception of the patient who died from sepsis following colonic perforation, all of the deaths were related with the underlying neoplasia.

Conclusion: SEMS are a safe and effective therapeutic option in colorectal obstruction due to neoplasia. Majority of the SEMS were used to palliate advanced colorectal cancer. The complications related to SEMS were relatively infrequent. SEMS should be considered as a bridge to surgery in patients with obstructive localized colorectal cancer who are not candidates for one-stage surgery with curative intent.

P132

COMMUNITY MICROARRAY FOR QUANTITATIVE ANALYSIS OF HUMAN INTESTINAL MICROFLORA

O. Paliy, PhD,[1] H. Kenche, BSc,[1] F. Abernathy, PhD,[2] S. Michail, MD[2]. 1. Boonshoft School of Medicine, Wright State University, Dayton, OH; 2. Gastroenterology, Dayton Children's Hospital, Dayton, OH.

Purpose: The aim of this project was to design, develop, and validate a custom microarray containing probes to hundreds of microbial phylo-species identified in human intestinal microflora.

Methods: We used Entrez nucleotide database to compile a dataset of bacterial 16S rDNA sequences isolated from human intestinal and fecal samples. Identified sequences were clustered into separate phylo-species groups based on 98% sequence similarity among sequences within each group. Representative sequences from each phylo-species were used to design a custom microflora array based on the Affymetrix GeneChip platform. Between 5 and 11 probes were designed to each separate phylo-species, with 84% of probesets containing 11 probes.

Results: The designed microflora array contained probes to 775 different bacterial phylo-species identified in the human intestine. The majority of bacterial phylo-species belonged to the class *Clostridia* in the phylum *Firmicutes*. In our validation experiments the array has correctly identified genomic DNA from all 15 different bacterial species used. The microarray was able to not only correctly detect the presence of genomic DNA of a particular bacterium in pure culture, but also in a complex mixture containing DNA of all 15 species. Cross-hybridization among bacterial DNAs was minimal (0.4-0.9% all probesets for each bacterial DNA). The use of replicate arrays led to the elimination of almost all cross-hybridization signals. The use of 16S rDNA-specific PCR amplification prior to DNA interrogation led to a significantly increased sensitivity of detection. The limit of detection for the microflora array was 4ng of total unamplified genomic DNA and 1ng of genomic DNA subjected to 10 cycles of 16S rDNA-specific PCR amplification. We consistently detected 1pg of genomic DNA when the number of PCR amplification cycles was increased to 30. When small amounts of bacterial genomic DNA were spiked into large sample of human genomic DNA, we detected 10pg of PCR-amplified bacterial genomic DNA (30 cycles), which represents 0.00025% of the total sample. The dynamic range of detection was estimated to be at least in the 4,000 fold range. Additional validation experiments showed excellent ability of the microflora array to detect 2- to 16-fold differences in bacterial abundance among samples with a linear fit R^2=0.95.

Conclusion: We have developed and validated a custom microflora microarray capable of quantitative detection of 775 bacterial phylo-species identified in human intestine. The microarray was successfully validated to correctly detect different bacterial species in pure cultures and in complex mixes. The microarray has a sensitivity of detection of at least 1pg and can detect bacteria present at 0.00025% of overall sample.

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NORMAL DISTRIBUTIONS OF COLORECTAL ANATOMY IN A GENERAL ADULT POPULATION: DETAILED ASSESSMENT USING CT COLONOGRAPHY

M. Khashab, MD,[1] P. J. Pickhardt, MD,[2] D. H. Kim, MD,[2] D. K. Rex, MD[1]. 1. Department of Internal Medicine, Division of Gastroenterology, Indiana University Medical Center, Indianapolis, IN; 2. Department of Radiology, University of Wisconsin, Madison, WI.

Purpose: Background: Although barium enema has been used previously to estimate colonic length and diameters, CT colonography is a much more precise tool for assessing the colon anatomy. The aim of this study was to determine the morphologic features of the colorectum within a population undergoing primary CTC examination.

Methods: Methods: All adults without a history of previous colon surgery who underwent primary CTC evaluation at a single center over an 8-month period from May 2007 to December 2007 were included in the study. Features including total colonic length, segmental length, luminal diameter, and number of flexures were assessed. The three dimensional map with automated centerline was used to determine length and number of flexures (defined as acute angulations), while the two dimensional multiplanar display was used to measure luminal diameter.

Results: Results: The study cohort consisted of 505 adults (F 266, M 239) undergoing primary CTC evaluation. The mean age of the patients was 56.6 ± 7.3 years. The mean total colonic length was 189.5 ± 26.3 cm (range, 120-299). 167 (33%) patients had "long" colons, defined as total colonic length of at least 200 cm (Figure 1). The mean total number of flexures was 10.9 ± 2.4 (range, 5-19), with the maximum number of flexures seen in the transverse colon (4.7 ± 1.2, range 2-9) and the sigmoid colon (4.4 ± 1.2, range 1-9). In the right colon, the mean length and diameter of the cecum, ascending and transverse segments were 6.7 ± 1.9 cm and 7.6 ± 1.2 cm, 23.1 ± 6.8 cm and 6.1 ± 1.1 cm, 58.3 ± 13.6 cm and 5.0 ± 0.9 cm, respectively. In the left colon, the mean length and diameter of the descending, sigmoid, and rectal segments were 33.0 ± 8.0 cm and 3.8 ± 0.7 cm, 49.0 ± 12.9 cm and 3.5 ± 0.7 cm, 19.5 ± 3.1 cm and 6.5 ± 1.1 cm, respectively. Summary: one third of the subjects had long colons, with the transverse and sigmoid segments being the longest and having the maximum number of flexures

Conclusion: Conclusion: We have described the normal range of various morphologic features of the colon using precise CTC measurements. These values will help define the normal distribution of in vivo colon anatomy. In addition, this information may help improve the design of the new devices under development to perform colonoscopy in a self-propelled fashion.

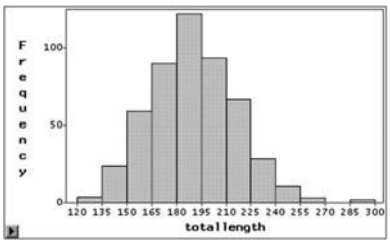

Figure 1: Histogram of the distribution of the total colonic length

P134

***CLOSTRIDIUM DIFFICILE* INFECTION: A COMMUNITY-BASED EPIDEMIOLOGICAL STUDY**

S. Aronson, MD, P. Kammer, D. Pardi, MD. Miles and Shirley Fiterman Center for Digestive Diseases, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.

Purpose: Numerous recent reports have shown increasing incidence and severity of Clostridium difficile infection (CDI). Most of these reports are based on hospitalized patients, potentially influencing them by referral bias or hospitalization bias. All documented cases of CDI in Olmsted County, Minnesota residents diagnosed and treated at the Mayo Medical Center from 1991-2005 were reviewed to characterize these changes in a community-based cohort including hospitalized and non-hospitalized patients.

Methods: A computerized diagnostic index, which includes diagnoses and laboratory test results from all medical encounters for Olmsted County residents, was used to identify residents with possible CDI from 1991-2005. Medical records were reviewed to confirm the diagnosis, document demographic data, and assess risk factors and treatment outcomes. Definite CDI diagnoses were defined as a positive Clostridium difficile stool assay or appearance of pseudomembranous colitis endoscopically or histologically. Cases were analyzed in five-year intervals (1991-1995, 1996-2000, and 2001-2005). Disease was considered severe if leukocyte count was greater than 15,000, creatinine rose greater than 50% from baseline, or disease was complicated by ICU admission, need for surgery, or death.

Results: There were 351 definite cases of CDI identified. The number of cases in each time interval was 37, 103, and 211 respectively. Median age for each interval was 50 (range 1-96), 70 (1-99), and 68 (1 month-102). Overall female gender was 66% (76%, 74%, 60%). The overall percentage of cases that were severe was 29% (27%, 29%, 30%) including 16 deaths (5% of all cases). 145 cases (41%) were diagnosed and treated in non-hospitalized patients; 31 (9%) of these cases occurred in non-acute healthcare facilities (e.g. nursing homes) and 114 (32%) occurred in outpatients.

Conclusion: In this population-based cohort, there has been a marked increase in CDI diagnoses from 1991-2005. CDI occurred in all ages and was more frequent in females than males. A significant proportion of cases were severe, but the proportion did not change significantly over the study period. A substantial fraction of cases occurred in outpatients, and would be missed if hospital discharge information was the primary source of data. Relying solely on hospital data may underestimate the incidence and overestimate the percentage of severe or complicated cases.

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P135

PATTERNS OF INVOLVEMENT IN 350 CASES OF BIOPSY-PROVEN ISCHEMIC COLITIS

M. Blaszka, MD, L. J. Brandt, MD, MACG. Montefiore Medical Center, New York, NY.

Purpose: The aim of this study was to examine the frequency with which specific anatomic regions of the colon are affected by ischemic injury.

Methods: Patients were identified using computerized searches of ICD-9 codes for colon ischemia. All appropriate colonoscopy and pathology reports from January 1, 1998 to December 31, 2007 were reviewed. Patients were included only if colonoscopy reports were consistent with and pathology reports supported the diagnosis of ischemic colitis. Patterns of colon involvement were then tabulated and categorized.

Results: Colon involvement in ischemic colitis was classified into 5 major regional patterns: right colon, transverse colon, left colon, distal colon and pan-colon involvement. Patterns were based on the most proximal location of injury and extended to the most distally affected region of the colon. 350 study subjects were identified and their patterns of biopsy-proven ischemic colitis tabulated (Table 1 and Table 2).

Conclusion: 350 cases of biopsy-proven ischemic colitis were identified. No region of colon was spared from ischemic injury, but some were affected more than others. Segmental involvement was typical. The sigmoid was the most frequently involved segment (22.9%), and right colon involvement was seen more frequently (21.1%) than has been previously reported. Pan-colon involvement was seen in 6.6% of cases, most of which were associated with sepsis.

Table 1. Right and Transverse Colon Pattern Involvement

Affected Segment	*Number of Cases (%)*
Right colon pattern	**74 (21.1)**
Cecum only	6 (1.7)
Cecum to asc colon	5 (1.4)
Cecum to hepatic flexure	28 (8.0)
Asc colon	13 (3.7)
Asc to transv colon	5 (1.4)
Asc to splenic flexure	4 (1.1)
Asc to desc colon	2 (0.6)
Asc to sigmoid	4 (1.1)
Hepatic flexure	5 (1.4)
Hepatic flexure to sigmoid	2 (0.6)
Transverse colon pattern	**37 (10.6)**
Transv w/flexure involvement (splenic flexure only)	9 (2.6)
Transv w/o flexure involvement	12 (3.4)
Transv to desc colon	3 (0.9)
Transv to sigmoid	13 (3.7)

Table 2. Left, Distal, and Pan-Colon Pattern Involvement

Affected Segment	*Number of Cases (%)*
Left colon pattern	**123 (35.1)**
Splenic flexure	23 (6.6)
Splenic flexure to desc colon	8 (2.3)
Splenic flexure to sigmoid	12 (3.4)
Splenic flexure to rectum	2 (0.6)
Desc colon	28 (8.0)
Desc to sigmoid	38 (10.9)
Desc to rectosigmoid	12 (3.4)
Distal colon pattern	**93 (26.6)**
Sigmoid	80 (22.9)
Rectosigmoid	9 (2.6)
Rectum	4 (1.1)
Pan-colon pattern	**23 (6.6)**
Pan-colon	23 (6.6)

P136

RETROSPECTIVE ANALYSIS OF COMPLICATIONS AND RISK FACTORS IN COLONIC SNARE POLYPECTOMIES

E. J. da Silva, MD,[1] A. Pelosi, MD,[2] G. de Freitas, MD[2]. 1. Proctology, Hospital dos Servidores do Estado do Rio de Janeiro, Rio de Janeiro, Brazil; 2. Endoscopy, Casa de Portugal, Rio de Janeiro, Brazil.

Purpose: Endoscopic removal of colorectal polyps is frequent. The aim of this study was to evaluate adverse events from snare polypectomy.

Methods: We retrospectively analyzed the rate of complications of 1687 snare polypectomies carried out in 8447 patients submitted to colonoscopies between 2001 and 2007 at two Medical Institutions. Two hundred three polyps were larger than 2 cm in diameter. Student t test was used for statistical analysis of mean and chi-square to compare absolute numbers. A significant p-value was defined as <0.05.

Results: Of the 1687 colonoscopic polypectomies 203 were performed in polyps larger than 2 cm in diameter (range 2-5 cm). In this group 24 (11.8%) had immediate bleeding, against 1 (0.07%) smaller than 2 cm p<0.01. Only one, larger than 2 cm, needed surgery to control bleeding episode (0.49%) p<0.01. Delayed bleeding occurred in 7 (0.4%), presented only in the larger ones p<0.01. Perforation occurred in 6 (0.35%), being all of than in the cecum and ascending colon. None required surgery. The age group for bleeding post-polypectomy did not differ, being 59.8+/-6.7 for immediate bleeding, 60+/-9.8 for delayed and 63.8+/-16.3 for no bleeding p>0.05. Post-polypectomy syndrome occurred in 6 patients (0.35%). In polyps larger than 2 cm, piecemeal resection was performed more often in sessile than in pedunculated ones (89/116,77%) versus (11/87,13%) p<0.01. In one patient (0.05%) we had a fracture of the snare with entrapment of the basket, managed by using a second endoscope for cutting the pedicle with a Huibregtse papilotome. Invasive carcinoma was present in the adenoma in 40 polyps larger than 2 cm (19.7%).

Conclusion: Snare polypectomy are safe procedures, being bleeding the most common complication, related with polyp size mainly with its base, treated most of the time endoscopically. Perforation of the colon being the next, treated too without the necessity of surgery We have no disclosure to make

P137

HOW GOOD IS THE QUALITY OF COLONOSCOPY PREPARATION UNDER MONITORED ANESTHESIA CARE (MAC)?

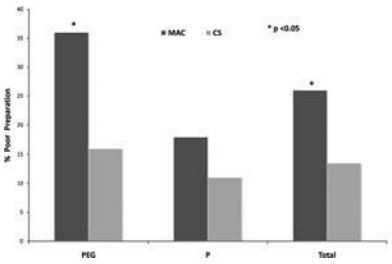
S. Mittal, MD, S. V. Sagi, MD, G. S. Raju, FASGE. Internal Medicine, University of Texas Medical Branch, Galveston, TX.

Purpose: MAC is used in our hospital endoscopy unit for colonoscopy in high risk patients (pts) only. However, routine instructions about overnight fasting in pts undergoing colonoscopy under MAC by the anesthesiologists limits the use of AM dose of split dose regimen, which may interfere with the quality of colon preparation (prep). The aim of our study was to compare the quality of colon prep in pts undergoing colonoscopy under MAC & conscious sedation (CS) at our hospital endoscopy unit by grading the endoscopic photographs.

Methods: Patients: Between 01/07 and 04/08, 163 pts underwent colonoscopy under MAC (*study group*); 57 pts used polyethylene glycol (PEG) based solution, 66 pts used Phosphosoda + Dulcolax (P), and 40 used other solutions. Two hundred pts undergoing colonoscopies under CS using PEG (n=100) & P (n=100) served as *controls*. **Assessment**: Grading of Cleansing For Each Colonic Segment was done by a single observer looking at the colonoscopy photos- Poor prep = stool obscured the mucosa; Fair prep= 50-100% of mucosa visualized along with few specks of stool; Excellent prep = 100% of the mucosa visualized without any stool. The Colon Cleansing Score for each colonoscopy exam was based on the overall quality of prep in different segments of the colon. Score 3: Excellent prep in all the segments of colon; Score 2: Fair prep in at least 1 segment; Score 1: Poor prep in at least 1 segment.

Results: A. Poor Prep Rate: Higher in pts having colonoscopy under MAC as compared to those undergoing in CS (26% vs. 13.5%, p< 0.05). B. Colon Cleansing Score: Worse in pts having procedure under MAC compared to those undergoing in CS (2.15±0.07 vs. 2.38±0.05, p<0.05) C. Effect of Prep Solution on Colon Prep Rate: Worse with PEG solution in the MAC group compraed to CS group (36% vs. 16%, p<0.05), but no difference with Phosphosoda + Dulcolax (18% vs 11%, p=NS). **ASA score**: In the MAC group, the mean ASA score was 2.42±0.06 and the CS group was 2.01±0.03.(p<0.05)

Conclusion: Poor colon preparation is frequent in patients undergoing colonoscopy under MAC and especially worse with the use of PEG solution. Since these patients are sicker (higher ASA class), a split dose may benefit them (these under current investigation).



P138

IS *CLOSTRIDIUM DIFFICILE* INFECTION (CDI) MORE DIFFICULT TO ERADICATE IN PATIENTS WITH DIVERTICULOSIS?

A. J. Thanjan, MD,[2] W. Southern, MD,[2] N. Anand, MD,[2] S. Yoon, MD,[2] L. J. Brandt, MD, MACG[1]. 1. Division of Gastroenterology, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY; 2. Internal Medicine, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY.

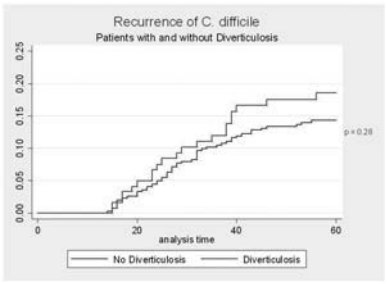
Purpose: This study aimed to determine if there is a difference in recurrence of CDI in patients with diverticulosis compared with patients without diverticulosis. It has been hypothesized that

diverticula serve as "reservoirs" for *C. difficile* spores, and if so, diverticulosis would be associated with an increased risk of recurrent CDI.
Methods: The charts of all adult patients admitted to Montefiore Medical Center from July 2006-June 2007 with a toxin assay-confirmed diagnosis of CDI were reviewed. Subjects were grouped into those with and without diverticulosis. Time to recurrence was compared for subjects with and without concomitant diverticulosis.
Results: We identified 569 patients with at least one positive *C. difficile* toxin assay. A description of the patient population is seen below (Table). There was a trend towards a higher rate of recurrence in the subjects with diverticulosis (15.6% vs. 12.0%) but this difference was not statistically significant (p=0.28, chi-squared test). The time to recurrence was also not significantly different between the groups (Figure, p=0.28, log-rank test). In unadjusted analysis, the presence of concurrent diverticulosis carried a non-significant increased risk of recurrence (HR 1.32; 95% CI: 0.80-2.20). Two of the covariates, creatinine and gender, were significantly associated with recurrence of CDI. After adjustment for these variables, concurrent diverticulosis carried a non-significant risk of recurrence (HR 1.26; 95% CI: 0.73- 2.15).
Conclusion: Diverticulosis may be a risk factor in patients with recurrent *C. difficile* infection. Our analysis demonstrated a non-significant trend towards increased risk of recurrent CDI in subjects with concomitant diverticulosis. Further studies of this potential association are indicated.

Table: Patient Population

	Without Diverticulosis (n=434)	With Diverticulosis (n=135)
Age	64.2 ± 18.1	71.4 ± 14.0
Male No. (%)	157 (36.2)	52 (38.5)
White No. (%)	122 (28.1)	52 (38.5)
Black No. (%)	141 (32.5)	31 (23.0)
Hispanic No. (%)	136 (31.3)	45 (33.3)
Other No. (%)	35 (8.1)	7 (5.2)
Diabetes No. (%)	148 (34.4)	46 (34.1)
Antibiotics continued No. (%)	188 (43.8)	60 (44.8)
WBC	17.4 ± 15.3	16.4 ± 17.1
Albumin	2.6 ± 0.8	2.7 ± 0.8
Creatinine	1.8 ± 1.9	1.8 ± 1.8

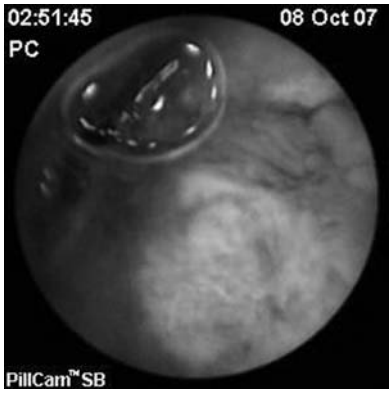
Continuous variables reported as mean ± standard deviation; Dichotomous variables reported as number (percent)



Figure

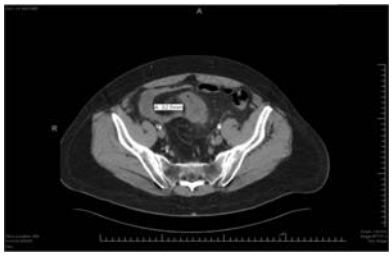
P139

METASTATIC LUNG CANCER DIAGNOSED BY CAPSULE ENDOSCOPY
D. C. Yen, MD, S. Mann, MD. University of California, Davis, Sacramento, CA.
Results: Case: 71yo man with intermittent "black" colored stools for several months underwent capsule endoscopy after an unremarkable EGD and a colonoscopy evaluation. He denies any abdominal pain, nausea, hematochezia, and is unaware of any weight loss. Medical history includes diabetes and hyperlipidemia, which he is on the appropriate medications. There is no iron supplementation, but he is on a daily baby aspirin. His family history is negative for IBD and celiac disease. He has a 120 pack-year history of nicotine abuse, but quit 10 years ago. Laboratory evaluation was pertinent for microcytic anemia. Capsule endoscopic exam revealed an ulcer in the distal small bowel. Double balloon enteroscopy and surgery were discussed with the patient after the capsule endoscopy findings. Patient elected laparotomy, and a 9cm x 4cm x 2cm segment of the small bowel was resected. Within the specimen was a 6cm x 3cm polypoid, fungating mass. Mass was consistent with high grade, poorly differentiated malignant neoplasm, favoring metastasis as there lacked mucosal dysplasia. Immunohistochemical staining of the neoplasm indicated the primary source to be the lung. CT of the chest revealed a 4cm mass at the left upper lobe (LUL) with suspicious lymph nodes. Consequently, patient underwent a LUL lobectomy with node sampling, confirming the primary source. Discussion: Small bowel malignancies are rare and account for 0.4% of all cancers. In addition to melanoma, breast, lung, and renal cancers can metastasize to the small bowel by hematogenous spread. Cervical, ovarian, and colon cancers can involve the small bowel by direct extension. In this case, we describe the first case of metastatic lung cancer to the small bowel diagnosed by capsule endoscopy.



P140

APPENDICITIS: A RARE COMPLICATION OF SCREENING COLONOSCOPY
D. C. Yen, MD,[1] S. Mann, MD,[2] V. Singh, MD[2]. 1. University of California, Davis, Sacramento, CA; 2. VA Mather Medical Center, Sacramento, CA.
Purpose: Case: A 60yo man presented with 2 days of abdominal pain post-screening colonoscopy. Patient was asymptomatic and in good health prior to the procedure. He denied any prior surgical history. The colonoscopy exam demonstrated sigmoid diverticula and 3 descending colon polyps. These polyps were removed by snare polypectomy. One day after the colonoscopy exam, he complained of diffuse abdominal pain that eventually localized to right lower quadrant (RLQ). He also complained of fever and anorexia, without nausea or vomiting. He had passed flatus but reported no bowel movements, since the colonoscopy procedure. Upon examination, he was febrile to 101F, with a heart rate of 104 beats/ minute. The remainder of the vitals was normal. Cardiac exam confirmed sinus tachycardia; abdominal exam was significant for tenderness in the RLQ with rebound tenderness. Laboratory evaluation was significant for leukocytosis of 17,000. Abdominal x-ray did not reveal free air. CT of the abdomen/pelvis revealed acute appendicitis. A surgical consult was obtained. Intraoperative findings included a contained perforated appendix with appendiceal abscess and terminal ileum obstruction. 40cm of terminal ileum was removed along with the appendix. Patient had an unremarkable postoperative course. Discussion: The overall complication rate with screening colonoscopy is less than 1%. Appendicitis is a rare, but known complication associated with colonoscopy. To the best of our knowledge, there have only been 10 such reported cases in the English language medical literature. Although the exact mechanism is unknown; excess pressure from the endoscope, excessive air insufflation/ barotrauma or impaction of stool; have all been proposed as possible injury mechanisms to the appendiceal orifice. Early recognition of this uncommon complication is imperative in order to expedite surgical intervention and ensure a good clinical outcome.



P141

HEMOSUCCUS PANCREATICUS DUE TO IPMT OF THE PANCREAS

J. C. Yarze, MD, FACP, FACG, FASGE, AGAF,[1] M. P. Chase, MD, FASGE,[1] C. R. Lowe, MD,[2] E. S. Orris, MD[3]. 1. Gastroenterology Associates of Northern New York, Glens Falls, NY; 2. Department of Medicine, Glens Falls Hospital, Glens Falls, NY; 3. Albany Gastroenterology Consultants,, Albany, NY.

Purpose: To report a rare cause of hemosuccus pancreaticus

Methods: CASE REPORT: An otherwise healthy 77 yo female presented in 4/08 with subacute fatigue, iron deficiency anemia and a few day history of low-volume melena. After informed consent was obtained, colonoscopy (performed given IDA) revealed no abnormality, and terminal ileal intubation was negative for gross blood or mucosal pathology. EGD using a standard video gastroscope (performed for evaluation of IDA and low-volume melena) disclosed bleeding from the region of the second portion of the duodenum. A side-viewing duodenoscope was immediately passed, which allowed rapid visualization of a steady ooze of bright red blood from the major papilla. A small incidental periampullary diverticulum was also seen. Abdominal CT scanning was unremarkable, and mesenteric angiography was negative for overt pathology or contrast extravasation. The patient underwent abdominal MRI/MRCP which suggested the possibility of a 1.2 cm nonspecific lesion in the uncinate process of the pancreas. ERCP showed no overt biliary or pancreatic ductal abnormality and cholangioscopy confirmed that despite blood continuing to ooze from the major papilla, there was a "clear" biliary effluent. The patient underwent pancreaticoduodenectomy (Whipple resection) uneventfully. Pathology revealed a benign side-branch intraductal papillary mucinous tumor (IPMT) of the pancreatic head. Resection margins were clear of tumor and multiple peripancreatic lymph nodes showed only reactive changes. The patient recovered uneventfully.

Results: In this unusual case, IPMT of the pancreas caused hemosuccus pancreaticus.

Conclusion: IPMT of the pancreas can rarely present as hemosuccus pancreaticus.

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HEPATITIS C-RELATED SUSTAINED VIROLOGIC RESPONSE AFTER AN ULTRA-SHORT, ATTENUATED COURSE OF ANTIVIRAL THERAPY

J. C. Yarze, MD, FACP, FACG, FASGE, AGAF. Gastroenterology Associates of Northern New York, Glens Falls, NY.

Purpose: To describe 2 cases of chronic hepatitis C where a sustained virologic response (SVR) occurred after an ultra-short, attenuated course of antiviral therapy.

Methods: CASE REPORTS: A 52 yo male with chronic hepatitis C (serum viral load= 1,760,000 IU/ml; genotype 3a; A2/F2 disease by liver biopsy) underwent a trial of weight-based antiviral therapy. Pegylated interferon (alpha-2b) 150 mcg sq qwk and ribavirin (1200 mg po qd) were begun (in 3/04) and after the initial dose of PEG-IFN, severe myalgia, arthralgia, headache and lightheadedness ensued. Hospital emergency room evaluation (including routine bloodwork) showed no abnormality of concern. The symptoms were intolerable (despite use of acetaminophen and reassurance) and after 2 weeks, the dose of PEG-IFN was lowered to 50 mcg sq qwk. Medication discontinuation was required due to escalation of symptoms at day 18 of the treatment regimen. Symptoms resolved rapidly after antiviral therapy was withdrawn. The patient was followed clinically and was on no subsequent antiviral, immunomodulatory or other treatment. He was transiently incarcerated and again presented in 11/07, at which time he requested another trial of HCV antiviral therapy. Pre-treatment assessment revealed that HCV was undetectable by both quantitative (in 12/07) and qualitative (3/08) PCR determinations. A 48 yo female with chronic hepatitis C (serum viral load= 219,000 IU/ml; genotype 1; A4/F4 disease by liver biopsy) underwent a trial of weight-based antiviral therapy. Pegylated interferon (alpha-2b) 120 mcg sq qwk and ribavirin (1200 mg po qd) were begun (in 1/07) and after 35 days of treatment, the medication was withdrawn due to a severe exacerbation of underlying depression with associated medical noncompliance. No other subsequent antiviral, immunomodulatory or other treatment (except for antidepressant therapy) was prescribed. The patient was to be followed clinically and she was seen in follow-up on multiple occasions over the ensuing year. She desired another attempt at HCV antiviral therapy and pre-treatment assessment (done > 8 mos after her last dose of PEG-IFN/ribavirin) revealed that HCV was undetectable by both quantitative (in 12/07) and qualitative (in 4/08) PCR determinations.

Results: In these 2 cases, SVR was achieved after an ultra-short, attenuated course of anti-HCV therapy.

Conclusion: These 2 anecdotal cases confirm that in rare instances (and even with cirrhotic stage, type 1 infection), an ultra-short, attenuated course of antiviral therapy can be associated with a SVR. This suggests that when planning to re-treat patients in whom antiviral therapy was previously discontinued prematurely, reassessing for prior unsuspected HCV eradication is crucial.

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PROLONGED RETENTION OF ENDOSCOPICALLY PLACED HEMOCLIPS IN A PEDIATRIC PATIENT – A CASE REPORT

M. Wyneski, MD, O. Atay, MD, M. Kay, MD, V. F. Hupertz, MD. Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Upper gastrointestinal hemorrhage in pediatrics can be associated with significant morbidity. Endoscopic hemoclipping, a well established technique in adults, can be technically difficult in pediatric patients. Limitations of this technique in pediatrics has not yet been established. We report a young patient who underwent successful hemoclipping of bleeding gastric lesions. The patient was a 14 month old white male with a neonatal history of truncus arteriosus and hemophagocytic lymphohistiocytosis, diagnosed at age 6 months. Umbilical cord blood transplant was done at age 11 months. EGD and colonoscopy with biopsies were done for evaluation of emesis, diarrhea and increased liver enzymes to rule out infection, graft vs. host disease (GVHD), or other causes of enteritis. The EGD demonstrated Grade I GVHD in the duodenum and stomach; colonoscopy was negative. Two days later, the patient developed melena and anemia. The patient was hospitalized and received multiple transfusions of packed red blood cells and platelets. Despite medical treatment, he had persistent melena and refractory anemia and underwent a repeat EGD. Endoscopy found multiple hematomas at the previous biopsy sites with persistent bleeding noted in two areas. Due to persistent bleeding, two endoclips were placed – one in the gastric antrum, and another in the gastric fundus at the site of the bleeding lesions. Post procedure, the patient did well with resolution of anemia and melena. He returned to outpatient clinic 15 weeks later, however, with issues of recurrent hematemesis. Repeat EGD demonstrated resolution of previous hematomas; the two previously deployed clips were present at their deployment sites. The mucosa adjacent to the fundic clip was actively oozing blood; this area was injected with epinephrine solution 1:10,000 with resolution of the bleeding. The patient has remained stable from a GI standpoint; the endoclips continue to be present on abdominal radiographs obtained for other indications 31 weeks after initial application. Initial reports have suggested that endoscopic clips typically dislodge between 1 to 3 weeks after deployment. In previous studies in animal subjects, they have been retained for periods up to and greater than 25 weeks. In our patient the clips have been retained for more than 31 weeks without apparent adverse sequelae. To date no studies have been done in the pediatric population on the durability of, or long term issues associated with retained endoscopic clips. Our case suggests that prolonged retention of endoscopically placed clips may occur in pediatric patients. In our patient, the prolonged retention appears to be benign but further long-term outcomes need to be determined.

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POST-STOMAL PYODERMA GANGRENOSUM-A RARE EXTRAINTESTINAL MANIFESTATION OF CROHN'S DISEASE IN A PEDIATRIC PATIENT

M. Wyneski, MD, N. Alkhouri, MD, L. Mahajan, MD. Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Pyoderma gangrenosum (PG) is an idiopathic, inflammatory, ulcerative condition of the skin that complicates about 2% of cases of IBD. While the exact pathogenesis remains unclear, it appears to be immune-mediated. The ulcers typically occur on the lower extremities. The clinical variant known as peristomal pyoderma gangrenosum (PPG) was first described in 1984. PPG has only been reported previously in 3 patients age 18 yrs and younger. We report the unusual development of PG at an ileostomy site that had been closed for over 7 years. Case: At 9 yrs of age, our female patient underwent total abdominal colectomy, loop ileostomy, and J pouch formation for treatment of fuminant colitis (presumed UC). She later underwent IPAA with closure of her ileostomy. Her diagnosis was subsequently changed to Crohn's disease (CD) due to mild chronic pouchitis and development of aphthous ulcers in her neo-terminal ileum proximal to her pouch. She was subsequently maintained on 5-ASA products with relatively good control. At the age of 16 yrs, however, she developed a significant exacerbation of her underlying CD with development of bloody diarrhea and recurrent emesis suggestive of a partial small bowel obstruction. Days prior to her admission, she had developed small erythematous pustules at the site of her prior ostomy. By the time she was admitted, the lesions had coalesced and a central area of ulceration and necrosis had developed. The lesion had serpiginous, violacious borders and measured approximately 4cm in diameter. Lesion evaluation did not identify any fistulous tract or feculent drainage. She had rapid clinical improvement following initiation of IV corticosteroids, metronidazole and ciprofloxacin and was discharged after 7 days. She completed an approximate 8 week course of oral antibiotic therapy with complete resolution of her Crohn's symptoms as well as complete healing of the PG at her prior ostomy site. Conclusion: PG is an uncommon neutrophilic dermatosis characterized by small erythematous papules that rapidly spread, coalesce, and centrally ulcerate. It develops over lower extremities >70% of the time; however, any cutaneous or mucosal surface may be affected. There are only 3 prior reports of the peristomal variant occurring in a pediatric patient. In addition, there is a single case of PG at multiple incision sites in a child after colectomy. This is the first case of PG development in a child at a former ostomy site that had been healed for 7 years. As the diagnosis of PG is clinical and treatment is empiric, clinicians must have a high index of suspicion and low threshold for initiation of therapy.

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AN UNUSUAL CAUSE FOR GI BLEED

S. K. Wasan, MD, C. S. Huang, MD. Gastroenterology, Boston Medical Center, Boston, MA.

Purpose: Agnogenic myeloid metaplasia (AMM) is a rare myeloproliferative disorder characterized by bone marrow fibrosis, marked splenomegaly, and extramedullary hematopoeisis (EMH). EMH can occur in almost any organ, but clinically significant involvement of the gastrointestinal (GI) tract is very rare.

Methods: A 62-year-old female with AMM with myelofibrosis was transferred to our institution for evaluation of overt gastrointestinal bleeding of obscure origin. She presented with a six-month history of recurrent hematochezia. Her extensive previous workup had included six negative upper endoscopies and three colonoscopies, which were unremarkable except for the presence of blood throughout the colon. Three nuclear medicine bleeding scans had also been performed, two of which showed active bleeding arising from the right lateral hemipelvis. Subsequent angiograms, however, were negative. The patient had received 17 units of PRBC over the two weeks prior to her transfer to our institution.

Results: Physical exam revealed a chronically ill patient with marked hepatosplenomegaly. Laboratory data showed a hemoglobin of 7.9 mg/dL and platelet count of 46,000/uL. CT enterography demonstrated an abnormal focal accumulation of intravenous contrast in the wall or lumen of a loop of mid-to-distal ileum, without mass or abnormal wall thickening. Angiography was again negative, and retrograde double balloon enteroscopy was nondiagnostic. Video capsule endoscopy visualized a small, smooth, dome-like protuberance arising from otherwise normal appearing small bowel mucosa at 4 hours and 40 minutes. At the apex of the lesion, there appeared to be a small umbilication, and possibly an adjacent clot. Due to the severity of her bleeding, she underwent exploratory laparotomy with intraoperative enteroscopy. A lesion was palpated in the jejunum, and endoscopically identified as the same lesion seen on capsule study. This was resected, and on gross pathology was described as a 0.7-cm submucosal nodule with mild erythema and umbilication. Histology and immunoperoxidase studies revealed a cluster of erythroid cells, granulocytic and myeloid precursors, and megakaryocytes, consistent with focal EMH. Postoperatively, the patient had no further bleeding.

Conclusion: EMH is common in patients with myelofibrosis, affecting organs containing tissue of mesenchymal origin. However, clinically significant GI tract involvement is very rare. GI bleeding from EMH in the esophagus, small bowel, and colon has been described in a small number of case reports. To our knowledge, this is the first case of GI bleeding arising from a single focus of small bowel EMH visualized on video capsule endoscopy.

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SHORTNESS OF BREATH IN A PATIENT WITH CROHN'S DISEASE

S. K. Wasan, MD,[1] A. Mammen Noronha, MD,[1] C. J. O'Hara, MD,[2] F. A. Farraye, MD, MSc[1]. 1. Gastroenterology, Boston Medical Center, Boston, MA; 2. Pathology, Boston Medical Center, Boston, MA.

Purpose: Inflammatory bowel disease is associated with various extraintestinal manifestations, with primary lung involvement being rare.

Methods: A 75-year-old female smoker with an eight year history of Crohn's disease (CD) presents for evaluation of shortness of breath. The patient underwent an ileocolectomy 16 months earlier and her CD was being treated with infliximab. Three months after surgery, she developed pneumonia that was treated with antibiotics but she continued to complain of mild shortness of breath and cough without fevers.

Results: Physical exam and laboratory data were unremarkable. A CT scan demonstrated a persistent right middle lobe infiltrate. Her infliximab was held. She underwent an extensive work up with negative sputum cultures, negative PPD, normal ACE level, a CT PA that ruled out the presence of an embolus, negative rheumatologic studies, and a non-diagnostic bronchoscopy. She ultimately underwent a right middle lobe resection given the concern for malignancy. Pathology demonstrated architectural distortion with fibrosis and coalescent non-caseating granulomas, thought to be consistent with pulmonary CD. An infectious etiology was not demonstrated by special stains and PCR. The patient was discharged to home post-resection with resolution of her shortness of breath. She was restarted on her infliximab and is currently doing well.

Conclusion: Pulmonary manifestations associated with inflammatory bowel disease include bronchitis, bronchiolitis obliterans with organizing pneumonia (BOOP), interstitial pneumonitis, necrobiotic nodules, pulmonary eosinophilia, thromboembolic disease and vasculitis. There are a few case reports in the literature of pulmonary "metastasis" of CD. Metastatic CD is characterized by the presence of extraintestinal granulomatous lesions that are often independent of intestinal inflammation. They primarily present as cutaneous lesions that are resistant to standard oral and topical therapies. Histology is important to exclude other granulomatous disorders. Most of these patients undergo resection of the involved segment of the lung. Given the significant rate of recurrence of pulmonary lesions, high dose steroids have been used with some success. Some patients have a rapid response to infliximab with sustained remission of respiratory symptoms. However, there are rare reports of interstitial lung disease thought to be an adverse effect of infliximab. Pulmonary manifestations of CD may be more common that previously appreciated and need to be considered in the differential diagnosis of CD patients presenting with respiratory complaints.

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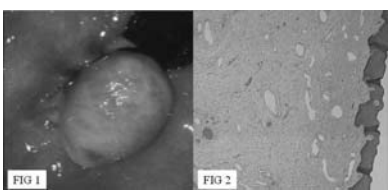
SUPERFICIAL ANGIOMYXOMA PRESENTING AS AN INTRA-LUMINAL RECTAL POLYP: A NEWLY DESCRIBED TYPE OF COLONIC NEOPLASIA

I. M. Wall, DO,[1] N. L. Badalov, MD,[1] N. Farazmand, RPAC,[2] M. Abdullah, MD,[2] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD, MPH,[1] P. Gadangi, MD[2]. 1. Department of Medicine Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY; 2. Department of Surgery, Coney Island Hospital, Brooklyn, NY.

Purpose: INTRODUCTION: Superficial angiomyxomas (SA) are rare, benign, cutaneous tumors that occur mostly on the trunk, head and neck, or lower limb. We report the first case of a superficial angiomyxoma presenting as an ano-rectal polyp. A 51 year old man presented for screening colonoscopy. A full colonoscopy was performed to the cecum. A polypoid mass was noted on retroflexion arising in the region of the anorectal junction (Figure 1). An MRI revealed only distal rectal wall thickening. The patient underwent transanal excision of a 1.5 x 2cm pigmented mass located in the anterior quadrant of the rectum at the level of the dentate line. The mass was excised with a 1 cm circumferential margin and the defect was repaired using an endorectal mucosal flap. Histological evaluation was consistent with a superficial angiomyxoma with a lack of nuclear atypia or mitoses (Figure 2). Immunohistochemical staining was focally positive for CD34 and negative for S 100, SMA, Desmin, and Fli-1. Postoperatively the patient recovered well. Superficial angiomyxoma (SA) have been reported to occur in the scrotum, buttocks and perineum but have never been described to occur intra-luminally in the rectum. Presumably the stratified squamous epithelium of the dentate line provided the tissue source for this SA lesion. SA consist of nodular mucoid tumors interspersed with small to medium sized vessels and a moderate inflammatory cell infiltrate, specifically neutrophils. Immunohistochemical staining of these lesions are variable, limiting their diagnostic usefulness. SA can occur as a part of a complex described by Carny that consists of spotty pigmentation, myxomas, and endocrine dysfunction. Clinically SA present as painless slow growing cutaneous lesions. The lesions are benign with no reported instances of metastatic disease. SA range in size from 0.5 to 14 cms. Age at presentation is between 20 and 40 years old. They have a high local reoccurrence rate of 33%. Our patient had a follow up examination at four months that revealed no gross lesion and biopsies revealed only granulation tissue. In summary we present the first reported case of a superficial angiomyxoma presenting as an intra-luminal rectal polyp. Superficial angiomyxoma should be added to the differential diagnosis of rectal polyps.

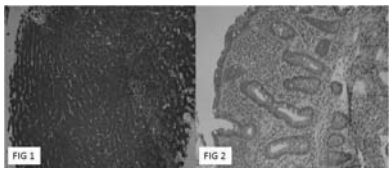


P148

HEPATOCELLULAR CARCINOMA IN A PREVIOUSLY NON-CIRRHOTIC PATIENT WITH CELIAC DISEASE 26 MONTHS AFTER SUCCESSFUL ERADICATION OF HCV

I. M. Wall, DO,[1] N. L. Badalov, MD,[1] J. Braha, DO,[1] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD, MPH,[1] M. Bernstein, MD[2]. 1. Department of Internal Medicine Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY; 2. Department of Internal Medicine Division of Gastroenterology, Coney Island Hospital, Brooklyn, NY.

Purpose: Hepatocellular carcinoma (HCC) that develops in non-cirrhotic HCV patients following SVR challenges the current dogma. Celiac disease has been shown to affect the liver. This case represents a HCV patient with F1 fibrosis and active Celiac disease(CD)who went on to develop cirrhosis and HCC 26 months after SVR. A 41 year old gentleman presented for evaluation of HCV. Evaluation revealed Genotype 3a HCV infection with a viral load of 372,000 IU/ml. Testing for other viral and metabolic liver diseases of the liver were negative. Computed tomographic scan showed no focal liver lesion. A liver biopsy revealed A1F1 disease(Fig.1). Iron deficiency anemia (IDA) prompted endoscopy. Duodenal biopsies and serology were consistent with Celiac disease (Fig.2). The HCV was treated with peg-interferon alpha 2b and ribavirin for 24 weeks achieving a SVR. Gluten free diet was also begun. The patient was lost to follow up for 2 years. Evaluation after 2 years revealed iron deficiency anemia. Serology and pathology showed active Celiac disease. The AFP was elevated at 6488 ng/ml. Testing for HCV and other viral or metabolic liver diseases remained negative. MRI revealed a nodular liver and a 2.6cm lesion in the liver. Intra operative US revealed cirrhosis with a second lesion in the liver. DISCUSSION: It is believed that patients with HCV can only develop HCC in the setting of cirrhosis. It is also believed that non-cirrhotic patients who achieve an SVR do not need surveillance for HCC. This patient began therapy for HCV with A1F1 disease and achieved an SVR but went on to develop cirrhosis and HCC 26 months later. Celiac disease (CD) was prominent in this patient. The patient was noncompliant with a gluten free diet. CD can cause "Celiac Hepatitis" consisting of mild transaminitis and a continuum of histological changes from nonspecific to cirrhosis. This case could represent HCC developing in a non cirrhotic patient with successful HCV eradication but persistent Celiac hepatic inflammation.



P149

A RARE CASE OF BUDD-CHIARI SYNDROME WITH INFERIOR VENA CAVA OBSTRUCTION IN A PATIENT WITH SICKLE CELL TRAIT

M. M. Tsushima, MD, D. Anghesom, MD, B. Runyon, MD. Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA.

Purpose: Budd-Chiari syndrome (BCS) is a rare, heterogeneous group of disorders characterized by obstruction of the hepatic venous outflow tract. The presence of hypercoagulable states, both hereditary and acquired, predisposes patients to the development of BCS. We report a rare case of BCS in a patient with sickle cell trait.

Methods: A 33-year-old African-American male with a presumed diagnosis of alcoholic liver disease cirrhosis complicated by ascites, on furosemide and spironolactone, presented with a chief complaint of mid-abdominal pain for four days. He also noted increased abdominal girth and lower extremity edema. He reportedly had been compliant with his diuretics and was on a low salt diet. He denied any fever or chills. On admission, he had a temperature of 98.8°F. Physical examination revealed icteric sclera with large, non-tense ascites and prominent abdominal wall and dorsal collaterals. Mild lower extremity edema was observed. Laboratory examination revealed a white blood cell count of 6.18 x $10^3/\mu L$ [4.8-11.8 x $10^3/\mu L$], BUN 12 mg/dL [7-20 mg/dL], creatinine 1.0 mg/dL [0.7-1.3 mg/dL], total bilirubin 2.3 mg/dL [0-1.3 mg/dL], and lipase 66 U/L [12-35 U/L]. His calculated MELD score was 16. An abdominal CT scan revealed a 2.4 x 2.9 cm lobular area of increased density in the medial segment of the left lobe of the liver, multiple collateral vessels, and extensive ascites. No contrast was seen within the inferior vena cava (IVC) above the level of the right renal hilum. Alpha fetoprotein was 1.8 ng/mL [0.0-8.7 ng/mL]. Transjugular liver biopsy by interventional radiology was unsuccessful due to inability to cannulate any hepatic vein. A chronic appearing thrombosis of the IVC was noted 1.5 cm below the right atrium. Ultrasound guided liver biopsy was performed and paracentesis revealed a SAAG of 3.06. Pathology results showed benign hepatic parenchyma with central hepatocyte dropout, hemorrhage and sinusoidal dilation consistent with BCS.

Results: The patient was started on enoxaparin. Procoagulant workup including prothrombin gene mutation 20210A, factor V, thrombin time, protein C and S, and anticardiolipin antibody were all within normal limits. However, the patient, along with his father, had a history of sickle cell trait. Due to psychosocial contraindications, the patient was not a candidate for liver transplantation. He was discharged home with enoxaparin, furosemide, and spironolactone.

Conclusion: A review of the literature revealed only two other case reports of BCS with sickle cell disease. One case involved hepatic vein thrombosis in sickle cell anemia. The second case involved IVC obstruction in sickle cell trait. We now present a third case of BCS in a patient with sickle cell disease.

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THE USE OF PERCUTANEOUS ENDOSCOPIC GASTROSTOMY FOR NUTRITION SUPPORT IN PREGNANCY ASSOCIATED WITH HYPEREMESIS GRAVIDARUM

2008 ACG/AstraZeneca Clinical Vignette Award,
2008 ACG Presidential Poster Award Recipient

M. M. Tsushima, MD, M. Walter, MD, S. Olaffson, MD. Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA.

Purpose: Hyperemesis gravidarum (HEG)is a severe form of nausea and vomiting during pregnancy. We report the use of percutaneous endoscopic gastrostomy for nutrition support in a patient with HEG.

Methods: A 25 year old G2P1 Caucasian female with a history of HEG presented at 7 6/7 weeks gestation with weight loss and persistent nausea and vomiting. After failing management with ondansetron, pyridoxine, and bland diet, she was admitted for persistent nausea and vomiting. On admission, she was afebrile and in mild distress. A weight loss from 128 lbs to 119 lbs since becoming pregnant, with a BMI of 21.1, was noted. Physical examination revealed dry oral mucous membranes. Laboratory examination revealed a transthyretin level of 19 mg/dL [11-53 mg/dL], white blood cell count of 6.84 x 10^3/µL [4.8-11.8 x 10^3/µL], BUN 12 mg/dL [7-20 mg/dL], creatinine 0.7 mg/dL [0.7-1.3 mg/dL], albumin 4.7 mg/dL [3.8-5.2 mg/dL]. Urinalysis revealed ketones >80 mg/dL. She was managed conservatively with intravenous fluids and ondansetron. A nasojejunal feeding tube was placed and enteral nutrition was initiated with prompt relief of symptoms. Osmolite 1.2 at 60 mL/hour was tolerated at goal rate. However, three days later, the feeding tube became clogged and she again complained of nausea and vomiting. A second feeding tube was placed with the end coiled in the stomach and enteral nutrition was restarted. However, the patient was unable to tolerate gastric feedings and TPN was initiated. She continued to complain of nausea and vomiting on TPN.

Results: After discussion with the patient, OB/GYN and Nutrition services, a percutaneous endoscopic gastrostomy tube with a 12 Fr J (PEG-J) tube extension was placed without difficulty. Enteral feedings resumed with improvement of symptoms and TPN was discontinued. Three days later, she again complained of nausea and vomiting. An upper endoscopy was performed which revealed jejunostomy tube tip in the gastric fundus. Using a guidewire, the jejunostomy tube was advanced further into the jejunum. She was discharged home tolerating enteral nutrition near goal rate. Occasional clogging of the jejunostomy tube at home resolved with flushes. One month later, the PEG-J tube was removed and a larger 22 Fr, 45 cm transgastric jejunal feeding tube was placed over a guidewire. At 26 weeks gestation, she weighed 165 pounds tolerating oral feeding, and the PEG-J tube was removed.

Conclusion: Enteral feeding is the preferred route of nutrition for a patient with a functional gastrointestinal tract. It also appears to be a safe and highly effective means of providing symptom relief in HEG. If patients are unable to tolerate nasogastric or nasoduodenal tubes, PEG placement may be an alternative to TPN.

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IS PLUMMER-VINSON SYNDROME A FORM OF CELIAC DISEASE?

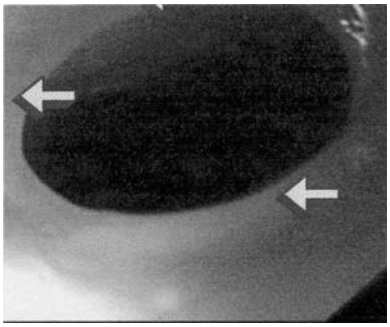
H. Tin, MD, K. Iswara, MD, FACG, J. Li, MD, FACG, S. Tenner, MD, MPH, FACG. Internal Medicine - Gastroenterology, Maimonides Medical Center, Brooklyn, NY.

Purpose: Plummer-Vinson syndrome is a rare disease characterized by iron deficiency anemia and esophageal "webs". The disorder is little understood and treated with esophageal web dilatations and iron supplementation. Celiac disease is characterized by gluten sensitivity resulting in atrophy and flattened villi in the small intestine, resulting in iron deficiency anemia, and malabsorption. Although previously shown to be associated diseases, the underlying nature of the relationship is unknown. We present a patient with both disorders who had a resolution of both disorders when avoiding a gluten free diet.

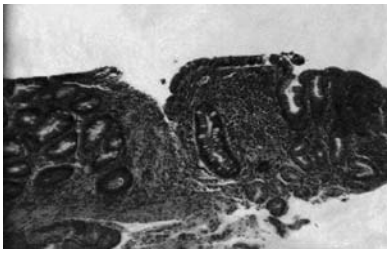
Methods: A 53 yo female with history of dysphagia and iron deficiency anemia presented for evaluation. She reported to occasional feelings of having food stuck in her throat when eating meat for the last year. She denied any diarrhea, weight lost, nausea or vomiting. There were no prior hospitalizations or surgeries. There were no medications. Physical examination was unremarkable. Laboratory analysis was remarkable for hematocrit: 30.5%, MCV: 73, serum iron: 25, iron saturation: 8%, TIBC 328, Anti-TTG >1:640. Upper endoscopy was performed, revealing a mid-esophageal web and atrophic appearing duodenum. Duodenal biopsies revealed subtotal to total villous flattening.

Results: The patient was placed on a celiac-free diet, iron supplements and repeat blood test three months later showed resolution of the anemia, hematocrit of 38%. A repeat endoscopy 1 year later demonstrated complete resolution of the esophageal web.

Conclusion: We suggest that patients with Plummer-Vinson syndrome without severe dysphagia and celiac disease be managed conservatively with direct treatment of the underlying Gluten enteropathy. This case suggests that Plummer-Vinson Syndrome may be a manifestation of Celiac disease.



Plummer-Vinson "Web" found on upper endoscopy



Total Villous Flattening – Duodenal biopsy

P152

ANORECTAL TUBERCULOSIS MIMICKING ANAL CARCINOMA

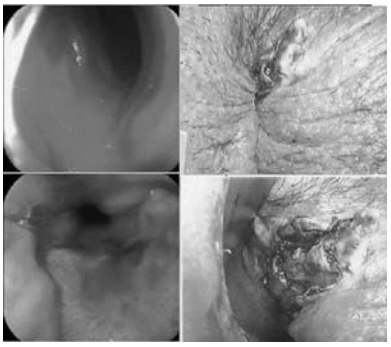
H. Tin, MD,[2] A. Torok, MD,[2] Y. Lafortune, PA,[1] S. Tenner, MD, MPH,[2] P. Gadangi, MD[1]. 1. Surgery, Coney Island Hospital, Brooklyn, NY; 2. Internal Medicine - Gastroenterology, Maimonides Medical Center, Brooklyn, NY.

Purpose: Anorectal Tuberculosis is a rare clinical variant of mycobacterium tuberculosis infection, once known as tuberculosis cutis orificialis. Patients often respond to anti-tuberculin therapy. Though uncommon, anal squamous cell carcinomas are often diagnosed by gross inspection of the anal canal, followed by biopsy confirmation and radiation therapy. Though treatment is markedly divergent, the clinical appearance of the two disorders is similar.

Methods: a 54 yo Pakistani gentlemen who presented initially to the primary care physician with complaints of an anal-rectal ulcer with pus and bleeding noted on defecation for 2-3 months. The patient denied any fever, chills, hemoptysis, diarrhea, constipation, abdominal pain, or weight lost. He denied any prior pulmonary disease, and had never undergone a screening colonoscopy. The patient had been in the United States for more than 20 years but visited Pakistan often. His last PPD was 2 years prior and negative. There were no prior hospitalizations or surgeries, no medications. There was no alcohol, tobacco or illicit drug use. Physical examination was significant for a fleshy linear ulceration at right posterior region of the anus.

Results: Colonoscopy and small bowel series to rule out Crohn's disease and other colorectal involvement was normal. Multiple biopsies were taken of the ulcerated site which was limited to the anal canal. Biopsy revealed granulomas and acid fast bacilli identified as mycobacterium tuberculosis. Subsequently patient was sent to pulmonary clinic where a PPD was read as 20 mm induration and chest x-ray showed RLL infiltration. The patient was started on four drug tuberculosis regimen. Within 4 weeks, cutaneous and pulmonary findings resolved.

Conclusion: Although tuberculous anorectal ulcer is rare, especially in the United States, this case shows the importance of considering the diagnosis in persons presenting with these findings, especially immigrants from endemic areas.



Colonoscopy: Normal ileum, rectal ulcer.
Anoscope: Linear fleshy ulceration

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SIGNIFICANT IRON OVERLOAD IN AN H63D HEMOCHROMATOSIS HETEROZYGOTE WITH CHRONIC HEPATITIS C INFECTION

L. Sooraj T K, MD, MPH, M. J. Atten, MD, B. M. Attar, MD, PhD, FACG, V. Angelova, MD, B. T. Go, MD. Gastroenterology and Hepatology, Cook County-John H. Stroger Hospital, Rush University, Chicago, IL.

Methods: Introduction: Iron overload occurs in patients with chronic hepatitis C infection (HCV), however it is usually mild. Iron is hepatotoxic, hinders therapeutic response to interferon/ribavirin, and accelerates progression to liver fibrosis while also increasing the risk of hepatocellular carcinoma. Hereditary hemochromatosis, an autosomal recessive disease, independently causes iron overload in the homozygous state. H63D mutation accounts for a minority of hereditary hemochromatosis cases, and does not cause iron overload in the heterozygous carrier state. Here we present a patient with heterozygous H63D mutation and HCV infection with significant iron overload. Case presentation: A 45-year-old female was referred for management of HCV genotype 1 infection. She had normal liver enzymes, coagulation profile, leukocyte count, platelet count, low hemoglobin of 11.8 gm/dl, and hematocrit of 34.1%. She had elevated ferritin of 639.9, and transferrin saturation of 81%. DNA analysis showed heterozygous H63D mutation. Liver biopsy showed mild fibrosis (stage 1-2/6),moderate inflammation (MHAI score 6/18), and increased iron deposition in hepatocytes on iron stain (Grade $^3/_4$). She is currently undergoing therapeutic phlebotomy prior to starting HCV therapy. Discussion: The carrier state for hemochromatosis mutations, though not associated with phenotypic hemochromatosis in otherwise normal individuals, assumes clinical impor-

tance when it occurs with HCV infection. These patients develop increased hepatic iron deposition and fibrosis. Significant iron overload in a patient with HCV, such as our patient, should raise suspicion for hemochromatosis mutations. If present these patients may benefit from phlebotomy prior to antiviral therapy.

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SMALL FIBROVASCULAR POLYP OF ESOPHAGUS- A DIAGNOSTIC CHALLENGE

L. Sooraj T K, MD, MPH, M. Demetria, MD, B. M. Attar, MD PhD. Division of Gastroenterology and Hepatology, Cook County-John H. Stroger Jr. Hospital, Rush University, Chicago, IL.

Methods: Introduction: Fibrovascular polyps are exceedingly rare benign esophageal polyps with only about 110 cases of mostly giant fibrovascular polyps reported. We present a case of a small esophageal fibrovascular polyp. Case presentation: A 51-year-old African American referred for EGD for melena showed a smooth, cylindrical pedunculated polyp measuring about 2 x 1 cm with overlying normal esophageal mucosa emanating from the upper esophageal sphincter, resembling a fibrovascular polyp (Figure 1). Biopsies obtained from the polyp are awaited. On review of records a chest CT scan and ENT evaluations done for globus sensation failed to reveal the upper esophageal polyps, which could have caused his symptoms. Discussion: Fibrovascular polyps are rare benign esophageal intraluminal pedunculated tumors with a 0.03% incidence. While small polyps are hard to diagnose, large polyps can be up to 20cm in length. Irrespective of polyp size and extent, the peduncle almost always originates from the upper esophagus. While dysphagia is the commonest symptom, the most spectacular presentation is polyp regurgitation into the mouth. Polyp tip may ulcerate and bleed, and very rarely large polyps cause laryngeal obstruction and asphyxia. Diagnosis is usually by EGD or barium swallow, but up to a third of cases go undiagnosed. Very large tumors can be mistaken for intramural tumors, but EGD findings of a peduncle in the upper esophagus and the normal overlying esophageal mucosa helps avoid potential misdiagnosis and over treatment. Histologically the polyps are most commonly fibrovascular, with fibroma, lipoma and fibrolipoma being less common. Treatment for polyps larger than 2cm, or symptomatic polyps is endoscopic, transcervical or tranthoracic excision. Small, asymptomatic polyps can be conservatively managed. Conclusion: In summary, fibrovascular polyps, though rare, should be considered in cases of unexplained dysphagia, and a thorough endoscopic examination must be made during scope withdrawal to avoid missing small upper esophagus lesions.

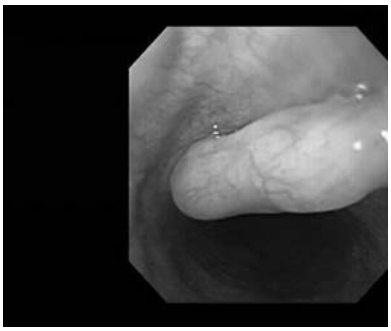

Figure 1

P155

DICLOXACILLIN-INDUCED MIXED CHOLESTATIC LIVER INJURY: TREATMENT WITH URSODIOL

A. Skopic, DO,[1] J. Lewis, MD[2]. 1. Gastroenterology, National Naval Medical Center, Bethesda, MD; 2. Gastroenterology, Georgetown University Hospital, Washington, DC.

Purpose: Background: Dicloxacillin (Diclox) is semi-synthetic penicillin (PCN) used for treatment of a variety staphylococcal infections. It is the predominant beta-lactam PCN prescribed in the US. Severe liver reactions associated with its use are very rare. Case: A previously healthy 74 year-old white male presented with a 2 week history of jaundice, severe pruritus, dark urine, nausea and anorexia. He received a 10 day course of diclox 250 mg po qid for cellulitis of his right arm one month prior to this presentation. Pretreatment LFT's had been normal. Atorvastatin, which he had taken for three years was discontinued at the onset of his jaundice. He was non-smoker and drank alcohol rarely. His physical exam was remarkable only for scleral icterus and jaundice. An ultrasound of the abdomen was normal. Serological evaluation was negative for viral, autoimmune, chronic cholestatic, and hereditary liver diseases. He was started on ursodiol 300 mg po tid and also received a short tapering course of prednisone. A marked clinical improvement paralleled a decrease in liver enzymes over the course of next several weeks. Discussion: The clinical picture of a mixed cholestatic-hepatocellular injury pattern, significant eosinophilia, and a negative evaluation for other potential causes of liver injury was felt to be most consistent with a diclox-induced drug reaction, likely due to hypersensitivity. The long prior use of atorvastatin with normal LFTs just prior to diclox excluded statin induced hepatopathy. Given the improvement in LFTs and clinical improvement on ursodiol therapy, no liver biopsy was performed. Diclox induced liver injury is rare with an estimated frequency of adverse hepatic events of 1.8 reactions per million daily doses. An immunoallergic reaction mediated through formation of drug modified hepatic protein adducts is the likely mechanism. Older age and a prolonged course of therapy are important risk factors. Mixed cholestatic injury can occur up to several weeks after taking diclox, similar to that seen with amoxicillin-clavulante. Jaundice and pruritus typically are severe and protracted. Conclusion: Bile duct loss has been reported and liver tests may remain abnormal for months after resolution of clinical symptoms, although ursodiol therapy may shorten the course.

Date	10DEC07	15JAN08	05FEB08	14FEB08	25FEB08	7May08
Total bili	0.5	4.0	8.8	6.1	3.4	0.8
Alk Phos	81	473	215	204	240	255
AST	22	131	69	70	95	62
ALT	19	283	150	129	159	75
INR	0.8	0.8	0.9	0.9	0.9	0.9
Eosinophils	1	18	3	1	1	1

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A RARE SUCCESSFUL OUTCOME OF UNCOMMON MALIGNANCY: PRIMARY GASTRIC SMALL-CELL CARCINOMA

A. Skopic, DO, D. Lee, MD. Gastroenterology, National Naval Medical Center, Bethesda, MD.

Purpose: Gastric Small-Cell carcinoma (SmCC) is a rare and aggressive tumor. There are 60 cases reported in literature. Estimated survival is 6 to 12 months. Most patients present with metastatic disease. Histologically, gastric SmCC is identical to pulmonary SmCC, therefore it is important to exclude a pulmonary primary. Combination of chemotherapy directed toward SmCC of lung with surgery offers the best chance for survival. Case: A 62-year old male presented to the ED with 12 hours of sudden, severe, persistent epigastric pain. Prior to this, the patient was asymptomatic. Past medical history included coronary artery disease, gastroesophageal reflux disease, hypertension and hyperlipidemia. Medications included clopidogrel, aspirin, ramipril, simvastatin, rabeprazole. The patient had a 20 pack-year history of tobacco use and reported rare alcohol use. Physical exam was remarkable only for mild tenderness to palpation in the epigastrium with no rebound or guarding. Data: Blood counts and chemistries were normal. Abdominal CT demonstrated a large gastric mass measuring 8.5 cm x 5.7 cm with no invasion to adjacent organs or pathological lymph nodes. PET scan demonstrated no evidence of metastatic disease. A CT of the chest, abdomen and pelvis did not show a lung primary or metastatic disease. EGD visualized a large mass in fundus of stomach. The patient underwent a total gastrectomy. The gross specimen included a 10 cm tumor with negative margins and the lymph nodes were negative for malignancy. The tumor was sent to the Armed Forces Institute of Pathology (AFIP) for a second opinion. Histologically, the tumor consisted of poorly differentiated small cells with hyperchromatic nuclei, high nucleus to cytoplasm ratio, nuclear molding, prominent necrosis and a high mitotic rate. Immunohistochemical stains were positive for CD 56, CD 117 and synaptophysin. AFIP concluded that the histologic and immunophenotypic profile supported the diagnosis of primary gastric SmCC. Discussion: Gastric SmCC is a rare disease with less that 10% long-term survival. Diagnosis is based on histological and immunohistochemical characteristics and the exclusion of a primary lung cancer. They are classified as pure-type or composite-type tumors. The TNM system is used for staging. Etiology is unclear, but most patients are men, smokers, use alcohol, and are of Japanese descent. Treatment is based on small retrospective series. The only chance for cure is total gastectomy with lymph node dissection in combination with post-operative chemotherapy. Our patient received this treatment and remains disease free, 2 years after diagnosis. This case represents a rare successful outcome of uncommon malignancy.

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SODIUM PHOSPHATE COLONOSCOPY PREPARATION UNMASKING CELIAC DISEASE

M. A. Siddiqui, MD, C. Berkelhammer, MD, FACG. Internal Medicine, University of Illinois, Oak Lawn, IL.

Purpose: Introduction: Sodium phosphate bowel preparation can occasionally cause a mild decrease in serum calcium secondary to transient hyperphosphatemia. This is rarely of clinical significance except in renal insufficiency. We describe a patient with normal renal function who developed symptomatic hypocalcemia after sodium phosphate colonoscopy bowel preparation. Further evaluation of hypocalcemia revealed her underlying diagnosis of celiac disease. Case: A 66 year old female complained of numbness and tingling of her face, arms and legs when she presented for a screening colonoscopy after taking sodium phosphate bowel preparation. She had a history of osteoporosis and was on alendronate. Baseline calcium, 25-hydroxy vitamin D, parathyroid hormone, magnesium and creatinine were normal. She had taken the standard doses consisting of 45 mls of sodium phosphate the evening before and the morning of her colonoscopy. On presentation for colonoscopy her calcium was 7.5 mg/dl, albumin 3.8 gm/dl and phosphorus 7.8 mg/dl. To further evaluate her hypocalcemia an upper endoscopy was performed which revealed classic features of celiac disease (mosaic pattern of the duodenum and notching of duodenal folds). Small bowel biopsies confirmed marked villous atrophy. Tissue transglutaminase antibody (IgA) was markedly elevated at 200 units (negative <20 units). Discussion: Celiac disease can itself predispose to hypocalcemia. The sodium phosphate load during colonoscopy preparation can precipitate hypocalcemia in susceptible individuals. Decreased mobilization of calcium from bone by alendronate may also have been contributory. Conclusion: Celiac disease should be considered in patients with normal renal function who present with hypocalcaemia after sodium phosphate colonoscopy preparation.

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SUPERFICIALLY ULCERATING LYMPHOMA OF DISTAL ESOPHAGUS MIMICKING EROSIVE REFLUX ESOPHAGITIS

M. A. Siddiqui, MD, C. Berkelhammer, MD, FACG. Internal Medicine, University of Illinois, Oak Lawn, IL.

Purpose: Introduction: Lymphoma of esophagus is rare. We present a case of superficially ulcerating lymphoma of distal esophagus mimicking ulcerative reflux esophagitis. Case: A 72 year old female with history of Hepatitis C cirrhosis, presented to an outside hospital with profound iron deficiency anemia and hemoccult positive stools. Her hemoglobin was 5.4 with an MCV of 56. Iron indices were consistent with iron deficiency anemia. Endoscopic evaluation revealed erosive reflux esophagitis and diverticulosis of colon. Her anemia responded to iron therapy, but she remained continually strongly hemoccult positive. On referral to our institution, she refused repeat endoscopic evaluation of persistently hemoccult positive stool until she developed odynophagia 11 months later. Endoscopy revealed superficial ulceration of the distal 5 cm of her esophagus. The margins of the ulceration were raised and there was no luminal compromise. Biopsy showed diffuse large B-cell lymphoma. Gastric biopsies were negative for *Helicobacter pylori*. CT scan showed a mass in the distal mediastinum in continuity with the distal esophagus. She was treated with dexamethasone and rituximab. She ultimately succumbed to an exsanguinating upper gastrointestinal bleed. Conclusion: Distal esophageal lymphoma can rarely mimic erosive reflux esophagitis. A high index of suspicion with biopsies of abnormal areas is required for early diagnosis.

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FEASIBILITY OF NON-FLUOROSCOPIC ESOPHAGEAL STENT PLACEMENT: A CASE REPORT

S. Shaikh, MD, K. Tipirneni, DO, J. R. DePasquale, MD. Gastroenterology, Seton Hall University, South Orange, NJ.

Purpose: Introduction: Esophageal stents are used for benign and malignant conditions. Type of pathology, length of lesion, distance from the upper esophageal sphincter (UES) and lower esophageal sphincter (LES) are critical in stent selection. Patients with prior esophageal surgery present additional factors to consider, such as lack of an LES. 10-40% of stent complications require re-intervention with stent migration occurring 3-6% of the time. Esophageal stent deployment utilizes direct endoscopic visualization with fluoroscopic guidance. This case illustrates a novel approach to non-fluoroscopic stent replacement. **Case Report:** A 67 year old white female with esophageal adenocarcinoma, status post distal esophagectomy with gastric pull-up, radiotherapy and chemotherapy 5 years prior, presented with shortness of breath, and dry cough exacerbated by oral intake. CT Scan: Esophago-bronchial fistula with left lower lobe pneumonia EGD: Erosions spanning 21-25cm from the incisors, with two fistulous openings immediately proximal to the gastric pull up A covered esophageal stent was placed (18mm x 12cm). One month later she experienced a recurrence of symptoms with distal stent migration into the stomach. Endoscopic manipulation showed the stent diameter to be more narrow than the esophagus, therefore it was removed. Using a marker-clip (from the initial stent) for precise placement, a wider stent (23mm x 12cm) was replaced under direct endoscopic visualization without fluoroscopic assistance. The patient's symptoms resolved and was discharged on antibiotics. **Discussion:** Multiple anatomical complexities in this case favored direct visual deployment. Post-surgical changes included a shortened, widened esophagus, no LES and fistulous openings immediately adjacent to a gastric pull-up. Lack of a distal anchoring point (LES) and proximity of the UES to the fistulas were critical considerations mandating a proximal-release. Although distal deployment is more common, proximal release with direct visualization (utilizing the previously placed marker-clip)allowed precise positioning of the bulbous deployment-end 2cm below the UES (essential to avoid complications) generously covering the distal fistulas. For additional security, to mitigate possible migration, clips were used on the bulbous end anchoring the stent. **Conclusion:** Many factors must be taken into consideration for esophageal stent selection and placement. Additional measures may be needed to mitigate migration. This case, with a unique constellation of difficulties, illustrates an alternative method for stent placement with direct visualization to ensure precise positioning.

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CONSTELLATION OF UVEITIS, SACROILEITIS, AND ARTHROPATHY ANTECEDING CROHN'S DISEASE

S. Shaikh, MD, C. Modi, MD, H. Shaaban, MD, R. S. Spira, MD. Gastroenterology, Seton Hall University, South Orange, NJ.

Purpose: Introduction: Crohn's disease is a transmural chronic granulomatous inflammatory bowel disease typically classified as stricturing, penetrating, or inflammatory. Associated extra-intestinal manifestations (EIM) occur in 21-25% of patients, most commonly arthropathy, dermatological and ocular involvement. EIM may predate quiescent Crohn's disease in 10% of patients and co-diagnosed in 14% of patients. This case illustrates a rare presentation of EIM heralding Crohn's colitis. **Case Report:** A 38 year old male with intermittent uveitis and back pain presented with bilateral knee pain for 2 months; greater in the right knee with associated fever and swelling. Physical exam revealed a large right knee effusion with no evidence of trauma or cellulitis. He denied any bowel complaints or family history of colitis. Initial labs: Hemoglobin 11.3, MCV 90, WBC 10.7 (N-75%), ESR 137, CRP 16.2, HLA-B27 (+), PPD (-) Knee aspirate (100cc): Glucose 61, WBC 42,111, RBC 3,333, Crystals and Gram Stain (-) Additional negative studies: ANA, p and c-ANCA, CCP, HIV, Lyme, and Urine Lumbar x-ray: sacroileitis NSAIDS, antibiotics and prednisone were given for presumed septic joint vs. seronegative spodyloarthropathy. Four days later the patient experienced hematochezia with no nausea, vomiting or pain. Physical exam: stable vital signs with scant blood in stool Hemoglobin remained unchanged and stool was negative for C. difficile toxin and culture; Wright stain was (+). CT: Proximal sigmoid and rectal and thickening Colonoscopy: 1+ descending colitis with no pseudomembranes; biopsies: acute and chronic transmural colitis, focal cryptitis, crypt abscesses, and prominent lymphoid aggregates Crohn's was diagnosed, azulfadine was started and steroids continued. Enteric symptoms and peripheral arthropathy improved, however axial arthropathy remained. For steroid sparing effect 6-MP was initiated. **Conclusion:** Inflammatory bowel disease (IBD) should be considered in patients with enteric symptoms and other organ involvement for a unifying diagnosis. Although Crohn's disease usually presents with enteric symptoms, 10% of patients may herald their disease with EIM, most commonly involving the eye, skin and joints. Initial presentation may resemble an autoimmune or seronegative arthropathy as in this case. Although Crohn's disease activity correlates with peripheral arthropathy and may improve with treatment, HLA B-27 associated sacroileitis and uveitis do not. Salicylates and immunomodulators are at the core of IBD therapy. In this case azulfadine was chosen for its rheumatologic and enteric effects. This case illustrates a rare occurrence of extra-intestinal manifestations predating the diagnosis of Crohn's disease.

P161

UNUSUAL COMPLICATION OF SALEM SUMP TUBE

N. Sandar, MD,[1] J. Kurz, MD[2]. 1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Gastroenterology, St. Barnabas Hospital, Bronx, NY.

Purpose: Enteral nutrition is a major component of therapy in critically ill patients. Feeding tubes passed through the nose or mouths are commonly used to administer medications and enteral nutrition, as well as to manage post-operative ileus. We report a case of an unusual complication associated with an orogastric tube (OGT).

Methods: A 45 year old man with Hepatitis C, HIV, rectal squamous cell carcinoma status post radiotherapy was electively admitted for abdomino-perineal resection because of recurrent cancer. Post operatively, he was being maintained on mechanical ventilation. He was receiving intravenous midazolam for sedation, intramuscular ketorolac for pain management and enteral nutrition via OGT for nutritional support. On day 6, the patient had a self-limited episode of hematamesis. The ketorolac was discontinued and he was put on intravenous esomeprazole. Endoscopic investigation was deferred as the patient was febrile, hemodynamically stable and had OGT aspirate revealing clear bilious fluid. The next day, he was found to have chewed through the OGT; the external piece of the tube was found outside his mouth. Radiographs confirmed the presence of the rest of the tube in the esophagus and stomach. EGD was performed. The tip of the remnant OGT was seen at 24 cm in the esophagus. It was pushed into the stomach, snared and removed through an overtube. A large ulcer was noted beginning 2 cm above the gastroesophageal junction (GEJ) and extending into the cardia of the stomach. A visible vessel was noted in the ulcer which was injected with epinephrine and cauterized using a gold probe.

Results: The patient had no further bleeding episodes but succumbed to his other comorbidities the following week.

Conclusion: In our case, even though the patient was intubated and sedated, he managed to chew through the OGT and swallow the tube remnant. This case highlights the point that care must be taken to prevent damage to the OGT by placing a bite block or oral airway, despite the fact that the patient might be mechanically ventilated and sedated. Another important point to note is that even though the OGT had been in place for a short duration prior to endoscopic evaluation, this patient had developed a large ulcer at the GEJ along the course of the tube. While NSAID administration may have played a significant role in causing the ulcer, the case nonetheless emphasizes the importance of prescribing proton pump inhibitors to critically ill patients to protect against GI bleeding, particularly in patients with additional risk factors for mucosal injury.

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PANCREATITIS AND CHOLECYSTITIS FROM GASTROSTOMY TUBE

N. Sandar, MD,[2] M. Krishnaiah, MD[1]. 1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Gastroenterology, Lutheran Medical Center, Brooklyn, NY.

Purpose: For prolonged enteral feeding, gastrostomy tubes (GT) are prefered over nasogastric tubes. Most of GT complications are minor but some can lead to significant morbidity and even mortality if not recognized early. We report a case of pancreatitis and cholecystitis secondary to migrated GT.

Methods: A 77 year old hispanic male with history of cerebrovascular accident had a GT inserted about 4 years ago. His GT was replaced with a balloon GT endoscopically about 8 months ago due to leakage around the tube. His GT was attended by a visiting nurse. He was admitted to our hospital with complaint of moderate to severe non-radiating epigastric pain associated with vomiting and leaking around the GT. Nasogastric tube was inserted and about 300 cc of greenish colored fluid was obtained. His vital signs were stable and he was afebrile. Physical exam revealed marked tenderness in the epigastrium and the GT was found to be migrated more than 10 cm into the stomach. His abnormal laboratory results were white blood cell count 17.3 x 106/L, amylase 3249 IU/L, lipase 3007 IU/L, aspartate transaminase 214 IU/L, alanine transaminase 140 IU/L, and alkaline phosphatase 165 IU/L. He had normal triglyceride and bilirubin levels. Ultrasound of the abdomen revealed distended gall bladder with thickened wall and edema consistent with acalculus cholecystitis. Computed tomography of the abdomen confirmed the ultrasound findings. It also revealed peripancreatic inflammatory changes extending into anterior pararenal spaces and paracolic gutters. GT was seen in the second portion of the duodenum with its balloon significantly distended with air and fluid. The gastric antrum, pylorus and third and fourth portion of the duodenal wall were noted to be edematous and thickened. The GT balloon was deflated and the tube was repositioned. The patient's symptoms and laboratory values significantly improved the next day and became normal over the course of 3 days. There was no more leakage around GT.

Results: The patient tolerated his feeding and was discharged uneventfully.

Conclusion: Endoscopic enteral access for enteral nutrition in patients who are unable to maintain oral intake is an important tool in the armamentarium of the gastroenterologist. Even though GT is relatively safe, sometimes it can lead to severe life threatening complications such as pancreatitis and cholecystitis if GT is not handled well. Proper care of GT by trained persons is extremely important in order to prevent GT related severe complications. This reported case clearly proved that fact.

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ANGIODYSPLASIA: LIFE THREATENING BLEEDING IN THE YOUNG

N. Sandar, MD,[1] S. Nazir, MD,[2] P. Q. Xiao, MD,[3] M. Aladdin, MD,[4] A. Go, MD, FACS,[2] S. Anand, MD[1]. 1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Surgery, The Brooklyn Hospital Center, Brooklyn, NY; 3. Pathology, The Brooklyn Hospital Center, Brooklyn, NY; 4. Interventional Radiology, The Brooklyn Hospital Center, Brooklyn, NY.

Purpose: Angiodysplasia (AD) is the second leading cause of lower gastrointestinal (GI) bleeding especially in the elderly. We report a case of a young patient with significant lower GI bleeding from AD requiring emergency surgery.

Methods: A healthy 23 year old male presented to the emergency room after passing 9 episodes of black stool associated with crampy abdominal pain and dizziness. There was no nausea, vomiting or hematemesis. He was orthostatic and tachycardic but afebrile. He denied drinking alcohol or taking any medication. Nasogastric lavage was negative. Rectal exam revealed melanotic stool. His lab values showed hemoglobin of 7.8 G/dl with normal coagulation profile. He was immediately resuscitated with intravenous fluid and 3 units of packed red blood cells without much improvement. Esophagogastroduodenoscopy was normal. Colonoscopy was attempted but it was terminated because of poor visualization due to a large amount of blood in the colon. The bleeding source was identified near the hepatic flexure in the bleeding scan. Angiography revealed early venous filling and active extravasation in the proximal ascending colon. Coil embolization of the feeding vessel was attempted with achievement of hemostasis for 5 hours. After that, the patient deteriorated again with a significant hemoglobin drop. Exploratory laparotomy with right hemicolectomy and primary anastomosis was performed. Pathology revealed an irregular 3 cm dark blue discoloration under the mucosa of the ascending colon. Histology demonstrated dilated and distorted vessels lined by endothelium with scanty smooth muscle in the submucosa consistent with AD. The patient received multiple units of blood transfusion for his massive lower GI bleeding. His postop period was complicated by anastamotic leak and he became septic for which he had to undergo reconstruction of ileocolic anastomosis and diverting loop ileostomy. He was also given Xigris for the severe sepsis. He then developed bleeding from ileostomy site. Xigris was discontinued and the bleeding was resolved. Ileoscopy revealed punctuate hemorrhages but no fresh or old blood was noted. Capsule endoscopy was essentially normal.
Results: The patient had no more bleeding episode and feeling well at his 2 month follow up visit.
Conclusion: Massive bleeding from AD in the young is very rarely described. Our patient not only had significant bleeding from AD requiring multiple units of blood, but he also presented with melena rather than hematochezia. We hope this case report will remind us that those presenting with melena,though usually implying upper GI bleeding, can also indicate bleeding from the lower GI tract. Lastly, bleeding from AD should be in the differential diagnosis of lower GI bleeding even in the young.

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CHYLOUS ASCITES DUE TO MYCOBACTERIUM AVIUM INTRACELLULARE COMPLEX (MAC) PERITONITIS
N. Sandar, MD,[1] M. Momeni, MD,[1] J. Kurz, MD,[2] M. Dahdouh, MD,[3] F. Fallick, MD[2].
1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Gastroenterology, St. Barnabas Hospital, Bronx, NY; 3. Infectious Disease Department, St. Barnabas Hospital, Bronx, NY.
Purpose: While disseminated MAC infection in AIDs patients is common, MAC peritonitis is a relatively rare phenomenon. Chylous ascites as a complication of MAC is very rarely encountered. We report a case of chylous ascites associated with MAC peritonitis in an AIDs patient.
Methods: A 41 year old male with advanced AIDS, a CD4 count of 34 and recurrent MAC infection was admitted for cough with blood tinged sputum and a 10 pound weight loss over 3 weeks. He was non-compliant with his anti-HIV medications. He had no history of liver disease and denied drinking alcohol. He was afebrile but appeared cachetic with a distended abdomen. Abnormal laboratory values included a white blood cell count (WBC) of 22 x 106/L, albumin 1.4 g/dL and alkaline phosphatase 350 U/L. Viral hepatitis serologies were negative. Echocardiogram was normal. Computed Tomography (CT) of the abdomen and pelvis revealed diffuse ascites with retroperitoneal and portacaval adenopathy. Paracentesis revealed cloudy ascitic fluid with WBC 1880/mm3 (73% neutrophil), albumin 1 g/dl, total protein 3.5 g/dl and negative cytology. His sputum, blood, ascitic fluid cultures and stool concentrate smear were all positive for MAC. The patient was started on ethambutol, amikacin, ciprofloxacin and azithromycin for treatment of MAC. Repeat paracentesis four weeks later demonstrated resolving peritonitis (WBC 119/mm3) but the ascitic fluid appeared milky. The ascites triglyceride level was 780 mg/dl. Repeat cultures were negative. He was started on a low fat diet and spironolactone in addition to intensive MAC treatment. The patient's overall general condition improved and he was discharged to a short term facility to complete treatment for MAC infection.
Results: A 6-month follow up CT scan revealed complete resolution of ascites.
Conclusion: Our case highlights the point that paracentesis should be performed in all patients with ascites for fluid analysis and further management. In patients with MAC peritonitis, if ascites does not improve with MAC therapy and diuretics, paracentesis should be repeated to re-evaluate the ascitic fluid for the possibility of chylous ascites or superimposed bacterial infection. Even though the long term prognosis for patients with chylous ascites is poor, complete resoluation of chylous ascites can be achieved as in our case with aggressive MAC therapy and additional dietary management such as medium chain triglyceride or total parenteral nutrition. Finally, MAC infection should be considered in the differential diagnosis of chylous ascites.

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THE OTHER CAMPYLOBACTER SPECIES: CAN CAMPYLOBACTER FETUS ALSO BE LINKED TO GASTROINTESTINAL MANIFESTATIONS?
R. Saha, MD, J. L. Widmer, DO, E. M. Sullivan, MD. Gastroenterology, Hepatology, and Nutrition, Winthrop University Hospital, Mineola, NY.
Purpose: Campylobacter fetus has been documented as a cause of bacteremia, and it is typically diagnosed in immunocompromised patients with a febrile illness or extra-intestinal involvement including vascular infections, abscesses, and cellulitis. Unlike its well-known counterpart, C. jejuni, it is rarely associated with gastrointestinal manifestations. We present an unusual case of C. fetus bacteremia presenting with abdominal pain and diarrhea. An 81-year old female with a history of COPD on chronic steroid therapy and pulmonary embolism presented with complaints of abdominal pain, nausea and loose stools for the past month. Physical exam was significant for RUQ tenderness with guarding. A small bowel series and RUQ sonogram were negative. CT of the abdomen revealed a RUQ inflammatory process, better defined as a duodenal hemorrhage vs. perforation without evidence of free air. An EGD revealed chronic inactive gastritis with normal duodenal anatomy. With conservative management, the patient's symptoms improved, and she was discharged home. Three days after discharge, 2/4 blood culture bottles grew C. fetus, and the patient returned to the hospital for further evaluation. At that time, she complained of intermittent periumbilical pain without diarrhea. She was afebrile and abdominal exam was benign. WBC count was 10. During her hospitalization, the patient suffered from a single temperature spike with recurrence of diarrhea. Repeat blood cultures, stool cultures, and Clostridium difficile toxin were negative. To reassess her symptoms, a repeat CT scan was performed which demonstrated no significant change. The infectious disease specialists' impression was that the Campylobacter bacteremia was likely secondary to a GI source and recommended treatment with Meropenem for 12 days. The patient recovered without further complications, and was discharged home.
Conclusion: A literature search on C. fetus yielded reports of appropriate antibiotics use, but limited information regarding clinical presentation and management. We aim to highlight an unusual presentation of Campylobacter fetus bacteremia with abdominal pain and diarrhea. This diagnosis requires a high degree of suspicion in immunocompromised hosts, and requires an adequate length of IV antibiotic therapy since it is rarely self-limited.

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EARLY ENTERAL FEEDING AND ANTICOAGULATION IN PYLEPHLEBITIS WITH HEPATIC DYSFUNCTION
R. Saha, MD, T. Wong, MD. Gastroenterology, Hepatology, and Nutrition, Winthrop Univ Hospital, Mineola, NY.
Purpose: Pylephlebitis is a rare complication of certain inflammatory processes in the gastrointestinal tract and often pose many challenges for gastroenterologists
Methods: A 54 year-old man presented with a 1 week history of epigastric pain, fevers, and decreased appetite. He had a history of diabetes mellitus, hypertension, hyperlipidemia, peripheral vascular disease and moderate alcohol use in the past. Admission vitals were BP 114/71 mmHg, pulse of 133/min and temperature of 101F. Exam revealed jaundice, distended and diffuse abdominal tenderness with a positive Murphy's sign. Labs included wbc 17.6 K/uL, albumin 4.2gm/dL, INR 1.35, total/direct bilirubin 5.7/4.3mg/dL, alkaline phosphatase 154 IU/L, with normal transaminases. HIDA scan showed decreased hepatic uptake consistent with hepatic dysfunction without cystic duct obstruction. Abdominal CT scan showed sigmoid diverticulitis with a pericolic collection and thrombosis of the left portal vein. No thrombosis was seen in the mesenteric veins. The diverticulitis was treated with meropenem. The total bilirubin increased to a peak of 9.7mg/dL and INR at 1.57 over the next 3 days. Anticoagulation therapy was initiated on day 3. Leukocytosis and fevers resolved by day 4 and oral feeding was started on day 5.
Results: Based on clinical symptoms and radiologic findings of sigmoid diverticulitis and portal vein thrombosis (PVT), pylephlebitis was diagnosed. Pylephlebitis, also known as infective suppurative thrombosis of the portal system, is a rare complication of intra-abdominal processes such as diverticulitis, appendicitis or inflammatory bowel disease. Significant controversy surrounds the benefit of anticoagulating these patients. Literature suggests that only patients with a malignancy, clotting factor deficiencies, or mesenteric vein involvement should be anticoagulated. We initiated heparin because of worsening hyperbilirubinemia and witnessed gradual hepatic function normalization. Another challenge was the timing of initiating oral nutrition since enteral nutrition may stimulate portal vein flow, further exacerbating the PVT. Oral feedings were started on day 5 without any complications. To the best of our knowledge, there is no previously published data on the issue of feeding in patients with pylephlebitis. Our patient's favorable course and prompt recovery provides anectodal evidence that enteral feeding is not contraindicated in this condition.
Conclusion: We present a rare case of pylephlebitis in which diverticulitis caused significant hepatic dysfunction due to a left portal vein thrombus. The issues of anticoagulation and enteral feeding are addressed. We believe that given the right clinical setting, enteral feeding can be started early with favorable results.

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RUMINATION SYNDROME: A DIAGNOSIS OF THOROUGH HISTORY
R. Saha, MD, R. J. Bonasera, MD, K. R. Kongara, MD. Gastroenterology, Hepatology, and Nutrition, Winthrop University Hospital, Mineola, NY.
Purpose: Rumination Syndrome is a highly under-diagnosed entity in the adult population which can be attributed to lack of awareness of the condition.
Methods: A 41 year-old man presented with complaints of vomiting 10-30 minutes after meals for three years. Past history included SLE and sleep apnea. The patient had had an extensive workup consisting of CT scans (head and abdomen), upper endoscopy, push enteroscopy, colonoscopy and a gastric emptying scan; none of which explained his symptoms. He had also undergone a "celiac release" procedure one year prior without sustained relief. Systemic steroids for SLE enteritis did not alleiviate the symptoms. Physical exam and laboratory data were unremarkable. A detailed history revealed that our patient suffered from vomiting without antecedent nausea, retching, weight loss, abdominal pain, or altered bowel habits for three years. He would often re-chew and re-swallow the vomitus.
Results: Given the clinical scenario and lack of findings on multiple radiological and invasive tests, rumination syndrome was diagnosed. This syndrome, also termed mercyism is defined as regurgitation of partially digested food particles, followed by expulsion or reswallowing with or without rechewing. Typical clinical features are adequate for diagnosis without extensive testing. Features include repetitive, effortless regurgitation of gastric contents within minutes of every meal. Regurgitation is not preceded by nausea. Mild weight loss and postprandial gastroesophageal reflux may be witnessed. Though the mechanism is unclear, it is accepted in pediatric and adult literature that no abnormalities in the structure or motility of the GI tract exist. Many have suggested that regurgitation is triggered by the Mueller Manuever which is a forced inspiration against a closed glottis. Manometric studies in ruminators have revealed spike waves corresponding to increased intra-abdominal pressure and relaxation of the lower esophageal sphincter but is not necessary to make the diagnosis. Psychological factors have also been suggested. Despite the benign nature of rumination syndrome, significant functional disability occurs secondary to frequent visits to physicians and hospitalizations in search for a diagnosis. Though there is no efficacious medical treatment yet, realizing its higher than recorded prevalence is the first step towards finding a cure. The best approach thus far has been patient education and behavioral modification, neither of which can occur without the diagnosis.
Conclusion: Patients with Rumination Syndrome usually present to multiple internists, gastroenterologists, and hospitals in search of their diagnosis. This report highlights the importance of a thorough history in an often-overlooked diagnosis.

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A "CASE" OF GRANULOMA

N. C. Ravindran, MD, M. Cino, MSc, MD. University of Toronto, Toronto, ON, Canada.

Purpose: Case Presentation: A 22 year old Vietnamese immigrant in Canada for 16 years presented with a 5 month history of abdominal pain, weight loss and diarrhea. History was negative for medical problems, medication and drug use, smoking, alcohol, gastrointestinal bleeding, constitutional symptoms, infectious contacts, recent travel and extraintestinal manifestations of inflammatory bowel disease (IBD). Family history was negative for tuberculosis, IBD and colon cancer. Physical exam showed a pale, cachectic, afebrile, hypotensive (88/54) man with no postural drop. There was mild left lower quadrant tenderness and no lymphadenopathy. Lab investigations revealed hemoglobin 117 g/L, white blood cell count 20.6 x 10^9/L, neutrophil count 16.9 x 10^9/L, mean corpuscular volume 79.1 fL and serum albumin 29 g/L. Remaining blood tests including electrolytes, creatinine, liver enzymes, amylase and TSH were within normal limits. Serum endomysial antibody and stool testing were negative. Colonoscopy showed a fistulous opening at the base of the cecum, marked mucosal nodularity with multiple pseudopolyps, deep ulcers and areas of denudation in the cecum, ascending and mid-transverse colon. Corticosteroid therapy was deferred due to possibility of tuberculosis. Intestinal biopsies showed moderate acid-fast bacillus with necrotizing granulomas. Nucleic acid amplification test was positive for Mycobacterium tuberculosis complex. The patient's gastrointestinal symptoms improved with antituberculous treatment and he made a full recovery. Discussion: Our case illustrates three important principles in the diagnosis and treatment of gastrointestinal tuberculosis (GI TB). First, tuberculosis infection should be considered in patients with clinical, endoscopic, radiological and histopathological features of Crohn's disease, especially where there is a predominance of ileal and cecal involvement. Immigration from a country with known endemic tuberculosis is an important risk factor, even if immigration is a remote event. Nonspecific symptoms of GI TB include fever, night sweats, weight loss, abdominal pain and diarrhea. Diagnosis of GI TB is based on detection of acid-fast bacilli in tissue or stool. Second, it is important to exclude the possibility of tuberculosis before the commencement of corticosteroid therapy, often used in the treatment of IBD, since corticosteroid therapy will increase morbidity of the patient with GI TB. Third, treatment of GI TB is primarily medical and although complications such as fistula formation, perforation and hemorrhage may require surgery, it is possible to treat gastrointestinal fistulae due to tuberculosis successfully with medical therapy alone.

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TROPICAL PANCREATITIS: A CASE REPORT

N. C. Ravindran, MD, P. Kortan, MD. University of Toronto, Toronto, ON, Canada.

Purpose: Case Presentation: A 29 year old female immigrant from India presented with a 5 month history of recurrent abdominal pain. Past medical history was significant for vitamin B12 deficiency, iron deficiency anemia and acute pancreatitis. History was negative for smoking, alcohol, drug use, gallstone disease, constitutional symptoms and medication use. Lab work was unremarkable. Abdominal CT showed extensive calcification within the head, body and tail of the pancreas and dilated pancreatic ducts. Endoscopic retrograde cholangiopancreatography (ERCP) showed a pancreatic duct stricture in the neck of the pancreas. Stent placement did not relieve pain. Repeat ERCP showed multiple calcified stones with a large stone in the head of the pancreas causing obstruction. Endoscopic shock wave lithotripsy (ESWL) and ERCP were attempted for stone removal but were unsuccessful. Surgical decompression (lateral pancreaticojejunostomy) was effective in achieving pain relief. The patient was diagnosed with Tropical Pancreatitis (TP). Discussion: TP is a form of chronic pancreatitis (CP) found in people residing within 30 degrees of the equator (Asia, Africa, South America). It is the most common type of CP in India, accounting for approximately 70% of patients with CP. The etiology of TP is unknown. Environmental factors and decreased inhibitory capacity within the pancreas (SPINK1 mutation) have been implicated. Characteristic features of TP include young age at onset, residence in the tropics, absence of alcohol use, no other cause of CP, large duct disease with ductal dilatation, large pancreatic calculi (predominantly in the head) and chronic abdominal pain. Patients can develop nutritional deficiencies and insulin-requiring diabetes. They are at high risk of pancreatic cancer. Management is directed towards pain relief, and control of diabetes and steatorrhea. ERCP coupled with ESWL has been used for stone fragmentation and removal in patients unresponsive to medical therapy. Recently, surgical decompression and drainage have been shown to be more effective than endoscopic treatment in patients with obstruction of the pancreatic duct. TP is an important diagnosis to consider in an immigrant patient from the tropics with chronic abdominal pain and pancreatic calcification.

P170

ISOLATED SPLENIC VEIN THROMBOSIS IN A PATIENT WITH POLYCYTHEMIA VERA

A. Rackoff, MD, P. G. Brady, MD. Division of Digestive Diseases, Univ of South Florida, Tampa, FL.

Purpose: Polycythemia vera (PCV) is a known cause of hypercoagulable states, however, isolated splenic vein thrombosis associated with PCV is only rarely reported. We report a case of the insidious onset of a splenic vein thrombosis presenting as an upper gastrointestinal bleed in a patient with PCV. Case: A 46 year old white female presented to the emergency room with complaints of melena for four days. She denied vomiting and abdominal pain associated with the melena. Her history was significant for polycythemia vera for which she had not seen a physician in years. She reported intermittent phlebotomy in the past. She denied non-steroidal anti-inflammatory use. Hemodynamics were significant for orthostasis, and presenting labs revealed a hemoglobin of 6.9 gm/dL. Abdominal examination was normal. After volume resuscitation, an esophagogastroduodenoscopy was performed. This revealed a normal esophagus and duodenum but multiple large, gastric varices with red marking signs in the gastric fundus. The finding of isolated gastric varices prompted an evaluation for a splenic vein thrombosis. An ultrasound Doppler exam revealed patent portal veins and a patent splenic vein at the level of the splenic hilum. As this did not exclude the possibility of a more central splenic vein occlusion, a CT venogram was ordered for confirmation. This revealed non-visualization of the splenic vein, suggesting a chronic splenic vein thrombosis. Extensive collateral formation was noted around the stomach and spleen. The patient underwent splenectomy with gastric devascularization and ligation of gastric and retroperitoneal varices as definitive treatment. The patient had a full recovery. This case highlights the importance of maintaining a high level of suspicion for the consequences of thrombosis in unusual locations in patients with hypercoagulable states. This case also demonstrates the relative lack of sensitivity of extracorporeal ultrasound for the diagnosis of splenic vein thrombosis.

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LOOKS CAN BE DECEIVING: CAP POLYPOSIS

A. Rackoff, MD,[1] P. Kulkarni, MD[2]. 1. Division of Digestive Diseases, Univ of South Florida, Tampa, FL; 2. Gastroenterology, James A Haley Veterans Hospital, Tampa, FL.

Purpose: Cap polyposis is a rare condition characterized by erythematous, inflammatory colonic polyps covered by a cap of fibropurulent mucous. Etiology is largely unknown, but may be related to abnormal colonic motility. Symptoms may include rectal bleeding and mucoid diarrhea. Optimal treatment has not yet been established. Case: A 66 year old male underwent a colonoscopy for intermittent painless hematochezia. He denied weight loss, diarrhea, abdominal pain, fevers, or family history of colon cancer. Past medical history was unremarkable. Lab tests revealed hemoglobin of 14 gm/dL. Abdominal exam was benign. Colonoscopy revealed several 10 to 25 mm sessile, friable recto-sigmoid polyps which appeared to have an overlying exudate. Several were removed with the initial pathology revealing hyperplastic polyps with ulceration and granulation tissue. From the appearance of the initial colonoscopy, malignancy was still entertained despite the benign findings on pathology. A repeat endoscopic examination revealed more coalesced polyps into a 7 cm fungating, friable appearing recto-sigmoid mass. Biopsies revealed fibropurulent exudate and benign inflammatory mucosal prolapse polyps. Continued concern for malignancy prompted endoscopic ultrasound examination which revealed these lesions to be T1. Pathology review and consensus diagnosis was Cap polyposis. Multiple courses of antibiotics, as recommended, were tried for treatment without regression on repeat endoscopy. Persistent rectal bleeding and concern for possible underlying malignancy led to the patient electing to undergo a low anterior resection of the involved area. Final pathologic diagnosis specimen revealed inflammatory polyps without dysplasia, consistent with Cap polyposis. The post-operative course was complicated, including an anastomotic leak and abscess formation leading to a prolonged hospitalization. Our case demonstrates the need to use caution in treating this rare but benign disease. Efficacy of current medical treatment is unclear. As surgical intervention may lead to unnecessary morbidity, a conservative approach with periodic endoscopy with biopsies and EUS may be adequate.

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SYMPTOMATIC ANNULAR PANCREAS IN AN ELDERLY ADULT DIAGNOSED BY EUS AND SECRETIN MRCP

S. D. Pollack, MD, V. Joshi, MD. Gastroenterology, Tulane University School of Medicine, New Orleans, LA.

Purpose: Annular pancreas (AP) is a rare congenital abnormality in which the ventral portion of the pancreas fails to rotate with the duodenum during embryological development, thus causing the ventral portion to remain partially or fully enveloped around the duodenum. The incidence of AP is unknown, as many cases are asymptomatic and undiagnosed. Adults with AP may present with a variety of symptoms suggestive of gastric outlet obstruction, or may present with gastrointestinal bleeding, pancreatitis, or biliary obstruction. Although as many as 50% of patients present in adulthood, there have been no published reports of cases above the age of 76. Surgery continues to remain the diagnostic "gold standard" for AP, but imaging techniques such as computed tomography (CT), magnetic resonance imaging, endoscopic retrograde cholangiopancreatography (ERCP), and endoscopic ultrasound (EUS) can now be used to make the diagnosis. We report the case of an 85 year old gentleman who presents with symptoms of partial gastric outlet obstruction who was diagnosed with AP by EUS and secretin magnetic resonance cholangiopancreatography (MRCP).

Results: An 85 year old gentleman with a past medical history of hypertension, diabetes, and cerebrovascular disease was admitted to the hospital for the evaluation of intermittent abdominal pain, nausea, vomiting, and weight loss. CT of the abdomen revealed a soft tissue mass surrounding the second portion of the duodenum causing duodenal compression. Esophagogastroduodenoscopy revealed a narrowed duodenal lumen as well as the presence of a duodenal diverticulum. EUS was performed revealing the soft tissue mass to be pancreatic tissue of normal echogenicity with the presence of an annular duct confirming the diagnosis of AP. ERCP was unable to be performed as the major papilla was within the duodenal diverticulum and could not be cannulated. Dynamic MRCP, with the intravenous administration of secretin, was performed to evaluate both the pancreatic and biliary ducts revealing no ductal dilatation but again confirming the diagnosis of AP.

Conclusion: AP is a rare presentation in the elderly, yet a high index of suspicion needs to be maintained in elderly patients with a presentation of gastric and duodenal outlet obstruction. We highlight the role of EUS and secretin MRCP as highly sensitive and safe modalities compared to standard ERCP, with its associated risk of pancreatitis, to diagnose AP and its associated ductal abnormalities.

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POST-TRANSPLANT LYMPHOPROLIFERATIVE DISORDER, HYPERVISCOSITY SYNDROME AND WALDENSTROM'S MACROGLOBULINEMIA IN A PATIENT WITH ORTHOTOPIC LIVER TRANSPLANT

S. D. Pollack, MD, T. Parambil, MD, F. Regenstein, MD, S. Joshi, MD. Internal Medicine, Tulane University School of Medicine, New Orleans, LA.

Purpose: Background: Post-transplant lymphoproliferative disorder (PTLD) is a serious and potentially fatal complication of chronic immunosuppression in organ transplant recipients. PTLD is usually characterized by large-cell lymphomas, a great majority being of the B-cell type. Waldenstrom's Macroglobulinemia (WM) is a disorder characterized by the production of excess IgM monoclonal proteins along with an underlying mostly indolent malignant lymphoproliferative disorder. WM is treated with chemotherapy, such as rituximab, alkylators, nucleoside analogues, or combinations that include rituximab. Hyperviscosity syndrome is present in approximately 30 percent of patients with WM, and is treated with urgent plasmapharesis. Although these disorders have been reported either by themselves or in combination, we report a patient with liver transplant who had PTLD, WM, and hyperviscosity syndrome. **Case Report**: A 55 year-old male with orthotopic liver transplant for cirrhosis secondary to hepatitis C, developed PTLD 15 months after transplantation. He was treated with rituximab. Twenty eight months after transplantaion, the patient developed altered mental sta-

tus and respiratory failure requiring endotracheal intubation and mechanical ventilation. There was increased viscosity of blood on initial phlebotomy. Initial abnormalities in blood were: sodium 127 mmol/L, urea nitrogen 67 mg/dL, creatinine 4.5 mg/dL, total protein 11.2 g/dL, albumin 1.6 g/dL, platelet count 144,000/dL, uric acid 19.8 mg/dL, ammonia 25 mmol/L, viscosity 13.75 cP (centipoises), IgG 2,073 mg/dL, IgM 8,949 mg/dL and IgA 2,036 mg/dL. The patient underwent urgent plasmapharesis with improvement of mental status over the following 2-3 days, with successful extubation and return of baseline mental function. Serum protein electrophoresis showed a large monoclonal spike in the gamma region. Serum immunofixation electrophoresis (IFE) showed an IgM type kappa monoclonal protein with additional bands of IgG, IgA and lambda. Urine IFE was positive for monoclonal free kappa light chains (Bence-Jones protein) and monoclonal IgM heavy chain with associated kappa light chain and excess monoclonal free kappa light chains. Bone marrow biopsy was suggestive of a B-cell lymphoma. The patient was then diagnosed with WM and treated with rituximab. **Discussion**: As of now, there are no reports of Waldenstrom's macroglobulinemia and hyperviscosity syndrome associated with post-transplant lymphoproliferative disorder in a liver transplant recipient. Our case is an example of a patient who benefited from prompt recognition of this disorder and urgent plasmapharesis.

P174

COLITIS CYSTICA PROFUNDA OF THE RIGHT COLON MIMICKING COLONIC POLYPOSIS

K. Perumalsamy, MD, A. Borensztein, MS, N. Segal, MS, K. Iswara, MD, J. Li, MD, S. Tenner, MD. Maimonides Medical Center, Brooklyn, NY.

Purpose: Colitis Cystica Profunda (CCP) is a rare, benign condition that can often provoke a diagnostic dilemma. CCP was shown in study to be confused with adenocarcinoma in up to 25% of cases. CCP is most commonly found in the distal colon. Isolated right colonic CCP is rare and we report a case of CCP of the right colon referred for further management of colonic polyposis.

Methods: 50 year-old woman with no prior PMHx underwent screening colonoscopy. She was found to have multiple sessile growths in the right colon. She was referred for further mangement of right colonic polyposis. During repeat Colonoscopy numerous sessile and polyploid lesions with smooth and tense mucosal surface consistent with submucosal cystic lesions seen in the right colon. These lesions were mainly grouped together in clusters and measured between 0.5cm and 1cm in diameter. On needle inspection, these lesions were found to have a liquid, mucinous content and the cystic structures collapsed.

Results: CCP is characterized by the presence of mucin-filled cysts confined to the submucosa most frequently seen in the distal colon. CCP is most often seen in the 3rd and 4th decades of life and has equal predilection for men and women. It is often found in association with solitary rectal ulcers and rectal prolapse as well as defecation disorders.CCP has also been seen in patients with chronic inflammation or trauma such as Crohn's disease, ulcerative colitis and radiation colitis. While several theories have been proposed, it is believed that trauma or chronic inflammation most likely leads to the production of these cysts. The cysts can appear as ulcerated (57%), polyploidy (25%), or flat (18%).The majority of lesions are found in the distal colon, often between 5 and 12 cm from the anal margin on the anterior wall. However, the cysts can be found through the colon and even, rarely, in the small intestine and the stomach. It can also have a segmental distribution or, least frequently, it can present as pancolitis.The lesions seen in CCP have often been mistaken for adenomatous polyps and even adenocarcinoma. Histopathologic analysis can demonstrate mucin pools with flattened epithelial lining within the submucosa. In patients with minimal symptoms, conservative treatment is indicated. The treatment is aimed at reducing straining during defecation by retraining habits, as well as high fiber diets and bulk laxatives. These measures have been demonstrated to cause complete regression within a 6-12 month period in various studies. When rectal prolapse is the cause, surgical correction is indicated to correct the problem.

Conclusion: Isolated right colon CCP is rare and should be considered in the differential diagnosis of multiple polyposis syndrome

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SUCCESSFUL ENDOSCOPIC CLOSURE OF A GASTRO-GASTRIC FISTULA WITH ENDO-CLIPS

K. Perumalsamy, MD,[1] M. Muthusamy, MD,[2] M. Abdullah, MD,[1] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD[1]. 1. Division of Gastroenterology, Division of Medicine, Maimonides Medical Center, Brooklyn, NY; 2. Division of Surgery, Coney Island Hospital, Brooklyn, NY.

Purpose: Roux-en-Y gastric bypass (RYGBP) is a mainstay of bariatric surgical therapy. A Gastro–Gastric Fistula (GGF) is an infrequent but potentially serious complication of gastric bypass, and clinicians often have difficulty establishing the diagnosis. We report a novel endoscopic technique of successful management of GGF using APC and endo-clips.

Methods: A 31-year-old woman with a BMI of 44 underwent a laparoscopic divided ante-colic Roux-en-Y gastric bypass (RYGBP), with creation of a 30-cc gastric pouch. Her immediate post-operative course was unremarkable. She was discharged home on the 6th post-operative day. Two months later, she complained of persistent postprandial nausea and emesis. An upper GI series performed revealed a GGF, with preferential flow into the bypassed stomach (Fig 1). Despite this finding, she has achieved a 70% excess weight loss. The patient had elected not to pursue revisional surgery. Upper Endoscopy was performed. No marginal ulcerations noted. GGF was identified at the cardia. Twice daily PPI's did not improve her symptoms. Two weeks later repeat endoscopy was perfomed. A guide-wire was passed through the fistula. Fluoroscopy confirmed the position of the cannula in the distal stomach pouch. APC of the fistula tract was done. Two Boston Scientific Resolution Clips were used to close the fistula after APC of the tract. The patient was sent home on twice daily PPI. Her symptoms improved. Repeat upper GI series three weeks later showed closure of GGF (Fig 2)

Results: Although a gastro-gastric fistula is currently an uncommon complication of RYGBP, historically GGF was one of the most common complications after undivided RYGBP, occurring in up to 50% of patients. This complication rapidly declined with the introduction of laparoscopic gastric bypass with an incidence ranging from 0-6%. Multiple factors likely to play a role in the formation of a GGF. Failure to completely transect the gastric pouch from the bypassed stomach, gastrojejunal anastomotic leak, anastomotic or marginal ulcerations, and obstruction of the Roux-limb distal to the anastomosis is few of the causes of formation of GGF. In patients with a clearly identifiable GGF on contrast study and/or endoscopy who demonstrate poor weight loss, revisional surgery should be considered. In patients with demonstrable GGF but good weight loss, PPI therapy should be used to treat symptoms.

Conclusion: In symptomatic patients, as we have shown, obliterating the fistula tract using APC and closure of GGF using endo-clips should be considered safe and effective.

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EARLY IDENTIFICATION OF BILIARY PAPILLOMATOSIS THROUGH ENDOSCOPIC EVALUATION OF THE COMMON BILE DUCT

K. Perumalsamy, MD, J. Tin, MD, K. Iswara, MD, J. Li, MD, S. Tenner, MD, MPH. Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY.

Purpose: Biliary Papillomatosis is a rare pre-malignant condition which is being increasingly recognized as imaging of the common bile duct improves. Early identification remains important in preventing morbidity and mortality from subsequent cholangicarcinoma. We report the first case of using Spy-Scope (choledochoscopy)in establishing the diagnosis of intraductal biliary papillomatosis.

Methods: A 64 year old Asian gentleman presented with RUQ abdominal pain and weight loss of few months duration. There was no fever, chills, nausea or vomiting. Recently, several friends had told him he looked "yellow". Physical examination revealed an icteric male with right upper quadrant tenderness. Laboratory analysis demonstrated an elevated bilirubin to 3.5 mg/dl, direct 2.5 mg/dl. The AST was elevated to 180 U/L, ALT 220 U/L, alkaline phosphatase 280 U/L and a normal albumin of 3.8 mg/dl. MRI of the abdomen, including MRCP, revealed dilatation of the right hepatic duct and mild intra-hepatic ductal dilation. Cholangiogram showed amorphous filling defects in the right main duct and filling defects in the right intra hepatics. Sphincterotomy was performed. Balloon sweep retrieved friable non-specific debris. To further characterize the filling defects in the biliary tree, a choledochoscope was introduced (Spy Glass, Boston Scientific). On direct visualization, multiple, soft, fleshy, mobile, polypoid growths with fine villous projections on the surface were seen in the intra hepatic ducts. Targeted biopsies were taken from the polypoid tissue using small forceps. Biopsy showed exophytic papillary adenoma and fibro-vascular stroma consistent with Biliary Papillomatosis.

Results: Biliary papillomatosis is a rare but increasingly recognized neoplastic disorder of the biliary tree. Common clinical presentations include repeated episodes of abdominal pain, jaundice, acute cholangitis, hemobilia and mucobilia. The disorder typically affects middle aged adults, male to female ratio of 2:1. There is a high malignant potential which progresses via the adenoma-carcinoma sequence. Due to a degree of malignant transformation, surgical resection is necessary.

Conclusion: Given the importance of early identification and treatment of this disorder, this novel method as described with endoscopic visualization of the biliary tree (Spy-Scope) should be considered in select patients suspected of having biliary papillomatosis.

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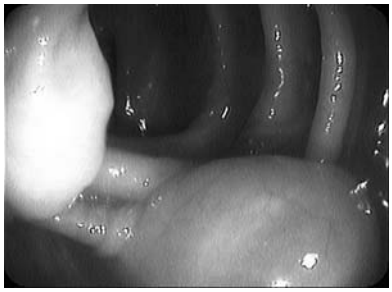
PRIMARY PNEUMATOSIS INTESTINALIS ON ROUTINE SCREENING COLONOSCOPY

P. Patel, MD,[2] A. Zamir, MD, FACG,[3] M. G. Nathani, MD, FACP, FACG[1]. 1. Gastroenterology, Kelsey-Seybold Clinic, Houston, TX; 2. Internal Medicine, Baylor College of Medicine, Houston, TX; 3. Internal Medicine, RAHC, Harlingen, TX.

Purpose: INTRODUCTION: Primary Pneumatosis Intestinalis (PI) is a rare clinical entity. It is often termed as pneumatosis cystoides intestinalis. It is a benign idiopathic condition characterized by multiple thin-walled cysts in the submucosa or subserosa of the colon. It is usually identified on abdominal x rays or CT scans. The identification on routine screening colonoscopy is extremely rare. We present a case where PI was identified as an incidental finding in an asymptomatic patient.CASE: This is a case of a 60 year old male with past medical history of hypertension and type II Diabetes. He presented for a routine screening colonoscopy. He did not have any acute GI symptoms.His bowel prep was uneventful. The colonoscopy suggested multiple large cystic lesions in the transverse and the proximal descending colon. These lesions appeared to be submucosal and 5-10 cm in sizes. The mucosa was shiny and cysts appeared to be air-filled. The patient did not have any significant gastrointestinal symptoms after the colonoscopy. He had a CT scan performed 3 days later which was normal suggesting spontaneous resolution of the cystic lesions. No obvious etiology was identified to explain the findings. DISCUSSION: PI in adults typically presents in the fifth to eighth decade and is idiopathic/primary (15 percent) or secondary (85 percent) to a wide variety of gastrointestinal and non-gastrointestinal illnesses. PI is considered an ominous finding in ischemic bowel disease. The disease is seen in other conditions, including chronic obstructive pulmonary disease, connective tissue disorders, infectious enteritis, steroid use and chemotherapy. It has also been reported after colonscopy, instrumentation and trauma.The treatment of Primary PI is conservative management. The secondary PI is often a serious illness and requires treatment of the underlying disease. The authors have done over 30000 endoscopies and this is the only case of coincidental asymptomatic pneumatosis intestinalis CONCLUSION: Pneumatosis Intetinalis is a sign rather than a disease. It is usually a result of serious underlying abdominal catastrophe. The idiopathic PI is less common and usualy recognized on imaging studies. The diagnosis on routine endoscopy is extremely rare and the treatment is usually conservative.



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PORTAL VEIN THROMBOSIS AFTER GASTRIC BYPASS SURGERY

P. Patel, MD,[2] A. McGee, MD,[1] M. G. Nathani, MD, FACP, FACG[1]. 1. Gastroenterology, Kelsey-Seybold Clinic, Houston, TX; 2. Internal Medicine, Baylor College of Medicine, Houston, TX.

Purpose: INTRODUCTION : Portal vein thrombosis is a very rare complication of gastric bypass surgery. We present a case of a young lady who presented with post-operative portal vein thrombosis leading to complications of portal hypertension and causing cavernous transformation of portal venous system. CASE: This is a 37 year old Caucasian woman with past medical history of obesity, congenital absence of right kidney and endometriosis. She underwent a Roex-en-Y gastric bypass surgery. A couple of weeks later, she presented with abdominal pain. Initially, there was suspicion of pancreatitis but was not confirmed. She was later diagnosed with portal vein thrombosis. Coagulation studies were negative. She was placed on warfarin and did well for several months. She then presented with acute gastrointestinal bleeding, anemia and thrombocytopenia. She required urgent upper endoscopy. There were multiple large esophageal varices identified and endoscopic band ligation (EBL) was performed. Ultrasound and CT scan suggested ascites, splenomegaly and nodular liver. There was an initial concern for possible cirrhosis. Liver biopsy was performed using a transjugular approach. The biopsy suggested minimal iron overload with no evidence of cirrhosis. The Doppler study was non diagnostic. Angiographic evaluation of portal system was performed suggesting thrombosis of splenic vein, portal vein and superior mesenteric vein with cavernous transformation of portal system. The surgical options were limited. Since then, she has been managed with beta blockade and periodic EBL. She has not had any further bleeding episodes in the last 6 months. Her ascites has resolved but thrombocytopenia and splenomegaly have persisted. DISCUSSION: Portal Vein thrombosis is an extremely rare complication of gastric bypass surgery. The database is very limited in terms of management and prognosis of patients with portal vein thrombosis after bariatric surgery. The portal vein thrombosis may be related to intra-operative injury to portal vein or may present post-operatively. The former is a life threatening complication and may require liver transplantation. The post-operative portal vein thrombosis without portal vein injury has a relatively benign course. However, our patient progressed to complications of portal hypertension with limited surgical options available for treatment. CONCLUSION:In summary, this is a case of a patient with an unusual complication of bariatric surgery. She presented with portal vein thrombosis, eventually developing stigmata of portal hypertension. With an increase in the number of bariatric surgeries, we may be able to characterize and recognize unusual complications and come up with treatment modalities.

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PRESENTATION OF METASTATIC LEIOMYOSARCOMA OF THE UTERUS AS UPPER GI BLEEDING

J. K. Patel, MD, J. Ventura, MD, A. A. Patel, MD. Internal Medicine, Jamaica Hospital Medical Center, Jamaica, NY.

Purpose: The uterine leiomyosarcoma (LMS) is a rare sarcoma arising from the smooth muscle cells found within the myometrium. Smooth muscle is found in most hollow organs and the walls of blood vessels, but LMS most commonly occur in the uterus and gastrointestinal tract. Uterine LMS represent 25-35% of uterine sarcomas and 1% of all uterine malignancies. We present a case of LMS metastasis to the duodenum, which is very rare.

Methods: A 46 y/o Guyanese female was admitted with complaints of weakness, palpitation, dizziness and black stool for 2 weeks. The patient also reported wight lost of about 10 lb after she started passing dark stool. The patient had a significant past surgical history of hysterectomy 3 years prior secondary to uterine leiomyosarcoma, as well as hypertension. She had a family history of diabetes, hypertension and breast cancer on her maternal side.

Results: On physical examination, a cachexic appearance with pale mucosal membrane observed. Abdomen was soft, non-tender, non-distended without evidence of hepatosplenomegaly. A healed surgical scar noted on lower abdomen. Examinations of rest of the systems were normal. Stool guaiac was positive. Laboratory evaluation revealed microcytic anemia. Serum chemistry and liver function tests were normal. Since patient had history of dark stools, a gastroscopy was conducted, which revealed small hiatus hernia and ulcerated mass in the bulb immediately after the pylorus, in the first part of the duodenum. Biopsy was taken and sent for histopathology, which showed atypical spindle cells that were consistent with old biopsy of uterus. Diagnosis of metastatic leiomyosarcoma into the duodenum was made and patient referred to the hemato-oncologist for further therapy.

Conclusion: Diagnosis of uterine LMS carries a poor prognosis due to the high rate of recurrence and metastases. The common sites of metastases of uterine LMS are the lungs, kidney, and liver. LMS can develop anywhere along the gastrointestinal tract, including the stomach, rectum and large and small intestines. Around fifty percent of intestinal LMS cases present in the ileum, the lowest part of the small intestine. Upon review of the literature, this case represents only the third other published report of uterine LMS metastasis to the duodenum.

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AN ENIGMATIC ENTITY - IDIOPATHIC GRANULOMATOUS APPENDICITIS

J. K. Patel, MD, K. Patel, MD, K. L. Cervellione, MA, A. A. Patel, MD. Internal Medicine, Jamaica Hospital Medical Center, Jamaica, NY.

Purpose: Granulomatous appendicitis (GA) is a rare condition occurring in 0.1% to 2% of all appendectomies. Possible etiologies of GA include Crohn's disease (CD), sarcoidosis, foreign body reaction, obstruction caused by fecalith, mucocele or tumor and infectious agents such as mycobacterium, fungi and parasites. Idiopathic granulomatous appendicitis (IGA) is an extremely rare condition with unknown etiology.

Methods: A 29-year-old male presented with complain of right lower quadrant (RLQ) pain for 6 months. In addition, patient had nausea, vomiting, diarrhea, fever and chills.

Results: On abdominal examination, localized tenderness present in the RLQ with positive rebound. On laboratory investigation, patient had leukocytosis with normal hemoglobin, amylase and lipase. Patient was admitted for same episodic complaint 6 months and 4 months prior; perforated appendix with peritonitis was diagnosed at those times, but patient refused surgery. He was treated with oral antibiotics and advised to follow-up in surgery clinic. The patient now presented with same complain. Intravenous antibiotics were started; CT scan revealed phlegmon in RLQ. Patient underwent laparoscopic appendectomy. On laproscopy, there were local chronic inflammatory process with fibrosis and adhesion on the lateral wall, which complicated the procedure. Therefore, open laprotomy was attempted. Appendix and cecum was inflamed so appendectomy was completed along with right hemicolectomy and terminal ileactomy. Biopsy of appendix revealed focal ulceration, mucosal necrosis, transmural acute and chronic inflammation with crypt abscess, and multiple small non-necrotizing granulomas with multinucleated giant cells in lamina propria, submucosa and muscularis mucosa. Stain for fungal, acid fast bacilli and Yersinia organisms were negative. Histopathology of right colon and terminal ileum revealed scattered inflammatory cell infiltrate without evidence of cryptitis, crypt abscess or granuloma. Mesenteric lymph nodes showed benign acute and chronic inflammatory infiltrate. Patient was discharged without further episodes.

Conclusion: IGA is an extremely rare condition with unknown etiology, though it is theorized that it may be associated with recurrent and subacute appendicitis. Recurrent appendicitis produces granulomatous reaction secondary to inflammation. Use of temporary treatment, such as antibiotics, delays the need for appendectomy, but may inclrease chances of developing IGA. IGA was initially thought to be part of the Crohns Disease spectrum, but recent studies show that IGA has different histopathological features than CD and that only 5 to 10% of IGA patients eventually developed CD. IGA should be considered in cases that mimic the illness course described here.

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IDIOPATHIC PNEUMATOSIS COLI PRESENTING AS AN ISOLATED SUBMUCOSAL MASS CONFIRMED BY ENDOSCOPIC ULTRASOUND

T. Park, MD, A. Ullah, MD, A. N. Shah, MD, MACG. Gastroenterology, University of Rochester, Rochester, NY.

Purpose: Pneumatosis coli, also known as pneumatosis cystoides intestinalis (PCI), is a rare condition involving gas in the bowel wall. Primary, or idiopathic, PCI is an uncommon form, comprising 15% of all cases of PCI. We present a case where a patient with idiopathic, isolated PCI was misdiagnosed in the community and referred to our institution, where we made the diagnosis with endoscopic ultrasound.

Results: A 54 year-old Caucasian man underwent average-risk colon cancer screening colonoscopy at a community endoscopy center. Colonoscopy revealed a 10mm submucosal lesion at the splenic flexure, and two much smaller similar-appearing lesions adjacent to it (see image). A few biopsies were taken with cold forceps. The remainder of the colon and distal terminal ileum appeared normal. Histologic analysis revealed benign mucosal tissue and mildly disordered glandular architecture. He was referred to our institution for evaluation with EUS for suspicion of lipoma versus submucosal nodules. The patient denied any GI or respiratory symptoms. His past medical history included hypertension and depression, for which he was taking antihypertensive and antidepressant medications. Two months later at our institution, the patient underwent a fiber-optic lower endoscopy to the transverse colon, which revealed a smooth, round, centimeter-sized submucosal lesion at the splenic flexure, with a few smaller similar-appearing lesions adjacent to it. These were soft when probed. EUS revealed anechoic areas in the submucosa with air shadows. A sclerotherapy needle was inserted into two of the masses, and air was aspirated from them.

Conclusion: Idiopathic pneumatosis coli can present as an isolated lesion in an asymptomatic patient. Endoscopists should be aware of the typical features of pneumatosis coli to avoid misdiagnosis and unnecessary treatment. EUS can be a useful diagnostic tool in diagnosing pneumatosis coli.

P182

GIST OF THE DUODENUM MASQUERADING AS A PANCREATIC HEAD TUMOR

T. Park, MD, K. Jo, MD, A. N. Shah, MD, MACG, A. Ullah, MD. Gastroenterology, University of Rochester, Rochester, NY.

Purpose: GIST (gastrointestinal stromal tumor) of the pancreas is extremely rare, with only a handful of cases reported to date. GIST of the duodenum are rare, comprising 3-5% of all cases of GIST.

Results: A 72 y/o woman presented with 6 months of mild epigastric discomfort and fatigue. A CT of the abdomen revealed a 6.0 x 3.7 cm mass at the head of the pancreas with central low attenuation, interpreted as possible necrotic change. This was suspicious for a pancreatic head cancer. There was mild intrahepatic ductal dilation. A subsequent EGD was normal without suggestion of extraluminal compression. EUS revealed a 4.6 x 5.8 cm mass at the head of the pancreas that was thick-walled with an anechoic, necrotic-appearing center. FNA was performed, and cytologic analysis revealed a spindle cell neoplasm consistent with GIST. Immunohistochemical staining was strongly positive for c-kit (CD117) and focally positive for smooth muscle actin, supporting the diagnosis of GIST. At laparotomy, a large, soft tumor involving the uncinate process of the pancreas was visualized. It seemed to be closely intertwined with pancreatic tissue and appeared to cause some compression of the second and third portions of the duodenum. The pancreas appeared mildly calcified. There appeared to be no possibility of completely enucleating the tumor, so a Whipple procedure was performed. Pathologic analysis revealed a tumor 8 cm in greatest dimension with a thin capsule. It extended into the subserosa and muscularis of the duodenum without apparent invasion into the duodenal submucosa. It extended to the pancreatic serosa but not into the parenchyma. All surgical resection margins were negative. Six regional lymph nodes were negative. Immunohistochemical stains were strongly positive for c-kit but negative for S100, smooth muscle actin, and CD34. There was moderate to high cellularity and 3-4/50 HPF mitotic activity. Based on these findings, the patient was finally diagnosed with malignant GIST of the duodenum. She has been tolerating her planned year-long treatment with imatinib (Gleevec).

Conclusion: In sum, we present a rare case of extraluminal GIST of the duodenum that masqueraded as a pancreatic head tumor.

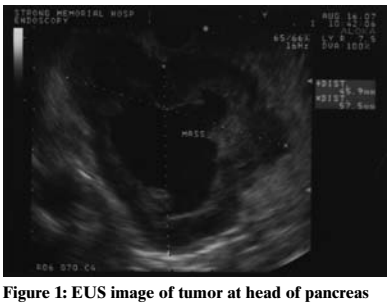


Figure 1: EUS image of tumor at head of pancreas

P183

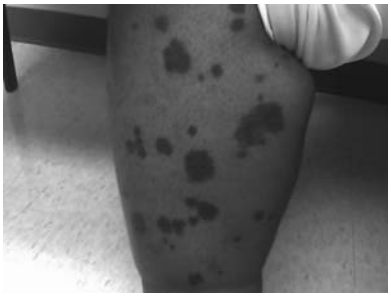
RARE ASSOCIATION OF LEUKOCYTOCLASTIC VASCULITIS AND CROHN'S DISEASE

T. Park, MD, R. G. Farmer, MD, MACG, A. N. Shah, MD, MACG. Gastroenterology, University of Rochester, Rochester, NY.

Purpose: We present a patient with cutaneous leukocytoclastic vasculitis during a flare of Crohn's disease, an association that has been reported rarely in the literature.

Results: A 30 y/o African-American man with a history of Crohn's colitis for 11 years presented to the emergency room with 2 weeks of bloody loose stools 15-20 times a day and abdominal cramping. He had been taking 60-80 mg of prednisone a day for several days with no benefit. His prednisone dose was increased to 100 mg a day and sent home. His colitis improved over the next two days, with 5-10 slightly bloody and more formed stools a day. He then developed a pruritic, slightly raised, violaceous skin eruption over all his extremities (see image). Plaques were 2-3 cm in size. He returned to the ED, where a punch biopsy was taken. Keflex and Benadryl were started. Lab tests were significant for a white count of 16.2; the remainder of the CBC and chemistries were normal. Anti-streptolysin-O antibody, hepatitis C, ANA, HIV, serum and urine electrophoresis, serum complement, and cryoglobulins were negative. Hepatitis B surface antibody and core antibody were positive. Histologic analysis of the skin lesion revealed leukocytoclastic vasculitis. A colonoscopy several days later revealed moderate colitis from the hepatic flexure to the rectum, with diffuse erythema and a nodular appearance. The right colon and terminal ileum were normal. There were multiple pseudopolyps and punctate ulcers in the descending colon. Random biopsies taken throughout the colon were significant for mild-moderate chronic colitis in the left colon. No granulomas or dysplasia were seen. Over the next several days, his colitis symptoms completely resolved. In addition, the cutaneous lesions over his upper extremities resolved, and his lesions over his lower extremities decreased in size, resolving completely after 2 months.

Conclusion: We present a very rare case of biopsy-proven cutaneous leukocytoclastic vasculitis following an acute flare of Crohn's colitis. This lends further support to the possible important role of circulating immune complexes theorized to be important in inflammatory bowel disease and cutaneous vasculitis.



Purpuric lesions on lower extremities

P184

DUODENAL CARCINOID TUMORS: A REVIEW OF FIVE CASES

T. Park, MD, K. Jo, MD, A. N. Shah, MD, MACG, A. Ullah, MD. Gastroenterology, University of Rochester, Rochester, NY.

Purpose: Duodenal carcinoid tumors are rare, accounting for 2% of gastrointestinal carcinoid tumors. We review five cases of duodenal carcinoid tumors diagnosed at our institution from 2004-2008.

Results: Of the five cases, there were four men and one woman, with ages ranging from 50 to 73. Three patients were asymptomatic and discovered incidentally, and two presented with painless jaundice. None manifested symptoms of carcinoid syndrome. Two carcinoid tumors were located in the duodenal bulb, two in the periampullary area, and one in the second portion of the duodenum. The two periampullary carcinoid cases presented with symptoms of obstructive jaundice, and the others were asymptomatic. At the time of diagnosis, two patients had metastases. One of them presented with painless jaundice and was found to have a periampullary carcinoid and positive lymph nodes. The second patient had carcinoid in the second portion of the duodenum and liver metastases, but was asymptomatic. EUS with fine needle aspiration was performed on three patients and findings were accurate for carcinoid in all three. The three smallest tumors were removed endoscopically. These tumors ranged from 6 to 19mm in greatest diameter. There were post-EMR (endoscopic mucosal resection) bleeding complications associated with one of the three cases, the 15x5mm carcinoid in the duodenal bulb. Two EGDs over the next few days performed for acute GI bleeding revealed a clot over the resection site and no intervention was performed. Of the two patients with large periampullary tumors, one patient without any metastases had a curative pylorus-sparing pancreatoduodenectomy. The other patient had positive lymph nodes and it was decided that surgical intervention was contraindicated due to the patient's portal hypertension from end-stage liver disease thought to be due to alcoholic liver disease. One patient who had EMR was lost to follow up. The two other patients with EMR were asymptomatic after 9 and 19 months of follow up. The patient who had a pylorus-preserving Whipple was asymptomatic after 12 months. The patient who had a periampullary carcinoid with metastases to lymph nodes but no surgical treatment has been doing well on treatment with octreotide alone after 28 months. His ALT was slightly elevated at 56. This clinical course is reflective of the usually indolent course of carcinoid tumors.

Conclusion: Duodenal carcinoid tumors are rare, and can be discovered incidentally or with symptoms, such as obstructive jaundice, when the ampulla is involved. The course is typically indolent, and the presence of metastases and co-morbidities can determine appropriate intervention. EUS is a useful diagnostic tool for suspected duodenal carcinoid tumors.

Summary of Cases of Duodenal Carcinoid Tumors

Case	Age and Sex	Symptoms and Signs	Site in duodenum and size	Pathology	Treatment	Comment
1	50, Male	Asymptomatic	Bulb, 6mm diameter	No metastases	Endoscopic mucosal resection (EMR)	
2	50, Male	Painless jaundice, nausea, elevated liver enzymes	Ampulla, 30x20 mm diameter	Metastases to lymph nodes	Octreotide	28-month follow up: asymptomatic, ALT 56.
3	63, Male	Asymptomatic	Second portion, 19x9mm diameter	Metastases to liver	EMR, octreotide	19-month follow up: asymptomatic, EGD normal
4	71, Female	Painless jaundice, dark urine, clay-colored stools, elevated liver enzymes	Periampullary, 13mm diameter endoscopically	4.4cm periampullary carcinoid, no metastases	Pylorus-sparing pancreatoduodenectomy	12-month follow up: asymptomatic
5	73, Male	Asymptomatic	Bulb, 15x5mm diameter	No metastases	EMR, positive margins	9-month follow up: asymptomatic.

P185

RECURRENT ESOPHAGEAL CANDIDIASIS: CONSIDER THYMOMA

M. W. Moehlen, MD, MPH,[1] J. J. Hutchings, MD,[2] K. Paris, MD,[3] S. G. Abshire, MD, FACG[2]. 1. Internal Medicine, Tulane University School of Medicine, New Orleans, LA; 2. Internal Medicine, Section of Gastroenterology, Tulane University School of Medicine, New Orleans, LA; 3. Department of Internal Medicine, Division of Allergy/Immunology, LSU Health Sciences Center and Jeffrey Modell Foundation, New Orleans, LA.

Purpose: Introduction: We report a newly diagnosed thymoma in a patient with recurrent candidal esophagitis.

Methods: Case Presentation: A 60 year-old white woman presented to her gastroenterologist for evaluation of dysphagia to solid foods. There was no personal history of diabetes mellitus, HIV, scleroderma, achalasia, recent use of glucocorticoids or antibiotic use. Physical exam was unremarkable. EGD examination revealed Candidal esophagitis. A CBC was noted for lymphopenia prompting a detailed immune evaluation. This evaluation revealed normal numbers and percentages of CD4 and CD8 T cells, serum chemistries, thyroid function, quantitative immunoglublins, CRP and ESR. ANA was weakly positive. TTG and Gliadin antibody were normal. HIV testing was negative. Delayed hypersensitivity testing showed anergy to Candida species. Chest CT showed an anterior mediastinal mass suspicious for thymoma. A stage II thymoma was subsequently removed. Her post-operative course has been complicated with recurrent candidal esophagitis and new onset myasthenia gravis.

Results: Discussion: Esophageal candidiasis may present with substernal pain, dysphagia, odynaphagia or often, without any symptoms at all. The finding of esophageal candidiasis should warrant an investigation for an underlying etiology (Table). A thorough history and physical should be sought. Routine laboratory tests should be ordered to rule out common predisposing diseases for candidal esophagitis, such as diabetes and HIV. In our patient the history did not reveal any past infections. A review of her medication list was noted only for a previous course of acid suppression therapy for her peptic ulcer disease. Her physical exam did not reveal any stigmata of mucocutaneous candidiasis. EGD revealed normal structure. Routine laboratories ruled out HIV, diabetes, and endocrinopathies; however, CBC showed lymphopenia. The immunologic evaluation suggests an underlying T cell defect, as the patient had normal numbers of T cells and quantitative immunoglobulins, yet an anergic response to delayed hypersensitivity testing to Candida. Part of the work up in evaluating a patient with obvious thymocyte defect is a chest CT to rule out thymoma, as confirmed in this case.

Conclusion: In summary esophageal candidiasis is normally related to a predisposing condition. The clinician generally should identify first whether one is immunocompetent or immunodeficient. In the immunocompetent individual, medications should be considered and structural abnormalities of the esophagus should be ruled out. Classifying a patient as immunodeficient may not be as obvious as expected, as such in this case, one can have a seemingly normal immunologic evaluation.

Risk Factors for Candidal Esophagitis

DYSMOTILITY/STRUCTURAL ABNORMALITIES	IMMUNOSUPPRESSED
Achalasia	HIV
Autoimmune disorders (Scleroderma)	Diabetes
Esophageal intramural pseudodiverticulosis	Adrenal insufficiency
Previous radiation therapy	Alcoholism
	Advanced Age
MEDICATIONS	Mucocutaneous Candidiasis
Transplant immunosuppressives	Thymoma
Acid suppressants	
Corticosteroids (systemic and inhalants)	ENDOCRINOPATHIES
Antibiotics	Hypoparathyroidism
Cytotoxic chemotherapies	Hypothyroidism

P186

SICKLE CELL-INDUCED HEPATOPATHY WITH FULMINANT HEPATIC FAILURE. SUCCESSFUL TREATMENT WITH PLASMA EXCHANGE

M. W. Moehlen, MD, MPH,[1] F. G. Regenstein, MD, FACG[2]. 1. Internal Medicine, Tulane University School of Medicine, New Orleans, LA; 2. Section of Gastroenterology and Hepatology, Tulane University School of Medicine, New Orleans, LA.

Purpose: Introduction: Sickle cell hepatopathy is used as a general term to describe liver dysfunction occurring in the sickle cell patient. We describe a patient with hemoglobin SS who presented with fulminant liver failure, successfully treated with plasma exchange.

Methods: Case Report: A 35-year-old woman with a history of SS sickle cell anemia was transferred to our facility with worsening liver failure. Ten days prior to transfer, she was admitted to an outside hospital in sickle cell crisis. While undergoing treatment for her sickle crisis, she developed worsening liver dysfunction and a severe coagulopathy, associated with hepatic encephalopathy. She was transferred for further evaluation and to be considered for possible liver transplantation. She denied a previous history of liver disease. On admission to our facility the patient was somnolent with marked asterixis (Stage 3 hepatic encephalopathy). She was deeply jaundiced with an enlarged, tender liver. Admission labs included: WBC 31,300/mm3, hemoglobin 7.8 g/dl, platelets 250,000/mm3, LDH 524 IU, total bilirubin 52.1mg/dl, ALT 232 IU, AST 498 IU, PT INR 17.7 (see Table). Urine toxicology was positive for cocaine and negative for acetaminophen. Anti-HCV, HBsAg, anti-HBc IgM, and anti-HAV, IgM were negative. Abdominal ultrasound with Duplex Doppler revealed hepatomegaly, no ascites, normal flow in the portal and hepatic veins.

Results: The patient was admitted to the ICU and treated for hepatic encephalopathy; she was not considered to be a transplant candidate. Exchange transfusion was initiated on hospital day 2 and continued for 4 days. Over the next few days her bilirubin and creatinine continued to rise, while the ALT, AST, PT, and level of encephalopathy improved. She was discharged home on day 12.

Conclusion: Discussion: Our patient presented with fulminant hepatic failure associated with severe sickle cell intrahepatic cholestasis. While concomitant cocaine ingestion may have contributed to the severity of her liver injury, the pattern of injury and clinical course were not consistent with cocaine hepatoxicity. Her dramatic response to exchange transfusion reinforces the success of this treatment in patients with intrahepatic cholestatic sickle cell hepatopathy, including those presenting with fulminant hepatic failure. These patients can be treated in a general medical facility capable of performing exchange transfusions, and are rarely, if ever, liver transplant candidates. Thus, initiation of exchange transfusion should not be delayed while attempting to transfer these patients to liver transplant centers.

Laboratory Data

DAY	HEMOGLOBIN(g/dL)	CREATININE (mg/dL)	AST (U/L)	ALT (U/L)	TOTAL BILIRUBIN (mg/dL)	INR
1	7.8	1.4	498	232	52.1	17.7
*2	6.5	3.2	227	244	61.0	3.24
*4	6.7	4.9	120	82	50.4	2.96
*6	8.4	3.4	109	147	36.6	1.66
8	9.4	1.4	69	56	12.5	1.63
10	8.5	1.1	86	60	8.8	1.51
12	7.8	0.9	85	56	7.6	1.49

*** : Patient received exchange transfusion**

P187

CRICOPHARYNGEAL INTRAMURAL HEMATOMA: AN UNUSUAL COMPLICATION OF ORTHOPEDIC INTERVENTION

M. M. Meyer, MD, E. J. Levine, MD. Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH.

Purpose: Esophageal injuries typically present after direct intraluminal trauma by foodstuffs, the mechanical shearing forces caused by retching, ingested foreign bodies, or iatrogenesis. Injuries range from the mucosal tears of Mallory-Weiss syndrome to the transmural rupture of Boerhaave's syndrome. Esophageal intramural hematomas (EIH) are exceedingly rare types of esophageal injury. These hematomas typically involve the distal esophagus; thus their discovery in the proximal esophagus deserves special mention. We aim to present a case of an EIH at the cricopharyngeus and review the appropriate management strategies.

Methods: We report a rare case of a cricopharyngeal intramural hematoma following anterior cervical decompression presenting only with dysphagia.

Results: An 87-year-old male with a history of Billroth-II gastrojejunostomy sustained an injury to his cervical spine. Computed tomography (CT) and magnetic resonance imaging demonstrated significant cervical stenosis with cord injury. The patient received corticosteroids and ultimately underwent an anterior cervical decompression. Postoperatively, the patient complained of dysphagia. Nasogastric tube placement failed even under fluoroscopic guidance. An upper endoscopy demonstrated a cricopharyngeal intramural hematoma. No other esophageal abnormalities were noted, and the patient's gastrojejunostomy was widely patent. A nasojejunal feeding tube was placed under endoscopic guidance. Repeat CT demonstrated marked soft tissue swelling with many high density collections consistent with hematomas. The patient was managed conservatively and discharged to our rehabilitation hospital with ongoing enteral nutrition through a nasojejunal tube. Repeat upper endoscopy two weeks later showed that the hematoma had resolved.

Conclusion: Esophageal injuries, including EIH, range from Mallory-Weiss tears to Boerhaave's syndrome. These entities are a rare cause of chest pain, dysphagia, odynophagia, and hematemesis, but should always be considered in those patients with certain risk factors. Recent endoscopic or cervical spine procedures as well as direct intraluminal trauma predispose patients to esophageal injuries, including EIH. Physicians may utilize endoscopy or contrast imaging to make the diagnosis. After one confirms an EIH, conservative management should follow, as 80% of patients will demonstrate spontaneous resolution. In contrast, some groups have successfully punctured hematomas for immediate drainage. EIH and Mallory-Weiss tears both carry a favorable prognosis. Physicians should have a high index of suspicion for an EIH in those patients with typical risk factors.

P188

ACUTE HEMORRHAGIC CROHN'S DISEASE CONTROLLED WITH INFLIXIMAB

M. M. Meyer, MD, E. J. Levine, MD. Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH.

Purpose: Crohn's Disease(CD) rarely presents with life-threatening massive hematochezia. Conservative treatment frequently results in recurrent bleeding only controlled by surgery. Infliximab rapidly induces mucosal healing and can prevent further hemorrhage without need for surgery. We aim to present a case of hemorrhagic Crohn's Disease and the successful management with infliximab.

Methods: We report a case of hemorrhagic Crohn's Disease subsequently controlled with infliximab.

Results: A 19-year-old female with a 6 year history of ileocolonic CD presented with acute recurrent hematochezia. Her remission was induced by prednisone and mesalamine and she otherwise felt well. She presented with mild tachycardia and hypotension and was subsequently admitted. An admission hemoglobin of 9.1g/dL dropped to 6.8 g/dL after ongoing hematochezia. The patient required four units of packed red blood cells for resuscitation. Infectious etiologies were ruled out and abdominopelvic computed tomography with contrast demonstrated terminal ileitis and right lower quadrant lymphadenopathy consistent with active CD. The patient was placed on intravenous steroids but continued to demonstrate hematochezia. Upper endoscopy showed Los Angeles Grade A esophagitis and no other acute findings. Colonoscopy revealed numerous ulcers in the terminal ileum with fresh blood. In addition, clotted blood filled the entire colon. No active disease was visualized 10 cm proximal to the terminal ileal ulcers. General Surgery evaluated the patient given the extent of the hemorrhage. A small bowel follow through demonstrated terminal ileum irregularity consistent with active CD and no other diseased segments. After a non-reactive tuberculin skin test and normal chest film, a 5 mg/kg infliximab infusion was given. The patient's bleeding promptly ceased and she did not require surgical intervention or additional blood transfusions. She was discharged 4 days after infliximab infusion with repeat doses given at 2 and 6 weeks. The patient successfully responded to infliximab and has demonstrated no further hemorrhage 2 months since initiating this therapy.

Conclusion: Hemorrhagic CD is a rare entity with a high risk for life-threatening complications. Previous patients with this presentation were relegated to conservative management versus surgery as CD specific therapy was suboptimal. Given the advantages of mucosal healing, infliximab should be considered immediately for hemorrhagic CD patients instead of waiting for corticosteroids to fail. The ongoing discourse regarding top-down versus step-up therapy may be influenced by outcomes such as these reported here. Longer follow up will be required to demonstrate the lasting effects of infliximab for the treatment of hemorrhagic CD.

P189

A CASE REPORT OF STRICTURING DIVERTICULAR DISEASE-ASSOCIATED COLITIS MIMICKING SEGMENTAL SIGMOID CROHNS DISEASE

J. E. McFarland, MD, J. P. Gutman, MD, A. DeCross, MD. Gastroenterology and Hepatology, University of Rochester, Strong Memorial Hospital, Rochester, NY.

Purpose: A case report of diverticular-associated colitis presenting with a stricture, mimicking Crohns Disease.

Methods: Case review.

Results: A 56 year old woman presented with crampy, bloody diarrhea up to 8 times daily for the last six months. No nausea, vomiting, fever or chills. No recent antibiotic use, or travel history. She did not smoke and had no family history of IBD. Vital signs were unremarkable; exam revealed only mild lower abdominal discomfort. Screening colonoscopy 18 months earlier showed mild sigmoid diverticulosis and a fixated sigmoid colon requiring a pediatric colonoscope in order to reach the cecum, probably due to prior hysterectomy. There was no mucosal inflammation. Colonoscopy performed at the time of presentation with bloody diarrhea showed erythema from the proximal rectum to 40cm, mild sigmoid diverticulosis, and stricturing at 40cm preventing advancement with even an upper endoscope. Stool cultures were negative; serum CRP was 17mg/L. Sigmoid biopsies showed moderate active chronic colitis with acute cryptitis, and moderate architectural distortion without granulomas identified. She began mesalamine 1600mg PO BID with partial resolution of symptoms. CRP measurements were decreasing and symptoms resolved completely with increase in mesalamine dosage to 2400mg PO BID. Barium enema showed a 7.5cm sigmoid stricture which did not allow barium to pass. Repeat colonoscopy 18 weeks later was performed after normalization of the CRP and relief of her symptoms, and showed improved mucosal erythema, but no change in the stricture. Biopsies taken then from 10cm, 20cm, and 30cm showed mild active chronic colitis with much less acute inflammation compared to prior, but no change in the degree of architectural distortion. She then had sigmoid colectomy to remove the stricture. Pathology showed active chronic colitis with moderate architectural distortion without granulomas, and mild diverticulitis. Mesalamine was tapered off after surgery. Colonoscopy was performed 9 months after stopping mesalamine, and this revealed completely resolved inflammation, with completely normal biopsies from terminal ileum, right colon, 30cm, and rectum.

Conclusion: Diverticular-associated colitis may present with a stricture, which can mimic Crohns disease. The colitis improved with mesalamine, although there was no improvement in the stricture. Of particular interest, after segmental colectomy of the strictured, diverticulosis-affected sigmoid, the colitis vanished completely – including the histological signs of architectural distortion traditionally associated with chronic inflammatory bowel disease – even though the mesalamine had been withdrawn 9 months earlier.

P190

AGENESIS OF THE DORSAL PANCREAS WITH ASSOCIATED UNICORNUATE UTERUS: A CASE REPORT

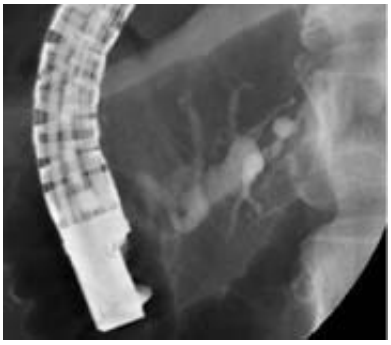
J. E. McFarland, MD, A. N. Shah, MD, FRCP, MACG. Gastroenterology and Hepatology, University of Rochester, Strong Memorial Hospital, Rochester, NY.

Purpose: We describe a patient previously known to have unicornuate uterus and fertility difficulties leading to successful in vitro fertilization who was later found to have agenesis of the dorsal pancreas presenting with recurrent acute pancreatitis.

Methods: Retrospective review of a single case

Results: A 40 year old woman presented as an inpatient with recurrent acute pancreatitis without evidence of immediate etiology. She had no significant alcoholism and no biliary disease. She had normal calcuim levels, normal triglycerides, no history of traumatic injury or family history of disease. Abdominal CT scan showed inflammation of the pancreatic head with non-visualization of the body and tail. She was supported through the acute episode with resolution of symptoms and normalization of laboratory values. ERCP was performed at a later date and was significant for a short, dilated ventral pancreatic duct with extensive side branching. There was no extension of dye across the midline on pancreatogram prompting search for an accessory ampulla give the possibility for pancreas divisum. After extensive searching, the accessory ampulla was not found and thought likely to be congenitally absent. MRCP was performed and confirmed the suspicion for agenesis of the dorsal pancreas.

Conclusion: Agenesis of the dorsal pancreas is a rare congenital anomaly. It is even less likely to present with acute pancreatitis as it is typically asymptomatic and found incidentally on imaging studies. There have been no reports of associated congenital anomalies with agenesis of the dorsal pancreas, while abnormalities of the ureteropelvic system have been described with pancreas divisum. While the Mullerian ductal system is of mesodermal origin, it is possible that this tubular structure shares embryonal transcription factors with the pancreaticobiliary system. This could represent a potential pathophysiological mechanism resulting in the concomitant presentation of agenesis of the dorsal pancreas and unicornuate uterus.



P191

EXTRA-LUMINAL GASTRIC LEIOMYOSARCOMA MASQUERADING AS A PANCREATIC MASS ON CT - UNMASKED BY ENDOSCOPIC ULTRASOUND (EUS)

S. Mathur, MD, N. Sonpal, BS, W. Thelmo, MD, Y. Arya, MD, M. Arya, MD. Wyckoff Heights Medical Center, Brooklyn, NY.

Purpose: Half of all GI tract stromal tumors are gastric while approximately 80% of these are leiomyomas or leiomyosarcomas. The benign lesions are the most common; however the malignant type account for 1% of all gastric malignancies and can be difficult to distinguish via radiological methods. Since the growth of leiomyosarcoma can grow outward from the submucosa into adjacent structures CT scanning can yield results which are not in line with the tumors true anatomy.

Methods: Such is this case of a 55 year old female with no relevant PMH who presented to the ER with lower abdominal pain, loss of appetite, 32 pound weight loss over 4 months and sporadic vomiting. The patient also complained of lower back pain radiating her mid abdomen and varying in intensity. The patient's physical exam and lab results were remarkable for mild anemia; otherwise other values were all within normal. A CT of her Abdomen revealed a large tumor in the upper abdomen inseparable from the poster neck of the pancreas and extending into the porta hepatis; in addition to multiple metastatic lung nodules. The patient was then referred to GI service for staging; where a EUS yielded significantly different yet equally surprising results. Radial echoendoscopic examination from the stomach demonstrated a large 3.1 x 2.2. cm mass arising from the muscularis propria with an intact serosal layer suggestive of a leiomyoma or sarcoma. The lesion was diffusely hypoechoic, heterogeneous, and contained small cystic spaces which suggest areas of necrosis. Additionally several suspicious peri-gastric lymph nodes and measuring anywhere between 6- 1.2 cm in size were noted. The biliary and pancreatic systems were noted to be free of malignancy. Findings were confirmed with a linear echoendoscopic fine need aspiration using a 19 and 22 gauge needle.

Results: Pathology demonstrated clusters of spindle cells while immunohistochemical staining for SMA disclosed positive reactivity and confirmed a smooth muscle tumor while CD 117, CD34, and S-100 were all negative. The patient was then referred for surgical and oncological management of a leiomyosarcoma.

Conclusion: In conclusion, EUS-FNA offers an invaluable approach for diagnostic and sampling of GI tract tumors and should always be considered as the surreptitious nature of smooth muscle tumors can lead diagnosticians astray.

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ENDOSCOPIC ULTRASOUND CHARACTERISTICS OF A MALIGNANT RECTAL LYMPHOMA

S. Mathur, MD, N. Sonpal, BS, W. Thelmo, MD, Y. Arya, MD, M. Arya, MD. Wyckoff Heights Medical Center, Brooklyn, NY.

Purpose: Primary rectal lymphomas are a very uncommon disease and have not been extensively described in the literature. They compromise about 0.1 – 2% of primary lymphomas of the gastrointestinal tract, and .4 - 4% of the malignant neoplasms of the rectum. We present a case of a malignant primary large B cell rectal lymphoma and highlight the notable EUS characteristics.

Methods: A 95 year old male presented to the ED with complaints of bleeding per rectum for last five days. He had a history of abdominal pain for the past three months which had worsened in the last one month. The patient denied any history of fever, diarrhea, weight loss and loss of appetite. His PMH is significant for diverticulosis, COPD, DMII, BPH and CAD. Physical examination on admission was non contributory except for a tender palpable mass which was hard in consistency on rectal examination and yielded guiac positive stool. Other laboratory findings were non contributory and a colonoscopy was undertaken to evaluate for the blood loss. A suspicious malignant tumor in rectum was seen 8 cm in length, circumferential, fungating but not obstructing the lumen. Biopsy and subsequent immunhistochemical stain for CD 45 were strongly positive for immunoblastic type diffuse large B cell lymphoma.

Results: Radial EUS performed for staging demonstrated a large hypoechoic mass arising just above the anal verge extending to the serosal surface without penetration into the peri-rectal fat consistent with a T3 process. A second lesion measuring 3.5 x 1.5 cm was seen intramurally just proximal to the mucosal mass. This second lesion was sonograhically distinct from the lymphomatous process and appeared to be arising from the muscularis propria with extension into peri-rectal fat. This finding was corroborated by the initial CT of the abdomen showing a rectal mass with extensive extra luminal component. Echo features of the tumor were characterized by marked heterogeneity and small cystic spaces.

Conclusion: Modern diagnostic procedures with multiple biopsies and endoscopic ultrasound (EUS) for staging increase the percentage of early detection and more precise diagnoses without the need for invasive surgeries. Further fine need aspiration can be implemented to increase the yield in biopsies of local or lymph node metastasis. EUS has the ability to image colonic wall layers and peri-rectal lymph nodes and is therefore most accurate staging method for rectal cancer. However due to the rarity of a primary rectal lymphoma very little has been described in the current literature on the EUS findings in this disease process.

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COLONIC PSEUDO-ULCERS: UNUSUAL COLONOSCOPIC FINDING IN LAXATIVE ABUSERS

N. S. Mann, MD, MS, PhD, DSc. Gastroenterology, Univ. of Calif. Davis, Folsom, CA.

Purpose: It is well known that chronic use of laxatives containing natural herbal products such as Aloe vera,Senna,Cascara and other anthraquinone laxatives,results in pigmentation of the colonic mucosa called pseudomelanosis coli.The common herbal laxatives in this category are Chomper,Swiss Kriss and Supercleanse.Sometimes colonic enemas contaning such herbal products are used.The resulting pigmentation is usually patchy with areas of normal non-pigmented mucosa being present.Sometimes the colonic pigmentation is so dark that a satisfactory colonoscopy could not be performed(Am J Gastro2007;102:S200).Besides the colon,small bowel,gall-bladder,vagina,fallopian tubes and prostate may show pseudo-melanosis.We describe two cases where pseudomelanosis produced sharply circumscribed, regular,circular,unpigmented areas of normal mucosa resembling aphthous ulcers in the cecum & ascending colon.

Methods: Case 1.51 year old caucasian woman with medical problems such as lupus,chronic arthropathy had chronic constipation. She could not have a bowel movement without using a herbal laxative. For the last 10 years she had been using daily"supercleanse",a herbal laxative containing Cascara.She underwent screening colonoscopy. Starting from the rectum, the whole colonic mucosa showed dark pigmentation which worsened proximally.In the cecum and ascending colon,white sharply demarcated,circular areas ranging in size from 3mm to 5 mm were seen. They resembled colonic ulcers with hyperemic margin. However on closer inspection,they were found to be areas of unpigmented normal mucosa;the brownish margin of pseudomelanosis resembled"hyperemic" margin of ulcers.Biopsy of the margin of these areas showed severe pseudomelanosis coli.Case No.2.53 Yr old caucasian woman with chronic depression had chronic constipation.She had been using the herbal laxative "Chomper" daily for 8 years.She underwent screening colonoscopy.The colonoscopic findings were similar to the first case."Chomper" contains senna.

Results: See methods

Conclusion: Chronic users of some herbal laxatives may have pseudomelanosis coli. The distribution of the pigmentation may be non-uniform and sometimes may leave circular,sharply demarcated areas of normal mucosa in the cecum and ascending colon superficially resembling aphthous ulcers of IBD.

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SUCTION POLYPECTOMY: A NOVEL AND SAFE METHOD FOR REMOVING COLONIC LIPOMA

N. S. Mann, MD, MS, PhD, DSc, K. R. Brahmanakul, MD. Gastroenterology, Univ. of Calif. Davis, Folsom, CA.

Purpose: After adenomatous polyps,lipomas are the second most common benign polyps of the colon.Most of the colonic lipomas are asymptomatic. However large lipomas especially in the sigmoid may cause colonic obstruction(Am J Gastro 1999;94:2683).Rarely they may ulcerate and bleed.During the evaluation & management of large colonic lipoma submucosal hemorrhage of the colonic mucosa has been reported(Am J Gastro 2007;102:S330).Small lipomas of the colon are usually left alone. However carcinoid tumors of the colon,because of their high lipid content may have yellowish appearance and may mimic lipoma.The presence of the pillow sign(indentation when pressed with biopsy forceps) may be helpful.Sometimes colonoscopic ultrasound may be needed to make a definitive diagnosis of submucosal lipoma(Am J Gastro 1999;94:2683).Snare removal of large sessile submucosal lipoma after creating a pseudostalk is possible but has the risk of colonic perforation.We describe a new, novel and safe method i.e. suction polypectomy to remove a sessile colonic lipoma.

Methods: Case report: 59 year old man with history of kidney stone, essential hypertension & organic impotence was evaluated for screening colonoscopy.His cardiac evaluation showed concentric LVH and tricuspid regurgitation.He had no colonic or gastrointestinal symptoms.There was no family history of colon cancer.The family history was positive for stroke & diabetes mellitus.The patient did not smoke and drank 14 oz alcohol per week.The physical examination and basic laboratory data were normal

Results: Screening colonoscopy to the cecum was successfully performed. In the descending colon a 2cm sessile submucosal soft polyp was seen. The pillow sign was present.On biopsying this polyp, a sudden yellowish material protruded through the biopsy site(Naked Fat Sign).The biopsy site was gently enlarged. Suction on the colonoscope was increased to maximum and the lipoma was successfully sucked out.There were no complications.

Conclusion: We describe a new,novel and safe method i.e. suction polypectomy,for removing a sessile colonic lipoma.

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MYSTERIOUS GASTRIC NODULE IN A PATIENT WITH ADVANCED HIV DISEASE : A CASE REPORT AND REVIEW OF LITERATURE

C. Lingisetty, MD,[1] S. Kanak, MD,[1] K. M. Goli, MD,[1] T. Lenox, MD,[1] K. Ismailova, MD,[1] S. Chaudhari, MD, FACP,[1] J. Harley, MD,[2] S. Williams, MD[2]. 1. Medicine, New York Medical College/Metropolitan Hospital, New York, NY; 2. Gastroenterology, New York Medical College/Metropolitan Hospital, New York, NY.

Purpose: Introduction: Gastrointestinal (GI) tract involvement in advanced Human Immunodeficiency Virus (HIV) disease can be due to a variety of infectious and non infectious diseases. Endoscopic finding of gastric nodular lesions are not common in patients with HIV disease. Kaposi's sarcoma (KS) and lymphoma are among the common causes of gastric nodules in patients with advanced HIV disease. Here, we present a rare and probably the first reported case of atypical gastric nodule in a patient with advanced HIV disease. Case description: A 29 year old Honduran male with HIV infection (CD 4 count 16 cells/mm3) was admitted to hospital for chief complaints of cough, intermittent fever and weight loss. Chest X-ray and CT-scan showed diffuse interstitial infiltrates highly suggestive of disseminated tuberculosis (TB) with major differential diagnosis of disseminated fungal infection. Transbronchial lung biopsy was performed to confirm the diagnosis. Patient was referred to gastroenterology service for evaluation of abdominal pain and guaiac test positive stools. Esophagogastroduodenoscopy (EGD) and colonoscopy were performed. EGD revealed normal esophagus, gastroesophageal junction and duodenal folds but showed two erythematous nodules in the body of stomach. Multiple biopsies were taken. Colonoscopy was unremarkable. Although, the initial suspicion was gastric KS, the histopathology examination of both gastric tissue and lung tissue showed typical spherules and granulomas characteristic of Coccidioides immitis. A final diagnosis of disseminated coccidioidomycosis was made. Discussion: Disseminated coccidioidomycosis commonly involves the skin, lungs, joints, soft tissue and meninges. Coccidioidomycosis involving GI tract is extremely rare, either in disseminated disease or in an isolated form. We reviewed most of the available medical literature in English through medline and pub med search. A single case involving small bowel was reported, but the involvement of stomach has not been reported. Cryptococcus, histoplasma and mycobacterium infections can manifest as gastric nodules particularly in immunocompromised patients. Sporadic cases of gastric syphilis, gastric leishmaniasis and cytomegalovirus (CMV) associated pseudo tumors were reported. Non infectious causes of gastric nodules include lymphoid hyperplasia, gastric lymphomas, MALT lymphomas, gastric malignancy, KS, gastric carcinoids, gastric glomus tumour, gastric lipoma and gastric leiomyoma. Conclusion: We conclude that gastric coccidioidomycosis can occur as a part of disseminated infection in patients with advanced HIV disease, and search for more data and evidence is needed to establish its significance in GI symptoms and signs.

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EXPANDING SPECTRUM OF HERBAL HEPATOTOXICITY: A CASE REPORT OF VINE ESSENCE INDUCED LIVER INJURY

C. Lingisetty, MD,[1] K. M. Goli, MD,[1] S. Ghuge, MD,[1] S. Chaudhari, MD, FACP,[1] S. Williams, MD[2]. 1. Medicine, New York Medical College/Metropolitan Hospital, New York, NY; 2. Gastroenterology, New York Medical College/Metropolitan Hospital, New York, NY.

Purpose: Introduction: Drug Induced Liver Injury (DILI) is caused by a variety of medications and dietary supplements including Chinese herbs. Although Chinese traditional complementary and alternative medicines are a leading cause of DILI in Asian countries, it is increasingly reported in western countries. Numerous case reports of DILI with a variety of herbal products were reported, however DILI with vine essence pills has not been reported. We present a case of DILI with vine essence pills and we propose the causal association as per Roussel Uclaf Causality Assessment Method (RUCAM) score. Case description: A 57 year-old obese female (BMI >50) with past medical history of osteoarthritis and obstructive sleep apnea was hospitalized with 1 week history of fatigue, myalgias, subjective fever and lethargy. Patient denied recent travel, alcohol intake or use of recreational drugs. Physical examination was remarkable for asterixis and tenderness in the right upper quadrant of the abdomen. Laboratory tests revealed normal blood counts with unusual elevation of transaminases with AST 4040 IU/L, ALT 2220 IU/L, ALKP 122 IU/L, total bilirubin 2.36 mg/dl, direct bilirubin 0.80 mg/dl, and albumin 3.7 gm/dl. Coagulation profile showed elevated PT with INR 2.61. Further work up for hepatitis with iron studies, serum ceruloplasmin, and serologic tests for autoimmune and viral hepatitis (including Epstein–Barr virus, cytomegalovirus and herpes simplex virus) were negative. Abdominal imaging was normal. On further questioning, patient admitted to taking Vine Essence pills, a popular Chinese herbal medication for arthritis. Patient took 2 pills three times daily for 2 months, but she increased the frequency two weeks prior to admission. Patient dramatically improved with supportive treatment. Liver enzymes on 6th day of admission showed AST of 42 IU/L and ALT of 363 IU/L which were normalized within 2 weeks of presentation. The semi-qualitative RUCAM score indicated that a diagnosis of herbal medication induced liver injury was 'probable' with a Score of 7. Discussion: Vine Essence pills were incriminated in our patient by the temporal relationship between the hepatitis onset and clinical response to drug withdrawal, together with the exclusion of any other known hepatotoxic factors. A meticulously calculated RUCAM score strongly supported the diagnosis in our case. Conclusion: More studies and toxicology analyses are needed to establish whether the hepatotoxicity of Vine Essence is due to its ingredients or impurities in the preparation. Physicians should be aware of DILI associated with herbal remedies and a routine inquiry about their use should be made at every patient-physician interaction.

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A RARE CASE OF GASTROINTESTINAL HISTOPLASMOSIS IN A 15-YEAR-OLD MALE PATIENT WITH A HISTORY OF CARDIAC TRANSPLANT AND DIARRHEA: A CASE REPORT

N. H. Lim, MD,[1] M. Perez, MD,[2] D. Rankin, MD,[2] M. Lim, BS,[1] M. Shah, MD[3]. 1. Department of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA; 2. Department of Pathology, Loma Linda University Medical Center, Loma Linda, CA; 3. Department of Pediatric Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA.

Purpose: To report this rare finding

Methods: Case: A 15 y/o Caucasian male presents with fever of unknown origin. He has a h/o cardiac transplant in 1992 for Hypoplastic left heart syndrome. His cough symptoms did not improve with a course of azithromycin. The patient had a four-week visit with relatives in Michigan and Illinois approximately 3 months prior to the appearance of these symptoms. He now develops nausea, some vomiting, and slightly increased loose stool while hospitalized. A test for urine Histoplasma Ag was positive. A chest CT and sputum cultures showed no evidence of a fungal infection. An EGD showed several several duodenal bulb erosions. During colonoscopy, there was extensive erythema seen with superficial to deep ulcerations scattered from the cecum to sigmoid colon. Multiple pseudopolyps and inflammatory nodules were seen in the cecum. Biopsies were taken throughout which were significant for non-necrotizing granulomas. Giemsa and PAS special stains were also positive for numerous intracellular small yeast forms with focal narrow-based budding and rare hyphal forms. Duodenal biopsies were similar. These were morphologically consistent with Histoplasma capsulatum.

Results: Histoplasma Capsulatum is a dimorphic fungus and found worldwide.1 In North America it is endemic in the major river valleys (Mississippi and Ohio) of the southern and central United States.2 Once the acute infection is spread hematogenously from the lungs to other organs it is generally classified as systemic. In addition to this, findings of positive blood cultures, or positive urine or serum Histoplasma antigens changes its classification to disseminated.2 Most infections are self-limited, but 1 in 2000 infections result in progressive dissemination especially in immunocompromised hosts.4 The symptoms of disseminated histoplasmosis include fever, malaise, anorexia, and weight loss. The gastrointestinal tract is commonly involved (70-90%) during disseminated infection as determined by autopsy studies.4,8 The colon is usually the most involved organ of the gastrointestinal tract followed by the small bowel. Serious gastrointestinal complications include malabsorption from severe diarrhea, ulcerations, strictures, bowel obstruction, gastrointestinal hemorrhage and perforations.7,8

Conclusion: Our case is a unique example of an immunosuppressed patient with recent travel to an endemic area which may have predisposed the duodenum and colon to a Histoplasma Capsulatum infection. Laboratory evidence of dissemination warrants endoscopic exam even when asymptomatic because the gastrointestinal tract is commonly involved. Prompt diagnosis and treatment may reduce the incidence of serious gastrointestinal complications.

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A RARE CASE OF A NEUROENDOCRINE TUMOR (NET) OF THE COMMON BILE DUCT WITH METASTASIS TO A PORTA HEPATIS LYMPH NODE: A CASE REPORT

N. H. Lim, MD,[1] D. Rankin, MD,[2] M. Lim, BS,[1] H. Lee, MD[1]. 1. Department of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA; 2. Department of Pathology, Loma Linda University Medical Center, Loma Linda, CA.

Purpose: To report a rare case of a high grade neuroendocrine tumor of the extra-hepatic biliary tract.

Methods: A 62 year old male presented with obstructive jaundice. CT scan showed dilated intrahepatic ducts with no evidence of a pancreatic mass. ERCP revealed a mid-common bile duct (cbd) stricture and a stent was placed for drainage. Brushings were negative for malignancy. He was referred to our institution for endoscopic ultrasound (EUS). A 1.4 x 1.2cm hypoechoic lesion was seen at the mid-CBD at the cystic duct take off, resulting in dilation of common hepatic duct (chd), cystic duct and gallbladder. There was a 1.8 x 1.1cm lymph node at the porta hepatis. FNA was obtained from both the CBD lesion and porta hepatis lymph node. Histologic review from both samples showed clusters of atypical and hyperchromatic cells consistent with a high grade neuroendocrine tumor (NET). Upon immunohistochemical analysis, the cells stained positive for synaptophysin but negative for chromogranin. The patient is scheduled to start chemotherapy.

Results: Malignancies of the extrahepatic bile ducts are predominantly cholangiocarcinomas (80%). Neuroendocrine tumors (NETs) of the bile duct are the most rare and occur in less than 2% of cases.1 NETs arise from embryonal neural crest cells (Argentaffin or Kulchitsky cells) that migrate to the respiratory and gastrointestinal tracts during development. The paucity of these cells in the biliary tract account for its rarity.2 There have been approximately 52 cases described in the literature since 1959.2 Most patients present with symptoms of biliary obstruction, biliary-colic pain and pruritis.3 It occurs more frequently in women than in men (1.9:1).3 The mean age is 2-3 decades below that of patients with neoplasm in the same anatomic site.3 The incidence of false negatives with brush cytology is high due to its submucosal location.3

The location of the tumor and the extent of the disease usually dictate the type of intervention. Synaptophysin-positive cases showed a worse prognosis (median survival, 27 months) vs. synaptophysin-negative (median survival, 38 months) groups (P<0.5).4 Prior to endoscopic ultrasound with fine needle aspiration, most cases of NETs have been found accidentally (i.e. incidentalomas) during biliary tract operations. 3
Conclusion: NETs of the extrahepatic bile duct are a rare cause of biliary tract malignancy. However, it should be considered in the differential diagnosis in patients presenting with obstructive jaundice. EUS with FNA should be the main diagnostic modality. The presence of synaptophysin in tissue indicates poorer prognosis.

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CHOLANGIOCARCINOMA ASSOCIATED WITH CHRONIC HEPATITIS B: A CASE REPORT
C. K. Lau, MD,[1] S. M. Cohen, MD,[1] J. Ahn, MD,[1] S. Jakate, MD,[2] M. Dy-Liacco, MD,[3] N. Shah, MD[1]. 1. Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL; 2. Pathology, Rush University Medical Center, Chicago, IL; 3. General Surgery, Rush University Medical Center, Chicago, IL.
Purpose: Cholangiocarcinoma (CCA), a rare malignancy of the biliary duct system, arises from epithelial cells of the intrahepatic or extrahepatic bile ducts. Clinical presentation varies depending on location of tumor, but includes jaundice, pruritus, abdominal pain, weight loss, and fever. Primary sclerosing cholangitis, choledochal cysts, and infection with parasitic liver flukes are risk factors strongly associated with CCA. Hepatitis B virus infection (HBV) is associated with hepatocellular carcinoma, but very rarely with CCA. We present an unusual case of CCA in a patient with chronic HBV infection.
Methods: A 38 year old Asian male with chronic untreated HBV infection presented to an outside hospital with fever, fatigue, and right upper quadrant abdominal pain for one week. Imaging studies revealed a right hepatic lobe mass and portal vein thrombosis. Liver biopsy was performed and the patient was referred to our hospital for further management. Physical exam revealed jaundice and hepatomegaly. Hemoglobin was 12.8 g/dl, platelet count 236 x 10^3/mcL, albumin 3.1 g/dl, bilirubin 0.7 mg/dL, alkaline phosphatase 147 IU/L, aspartate aminotransferase 57 IU/L, alanine aminotransferase 39 IU/L, INR 1.5, alpha-fetoprotein level 114 ng/ml, CA 19-9 of 45 U/ml, and HBV DNA 27,567 IU/ml. Repeat imaging demonstrated a 9.9 x 6.8 cm infiltrating mass extending from the dome inferiorly and invading the gallbladder, as well as portal vein thrombosis. A chest computed tomography (CT) and bone scan were negative for metastatic disease. Liver biopsy of the mass showed moderately differentiated adenocarcinoma and dysplasia of bile ducts. Immunostaining was compatible with CCA. A liver biopsy obtained from the left unaffected lobe revealed HBV hepatitis with early cirrhosis. The patient was not a candidate for liver transplantation.
Results: Subsequently, an exploratory laparotomy revealed no obvious peritoneal seeding, thus a right hepatectomy and cholecystectomy were performed. Pathology was consistent with CCA and an abundance of hepatocytes positive for hepatitis B surface antigen. The patient had an uncomplicated postoperative course and was discharged on antiviral HBV medications and follow up with oncology and radiation oncology.
Conclusion: We demonstrate a unique, rare case of CCA associated with chronic HBV. It has been proposed that HBV may infect biliary epithelium resulting in an immunologic attack causing inflammation and degenerative changes. More research is needed to evaluate the potential role of HBV in the pathogenesis of CCA, so that we can prevent and control this devastating disease.

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ACUTE FATTY LIVER OF PREGNANCY COMPLICATED BY SEVERE PANCREATITIS: SUCCESSFUL OUTCOME AFTER LIVER TRANSPLANTATION, A CASE REPORT
C. K. Lau, MD,[1] S. M. Cohen, MD,[1] J. Ahn, MD,[1] E. Chan, MD,[2] S. Jakate, MD,[3] N. Shah, MD[1]. 1. Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL; 2. General Surgery, Rush University Medical Center, Chicago, IL; 3. Pathology, Rush University Medical Center, Chicago, IL.
Purpose: Acute fatty liver of pregnancy (AFLP) is a rare serious disorder that typically occurs in the third trimester. Complications include fulminant hepatic failure (FHF) and encephalopathy, renal failure, and acute pancreatitis (AP). The association of AFLP and AP has infrequently been reported in the literature and is associated with a high maternal and fetal mortality rate. Treatment is prompt delivery and supportive care, however, orthotopic liver transplantation (OLT) may be necessary in some cases. We describe a case of AFLP complicated by AP that had a favorable maternal and fetal outcome after OLT.
Methods: A previously healthy 39 year-old multigravida, at 34 weeks' gestation, was admitted to an outside hospital in preterm labor. A male infant was delivered by emergency cesarean section because of fetal distress. On Day 2 following delivery, the patient developed nausea, vomiting, abdominal pain, and poor urine output. Laboratory findings included hyperbilirubinemia, raised serum transaminases, prolongation of serum prothrombin time, hypoglycemia, and increased creatinine, amylase 455 U/L, and lipase 5,855 U/L levels. On Day 3, imaging studies suggested possible pancreatitis and no evidence of gallstones. Her mental status deteriorated and she was transferred to our center for further evaluation. The patient subsequently required intubation due to encephalopathy and respiratory distress, a continuous intravenous dextrose infusion to correct for persistent hypoglycemia, and intracranial pressure monitoring. A liver biopsy was performed and confirmed the diagnosis of AFLP. The decision to proceed with OLT was made on the basis of progressive clinical deterioration despite aggressive support.
Results: During OLT, severe pancreatitis was found. Histopathological examination of the native liver revealed microvesicular steatosis with characteristic changes consistent with AFLP. The patient recovered completely five weeks later, and was discharged home. Her baby boy was healthy and testing for LCHAD (3-hydroxyacyl-CoA dehydrogenase) deficiency is pending.
Conclusion: AFLP is an uncommon disorder that is associated with significant fetal and maternal mortality. Complications of AFLP may require aggressive intensive care management after delivery, especially if pancreatitis occurs. We present a unique case of AFLP, complicated by pancreatitis, which after OLT resulted in survival of mother and baby.

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Poster Withdrawn

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Poster Withdrawn

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A RARE CAUSE OF SMALL BOWEL HEMORRHAGE: CMV INFECTION WITH MASSIVE BLEEDING FROM THE ILEUM WITHOUT CONCOMITANT COLITIS
V. Kurupath, MD, K. Mazumdar, MD, M. Krishnaiah, MD, S. Anand, MD. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY.
Purpose: Cytomegalovirus (CMV) infection of the gastrointestinal tract used to be a common and serious complication of the Acquired Immunodeficiency Syndrome. This incidence has decreased substantially since effective therapy has been used in recent years (1). CMV infection of the small bowel accounts for 4% of all CMV infections of the GI tract. CMV enteritis manifests clinically by generalized abdominal pain and diarrhea. Rare reports of ileal perforation secondary to CMV have been reported .We report this unusual presentation of multiple ileal ulcers and massive hemorrhage while on effective anti viral therapy.
Methods: case report A forty one year old male with multi drug resistant HIV/AIDS presented with elevated liver enzymes andhemoccult positive stools. He had a history of CMV colitis and retinitis and was on maintenance ganciclovir and foscarnet with good clinical remission. During the hospital course, he developed massive hematochezia with hemodynamic instability and a steepdrop in the hematocrit. The bleeding was recurrent and massive with significant requirements for transfusion.
Results: Colonoscopy showed blood clots but no evidence of colitis. Terminal ileal intubation showed large punched out ulcers .Biopsies of the ulcers showed findings typical of CMV infection with cytomegalic cells and intracytoplasmic inclusions. A nuclear tagged bleeding scan confirmed the source of bleeding to be from the terminal ileum. During surgery, intraoperative enteroscopy showed punched out ulcers involving 70 cm of the distal ileum. The rest of the small bowel was normal. Biopsies again showed findings typical of CMV infection with cytomegalic cells and intracytoplasmic inclusions .The patient underwent distal ileal resection and was discharged uneventfully.
Conclusion: CMV infections of the GI tract occur in the setting of advanced immunosupression, with CD4 counts less than 50 (4). Gastrointestinal sites of CMV involvement are usually the esophagus and colon with infections of the small bowel accounting for less than 5% of the cases. This case report presents an unusual case with no evidence of CMV colitis but with deep ulcers of the terminal ileum causing severe bleeding and requiring surgery. This patient was on optimal maintenance therapy with Gancyclovir and Foscarnet.. Review of the literature has no reported case of isolated ileal CMV infection, who while on effective therapy, had massive bleeding requiring surgical treatment.

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MESENTERIC PANNICULITIS PRESENTING IN A HEPATITIS C PATIENT WITH CRYOGLOBULENEMIA
V. Kurupath, MD, ,[1] L. Parsa, MD, ,[2] F. Fallick, MD, ,[2] J. Kurz, MD, [2]. 1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Gastroenterology, St. Barnabas Hospital, Bronx, NY.
Purpose: Mesenteric panniculitis (MP) is a condition of unknown etiology involving idiopathic inflammation and fibrotic process of the mesentery. Below is a rare case of MP associated with cryoglobulenimia.
Methods: case report Fifty-year-old female with history of diabetes mellitus, untreated Hepatitis C and hypothyroidism presented with abdominal pain/fever for one week with severe RUQ tenderness, palpable purpuric lesion consistent with leukocytoclastic vasculitis (LV). Laboratory examinations showed mildly elevated transaminases and alkaline phosphatase.
Results: Computed Tomography (CT) of abdomen showed inflammatory changes suggestive of mesenteritis. Intravenous antibiotics were started for possible diverticulitis/mesenteritis. With no response to antibiotics, and worsening abdominal pain, diagnostic laparoscopy was performed before starting steroids due to untreated hepatitis C and low white cell counts. It showed right upper quadrant phelgmon, cirrhotic liver, inflamed mesentery and adhesions of bowel to abdominal wall. Biopsy showed acute and chronic inflammation and hemorrhage consistent with mesenteric panniculitis. Colonoscopy showed multiple hyperplastic polyps and no signs of colitis. Purpuric rash again showed LV. Cryoglobulins were positive and she had a very low rheumatoid titer. Patient was started on tapering dose of steroids and she showed improvement. She was started on Pegasus and Ribvarin for follow-up in liver clinic. Patient's HIV status and other autoimmune work up were negative.
Conclusion: Most authors accept that mesenteric lipodystrophy, MP and sclerosing mesenteritis are part of the spectrum of one disease - usually one feature predominates, whose etiology remains obscure. Mesenteric panniculitis has been associated with a number of autoimmune conditions, with clinical response to immunomodulatory medications including corticosteroids, azathioprine and cyclophosphamide . Dual-phase abdominal CT is the most sensitive imaging modality for detecting MP . This is the first reported case seen of MP caused secondary to cryoglobulenemia that responded well to steroids and had other features of rare cryoglobulemia manifestations of low rheumatoid factor level with no manifestations and LV. Probable etiology would be vasculitis of the mesenteric vessels.

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INTESTINAL SPIROCHETOSIS: A CAUSE OF INTERMITTENT DIARRHEA IN AN IMMUNOCOMPETENT PATIENT

R. R. Kurella, MD,[1] M. Rudraraju, MD,[2] R. Sawh, MD,[3] S. Lightfoot, MD,[3] S. Rizvi, MD,[2] R. Harty, MD[2]. 1. Primary Care, VA Medical Center, Oklahoma City, OK; 2. Department of Gastroenterology, OUHSC, Oklahoma City, OK; 3. Pathology, OUHSC, Oklahoma City, OK.

Purpose: Intestinal spirochetosis is a rare and difficult to diagnose disease since it presents with non specific symptoms common to several other diseases. It is usually seen in immunocompromised patients. The most common symptoms reported include watery diarrhea, abdominal pain, altered bowel movements and on occasion rectal bleeding. Colonoscopy and biopsy is the only definite way of diagnosis of this disease. Case Report: We present a case of intestinal spirochetosis in an immunocompetent patient who presented with watery diarrhea. 59 year old male presented to primary care physician with intermittent diarrhea for 4 months time. He also reported rectal bleeding on occasion. Symptoms became worse on eating spicy and greasy foods. He denied any loss of appetite or weight. His other medical problems included gastro esophageal reflux disease and hypertension, both were controlled on medications. Patient was subjected to colonoscopy for diagnostic purposes. On colonoscopy, colon mucosa was found to be normal and routine random biopsies were performed. Histopathology revealed intestinal spirochetes which were found at the brush border of the epithelium. He was treated with metronidazole for a period of 14 days. He became asymptomatic after treatment. A follow up sigmoidoscopy performed 3 months later showed no evidence of spirochetes in the biopsy specimens. Conclusion: Intestinal spirochetosis is a rare cause of watery diarrhea in a immunocompetent patient and should be considered in the differential diagnosis of chronic intermittent diarrhea. Differential diagnosis includes colon cancer, Zollinger-Ellison syndrome, gastric ulcers, infective colitis and irritable bowel syndrome.Colonoscopy and biopsy of the intestinal tissue and staining with Warthin-Starry stain is the gold standard in diagnosis of this disease. Metronidazole for 14 days is the drug of choice for eradication of the disease. Prognosis is favorable with treatment.

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LANGERHANS CELL HISTIOCYTOSIS CONFINED TO COLON POLYPS, A RARE PRESENTATION

R. R. Kurella, MD,[1] L. Mansour, MD,[2] S. Lightfoot, MD,[3] J. Maple, DO,[2] R. Harty, MD[2]. 1. Primary Care, VA Medical Center, Oklahoma City, OK; 2. Gastroenterology, OUHSC, Oklahoma City, OK; 3. Pathology, OUHSC, Oklahoma City, OK.

Purpose: Langerhans' cell histiocytosis (LCH) is a granulomatous disorder of unknown cause. It is characterized by overproduction and accumulation of dendritic cells in granulomatous lesions in various tissues and organs of the body. It most often affects the bony skeleton and skin. Involvement of the lungs, liver, spleen, lymph nodes, pancreas and pituitary has been reported. Gastrointestinal involvement in Langerhans cell histiocytosis is rare and usually is associated with severe systemic illness. LCH presenting in a colon polyp has not been described before. We present a case of LCH isolated to the colon polyp with no involvement of other organs including skin and bones. Case report: 60 year old otherwise health white male underwent colonoscopy for heme occult positivity. He denied any gastrointestinal symptoms including nausea, vomiting, diarrhea or abdominal pain. He denied any skin rashes on bone abnormalities. His chronic medical problems included nicotine dependence, insomnia and hypercholesterolemia. He did have some knee pain which was attributed to old ligamental injury and arthritis. His routine investigations including complete blood count and serum chemistries were within normal limits. A colonoscopy was performed for further evaluation. On colonoscopy four sessile polyps were found in the ascending colon. The polyps were 3-5 mm in size. These polyps were removed with a cold forceps. Histopathology revealed granulomas in the lamina propria composed of numerous eosinophils and fibroblasts. Both AFB and fungal stains were negative. The S-100 and CD 1A stains were positive establishing the diagnosis of Langerhans cell histiocytosis. Whole body bone scan done for skeletal involvement was normal. A CT scan of the chest performed for pulmonary involvement was negative. Since polypectomy was complete and no other organs were involved a watchful waiting approach was determined to be optimal at the present time. Conclusion: Langerhans cell histiocytosis is rare in adult population (1-2/million). Skeletal involvement with bone pain, pulmonary involvement with dysnea and diabetes insipidus secondary to pituitary involvement are more common forms of presentation in adults. Involvement of gastro-intestinal tract is extremely rare. To our best knowledge this is the first ever reported case of Langerhans cell histiocytosis confined to colon polyps without any radiological evidence of skeletal involvement or any other systemic involvement.

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OVARIAN CYSTS AND IBD: A POSSIBLE CAUSE OF CONTINUED ABDOMINAL PAIN IN WOMEN WITH IBD

R. A. Kowalczyk, MD, S. V. Kane, MD. Mayo Clinic, Rochester, MN.

Purpose: A 39 year old female with a history of Crohn's ileocolitis presented to the outpatient gastroenterology clinic for further evaluation of her disease. She was first diagnosed with Crohn's disease at age 16 after having symptoms for 4 years prior. At 26 years of age she underwent resection of the terminal ileum and right colon with continued multiple episodes of loose stool. After she failed to gain weight during pregnancy she underwent repeat colonoscopy and was found to have recurrent disease and underwent resection of diseased bowel with primary anastomosis at age 37. Post operative course was complicated by anastomotic leak, pelvic sepsis and enterocutaneous fistula requiring repeat surgical repair. She continues to have approximately 20 loose stools a day, poor weight gain, and severe lower abdominal pain. Only treatment at presentation was Imodium and Lortab. Physical exam did not reveal any extraintestinal manifestations of Crohn's disease. Abdominal examination was significant for multiple well-healed surgical scars, hyperactive bowel sounds but no tenderness, distention or masses. CT enterography was positive for mild active disease of the descending colon. Incidentally found on the CT scan was a large right adnexal cyst for which the patient was evaluated by gynecology. It was felt this was most likely a physiologic cyst and should be monitored prior to surgical intervention. To treat the patient's active disease she was started on Azathioprine 50 mg orally daily. Upon follow up her diarrhea had improved after 3 months of therapy and her abdominal pain was improved but was still narcotic dependent. She had also developed a perianal fistula and was started on ciprofloxacin. The patient returned 1 month later with continued improvement in her diarrheal symptoms and abdominal pain. Repeat ultrasound was done and revealed complete resolution of her ovarian cyst. Ovarian cysts occur in about 5-7% of the general population and up to 25% of women with inflammatory bowel disease. This increased incidence is most likely secondary to the up-regulation of inflammatory mediators that have an inhibitory effect on LH interfering with reabsorption of the immature follicle. Ovarian cysts are related to increased rates of pelvic and abdominal pain, and should be considered in the differential in those women with IBD and refractory abdominal pain. Given that these cysts are related to hormonal imbalances secondary to inflammation it is likely that these cysts would decrease in size or resolve with treatment of active IBD, as was seen in this patient. Further research into the incidence of ovarian cysts in IBD and effect of treatment of IBD on ovarian cysts is needed.

P208

ABDOMINAL PAIN: A WOLF IN SHEEP'S CLOTHING

R. A. Kowalczyk, MD, N. Egger, MD. Mayo Clinic, Rochester, MN.

Purpose: A 29 year old female with a history of depression and migraines is hospitalized for evaluation of several weeks of abdominal pain. The patient first presented to the emergency department two weeks earlier with diffuse abdominal pain, nausea and severe anorexia. A pelvic exam was performed and was normal. Urinalysis revealed hyaline and leukocyte casts with no evidence of infection. Her alkaline phosphatase, amylase and lipase were elevated as well. Right upper quadrant ultrasound was negative as was the abdominal CT scan. The patient was released after her abdominal pain and liver enzymes resolved overnight. Symptoms on the day of current admission included diffuse abdominal pain, back pain, anorexia, facial tics, and complex visual hallucinations. Physical exam was significant for diffuse abdominal pain with no evidence of peritonitis. Laboratory analysis revealed an elevated alkaline phosphatase and gamma glutaminase. Urinalysis was positive for 1-3 WBCs, occasional RBCs and granular casts per hpf. It was noted that the urine was peach colored. A 24 hour urine was performed and the patient was found to have marked elevations of porphobilinogen and uroporphyrin, with mild to moderate elevations of heptacarboxyl porphyrin, pentacarboxyl porphyrin, and coproporphyrin. Stool porphyrins were negative and activity of erythrocyte PBG deaminase and ALA dehydratase were normal. The patient was diagnosed with acute intermittent porphyria. She was treated with IV dextrose and IV hemin with improvement of symptoms. She was dismissed with a list of medications to avoid, diet instructions, and strong advice for smoking cessation. Since initial diagnosis the patient has had acute exacerbations about every 3 months since initial diagnosis secondary to narcotic use and continued cigarette smoking. Most recently she was admitted with neurovisceral crisis with respiratory compromise secondary to abrupt discontinuation of Lupron and resumption of her menses. This case reiterates that abdominal pain is a symptom with a broad differential diagnosis which requires exhaustive work up prior to determining the cause is functional. In this patient, had we determined her symptoms were secondary to functional problems we would have missed a life threatening condition. As internists or gastroenterologists we evaluate and treat abdominal pain on a routine basis and it is important to remember that the differential includes not only infectious, inflammatory, and functional etiologies but metabolic abnormalities as well. It is only after a complete history were we able to determine the etiology of her pain thereby avoiding worsening of her symptoms and possible life threatening neurologic compromise.

P209

DOES A NORMAL ENDOSCOPIC APPEARANCE OF DUODENUM RULE OUT UNDERLYING HAIRY CELL LEUKEMIC INFILTRATE?

S. T. Kothari, MD,[1] C. Mody, MD,[3] R. S. Spira, MD,[2] J. R. DePasquale, MD,[2] G. Guron, MD[4]. 1. Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ; 2. Gastroenterology, St Michaels Medical Center, Newark, NJ; 3. Internal Medicine, St Michaels Medical Center, Newark, NJ; 4. Oncology, St.Michael's Medical Center, Newark, NJ.

Purpose: Hairy Cell Leukemia (HCL) is a form of chronic lymphoproliferative disorder. Leukemic involvement of the gastrointestinal (GI) tract must be considered in any patient with acute or chronic leukemia who presents with unusual GI symptoms. We report a patient with HCL presenting with fever, abdominal pain and was found to have hairy cell (HC) infiltration on random biopsies of endoscopically normal appearing duodenum.

Methods: Our patient is a 48 year old Hispanic male with history of HCL who presented with fever for two days after one cycle of cladribine (2-CdA). Patient had temperature of 101.4 and right abdominal tenderness with no rebound, guarding or rigidity. Labs showed WBC 0.4, ANC 0.2, Hb 8.9, platelet 23, ALP 137, ALT 42, AST 32. He was started on Imipenem, Vancomycin, Diflucan and Neupogen. Extensive septic work-up was negative. HIDA scan was negative. Bone marrow biopsy done for persistent spiking of high grade fever was negative for any pathogens. Abdominal CT showed circumferential thickening of 2nd and 3rd portion of duodenum. EGD revealed a completely normal esophagus and duodenum. Random biopsies of the duodenum revealed chronic inflammatory infiltrate chiefly composed of atypical lymphocytes and plasma cells. Immunohistochemical stains of paraffin sections of biopsy revealed atypical lymphocytes positive for TRAP (tartrate resistant acid phophatase), consistent with hairy cell leukemic infiltrate of duodenum. Patient's WBC subsequently improved on Neupogen and he was discharged.

Conclusion: Extramedullary involvement of the GI tract with leukemia is very rare and usually involvement of lymphoreticular organs, brain, testes and ovaries is seen. The reported autopsy incidence of GI involvement by leukemia ranges from 5.7% to 13% and reaches upto 20% in cases of acute lymphocytic leukemia. Leukemic involvement of the GI tract can be from mouth to anus with duodenum and distal colon being least commonly affected. Macroscopically, GI tract involvement can assume a variety of forms, including necrosis, hemorrhage, ulceration, inflammation or polypoid lesions. We did not find any case in literature with duodenal infiltration by hairy cell leukemia having a normal endoscopic appearance. Acute presentations may include necrotizing enteritis, perforation and abscesses. Radiographic studies may show thickening of bowel wall or ulcerations. Differential should include any underlying infectious etiology. Recurrent GI symptoms in a patient with known leukemic involvement of the GI tract should raise suspicion for leukemic relapse or progression. If index of suspicion is high, random biopsies should be taken regardless of the gross mucosal appearance, as a normal appearing mucosa does not rule out underlying pathology.

P210

COLLAGENOUS COLITIS - A RARE COMPLICATION OF LANSOPRAZOLE

S. T. Kothari, MD,[1] N. Nguyen, MD,[3] J. Brown, DO,[2] A. Fedida, MD[2]. 1. Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ; 2. Gastroenterology, St. Michael's Medical Center, Newark, NJ; 3. Internal Medicine, St. Michael's Medical Center, Newark, NJ.

Purpose: Collagenous Colitis (CC) is characterized by chronic watery diarrhea and thickened subepithelial collagen band on histology. It has a female predominance with a ratio of 15:1 to males. Few cases of CC induced by lansoprazole (LPZ) use have been reported. We report a case of collagenous colitis in a male complaining of diarrhea for 4 weeks while on LPZ.

Methods: Our patient is a 56 year old male with PMH of GERD being treated with LPZ for 4 months. He was started on LPZ 40 mg daily and dose was increased to 40 mg PO BID in November 2007. He presented in 2/08 with complaints of watery diarrhea for 4 weeks. He had 8-10 episodes per day, associated with abdominal pain, mild rectal bleeding but denied fever or weight loss. He denied any NSAID use, recent travel, ingestion of raw seafood or ill contacts. Physical exam was benign with unremarkable laboratory & stool analysis. Work up for inflammatory bowel disease was negative. He had a colonoscopy in 11/07 which was only significant for two small polyps, and no colitis. Colonoscopy with biopsies was done at the end of February 2008, which showed mild rectosigmoid colitis. However, the pathology report of the sigmoid colon and rectum biopsies was consistent with collagenous colitis. His LPZ was subsequently stopped. The patient was started on budesonide and within one to two weeks his symptoms improved dramatically. He is scheduled for repeat colonoscopy with biopsies to ensure improvement of CC.

Conclusion: Microscopic colitis is classified into lymphocytic colitis and collagenous colitis. Pathogenesis of LPZ associated CC remains unclear, although immunologic mechanisms might contribute to its development. Drugs such as NSAIDs, antibiotics, cimetidine, have been suggested to be associated with CC. Recently cases have been reported of LPZ associated CC. Symptoms include chronic watery diarrhea and rarely hematochezia. Linear mucosal defects and friable mucosa may be characteristic colonoscopic findings in patients with LPZ associated CC. According to a recent study, linear mucosal ulcerations were detected on colonoscopy in 78% of cases in the LPZ group. Such ulcerations are possibly associated with NSAIDs but our patient denied any NSAID use. Several theories have been proposed for LPZ-associated CC. Some of these theories are alteration of the composition and pH of colonic secretions triggering an immune response leading to CC, or difference in affinity to proton pump between LPZ and other PPI, which might cause LPZ-associated CC. Treatment includes removal of the offending agent and repeat colonoscopy after resolution of symptoms would reveal whitish linear scars covered by mucosa. Clinicians need to be vigilant for adverse reactions & appropriate use of medications.

P211

SMALL BOWEL LYMPHANGIOMA: AN UNUSUAL CAUSE OF GASTROINTESTINAL BLEEDING AND SEVERE IRON DEFICIENCY ANEMIA

S. T. Kothari, MD, S. N. Shaikh, MD, R. Shakov, MD, R. S. Spira, MD, J. R. DePasquale, MD, W. Baddoura, MD. Gastroenterology, Seton Hall University School of Graduate Medical Education, South Orange, NJ.

Purpose: Mesentric lymphangioma is a rare benign cystic tumor of lymphatics of the bowel. It is usually found in the first decade of life and has a female predominance in adults. It differs from other mesenteric and retroperitoneal cysts, as it is proliferative and invasive in nature. It is usually asymptomatic in adults and found on surgery or autopsy. It rarely presents as occult GI bleed and iron deficiency anemia. We present such a patient in whom capsule endoscopy was diagnostic.

Methods: Our patient is a 36 year old female who presented with fatigue, shortness of breath, occassional diffuse abdominal pain, melena and dizziness for 6 months. She denied any nausea, vomiting, hematochezia, NSAID use or family h/o cancer. Labs revealed Hb of 3.7, Hct 12.5, MCV 60.4, Plt 461, WBC 7.2, Iron 2, Ferritin 3, TIBC 367 and positive FOBT x 3. After transfusion of 4 units PRBC, Hb improved to 9.8. Small bowel enteroscopy with biopsies revealed mild antral gastritis, *H. pylori* negative and normal villous architecture. Colonoscopy was completely normal. Abdominal CT and Small Bowel series showed luminal narrowing and thickening of small bowel loops in left upper quadrant. Patient was given a patency capsule which passed without any complications. Capsule endoscopy revealed a mass like lesion with yellowish – white discoloration with active bleeding in the small bowel. Laparoscopic resection of the lesion showed diffuse dilatation of the mucosal, submucosal and subserosal lymphatics consistent with small bowel lymphangioma. The post operative course was uneventful and patient was discharged.

Conclusion: Abdominal lymphangiomas are uncommon benign tumors. The mean age at presentation is 2.2 years with a male predominance. Etiology may be benign proliferation of ectopic lymphatics. 95% of lymphangiomas are found in the neck and axilla and very rarely found in the intestine. Clinical presentation include abdominal pain, distention, fever, and vomiting. There may be features of small bowel obstruction or volvulus. In an Australian study of 416 capsule endoscopies, 27 tumors were identified of which only 1 was a lymphangioma. Plain radiography may demonstrate small-bowel obstruction or noncalcified soft-tissue mass. CT and MRI may show multiloculated fluid-filled masses, thickening of the bowel wall and reveal size of the tumor, characteristics of the cyst wall and location. Capsule endoscopy may lead to earlier detection and treatment and an improved prognosis for patients with these neoplasms. The prognosis of lymphangiomas depends on location and extent of the lesion. Complete resection is the treatment of choice and has an excellent prognosis. The recurrence rate ranges from 0–13.6%. Malignant degeneration to a low-grade sarcoma is rare.

P212

VOLCANO ULCERS IN STOMACH – AN UNUSUAL PRESENTATION OF METASTATIC NON PIGMENTED MELANOMA

S. T. Kothari, MD,[1] C. Mody, MD,[3] R. S. Spira, MD,[2] J. R. DePasquale, MD[2].
1. Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ; 2. Gastroenterology, St. Michael's Medical Center, Newark, NJ; 3. Internal Medicine, St. Michael's Medical Center, Newark, NJ.

Purpose: Malignant melanoma is one of the most common malignancies to metastasize to the gastrointestinal (GI) tract. Metastases to GI tract can present at time of primary diagnosis or decades later as first sign of recurrence. Metastatic melanoma to GI tract is found during diagnostic workup in 1%-4% of patients with cutaneous primary and up to 60% of melanoma patients in autopsy.

Methods: Our patient is a 45 year old white male with history of primary non-pigmented urinary bladder melanoma who presented with complaint of dyspepsia for 2 months. Patient had received full course of chemotherapy with Tamodar for 5 months with good response. He denied any nausea, vomiting, dysphagia or bleeding. He had no primary skin lesion found on extensive detailed physical exam. Whole body PET scan showed markedly thickened stomach walls with multiple omental lesions in the perigastric region. Upper endoscopy revealed two large, non-pigmented ulcerating masses in body of stomach on the greater curvature. These masses had "volcano appearance" with heaped up edges and central crater. Multiple biopsies were taken which were consistent with non pigmented metastatic melanoma confirmed by immunohistochemical stains. Patient was subsequently started on carboplatin and has had mild improvement in symptoms.

Conclusion: Gastrointestinal invasion by melanoma is a rare condition and is often associated with invasion of other visceral organs. The endoscopic classification of the gastric metastases comprises three main types: (a) melanotic nodules, often ulcerated at the tip; most common (b) submucosal mass, melanotic or not, elevated and ulcerated at apex; typical aspect of "bull's eye" lesion and (c) mass lesions with varying incidence of necrosis and melanosis. Gastric metastases may appear even as a simple ulcer. Majority of gastric metastases are reported to occur in body and fundus, most often on the greater curvature. Most frequent sites of melanoma metastases include small bowel, stomach, colon, and anorectum in decreasing order. Symptoms may include abdominal pain, dysphagia, small bowel obstruction and GI bleed. Diagnosis requires careful inspection of mucosa and biopsy with special immunohistochemical stains. Management may include surgical resection, chemotherapy, immunotherapy, observation, or enrollment in clinical trials. Surgery seems to be of limited value and should be performed in carefully selected patients and in patients with complications. Prognosis is poor, with median survival time in patients presenting with GI invasion being less than 1 year. Endoscopic "Volcano ulcers" in the stomach have been reported in many secondary neoplasms of the stomach and their presence should always raise suspicion for an underlying malignancy.

P213

GIANT PSEUDODIVERTICULUM OF THE SIGMOID COLON – A RARE MANIFESTATION OF DIVERTICULAR DISEASE

S. T. Kothari, MD,[1] C. Mody, MD,[2] R. S. Spira, MD,[3] J. R. DePasquale, MD[3].
1. Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ; 2. Internal Medicine, St. Michael's Medical Center, Newark, NJ; 3. Gastroenterology and Hepatology, St. Michael's Medical Center, Newark, NJ.

Purpose: Giant sigmoid diverticulum is a rare air-filled cystic cavity greater than 3-4 cm. Giant pseudodiverticulum of sigmoid colon is one of the two types of sigmoid diverticulum. It is a very rare presentation of diverticular disease. It has a typical radiological and histological finding, which is helpful in making the diagnosis.

Methods: A 72-year old female with hypertension presented with complaints of abdominal distention, decreased appetite and weight loss for 2 weeks. The patient denied fever, abdominal pain, vomiting or constipation. On physical exam abdomen was distended, soft, non tender with presence of normal bowel sounds. Labs revealed leukocytosis of 38.2 with 21% bands, normal liver functions, amylase and lipase. Patient was started on antibiotics and IV fluids. Abdominal CT showed an air fluid level with a large 10cm dilated loop of sigmoid colon. Patient was presumed to have volvulus and colonoscopy was performed. The scope was advanced into a narrowed area in the recto-sigmoid region and it entered into a large air filled cavity lined by blackish appearing serosa. The cavity lacked the lining by normal colonic mucosa. Upon continuous suctioning of the air in the cavity it completely collapsed resolving abdominal distention. Patient was referred to surgery for possible sigmoid pseudodiverticulum versus colonic perforation. Patient underwent exploratory laparotomy with left hemicolectomy, rectal Hartman's pouch and colostomy. The pathology report showed sigmoid pseudodiverticulum with focal acute and chronic inflammation. Post surgical hospital course was uneventful and patient was discharged.

Conclusion: Giant Colonic diverticulum (GCD) was first described by Bonvin and Bonte in 1946. GCD has been divided into Type I and Type II. Type I is a pseudodiverticulum with the cyst wall lacking the smooth muscle and consisting mostly of fibrous tissue and chronic inflammatory cells. Type II is a true diverticulum, congenital in origin with the wall consisting of distinct smooth muscular layer and all the layers of normal bowel wall. Type I and Type II account for 87% and 17% cases respectively. Some of the proposed theories of formation are unidirectional ball valve mechanism, gas forming organisms or differences in the intracolonic and GCD pressure through the communicating ostium. Gender distribution is equal in Type I while Type II has male predominance. The common symptom is the abdominal pain with distension in 70% of the patients. Diagnosis is made with plain abdominal films, abdominal CT scan, and colonoscopy. Treatment is based on the type of GCD, for type I – segmental resection is recommended. For type II, diverticulectomy is suggested. Prognosis is usually good after surgical intervention.

P214

TUBERCULOUS COLITIS IN A PATIENT WITH CROHN'S DISEASE AFTER TREATMENT WITH INFLIXIMAB

S. T. Kothari, MD,[1] N. Nguyen, MD,[3] J. Brown, DO,[2] A. Fedida, MD[2]. 1. Gastroenterology and Hepatology, St. Joseph's Regional Medical Center, Paterson, NJ; 2. Gastroenterology, St. Michael's Medical Center, Newark, NJ; 3. Internal Medicine, St. Michael's Medical Center, Newark, NJ.

Purpose: Tuberculous Colitis is a rare manifestation of abdominal tuberculosis (TB). It is located in the ileocecal area in 90% of cases. Since 10/01 a boxed warning is added to infliximab package insert advising physicians to screen for TB before treatment. We report a case of TB colitis in a patient with negative PPD & Crohn's disease after starting infliximab.

Methods: Our patient is a 23 year old Peruvian female who presented with abdominal pain, weight loss, diarrhea & hematochezia. Colonoscopy in 3/07 revealed edematous, friable and inflammed rectosigmoid. Biopsies and Prometheus-7 panel were consistent with Crohn's disease. Biopsy specimens were negative for AFB. She denied any h/o TB or HIV. She was started on Mesalamine with no relief & subsequently started on azathioprine. Colonoscopy in 7/07 showed severe Crohn's colitis in left colon. Infliximab was considered & patient had a PPD test which was negative with completely normal CXR. First dose of infliximab was given in 8/07 & second dose 2 weeks later. 4 weeks after starting infliximab she was hospitalised with high grade fever, diarrhea & abdominal pain. CT scan was negative for retroperitoneal adenopathy or abscesses & showed diffuse colonic thickening. Colonoscopy showed severely worsened pancolitis with biopsies from entire colon positive for AFB. Repeat PPD & CXR remained negative. She denied recent travel, ill contact or cough. She was started on quadruple therapy for possible TB & biopsy PCR confirmed the diagnosis of TB colitis. The patient improved dramatically on TB medications & has gained 20lbs.

Conclusion: Infliximab is a chimeric monoclonal antibody to TNF – α. One of its FDA approvals is for treatment of Crohn's disease. From 1998 - 2001, out of 147,000 patients who received infliximab for RA or Crohn's disease, 70 cases of TB associated with infliximab were reported. The median time to onset from starting infliximab therapy to TB diagnosis is 10 months (1-72 months). TB Colitis can present as ulcerations, stenosis & shortening. It can mimic Crohn's disease making diagnosis difficult. CXR is often normal & 15-20% patients with abdominal TB present with active pulmonary TB. Retracted cecum & asymmetric wall thickening have been reported to be suggestive of TB. Clinicians should be vigilant for TB in patients on infliximab even if pretreatment PPD is negative, especially if risk factors for TB are present. Patients with demographic risk factors, h/o BCG, exposure to TB, GI resection & occupational exposure are at high risk for TB. Currently recommended screening such as risk assessment, tuberculin skin testing and CXR prior to anti-TNF-α treatment can reduce TB rates by up to 90% but newer screening interferon gamma assays may enhance screening efficacy.

P215

ABDOMINAL PAIN SECONDARY TO TUMORAL AMYLOIDOSIS OF THE STOMACH

C. P. Koczka, MD, A. Goodman, MD. Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: Amyloidosis is commonly systemic, occasionally organ-limited, and rarely a solitary localized mass. The latter, commonly referred to Tumoral Amyloidosis, is described occurring in every organ/tissue. Only a few reports of gastric amyloidosis exist today.

Methods: A 72 year-old black male from Barbados presented with 3 days of diffuse abdominal pain. He described the pain severe, non-radiating, and worse with seating upright. A 60lb weight loss over one year as well as loss of appetite for several months was noted. The patient reported early satiety for 8 months. He denied dysphagia, odynophagia, nausea, or vomiting. There was no change in bowel habits or character of stool. Colonoscopy and EGD six years ago were unremarkable. His medical history included Non-Hodgkin's Lymphoma diagnosed five years ago, status-post six rounds of CHOP chemotherapy, and currently was in remission. He gave no familial history of gastrointestinal disorders or malignancy. He had been a life-long smoker and consumed a moderate amount of alcohol daily. On examination, the patient was thin with mild pallor but no scleral icterus or jaundice. Abdominal exam revealed generalized tenderness with guarding, but no abdominal masses were felt. Complete blood count and iron panel revealed anemia of chronic disease. Electrolyte and hepatic panels were unremarkable.

Results: On CT scan of the abdomen, thickening and calcification of the gastric wall was noted along with pneumatosis. A 1 cm pedunculated mass in the proximal duodenum was noted. No focal hepatic masses or biliary ductal dilatations seen. On EGD, a large circumferential friable mass was seen from the GE junction to the body. The mass was ulcerated, nodular, edematous, and bled easily on contact. A large non-bleeding 3cm polyp was also seen in post bulbar area of duodenum. Biopsies were stained with Congo red and gave green birefringence under polarized light, consistent with tumoral amyloidosis. PET scan revealed diffuse gastric mucosa uptake compatible with gastric malignancy without metastatic foci. After medically controlling his abdominal pain, the patient was discharged with plan of action being observation.

Conclusion: Tumoral amyloidosis exists as a rare disease entity in today's literature. There are no reports to support that this presentation represented a relapse of his prior disease process. Treatment for gastric amyloidomas has presently been one of observation or, at most, resection of the amyloid mass. It is not known if our patient required the same approach or if this warranted the re-institution of chemotherapy for NHL? Until more reports of tumoral amyloidosis are made known, treatment as well as prognosis remain uncertain.

P216

METASTATIC COLORECTAL CARCINOMA IN A 20 YEAR-OLD AFRO-CARIBBEAN FEMALE

C. P. Koczka, MD, W. Khan, MD, A. Goodman, MD. SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: Although the incidence of colorectal cancer in the child/adolescent population is quite low, a rising incidence has been reported. Furthermore, in the current literature, the behavior of this disease is not described in Afro-Caribbean youth.

Methods: A 20 year-old female presented with increasing abdominal girth and pain over 5 weeks. Her abdomen had been gradually growing, associated with dull non-radiating pain in the upper abdomen. Loss of appetite as well as weight loss of 20lbs in 1 ½ months was reported. She had been having bloody stools for the past 3 months. She denied fever, dysphagia, jaundice, night sweats, nausea or vomiting. She had emigrated from Trinidad to the United States three years ago. No prior medical history reported nor did she mention taking medications, smoking, alcohol, or illicit drugs. She had no familial history of cancer. On examination, she appeared cachetic with bitemporal wasting, but was in no acute distress. She was tachycardic at 130bpm. There was mild conjunctival pallor but no scleral icterus or lymphadenopathy present. The abdomen was distended with tenderness elicited in right upper quadrant. The liver was firm, irregular, and palpable to almost 6-7 finger breaths below the costal margin. There was no shifting dullness or splenomegaly present. Rectal exam was limited secondary to pain however fresh blood was observed.

Results: CT of abdomen revealed massive hepatomegaly with innumerable hypodensities enlarging the liver. Focal thickening of rectosigmoid wall was recognized as a mucinous adenocarcinoma. CT chest showed multiple parenchymal and pleural based pulmonary nodules bilaterally. Laboratory evaluation was significant for anemia of chronic disease and a mild elevation in transaminases. Chemistry panel, AFP, and white blood cell count were unremarkable. CEA level was markedly elevated at 13,682 U/L as well as CA 19-9 of 37,761 U/L and CA-125 U/L of 233. A colonoscopy revealed a mass visualized 3cm above the anal verge, obstructing the lumen and extending into the sigmoid colon. Colonoscope could not be advanced further, preventing full colonic examination. Pathological diagnosis of biopsies was consistent with high grade adenocarcinoma with signet-ring features. The patient was diagnosed with Stage IV rectosigmoid cancer with metastases to liver, peritoneum, and lungs. Treatment was begun with a regimen of Folfox (Folinic acid + 5 FU + Oxalplatin) and Bevacizumab. One year after the time of her diagnosis, she expired.

Conclusion: The aim of this report is to raise awareness of colorectal cancer in younger individuals especially in the Afro-Caribbean community which remains understudied compared to the rest of the US population.

P217

IDIOPATHIC PORTAL CAVERNOMA

C. P. Koczka, MD, A. Castillo-Roth, MD, A. Goodman, MD. SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: Portal Cavernoma, also known as cavernous transformation of the portal vein, is a rare condition consisting of formation of multiple portoportal collateral vessels around a previously stenosed or occluded portal vein. It is classically described as a consequence of portal vein thrombosis (PVT).

Methods: A 53-year-old Haitian male with a history of diabetes mellitus and hypertension presented with one month history of lower abdominal pain. The pain was crampy in nature, intermittent, exacerbated after meals, and improved with rest. The patient also noted increased abdominal girth and bilateral lower extremity edema. He took Pioglitazone/Metformin and Triameterne/Hydrochlorothiazide on a daily basis, but denied smoking or alcohol use. He denied personal or familial history of hypercoaguable states or chronic liver disease. On presentation, he was afebrile and normotensive. No jaundice or stigmata of chronic liver disease was noted. His abdomen was distended with shifting dullness, diffuse tenderness, and normoactive bowel sounds. Bilateral 3+ pitting edema of lower extremities was also noted.

Results: Laboratory data, including hepatic panel and coagulation profile, were unremarkable, except for a CBC showing thrombocytopenia (78,000/μL). Viral hepatitis B and C panels were negative; alpha-fetoprotein and iron panel were normal; autoimmune work-up unrevealing. Contrast enhanced CT scan of the abdomen revealed moderate-sized ascites along with multiple tortuous collateral vessels in the porta hepatis and gallbladder fossa, consistent with cavernous transformation of the portal vein. The splenic vein was dilated and tortuous, consistent with portal hypertension. No thrombi or intra/extrahepatic biliary tree dilatation were seen. Hepatic vessels were patent. On esophagogastroduodenoscopy, three columns of medium sized esophageal varices were noted. Liver biopsy showed normal hepatic liver parenchyma with significant dilation of the sinusoids. The patient is currently on Propranol and Spironolactone, with improvement of his symptoms.

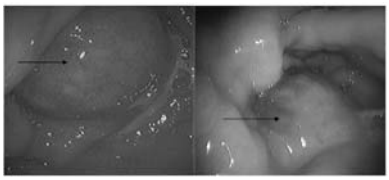
Conclusion: Cavernous transformation of the portal vein usually occurs after PVT secondary to cirrhosis, abdominal infections or neoplastic processes, hypercoaguable states, myeloproliferative disorders, or surgery. Our patient did not have any of the above conditions. We, thus, report a rare case of idiopathic cavernous transformation of the portal vein.

P218

RECURRENT GASTRIC ABSCESS IN A 28YR OLD FEMALE

M. A. Khan, MD,[1] B. Meredith, BS,[2] J. Leya, MD, FACG,[2] S. Dhillon, MD, FACG[2]. 1. Internal Medicine, West Suburban Medical Center, Oak Park, IL; 2. Medicine, Loyola University Medical Center, Maywood, IL.

Purpose: Introduction: Suppurative gastritis (SG) is an uncommon often-fatal condition characterized by suppurative bacterial infection of the stomach. Here we describe a case of recurrent gastric abscess(GA). Case report: 28 year old female presented with severe epigastric pain for 6 days. Her past medical history was significant 2 previous episodes of similar abdominal pain for which she was treated with IV antibiotics for gastritis and discharged. In this episode she was referred for endoscopic ultrasound. Physical examination revealed tenderness to palpation in left upper quadrant. Diagnostic investigation with CT scan, Upper endoscopy and Endoscopic Ultrasound demonstrated GA (figure 1)which was opened and drained with a cystotome. Patient's pain rapidly resolved after drainage. Patient was started on IV piperacillin/tazobactam. Aspirate cultures were positive for streptococcus species. She was discharged home on oral antibiotics. Patient had a recurrent abscess 2 months later and had distal gastrectomy with roux-en-y gastrojejunostomy. Patient recovered postoperatively and was discharged in a stable condition and since then has been doing well. Discussion: Two types of suppurative gastritis have been described -a diffuse or "phlegmonous variant" and the localized or "intramural gastric abscess". A review of English-language publications since 1972 identified only 18 reported cases of intramural gastric abscess. The pathogenesis of intragastric mural abscess is thought to involve a focus of injury to the gastric mucosa because of penetrating trauma from an ingested foreign body or an endoscopic biopsy. The most commonly reported pathogen is Streptococcus, which is implicated in up to 75% of cases. Today, intramural gastric abscess is being diagnosed with increasing frequency by endoscopic ultrasonography Diagnosis of intramural gastric abscess is not difficult but requires a high degree of suspicion because of its rarity. Early diagnosis is important, as it may obviate a needless gastrectomy and even death.



Endoscopy demonstrating a gastric abscess actively exuding pus.

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AN UNSUAL CASE OF RECTAL BLEEDING

M. A. Khan, MD,[1] S. Komanduri, MD, FACG,[2] M. D. Brown, MD, FACP, FACG[2]. 1. Internal Medicine, West Suburban Medical Center, Oak Park, IL; 2. Gastroenterology, RUSH University Medical Center, Chicago, IL.

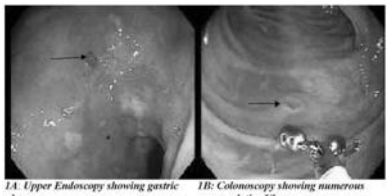
Purpose: Introduction: Non-Hodgkins lymphoma (NHL) is the 6th leading cause of cancer death in USA. Plasmablastic lymphoma(PBL) is a rare AIDS related NHL(ARL) arising in the oral cavity.Herein, a patient is presented with plasmoblastoma of colon as the initial presentation of AIDS. Case report: A 40 year old female came to the ER complaining of a brown vaginal discharge for about 2 weeks and intermittent rectal bleeding. Physical exam and CT scan of abdomen and pelvis revealed a 10 X 9.8 cm mass extending into the vaginal introitus, as well as a mass on the rectal exam. On day 2 of hospital stay she developed rectal bleeding. Subsequent sigmoidoscopy showed a large circumferential exophytic mass (figure1).Jumbo biopsy demonstrated a plasmablastic lymphoma. The cells were strongly positive for MUM1, CD138 and ebstein barr encoded RNA (EBER). Subsequent testing demonstrated the patient to be HIV positive with a HIV RNA of 427976 & CD4 count of 60. The patient was started on R-EPOCH therapy for plasmablastic lymphoma and HAART for her HIV. Her vaginal discharge improved and she was discharged in a stable condition Discussion: Patients with HIV/AIDS are at a significantly increased risk of developing NHL.PBL is rare types of ARL. Based on recent series of ARL, PBL accounts for approximately 2-4% of all ARL. Initially described as tumors which developed primarily in the oral cavity, HIV associated PBL can rarely present in other extranodal sites such as the bones, soft tissue, and gastrointestinal tract. Much like other NHLs, combination chemotherapy forms the backbone of therapy for PBL, and CHOP-like regimens are considered first-line therapy. Although extension to other sites can occur, in most patients, the neoplasm is limited to the oral cavity at initial presentation. Our case is a unique presentation of PBL with rectal bleeding, vaginal discharge, and initial manifestation of AIDS. Occurrence of PBL in sites other than the oral cavity expands our knowledge of AIDS-related lymphoproliferative disorders and increases our insights about this rare entity. Figure 1: Sigmoidoscopy showing bleeding large exophytic mass.

P220

NATURAL KILLER CELL LYMPHOMA AT AN UNUSUAL LOCATION

M. A. Khan, MD,[1] S. Komanduri, MDFACG,[2] M. D. Brown, MD, FACG, FACP[2]. 1. Internal Medicine, West Suburban Medical Center, Oak Park, IL; 2. Gastroenterology, RUSH University Medical Center, Chicago, IL.

Purpose: Introduction:Primary intestinal natural killer (NK)–cell lymphomas are exceedingly rare. We present a case of NK- cell lymphoma in the stomach and colon Case Report: 45 year old female with history of peptic ulcer perforation who was undergoing surveillance upper endoscopies every two years showed erosive gastritis(Fig 1A). The gastric biopsy showed active ulceration of fundic gastric mucosa with glandular atypia and abundant lymphocytes which were positive for CD3, CD56, and CD43 by immunohistochemistry. PET scan demonstrated high radioactivity on the left side of the pelvis. A subsequent colonoscopy revealed numerous moderate sized exudative ulcers located throughout the colon(Fig 1B). The colon biopsy was also positive for NK/T cell lymphoma. The tumor responded well to 6 cycles of CHOP regimen and subsequent EGD and colonoscopy with biopsys were negative for lymphoma which indicates the disease to be in complete remission Discussion: Primary NK cell lymphoma also known as angiocentric lymphomas or CD56 lymphomas have marked propensity to occur in the nose and paranasal sinuses. They are more common in men. This lymphoma produces usually ulcerative, destructive lesion in the nasal/ nasopharyngeal region. Other organs include the skin, gastrointestinal tract, testis, soft tissue, brain, liver, spleen, and bone marrow. The identifying trait is found by immunohistochemistry which shows strong immunopositivity for CD56, a marker for natural killer (NK) cell differentiation. EBER and TCR gene rearrangement are useful in distinguishing NK cell lymphoma from NK-like T-cell lymphoma. The disease is closely associated with Epstein-Barr virus (EBV) infection. Natural killer cells comprise 10-15% of the normal circulating lymphocytes in the peripheral blood and play an important role in the immune system by lysing tumor cells without prior sensitization. In our patient as CD 30 was negative, this was not the usual aggressive NK/T cell lymphoma of nasal type. Treatment of NK/T-cell lymphomas is by standard CHOP regimen. Other treatment options, like peripheral blood stem cell transplant combined with chemotherapy for more resistant lymphomas do exist.



1A. Upper Endoscopy showing gastric ulcers *1B: Colonoscopy showing numerous exudative Ulcers*

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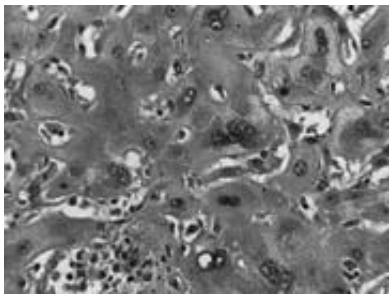
FULMINANT HEPATIC FAILURE IN AN ADULT PATIENT WITH GIANT CELL HEPATITIS

M. A. Khan, MD,[1] J. Ahn, MD,[2] N. Shah, MD,[2] S. Jakate, MD,[2] A. Patel, MD,[2] B. Meredith, BS,[3] S. M. Cohen, MD[2]. 1. Internal Medicine, West Suburban Medical Center, Oak Park, IL; 2. Hepatology, RUSH University Medical center, Chicago, IL; 3. Medicine, Loyola University Medical Center, Maywood, IL.

Purpose: Giant cell hepatitis (GCH)is most often found in neonates and rarely seen in the adult's. We present an adult with GCH who progressed to fulminant hepatic failure (FHF), requiring liver transplantation. Case Report A 56 year old male with hemolytic anemia and idiopathic thrombocytopenic purpura(ITP) who had been managed with splenectomy and corticosteroids presented with jaundice.On physical exam, the patient was jaundiced without other stigmata of chronic liver disease.Hemoglobin was 13.9 mg/dl, platelet count 170,000/cmm, total bilirubin 13.2 mg/dl, direct bilirubin 9.5 mg/dl, albumin 3.0 g/dl, alkaline phosphatase 246 U/l, AST 435 U/L and ALT 758 U/L. Serological markers for viral hepatitis, HIV, parvovirus, CMV were negative. ANA, ANCA, ASMA, and LKM were negative. A liver biopsy showed periportal and lobular grade 3 hepatitis, with lymphoplasmacytosis and rosetting.The patient was treated with prednisone 40 mg daily and mycophenylate mofetil 1g BID for autoimmune hepatitis. The patient subsequently developed renal failure, ascites, and hepatic encephalopathy. He underwent liver transplantation for FHF on hospital day 13. The explanted liver revealed on microscopic exam, giant cell transformation of hepatocytes suggesting a giant cell hepatitis variant of autoimmune hepatitis. The patient was discharged 9 days after transplantation and is doing well currently. Discussion GCH is a condition characterized by inflammation and large multinucleated hepatocytes. In newborn livers, various insults may cause GCH. In adults GCH comprises less than 0.25% of all hepatic diseases, and cases are variable in presentation and etiology.Adult GCH has been associated with autoimmune disorders, paramyxovirus, viral hepatitis, and medications. Corticosteroids have been found to improve the clinical picture in those individuals who are seropositive for autoimmune markers. Our patient had a history of hemolytic anemia and ITP but negative autoimmune markers. This case of FHF due to GCH highlights the extremely rare presentation of adult GCH with negative autoimmune markers requiring liver transplantation. Figure Legend High magnification microphotograph showing giant cell hepatitis with multinucleated hepatocytes and focal necrosis with inflammation(arrows)[Hematoxylin&Eosin stain,x400 magnification].

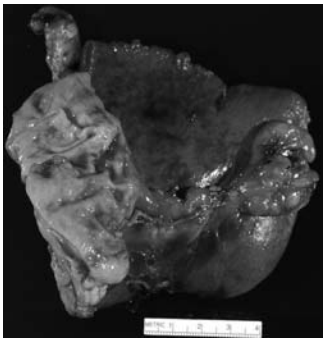


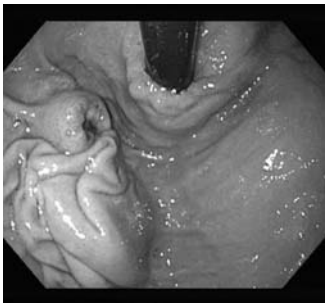
P222

AN UNUSUAL SUBMUCOSAL TUMOR IN A PREGNANT FEMALE

P. C. Kashyap, MBBS,[1] F. Medeiros, MD,[2] M. Levy, MD,[1] D. M. Nagorney, MD,[3] M. V. Larson, MD[1]. 1. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Pathology, Mayo Clinic, Rochester, MN; 3. Surgery, Mayo Clinic, Rochester, MN.

Purpose: Gastrointestinal endometriosis is uncommon, but when present usually involves the rectosigmoid and manifests as lower gastrointestinal bleeding, pelvic pain or constipation. Endometriosis involving the upper GI tract is very rare, but as this case illustrates, its presentation can be dramatic. Patient was a 35 year old G4P3 admitted at 19 weeks gestation with constant epigastric pain associated with nausea, vomiting and an episode of melena. She denied use of NSAIDs, smoking or alcohol use. Her past history was unremarkable. On examination her abdomen was benign and the stool was dark and positive for blood. Hemoglobin on admission was 7.9. EGD showed a 3 cm luminal based mass with 1 cm surface ulceration but no evidence of a visible vessel. A subsequent linear endoscopic ultrasound exam revealed a 7X7 cm, inhomogeneous mass with irregular outer borders located in the proximal gastric body and extending to the spleen, left hemidiaphragm and the pancreatic tail. Fine needle aspiration cytology was interpreted as suspicious for malignancy and she underwent an en bloc partial gastrectomy and splenectomy. Pathology showed endometriosis with extensive decidualization forming a mass infiltrating the gastric wall and spleen. She did well after surgery and delivered a healthy baby at term Conclusion: Endometriosis is rare outside the lower GI tract, but can present as a symptomatic, bleeding, gastric mass. Pregnancy appears to lead to rapid growth of extra-uterine endometriotic tissue. While EUS is helpful in evaluating subepithelial masses that may arise from many etiologies, FNA sampling may be unrevealing, and ultimately surgical resection is required.





P223

MITOCHONDRIAL MUTATIONS AS A CAUSE OF GASTROINTESTINAL DYSMOTILITY IN OLDER PATIENTS

P. C. Kashyap, MBBS,[1] L. A. Szarka, MD,[1] R. R. Cima, MD,[2] G. Farrugia, MD[1]. 1. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Surgery, Mayo Clinic, Rochester, MN.

Purpose: Mitochondrial mutations affect several organ systems including the gastrointestinal tract. These mutations usually manifest before the 4th decade of life. The most common mitochondrial disorder affecting the gut is MNGIE (Mitochondrial Neuro GastroIntestinal Encephalomyopathy) associated with a thymidine phosphorylase gene mutation. Other mitochondrial diseases associated with GI disease include MIDD (maternally inherited diabetes and deafness) and MELAS (myoencephalopathy, lactic acidosis, stroke like episodes). In these diseases the commonest mutation is with a substitution of A with G at position 3243 in the mitochondrial DNA. We describe two older patients presenting with dysmotility that was associated with the mitochondrial mutation A3243G. Case 1: A 64 year old Caucasian male with history of deafness, diabetes and cardiac dysrhythmia presented with 3 month history of abdominal distention. Imaging studies revealed markedly distended colon with no evidence of mechanical obstruction. He was on TPN for nutritional support. Tests for secondary causes of intestinal dysmotility including connective tissue disorders, amyloidosis, spinal lesions and paraneoplastic dysmotility were negative. Colonic motility testing revealed megacolon with an absent contractile responses to a meal and to intravenous neostigmine. He underwent subtotal colectomy with primary anastomosis and is doing well at 9 months, off TPN and maintaining his weight with oral intake. Full thickness biopsies did not reveal any histological abnormalities Case 2: A 48 year old female with history of diabetes for 20 years, myoclonic epilepsy, lactic acidosis and chronic abdominal pain presented with gastroparesis and constipation. She had a history of a failed pancreatic transplant and brittle diabetes. Her family history was significant for a sister with hearing loss, diabetes, cardiomyopathy and short stature and mother with diabetes and stroke. She was unable to tolerate oral nutrition. She was treated with CoQ10, thiamine and an enterostomy tube was placed for nutritional support. Conclusion: Patients with mitochondrial diseases may have delayed onset of gastrointestinal symptoms. Therefore this needs to be considered and tested for regardless of age in all who present with gastrointestinal dysmotility, diabetes and other features of mitochondrial disease. The phenotypic presentation of mitochondrial disease varies, even with the same mutation. The first patient likely has MIDD while the second patient has MELAS. In carefully selected patients surgical treatment may be appropriate, though one needs to carefully balance the increased surgical risks of malignant hyperthermia and lactic acidemia in patients with MELAS.

P224

EOSINOPHILIC HEPATITIS CASE REPORT

A. S. Johal, MD, R. E. Smith, MD. Gastroenterology, Geisinger Medical Center, Danville, PA.

Purpose: A 34 yo WM with past medical history of seasonal allergies on Allegra (fexofenadine) developed abdominal cramping, whole body erythematous rash, chills and dark urine. He denied any sick contacts, over the counter medication use, and active alcohol consumption. However, he does admit to heavy alcohol use in college. The patient presented to his primary care doctor and was found to be afebrile with stable vital signs. Physical exam was significant for mild scleral icterus but no stigmata of chronic liver disease. Laboratory investigation showed total bilirubin of 5.7, AST 93, ALT 248 and AP 218. A CBC showed 12% eosinophilia with normal total WBC count. A work up for viral hepatitis, autoimmune hepatitis, hemochromatosis and other hereditary liver conditions were unremarkable. A right upper quadrant ultrasound did not show evidence of cholelithiasis or biliary duct dilation. He subsequently underwent a liver biopsy which revealed eosinophilic hepatitis with focal bridging fibrosis. The only medication he was taking, fexofenadine, was held and over the next few weeks his liver function tests returned into normal range. The patient saw an allergist who, upon skin prick testing, found common aeroallergens to tree, grass, dust, cat, and ragweed. The testing failed to demonstrate any food allergies. The allergist felt that a drug effect was a more likely explanation for his presentation. He is currently doing well with no further episodes 6 months after the event off all medications. Discussion The eosinophilic gastrointestinal disorders are increasingly seen of late. Eosinophilic hepatitis is rarely described in the literature. There have been three case reports of this entity being associated with hypersensitivity to certain drugs, including Trovafloxacin1, Cefonicid2 and Lamotrigine3 Eosinophilic hepatitis, in past case reports, was treated by discontinuation of the suspected offending agent and initiation of systemic steroids. In this case discontinuation of fexofenadine was done with improvement in liver function tests. In rare cases Allegra has been associated with hypersensitivity reactions manifested by angioedema, chest tightness, dyspnea, flushing and systemic anaphylaxis4. This is the first report to our knowledge in published literature of eosinophilic hepatitis with fexofenadine use. 1.Chen H, Bloch K. Acute Eosinophilic Hepatitis from Trovafloxacin. N Engl J Med. 2000;342:359-360. 2. Famularo G, Bizzarri C et al. Eosinophilic hepatitis associated with Cefonicid therapy. Ann of Pharm 2001; 35: 1669-1671 3. Oren K, Marion G et al. Eosinophilic hepatitis Caused by Lamotrigine. Clin Gastro and Hep 2006: 4; xxvi 4. www.allegra.com; sanofi-aventis U.S LLC

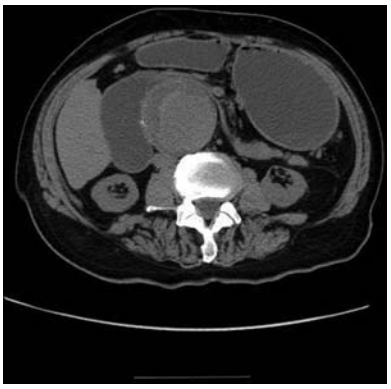
P225

A RARE CASE OF AORTODUODENAL SYNDROME

A. S. Johal, MD, R. E. Smith, MD. Gastroenterology, Geisinger Medical Center, Danville, PA.

Purpose: A 78 yo male with hypertension and CKD presented for evaluation of acute on chronic renal failure. A renal ultrasound incidentally revealed a large 4cm X 6cm X 10cm infrarenal abdominal aortic aneurysm. He was evaluated by vascular surgery who planned an open repair in the near future. 4 days later the patient presented to the emergency department with abdominal pain, nausea and intolerance to po intake. Abdominal exam revealed tenderness, distention and a pulsatile abdominal mass. Significant findings upon work up included hypotension, a creatinine of 5.1 and ST segment changes on EKG. A NG tube was placed which drained 1700cc fluid with symptomatic improvement. CT showed a proximal duodenum which was obstructed just below the superior mesenteric artery takeoff due to direct compression from the large AAA. The patient underwent cardiac workup for his acute MI. Prior to surgical repair of his AAA he underwent a CABG X 3. Approximately 2 weeks later, after aggressive nutritional support, he successfully underwent an open AAA repair with a tube graft. He is currently in a rehabilitation facility doing well.

Conclusion: Aortoduodenal syndrome is a clinical entity rarely reported in the gastroenterology literature. It was first described in 1905 by William Osler in an article entitled "Aneurysm of the Abdominal aorta."1 There have been fewer than 30 cases reported in the literature. The AAA compresses the superior mesenteric artery or the transverse segment of the duodenal wall. Patients present with emesis, pulsatile abdominal mass, abdominal pain, weight loss, and electrolyte disturbances.2 The diagnosis should be suspected in a patient with known vascular disease, pulsatile abdominal mass and signs of gastric outlet obstruction. Initial workup should include CT, UGI barium study or EGD to rule out other causes of gastric outlet obstruction. Treatment is initially supportive with attention to nutritional status prior to surgical vascular repair. Osler W. Aneurysm of the abdominal aorta. Lancet 1905; 166:1089-96. Deitch J et al. AAA causing duodenal obstruction: 2 case reports and review of the literature. J of Vasc Surg 2004;40: 543-7.



P226

A RARE CASE OF AN INCIDENTALLY DISCOVERED AMPULLA OF VATER CARCINOID

R. Jha, MD, B. M. Attar, MD, PhD, G. Vettiankal, MD, M. Demetria, MD. Division of Gastroenterology and Hepatology, Cook County-John H. Stroger Hospital, Rush University, Chicago, IL.

Purpose: Introduction: Carcinoid tumors account for only 1-2% of gastrointestinal neoplasms. Carcinoid tumors within the gastrointestinal tract are usually located in the appendix, small intestine, rectum and stomach. Carcinoid tumors of the ampulla of Vater are extremely rare. We report the case of a patient who was incidentally found to have a carcinoid of the ampulla of

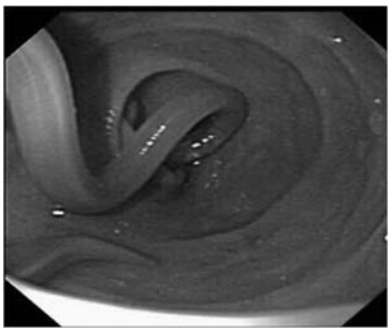
Vater on a routine EGD. Case: A 68 year old African American female with a past medical history of hypertension, osteoarthritis, asthma and GERD presented for an elective outpatient EGD due to GERD symptoms despite compliance with PPI therapy. Physical examination and laboratory tests, including tests of liver function, were unremarkable. EGD revealed a normal esophagus, a non-obstructing Schatzki's ring at the gastroesophageal junction, diffuse gastritis in the antrum and body of the stomach, and a very prominent major papilla with irregular mucosa. Biopsies from the prominent major papilla revealed a well-differentiated neuroendocrine tumor which stained strongly with the neuroendocrine markers synaptophysin and chromogranin, consistent with carcinoid. An endoscopic ultrasound was subsequently performed which demonstrated an isoechoic lesion located on the major papilla measuring 3.2 cm X 1.4 cm without evidence of local lymph node spread. A CT of the abdomen/pelvis revealed an enhancing lesion in the second portion of the duodenum and no evidence of metastatic spread. Octreotide scan findings were consistent with a neuroendocrine tumor in the second portion of the duodenum without evidence of tumor metastases. The patient was subsequently taken to surgery and had a pancreatoduodenectomy performed. Discussion: Carcinoid tumors of the ampulla of Vater have been infrequently reported in the medical literature. The most common presenting symptoms reported in the literature are jaundice, followed by nonspecific upper abdominal discomfort and weight loss. Rarely, a patient may be incidentally found to have this disease as was demonstrated by our patient. This case demonstrates that successful staging for a carcinoid of the ampulla of Vater can be accomplished with a CT of the abdomen/pelvis, octreotide scan and a EUS.

P227

AN UNUSUAL METHOD OF DIAGNOSING ASCARIASIS

R. Jha, MD, B. M. Attar, MD, PhD, M. J. Atten, MD. Division of Gastroenterology and Hepatology, Cook County-John H. Stroger Hospital, Rush University, Chicago, IL.

Purpose: Introduction: Ascariasis results in substantial morbidity and mortality worldwide. The diagnosis is usually incidental when the host passes a worm in the stool or vomit. Stool samples for ova and parasites will also demonstrate Ascaris eggs. Ascariasis diagnosed via EGD is an unusual method of diagnosing this disease. We report the case of a patient who presented with vague abdominal pain and was diagnosed with Ascariasis when an adult Ascaris worm was found in the second portion of his duodenum during EGD. Case: A 73 year old Filipino male with a history of vague abdominal pain presented for an elective outpatient EGD. Physical exam was unremarkable. Laboratory tests revealed a white blood cell count of 9,500/μL with 8.0% eosinophils. EGD revealed a single, superficial, erythematous ulcer in the antrum. The patient was started on Protonix 40 mg twice daily and advised to return in 8 weeks for a repeat EGD to evaluate ulcer healing. Upon returning 8 weeks later for a follow-up EGD the patient reported no change in the character of his abdominal pain. Repeat EGD revealed a well healed ulcer in the gastric antrum, and upon entering the second portion of the patient's duodenum an 18 cm worm was identified. The worm was extracted using rat-tooth forceps, placed in formalin, and sent for histopathology. Pathology results confirmed the worm to be Ascaris lumbricoides. The patient was treated with a single dose of albendazole 400 mg. The patient reported complete relief of symptoms upon follow-up 4 weeks later. Discussion: Ascaris lumbricoides is the largest human intestinal nematode and can reach 40 cm in length. Nearly a fourth of the world's population is infected and Ascaris causes 20,000 deaths a year worldwide. The adult worm in the upper small bowel usually causes no symptoms but may cause vague abdominal symptoms in the form of abdominal pain, distension, nausea and occasional diarrhea. This case demonstrates that patients with vague abdominal pain, who are from or have traveled to endemic areas, should be evaluated for parasitic infections, particularly Ascariasis.



P228

DRUGS KNOWN TO CAUSE PANCREATITIS ARE USED TO TREAT PANCREATITIS IN LUPUS: A CASE REPORT

S. A. Jabeen, MD,[1] S. M. Hashmi, MD,[4] S. A. Torgerson, MD,[2] M. Basanti, MD[3]. 1. Internal Medicine, Southern Illinois University, Springfield, IL; 2. Gastroenterology, Southern Illinois University, Springfield, IL; 3. Rheumatology, Private Practice, Springfield, IL; 4. Internal Medicine, Research, Springfield, IL.

Purpose: A 32 year old AA female with a 3 year history of SLE presented to the ER with severe abdominal pain, nausea, vomiting, diarrhea, multiple joint and muscle pain. She had been on 20mg of prednisone bid and azathioprine (taking intermittently) 50mg for 1 year for ongoing myositis. Her abdomen was diffusely tender. Multiple joints were swollen. A pericardial rub was present with a tachycardia of 108 bpm. She was anemic with a Hg of 10g/dl, amylase 209 U/L, lipase 245 U/L, liver enzymes showed ALT 206U/L, AST 545 U/L, ALP 67U/L, total protein 7.2g/dl, with a low albumin of 2.5g/dl, CPK 15258 U/L, troponin 0.35 ng/ml, TGs 285 mg/dl, creatinine 1.2mg/dl. UA showed proteinuria of 100mg/dl with granular casts.ANA was positive at 1:320, Anti DNA-DS 240 IU/mL, anti smith 111 U/L and complements were low with C3 41mg/dl and C4 7mg/dl. CT and ultrasound of abdomen were normal. EKG was normal and echo showed small pericardial effusion. The patient did not use alcohol nor did she have gallstones. With SLE affecting multiple organ systems, rheumatology and GI diagnosed her to have Lupus pancreatitis along with lupus hepatitis, myositis, pericarditis, myocarditis, and glomerulonephritis. Prednisone was increased to 40mg po bid and azathioprine started at 25mg po bid and slowly increased to 75mg po bid. The abdominal pain became less but did not resolve. She was then given IV solumerdol 1gm daily for 3 days. There was a dramatic decrease in her abdominal pain, the pancreatic and liver enzymes decreased, pericardial effusion resolved and pulse normalized. She was discharged on azathioprine 75mg po bid and prednisone 40mg po bid. Discussion:The prevalence of SLE is 40-150 cases/ 100,000population. Lupus pancreatitis is very rare with an annual incidence of 0.4-1.1/1000 lupus patients. Estimated mortality is 18-27%. Most of the data is available in case report form, 78 cases reported to date. Multiple etiological causes may exist: autoimmune pancreatitis, vasculitis, and Anti phospholipid antibody related thrombosis. In a lupus patient, who has otherwise unexplained pancreatitis, lupus pancreatitis should be highly suspected. Majority of patients respond well to high dose steroid and azathioprine. A dramatic decrease in mortality has been noted when treated with both steroids and azathioprine. Conclusion:Our case suggests that the onset of lupus pancreatitis is unrelated to the use of steroid or azathioprine. Steroid or azathioprine clearly did not exacerbate pancreatitis. Treatment with mega dose steroid and azathioprine worked very well in our patient. This suggests that the immunosuppressive effect of these drugs was critical in suppressing the overwhelming inflammation in the pancreas and other organ system.

P229

AN UNUSUAL CASE OF ACUTE BUDD-CHIARI SYNDROME (BCS) PRESENTING WITH NORMAL HEPATIC ENZYMES MIMICKING MESENTERIC ISCHEMIA

S. A. Jabeen, MD,[1] M. Huang, MD,[2] S. M. Hashmi, MD[3]. 1. Internal Medicine, Southern Illinois University, Springfield, IL; 2. Gastroenterology, Southern Illinois University, Springfield, IL; 3. Internal Medicine, Research, Springfield, IL.

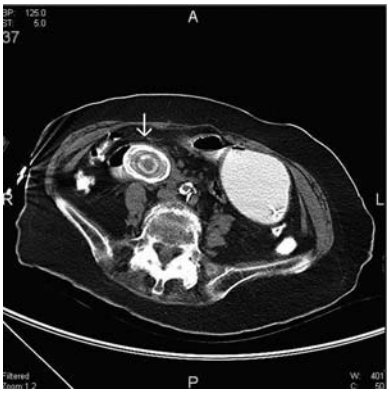
Purpose: The clock begins 0 Hours:An 18 year old female on oral contraceptive pills for 3 months presented with severe generalized abdominal pain, nausea, vomiting and mild dyspnea of 1 week duration. On examination, abdomen was diffusely tender and mildly distended.Initial labs: WBC 10.8 k/cmm, AST 58 U/L, ALT 51 U/L, ALP 130 U/L, Platelets 238 k/ cmm, INR 1.5, Lactic acid 7 mmol/L. 17 Hours:Patient was transferred to a tertiary care center for possible mesenteric ischemia. Labs: WBC 20k /cmm, AST 77 U/L, ALT 90 U/L, Lactic Acid 16 mmol/L, Bicarbonate 7mmol/L. CT and ultrasound of the abdomen showed hepatic vein thrombosis. The patient was clinically deteriorating. At this point, given the diagnostic dilemma between acute mesenteric ischemia and BCS, an exploratory laparotomy was done to rule out necrotic bowel; instead laparotomy revealed uniformly firm and enlarged liver with moderate ascites and healthy looking bowel. At this point, finding on CT scan as well as the clinical picture was suggestive of Acute Budd-Chiari Syndrome. Transplant center was contacted. 23 Hours: Labs: AST 6880 U/L, ALT 4444 U/L, Platelets 58 k/cmm, ALP 123U/L, INR 4.3, total bilirubin 1.7mg/dl. 35 Hours:TIPS was done for decompression. 47 Hours:Patient transferred to transplant center. LFTs were further elevated with moderate encephalopathy. Patient was found to be heterozygous for factor V Leiden. 71 Hours: Patient underwent liver transplant. Explant specimen showed massive infarction consistent with hepatic veno-occlusive disease. Patient was started on immunosuppressants and anticoagulation. The patient recovered satisfactorily. Discussion Budd-Chiari Syndrome is a rare but potentially life threatening disorder caused by hepatic venous outflow obstruction resulting in congestive liver failure. Hypercoagable states are major etiological factors. BCS can present as acute and fulminant (20%), sub-acute (40%), or chronic (40%). Acute form usually presents with abdominal pain, nausea, vomiting, mild jaundice, intractable ascites, elevated serum AST/ALT (> 5 times normal). On contrary, our patient presented with normal liver enzymes and severe lactic acidosis. In such cases, a high index of clinical suspicion is required to make the diagnosis, despite normal liver enzymes. Diagnosis can be confirmed by ultrasound, CT scan, MRI or hepatic venography. Treatment involves anticoagulation, thrombolytic therapy, TIPS, stents and liver transplant. Our case highlights the unusual presentation of acute BCS, rapidity of progression and importance of appropriate diagnosis and treatment. Delaying diagnosis can be catastrophic. We emphasize, the fact early diagnosis and effective treatment in such fulminant cases can be life saving.

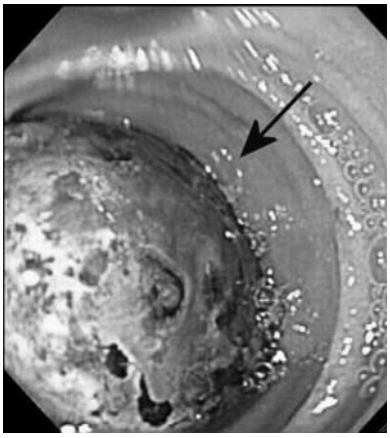
P230

A RARE CAUSE OF GASTRODUODENAL OBSTRUCTION: BOUVERET'S SYNDROME

M. D. Harris, MD, R. Ainapudi, MD, P. Viswanathan, MD. Gastroenterology and Hepatology, Stony Brook Medical Center, Stony Brook, NY.

Methods: Case Report An 85-year-old female with history of hypertension was admitted to the hospital with a three day history of nausea and vomiting. An abdominal CT was performed and revealed a large calcified mass (Figure 1) and pneumobilia. A large obstructing duodenal gallstone (Figure 2) located in the third portion was found on upper endoscopy. Attempts to remove the object endoscopically were unsuccessful. An apparent fistula was found in the duodenal bulb. An enterolithotomy was performed where a 5 cm gallstone was extracted and she did well post-operatively.
Conclusion: Discussion Bouveret's syndrome is characterized by gastroduodenal obstruction secondary to an impacted duodenal or pyloric channel gallstone via a cholecysto-duodenal or cholecysto-gastric fistula. Clinically patients present with symptoms of obstruction and radiographic studies reveal pneumobilia, cholelithiasis, and a distended stomach. Endoscopic findings include retained food, an impacted stone, and occasionally a fistula which was seen in our patient. Treatment is usually surgery, consisting of an enterolithotomy with or without concomitant cholecystectomy and fistula repair. Recently there have been reports of endoscopic therapy disintegrating gallstones including intracorporal laser lithotripsy, endoscopic mechanical lithotripsy, and electrohydraulic lithotripsy(1). Reference 1. Gemmel G, Weickert U, Eickhoff A, et al. Successful treatment of gallstone ileus (Bouveret syndrome) by using extracorporal shock wave lithotripsy and plasm coagulation. Gastrointest Endosc 2007;65:173-175.





P231

ASCITES OF UNKNOWN ORIGIN: USING THE HPVG TO DIAGNOSE

M. D. Harris, MD, P. Ells, MD. Gastroenterology and Hepatology, Stony Brook Medical Center, Stony Brook, NY.

Purpose: Most etiologies of ascites can be divided into cardiac, renal, or hepatic in origin. Diagnostic paracentesis is the gold standard in initial evaluation. We present a case where additional testing was needed.
Results: Case Report A 48 y/o male with history of non-ischemic cardiomyopathy (LVEF of 16%), s/p AICD, who was admitted to the medical service with increasing abdominal girth, lower extremity edema, and worsening dypsnea on exertion. He had been admitted several times in the past year with similar complaints and has had LVP performed repeatedly. His medications were furosemide, spironolactone, and accupril. He used to be a bartender and drink alcohol, admitting up to 10-12 shots/night for ~ 12 years, however he has been sober for over one year. He has no family history of liver disease. Physical exam was notable for a blood pressure of 86/61. He appeared older than his stated age. His neck exam was significant for JVD. Skin exam revealed spider angiectasias. His chest was clear, cardiovascular exam with loud apical systolic murmur. His abdomen was tense with fluid wave and palpable spleen noted. There was peripheral edema in his lower extremities. Neurologic exam failed to show asterixis and the patient was alert and oriented. Pertinent labs include a prolonged PT at 17 seconds, total bilirubin of 1.7 mg/dl, alkaline phosphatase of 166 U/ml, and normal transaminases and platelets. A CT scan revealed a large heart and extensive ascites. Cardiology consultation questioned the possibility of underlying cirrhosis given his history of alcohol abuse. Diagnostic paracentesis revealed a total protein of 3.5 and a SAAG > 1.1 compatible with portal hypertension. The elevated protein and pattern of LFT abnormalities suggested cardiac ascites, but since SAAG was elevated the diagnosis of underlying cirrhosis was entertained. A HPVG was performed to answer this question which yielded a gradient less than 5 mm Hg suggestive of both increased portal and hepatic venous pressures, consistent with our suspicion of right sided heart failure with hepatic congestion and protein rich ascites. He was then referred for possible cardiac transplantation.
Conclusion: Measuring the HPVG can be useful in differentiating the etilogy of ascites as described in the above vignette.

P232

HYPERAMMONEMIA IN A PATIENT WITHOUT LIVER DISEASE-ADULT ONSET UREA CYCLE DISORDER

P. Guturu, MD, S. Abdullah, MD. Internal Medicine, UTMB, Galveston, TX.

Purpose: 59 year old lady, who lives alone, was bought to Emergency Department by ambulance after neighbors found her confused. Emergency contact could not be reached. On admission she was only oriented to person and her vital signs were stable .Laboratory work up revealed CBC and chemistry panel at base line and her liver function tests were slightly deranged with mildly elevated Alkaline Phosphatase/Aspartate aminotransferase and normal Alanine aminotransferase.Her ammonia levels were high on admission (96mmol/L).Initially she was thought to have Hepatic encephalopathy and over next 24-48 hours she deteriorated clinically and even with regular bowel movements her ammonia levels went up to >150 and her urine grew E.Coli for which she was started on Cefotaxime.She did not have any stigmata of chronic liver disease and her Hepatitis serology's were negative. We searched for alternate causes of hyperammonemia and plasma amino acid profile was sent to rule out Urea Cycle disorder and Urinary tract infection with urease splitting organism as cause of high ammonia is ruled out with urine culture on admission. Her plasma amino acid profile returned with high glutamine and low citrulline, consistent and urine orotic acid was elevated and so she was diagnosed with partial Ornithine Transcarbamylase deficiency and treatment was initiated with Sodium Phenylbutrate, low protein diet and Arginine supplementation. Her ammonia levels came down but before her mentation improved, patient developed Methicillin Resistant Staph. Aureus sepsis and multi organ failure and family wanted conservative approach and she passed away in less than 48 hours after diagnosis of multiorgan failure. An autopsy was not authorized family members. Most often, urea cycle disorders present as hyperammonemia in the newborn period; however, urea cycle disorders can present at almost any age in individuals who have milder urea cycle defects when severe stress triggers a hyperammonemic crisis. So alternate cause for high ammonia should be sought in all patients with high ammonia and no liver disease. High degree of suspicion and prompt initiation of treatment is very important in managing patients with urea cycle disorders because patients experiencing acute elevations of ammonia present to the ICU with encephalopathy, which may progress quickly. Management includes combination of sodium phenyl butyrate and sodium phenyl acetate/benzoate as a glutamine trap, diverting nitrogen from urea synthesis to alternatives routes of excretion. Urea cycle a disorder causing fatal illness is reported but one recent article gives encouragement with 84% survival rate with prompt correction of the metabolic abnormalities

P233

A RARE CAUSE OF HEMATEMISIS:ACUTE GASTRIC VOLVULUS

P. Guturu, MD, A. Malhotra, MD, A. T. Hewlett, MD. Internal Medicine, UTMB, Galveston, TX.

Purpose: A 77-year-old Caucasian female patient presented to emergency department (ED) with acute onset of vomiting and epigastric pain. Vomiting was coffee-ground in color and her abdominal pain which started in epigastrium was now more diffuse in character. She denied any melena. Her medications at the time of presentation include bactrim, prilosec and atenelol. She denied any recent NSAID use. Her past medical history was significant for vertebral fracture, osteoporosis and recurrent UTIs. On physical examination, vital signs were stable. She was tender to palpate in the epigastric and umbilical regions. Abdominal x-rays obtained in ED showed air filled sac in the mediastinum, raising a possibility of gastric volvulus. Esophagogastroduodenoscopy revealed a twisted hiatal hernia and scope could not be advanced through the hernia.A follow-up barium swallow revealed mesentero-axial gastric volvulus and gastric obstruction. Patient underwent emergency laparoscopic surgery with reduction of volvulus, repair of diaphragmatic defect and fixation of the stomach. Gastric Volvulus is a rare disorder but it can be potentially fatal and mortality has reported to be up to 30-50% in acute gastric vovulus. Stomach is relatively mobile and so asymptomatic and transient rotations of stomach do occur. This abnormal rotation of stomach can be longitudinal (organoaxial) or transverse (mesenteroaxial) or a combination of both. The classic triad of symptoms is epigastric pain, vomiting and difficulty or inability to pass nasogastric tube. Early diagnosis and prompt initiation of treatment is very important as volvulus can be fatal. Upper GI contrast studies and upper endoscopy are the most important investigations useful in the diagnosis. Acute gastric volvulus is a surgical emergency and treatment generally involves reduction of volvulus, repair of diaphragmatic defect and fixation of stomach (gastropexy).The surgical options available have changed greatly over the last decade and with developments in laparoscopic surgery, it now takes preference over laparotomy for both acute and chronic gastric volvulus.

P234

A CASE REPORT OF RECURRENT SQUAMOUS CELL CARCINOMA OF THE LUNG PRESENTING WITH TRACHEO-ESOPHAGEAL FISTULA

J. P. Gutman, MD, A. Ullah, MD, J. E. McFarland, MD. Division of Gastroenterology & Hepatology, University of Rochester, Rochester, NY.

Purpose: We present a case of a patient presenting with dysphagia, who was found to have a large tracheo-esophageal fistula due to recurrent squamous cell carcinoma of the lung. Palliative treatment was achieved with placement of a covered esophageal wall stent.
Methods: This is a retrospective chart review of a single case.
Results: A 51 year old male presented to our hospital with dysphagia. Six years prior he was diagnosed with Stage I squamous cell carcinoma of the lung. He underwent right upper lobec-

tomy and adjuvant chemoradiation therapy due to positive margins. After completion of chemoradiation, he was deemed to be disease free. He then presented to our hospital with 2 weeks of dysphagia secondary to coughing fits associated with swallowing. Over this time he lost 15 pounds and became dehydrated necessitating admission. On exam he appeared dehydrated with dry mucous membranes and a mild tachycardia. On attempting to drink water he developed a severe coughing fit. Barium swallow showed possible upper esophageal diverticulum. CT scan showed an irregular tracheal lumen at the carina, narrowing of the right mainstem bronchus, and a fleck of gas extending from the right mainstem bronchus into the esophageal wall. Upper endoscopy demonstrated a large tracheo-esophageal fistula at 30cm in which the endoscope could be passed into the airway, along with a mass involving the trachea. Biopsy demonstrated squamous cell carcinoma of the lung consistent with his previous cancer. He underwent repeat endoscopy with placement of a covered self-expanding metal stent for palliative treatment with resolution of his symptoms.

Conclusion: Acquired tracheo-esophageal fistulas can be a rare complication of either malignant or non-malignant causes. The most frequent malignant causes are esophageal and lung cancers, accounting for 77% and 16% of malignant TEF's respectively. The incidence of TEF in esophageal cancer is 4.5%, compared to 0.3% in primary lung cancer. Mean survival after diagnosis and treatment is 13.4 weeks. Thus the goal of care is to minimize pulmonary complications and maintain nutritional support. In small studies, endoscopic approach with placement of a wall stent has provided an 80% success rate of complete obliteration of TEF's. Complication rates range from 15-40% and includes perforation, stent migration, and incomplete closure, while surgical options have a peri-operative mortality rate of 29-47%. In patients with successful placement of a wall stent mean survival improves to 15.1 weeks compared to 6.2 weeks in those with failed attempt. Thus the use of self-expanding metal or plastic wall stents can provide a relatively safe and effective alternative to palliative surgery in malignant conditions.

P235

A CASE REPORT OF METASTATIC BREAST CANCER TO THE RECTUM PRESENTING 10 YEARS AFTER INITIAL DIAGNOSIS AND TREATMENT

J. P. Gutman, MD,[1] T. Mayes, MD,[1] A. Ullah, MD,[1] L. Schiffhauer, MD[2]. 1. Division of Gastroenterology & Hepatology, University of Rochester, Rochester, NY; 2. Division of Pathology, University of Rochester, Rochester, NY.

Purpose: Breast cancer is the most common female cancer in the US, with 1 in 8 women developing invasive disease. Most often metastatic disease is found in lungs, bones, liver, and brain. Here we present a rare case of invasive ductal breast cancer with metastatic lesions to the rectum confirmed by endoscopic ultrasonography and biopsy.

Methods: This is a retrospective chart review of a single case.

Results: A 59 year old female with a history of metastatic breast cancer, was referred for constipation and lower quadrant abdominal pain. She was originally diagnosed with Stage IIA (T2N0M0) ER positive invasive ductal breast cancer in 1997. A lumpectomy was performed and she completed 5 cycles of adjuvant chemotherapy followed by 5 years of Tamoxifen. In 2004, she had a surgical resection of a metastatic right adnexal mass. In 2006, she was started on Arimidex and a re-staging CT scan did not show any metastatic disease. Over the next 18 months she complained of worsening lower quadrant abdominal discomfort and constipation. Abdominal exam revealed mild lower quadrant tenderness. Rectal exam was normal. CEA was elevated. CT scan showed multiple small liver lesions and rectal wall thickening. Barium enema confirmed circumferential rectal wall thickening. Flexible sigmoidoscopy with endoscopic ultrasound showed a single small rectal ulcer with sonographic thickening of the rectal wall, loss of normal layers, and no abnormal lymph nodes. Biopsy revealed metastatic carcinoma of breast origin with immunohistochemical staining positive for cytokeratin 7/ER and negative PR/HER2/cytokeratin 20.

Conclusion: Metastatic breast cancer to the GI tract is quite rare, and is more common in the upper intestine. The rate of metastatic breast cancer to the lower GI tract on autopsy series is 8-12%, but only case reports or series have been reported in live patients. Most cases of rectal involvement are found with synchronous lesions and after a latent period of 4-10 years from initial diagnosis. Primary colorectal cancer is more common in breast cancer patients compared to metastases to this area, making it difficult to differentiate the two on initial presentation. Endoscopically, these lesions are usually indistinguishable; however metastatic lesions are usually intramural. Thus endoscopic ultrasonography can help with localization and characterize this intramural pattern. In patients with a history of breast cancer and a new colorectal lesion, differentiating between metastatic disease and a new primary can be aided by endoscopic ultrasonography, histologic appearance on biopsy, and use of immunohistochemical stains for cytokeratins, tumor markers, and estrogen/progesterone receptors.

P236

AN INTERESTING CASE OF ADENOVIRUS HEPATITIS IN AN ADULT CARDIAC TRANSPLANT RECIPIENT

A. Gupta, MD,[1] P. Kumari, MD,[1] J. Dougherty, MD,[2] M. Lawlor, MD,[2] J. Cappa, MD,[2] K. V. Ranga, MD[2]. 1. Internal Medicine, Univ of CT Health Center, Farmington, CT; 2. Internal Medicine, Hartford Hospital, Hartford, CT.

Purpose: Adenoviral infections are commonly described in pediatric transplant populations. However, much less information is available regarding the incidence of infection and clinical spectrum of disease in adult transplant recipients. Moreover, this usually manifests as involvement of the transplanted organ in one pathologic form or the other in addition to other systemic manifestations. A 58 year old male, status post heart transplant in 1997 was admitted with high grade fever and loose stools for three days. Immunosuppression consisted of Mycophenolate Mofetil(MMF), Tacrolimus, and Prednisone. Examination showed right hypochondriac and periumbilical tenderness,but no guarding or rigidity. Initial blood cultures and urinalysis were negative. Hematological parameters were also normal on admission, except for elevated ESR of 84. Liver function tests showed elevated transaminases (AST-400, ALT-377, Alk Phos-53, LDH-307, total bilirubin-0.4.). Stool studies, and serologic studies for hepatitis viruses, CMV, EBV and HSV were all negative. The patient was started on empirical antibiotics despite which he continued to spike high grade fevers. Colonoscopy was normal. CT imaging of the abdomen showed normal bowel, and multiple indeterminate low attenuation masses in the liver. MRI abdomen was then performed showing multiple unenhancing lesions throughout the liver. The lesions demonstrated intermediate low T1 and low T2-weighted signal intensity and no enhancement, and were thought to be echinococcal in etiology. Echinococcal serology done subsequently was however negative. CT guided liver biopsy revealed focal areas of extensive necrosis with relatively spared bile ducts. Staining for fungal elements, PAS for E.histolytica, Gram stain, AFB stain were all negative. Immunohistochemical staining was positive for Adenovirus, and negative for CMV and HSV. PCR for adenoviral DNA revealed 289,300 copies/ml. Histologic features were consistent with Adenovirus hepatitis. The patient's immunosuppression was decreased by dropping MMF, and reducing Tacrolimus dosage. Over the next 2 weeks, serum transaminases started trending down, and constitutional symptoms improved. Subsequently, due to reduced immunosuppression, the patient underwent a cardiac transplant biopsy which was negative for adenovirus and rejection. CT abdomen repeated after a month showed significant resolution of the hypoattenuated lesions,with near normalization of transaminases. This case represents a very distinctive scenario of involvement of a different organ without any involvement of the primary transplanted organ, 10 years after the transplantation.

P237

AN UNUSUAL CASE OF COLITIS: DRUG INDUCED INFLAMMATORY BOWEL DISEASE

A. Gupta, MD,[1] J. G. Smith, MD,[2] J. Scholes, MD,[4] M. Hoffman, MD,[3] M. Butensky, MD[3]. 1. Internal Medicine, University of Connecticut, Hartford, CT, CT; 2. Gastroenterology, University of Connecticut, Farmington, CT; 3. Gastroenterology, St. Francis Hospital, Hartford, CT; 4. Pathology, St. Francis Hospital, Hartford, CT.

Purpose: A 65 year old man with a history of metastatic prostate cancer was being treated in a clinical trial with ipilimumab when he presented to the hospital with fever and 10-12 episodes of bloody diarrhea. The patient had recently received a course of antibiotics for bronchitis. His stool cultures were positive for C. difficile and he was begun on treatment with metronidazole. However, over the next few days his diarrhea did not improve with appropriate therapy. His physical exam revealed him to be afebrile with moderate diffuse abdominal tenderness without any evidence of peritoneal signs. Laboratory evaluation revealed normal blood count and chemistry except for an elevated ESR of 65. A CT of his abdomen revealed evidence of diffuse colonic thickening. With his lack of improvement, a colonoscopy was performed which revealed severe erythema and ulceration throughout the entire colon consistent with diffuse colitis without any evidence of pseudo- membranes. Histopathology of the colonic biopsy showed a severe acute and chronic colitis with features essentially identical to and indistinguishable from those of active inflammatory bowel disease. It was determined that ipilimumab which results in stimulation of the immune system can precipitate a colitis which mimics inflammatory bowel disease in presentation both clinically, endoscopically and histologically. Ipilimumab is a human monoclonal antibody that binds to CTLA-4 (cytotoxic T lymphocyte-associated antigen 4), a molecule on T-cells that plays a critical role in regulating immune responses. Ipilimumab is designed to block the activity of CTLA-4, thereby sustaining an active immune response. Ipilimumab is currently being used in clinical trials for patients with melanoma and prostate cancer with known gastrointestinal side effects of colitis. Through protocol the colitis has been treated with high dose intravenous steroids, with failures requiring treatment with infliximab and colectomy. Our patient was started on high dose steroids with significant improvement in his symptoms. Overall this presentation demonstrates a case of colitis due to immune stimulation from a medication perfectly imitating inflammatory bowel disease both clinically, endoscopically and histologically. It is important to be aware of the gastrointestinal complications of this medication so as not to confuse with IBD. The long-term ramifications of this medication are unknown. It may be possible that this medication could result in chronic IBD secondary to initiation of the immune cascade. Also, it is important to consider that this immune pathway may hold potential future immunological treatment options for IBD patients.

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HUMAN PAPILLOMA VIRUS (HPV) ASSOCIATED SQUAMOUS CELL CARCINOMA OF THE ESOPHAGUS (ESCC), A CASE REPORT

N. Ezmerli, MD, N. Gupta, MD, N. G. Haddad, MD. Georgetown University Hospital, Washington, DC.

Purpose: Squamous cell cancer of the esophagus (ESCC) has been decreasing in incidence in the United States (US) however 5 year mortality remains high with survival ranging from 10 to 13 percent. Multiple risk factors have been identified including geographic (highest in China), dietary/lifestyle (alcohol, smoking, and betel nut ingestion) and other risk factors (achalasia and lye ingestion). The role of viral infections has been evaluated and remains controversial. In particular the role of human papilloma virus (HPV)(subtypes 16 and 18) has received the most scrutiny. Prior studies have been questioned as they have been performed in high risk geographical areas. In low risk areas such as the US retrospective pathology reviews reveal no association between the virus and cancer. However, in high risk areas (China), there is appears to be a 6-fold increase risk of ESCC in patients with HPV-16 seropositivity. There also remains a question as to whether this represents a causative factor or a facilitative factor to the development of ESCC. To our best knowledge, outside of pathology reviews, there has been only one case report in North America of an HPV associated ESCC. We present a case of a 48 year old Caucasian female with an HPV-16 associated ESCC. A 48 year old Caucasian female presented for upper endoscopy for evaluation of progressive dysphagia over 2 week duration. Endoscopy revealed an area of salmon colored mucosa with two associated white plaques at 20 cm from the incisors. Biopsies revealed severe dyplasia bordering on squamous cell cancer in situ with koilocytic atypia. PCR revealed the presence of HPV-16. Follow up endoscopy and endoscopic ultrasound revealed intact esophageal wall layers and endoscopy with Lugol staining revealed no further lesions. Endoscopic mucosal resection was performed with final pathology of clear margins with carcinoma in situ without evidence of invasive malignancy. To our knowledge this represent the second reported cause of HPV associated ESCC. The current standard for further HPV evaluation is based on histiologic findings including koilocytosis, giant or multi-nucleated cells, dyskeratosis, hyperkeratosis and acanthosis. Considering the remaining question for an association, the growing body of evidence of the involvement of HPV in the pathogenesis of neoplasia and the availability of vaccination against oncogenic strains of HPV, perhaps further evaluation into the utility for routine testing for the virus is indicated.

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THE ROLE OF ENDOSCOPIC ULTRASOUND IN THE EVALUATION OF ANAL CANCER

N. Ezmerli, MD, N. Gupta, MD, A. Charabaty, MD, H. Charbel, MD. Division of Gastroenterology, Georgetown University Hospital, Washington, DC.

Purpose: Anal cancer (AC) is an uncommon cancer, comprising 1.6% of all GI tract cancers in the US. Risk factors include female gender, HPV infection, HIV infection and cigarette smoking. In general, the disease is often locoregional with metastasis being uncommon. The liver and the lung are the most common sites for distal metastasis. Prior experience of locoregional disease reveals that direct extension into the surrounding soft tissue and the rectum can occur. Metastatic lesions to the rectum have not been well described. Here we report two cases of AC metastatic to the rectum. The first case involves a 46 year old female who presented for colonoscopy with symptoms of blood per rectum and the development of a peri-anal mass. Ensuing colonoscopy demonstrated two distinct lesions, one at 5 cm from the anal verge and the other extending from the anal verge. Biopsies revealed rectal mucosa with squamous cell carcinoma (SCC) in situ. Follow up endoscopic ultrasound (EUS) revealed the proximal lesion arising from the muscularis propria. The EUS revealed this lesion to be much larger than seen endoscopically and distinct from the anal canal lesion. The distal lesion appeared to arise from the deep mucosa and was above the dentate line (nonkeratinized SCC). The second case is a 55 year female with development of constipation associated with blood per rectum. On exam an anal mass was palpated. Colonoscopy revealed an anal mass with biopsies consistent with SCC. Staging PET/CT revealed a hypermetabolic focus in the area of the anal mass as well as a second, distinct area of increased uptake in a soft tissue mass adjacent to the superior portion of the rectum. EUS imaging revealed the anal mass involving the puborectalis musculature. At 10 cm from the anal verge, a hypoechoic lesion that disrupted the rectal wall involving the muscularis propria was seen. This lesion was distinct from the anal mass and was not readily appreciated endoscopically. Fine needle aspiration was positive for metastatic AC. Both patients are currently undergoing combined modality chemotherapy/XRT. We present two cases of AC metastatic to the rectum. In our review of the literature, while direct extension has been noted, metastatic lesions in the rectum have not been well reported. This may in fact represent lesions having been attributed to direct extension when in fact they were metastatic lesions. Furthermore, these cases illustrate the utility of EUS to fully delineate the involvement of the primary anal lesion, lymph node involvement and to differentiate extension of anal cancer to the rectum versus metastatic lesions. This has important implications in regards to prognosis.

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GIANT SPORADIC FUNDIC GLAND POLYP ASSOCIATED WITH POSITIVE FECAL OCCULT BLOOD TESTING: ENDOSCOPIC AND ENDOSONOGRAPHIC FEATURES AND MANAGEMENT

I. I. El Hajj, MD, MPH,[1] M. Hawchar, MD,[2] A. Soweid, MD,[2] K. Maasri, MD,[2] A. Tawil, MD,[3] K. Barada, MD[2]. 1. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA; 2. Internal Medicine-Division of Gastroenterology, Hepatology, and Nutrition, American University of Beirut Medical Center, Beirut, Lebanon; 3. Pathology & Laboratory Medicine, American University of Beirut Medical Center, Beirut, Lebanon.

Purpose: Introduction: Fundic gland polyps (FGPS)are the most common gastric polyps. They are usually small in size, sporadic and asymptomatic. We present a unique case of "giant" fundic gland polyp. Our case is particular because of the clinical presentation, the endoscopic and endosonographic documented features. Case: A previously healthy 63-year-old man was referred for evaluation of borderline microcytic anemia (Hb 12.9 g/dl, MCV 79fl, serum iron 34 µg/dl) and positive stool occult blood test. Physical exam was unremarkable. Colonoscopy was normal. EGD showed a sessile, broad-based, smooth-surfaced polyp, similar in color to the surrounding mucosa and extending around 8 cm (with a width of 2cm) from the cardia along the lesser curvature with two small satellite polyps (Fig. 1). Multiple biopsies confirmed the diagnosis of fundic gland polyp. *Helicobacter pylori* (HP) was negative. EUS revealed a wide-based, large, predominantly hypoechoic polyp that involved the mucosa without reaching the submucosa or muscularis propria (Fig. 2). Small intestinal series test was normal. Treatment was conservative and the patient was started on iron supplementation. He was re-evaluated at 3 and 8 months. He remained asymptomatic. Repeat laboratory studies showed normal CBC and iron studies, but stool occult blood was positive on 3 occasions. A repeat EGD and EUS confirmed the previous findings. Biopsies from the polyp were unchanged, and biopsies of the surrounding mucosa revealed mild chronic active gastritis with rare HP-like organisms for which the patient received eradication therapy. Discussion: FGPs account for about 47% of all gastric polyps. They are usually asymptomatic. They have distinct endoscopic features, and usually measure less than 5 mm in size. Six cases of giant gastric polyps have been reported in the literature, one of them only was a FGP. The diagnosis of FGPs is usually established by pathology and inflammatory changes in the surrounding mucosa are usually absent. EUS helps to describe the endosonographic features and confirm the superficial nature of the polyp. The natural history of FGPs is still unclear and there are no guidelines for surveillance and treatment. In our patient, the polyp is most likely the cause of positive stool occult blood. The question whether to remove such a giant polyp by endoscopic mucosectomy or surgical resection or to observe remains debatable, although keeping it imposes negligible harm.

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RAPIDLY PROGRESSIVE SCLEROSING CHOLANGITIS POST-SURGERY FOR INFLAMMATORY PANCREATIC PSEUDOTUMOR

I. I. El Hajj, MD, MPH,[1] J. Ahmad, MD, MRCP (UK),[2] A. Slivka, MD, PhD[2]. 1. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA; 2. Internal Medicine-Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA.

Purpose: Introduction: Primary sclerosing cholangitis is characterized by inflammation of the bilary tree typically diagnosed at ERCP. A similar cholangiogram can be seen in patients with a rapidly progressive form of sclerosing cholangitis in the setting of pancreatic pseudotumor. We present a case of a 54-year-old man presenting with obstructive jaundice that illustrates the diagnostic challenge and opportunity for immunosuppressive treatment of this entity. Case: A 54-year-old man presented with painless jaundice and weight loss. CT scan revealed a 7 cm mass in the head of the pancreas. ERCP demonstrated a distal bile duct and pancreatic duct stricture. Percutaneous biopsy of the mass showed inflammatory changes but there was concern for pancreatic cancer. At surgery a large inflammatory mass of the pancreatic head was found and a cholecystojejunostomy was performed. Follow-up CT scan two months later showed complete resolution of the mass suggesting that it was due to focal pancreatitis. Several months later, he developed recurrent jaundice. ERCP showed diffuse biliary strictures with a dominant hilar stricture and biliary stents were placed. CT scan revealed portal adenopathy. Endoscopic ultrasound with needle aspiration of the lymph nodes and pancreatic head showed only atypical cells. Liver biopsy showed acute and chronic cholangitis and marked hepatocanalicular cholestasis. Ultrasound showed normal liver morphology and vasculature. Autoimmune serology and colonoscopy were normal. A diagnosis of secondary sclerosing cholangitis was considered. Because of the rapid progression and the presence of significant inflammation, a short course of steroids tapered over several months and methotrexate 15mg weekly were initiated. Repeat cholangiogram several months later showed complete normalization of the biliary tree. Over the next five years, the patient was maintained on azathioprine 100 mg daily with normal liver enzymes. Upon tapering his azathioprine down to 50 mg daily he developed acute cholangitis. Repeat ERCP revealed sclerosing cholangitis. A short prednisone taper and azathioprine 75 mg daily resulted in a markedly improved stricture. The patient is currently doing well with normal liver enzymes, maintained on azathioprine 75 mg daily. Discussion: This case illustrates the potential for sclerosing cholangitis to develop after biliary bypass surgery in patients with pancreatic pseudotumor. The rapid development of biliary strictures and prompt response to immunosuppression suggest an immune-mediated etiology to this entity. This diagnosis should be entertained in patients with sclerosing cholangitis on cholangiogram in the setting of inflammatory conditions of the pancreas.

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CELECOXIB-INDUCED LIVER FAILURE REQUIRING ORTHOTOPIC LIVER TRANSPLANTATION

I. I. El Hajj, MD, MPH,[1] S. M. Malik, MD,[2] H. El-Wakeel, MD,[1] O. S. Shaikh, MD,[2] E. Sasatomi, MD,[3] H. M. Kandil, MD, PhD[2]. 1. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA; 2. Internal Medicine-Division of Gastroenterology, Hepatology, and Nutrition, University of Pittsburgh Medical Center, Pittsburgh, PA; 3. Pathology-Division of Transplantation Pathology, University of Pittsburgh Medical Center, Pittsburgh, PA.

Purpose: Introduction: Selective COX-2 inhibitors are widely used because of their efficacy and good safety profile. Recent reports described varying degrees of liver injuries secondary to the use of COX-2 inhibitors. We present a unique case of Celecoxib-induced liver injury, which rapidly progressed to liver failure requiring liver transplantation. Case: A 52-year-old woman developed generalized aches one day after performing yard work. Over the next 48 hours, she took eight 200mg tablets of Celecoxib. One week later, she presented to the ED with fatigue, loss of appetite, pruritus, 'coke' colored urine, and 10 pound weight loss. No history of alcohol intake, smoking, use of herbals, medications, or drugs. On PE, she was afebrile and jaundiced with mild RUQ tenderness. Lab studies revealed an absolute eosinophilic count of 760 with abnormal LFTs (Table1). Repeat testing 2 weeks later revealed worsening LFTs (Table1). Serologies for hepatitis were negative. Iron studies, autoimmune panel, and ceruloplasmin were normal. CT scan showed normal liver morphology and vasculature. Liver biopsy showed ductopenia and cholestasis with mild periportal fibrosis. The patient was started on ursodiol, and steroids for presumed drug induced liver injury (DILI). Two weeks later, the patient was admitted to the MICU because of somnolence and worsening symptoms. Repeated LFTs are summarized in Table1. INR increased to 3.4 and bilirubin reached 51 mg/dL. She underwent orthotopic liver transplantion (OLTx), exactly 54 days after the initial ingestion of celecoxib. The postoperative course was uneventful. On follow-up visits at one and six months, the patient has remained well with normal LFTs (Table1). Discussion: Celecoxib is a widely used COX-2 inhibitor. Six cases of celecoxib-induced liver injury have been reported in the literature: 5 cases of cholestatic hepatitis, and one case of mixed hepatocellular and cholestatic injury. Our patient developed cholestatic liver injury which rapidly progressed to liver failure. Given our patient's clinical presentation and evolution of the disease, a DILI caused by celecoxib is "probable" as confirmed by the RUCAM/CIOMS scoring system. The underlying mechanism of COX-2 inhibitors-induced liver injury is not clear. The main treatment of DILI is to discontinue the offending agent. The decision to take our patient for OLTx was based on the rapidly progressive deterioration of her clinical condition, worsening coagulopathy and hyper-bilirubinemia despite medical therapy, and the histological evidence of severe ductopenia.
Conclusion: Physicians should be aware that despite its better safety profile compared to conventional NSAIDs, celecoxib may be associated with severe fatal hepatotoxicity.

Table 1. Laboratory values

	AST	ALT	AP	GGT	Bilirubin	INR
Baseline	22	18	78	52	0.4	1.0
Day 1-3	Celecoxib (8 pills, 200mg each)					
Day 10	104	258	700	262	10.8	1.0
Day 24	220	297	889	711	15	1.0
Day 48	442	509	1427	895	35	1.0
Day 51	152	167	1024	573	38	2.6
Day 54	Orthotopic Liver Transplantation					
1 m (post OLTx)	16	27	570	116	1.7	1.1
6 m (post OLTx)	36	28	204	109	0.3	0.9

AST, aspartate aminotransferase(IU/L); ALT, alanine aminotransferase(IU/L); AP, alkaline phosphatase (IU/L); GGT, gamma glutamyl transpeptidase(IU/L);Bil, bilirubin (mg/dL); INR International normalized ratio; m, month(s)

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ACUTE ACALCULOUS CHOLECYSTITIS COMPLICATED BY PERFORATION IN SYSTEMIC LUPUS ERYTHEMATOSUS: A CASE REPORT AND REVIEW OF THE LITERATURE

H. Chen, MD,[1] J. Hancock, MD,[1] D. Vega, MD,[2] G. Sun, FNP,[1] D. Santana, MD[2].
1. Gastroenterology, Texas Tech Health Sciences Center, Lubbock, TX; 2. Surgery, Texas Tech, Lubbock, TX.

Purpose: Clinical Vignette

Methods: A 46 year old African American woman presents to ER with nausea, vomiting, and abdominal pain. She is known to have ESRD secondary to SLE diagnosed in 10 years prior. The patient woke up one day prior feeling nauseous and threw up six times. As episodes progressed, vomitous became green and soft in consistency. She had not been able to eat since the episode began. Past medical history is significant for CVA x 2 (1997 and 2005), Lupus nephritis (2004), nonischemic cardiomyopathy, and ESRD (2005). Medications included a tapering dose of prednisone for a recent lupus flare. The remainder of the history and review of systems were noncontributory except as described above. On admission, vital signs were stable and physical exam was unremarkable with the exception of a positive Murphy's sign. Significant findings on CBC included microcytic anemia and increased poly-morphonuclear neutrophils. CMP abnormalities included elevated amylase, lipase, AST, ALT, and CRP. BUN and creatinine were also elevated. Imaging studies performed included an abdominal ultrasound which revealed a mass-like structure in the gallbladder fossa postulated to be a necrotic mass 4.1 by 6.7 centimeters reconfirmed by CT scan. An ERCP was done and revealed a dilated CBD with an abscess / inflammatory complex cavity found in the region of the gall bladder with a haziness postulated to be a leak.

Results: The patient underwent a laporoscopic cholecystectomy with successful resection and evacuation of gall bladder fossa. Findings at surgery included perforation of gall bladder into liver along with a severely inflamed gall bladder. Pathology reported acute and chronic cholecystitis with fibrinoid necrosis of blood vessels in gall bladder wall consistent with severe acute inflammation of systemic vasculitis. There were no signs of malignancy on frozen section.

Conclusion: The coexistence of lupus and cholecystitis is rare and literature concerning this condition is sparse. This presentation is not a random coincidence but rather a progression of SLE resulting in a dangerous gall-bladder pathology. To date, this is the only case report in literature where SLE vasculitis resulted the direct compromise of the gall bladder wall. Current treatment options include cholecystectomy and corticosteroid administration. Additional studies searching for anti-phospholipid antibodies and abnormalities in phospholipid-dependent tests of coagulation would also be recommended as anti-phospholipid syndrome (APS) can result in other catastrophic organ failures. Finally, a follow up with rheumatology for further management of SLE would be appropriate and long term anticoagulation should also be considered at that time.

P244

INTRA-HEPATIC LITHIASIS: A CASE REPORT AND REVIEW OF LITERATURE

H. Chen, MD, J. Hancock, MD, G. Sun, FNP. Gastroenterology, Texas Tech Health Sciences Center, Lubbock, TX.

Purpose: Clinical Vignette

Methods: A 64 year old Hispanic male reported to the ER November 2007 complaining of abdominal pain in the upper bilateral quadrants for the past week. Symptoms also included nausea and vomiting which worsened with meals. Over the past week, patient had also noticed "growth" of the abdomen, yellowing of his skin and eyes, increasing fatigue and loss of appetite. The patient denied any similar episodes in the past. Past medical history was significant for a history of lung cancer and with continued smoking. The remainder of the review of systems was non-contributory. Physical exam abnormalities included jaundice, icterus, ascites, and abdominal tenderness in the right upper quadrant and epigastric areas. There was no abdominal guarding or rebound tenderness. The remainder of the physical exam was unremarkable. Abnormal laboratory studies included elevated LFT's with markedly elevated alkaline phosphatase, mildly elevated ALT/AST, and CA 19-9 greater than 10,000. AFP was within normal limits. The remainder of the laboratory values were within normal limits. Imaging studies done during the hospital course included an abdominal ultrasound, CT, MRCP, ERCP, and liver biopsy. The results of the studies indicated cholelithiasis and choledocholithiasis with a questionable intra-hepatic obstructive process. No dilatation was seen at the common bile duct. Brushings from the ERCP and percutaneous biopsy of the liver was negative for ductal carcinoma.

Results: Initial impressions included cholelithiasis and choledocholithiasis. However, when ERCP failed to reveal an acute pathology, cholangiocarcinoma was suspected and the patient was informed of his grim prognosis. Even though biopsies were negative for malignancy, the patient was recommended for palliative percutaneous transhepatic cholangiography (PTC) with no further surgical treatment. A second opinion was obtained and exploratory laparoscopy revealed an unresectable, hard mass at the liver hilum. A PTC was performed and brushings obtained were negative for malignancy. The working diagnosis was changed to intrahepatic lithiasis. Surgery was performed to remove the stones under direct visualization via choledoschoscope. A choledochododenostomy was also performed.

Conclusion: Intra-hepatic lithiasis is a rare western disease. However, it is commonly reported by doctors in China and Japan with literature published to date detailing evidence-based diagnosis and treatment. It is possible to prematurely doom patients to a grim diagnosis of cholangiocarcinoma. This case voices the importance of both a thorough approach towards medicine and highlights the need and benefits of international cooperation in furthering medical knowledge.

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A CASE OF MALIGNANT ABDOMINAL PAIN

R. Anaparthy, MD, A. Sugumar, MD, MPH. Mayo Clinic, Rochester, MN.

Purpose: A 19 yr old man was referred to our GI clinic for evaluation of abdominal pain. He initially presented 3 weeks ago for nonspecific abdominal pain and constipation. He was prescribed some laxatives which helped him for a while but the abdominal pain recurred in 2 weeks at which time he had a CT scan done which was read as "acute appendicitis". The patient underwent appendectomy. He was found to have some mesenteric lymph nodes and milky looking fluid at surgery. 50 cc's of this fluid was sent for analysis. He had an uneventful postoperative course till day 3 when the same abdominal pain recurred. It was treated with pain killers. The pathology of the resected appendix was unremarkable. At this point he was referred to our GI clinic for Chylous ascitis. By this time he had had multiple bouts of abdominal pain and he characterized it as 10/10 pain which was diffuse, associated with nausia, vomiting and constipation. There were no specific triggers and relieved only by pain medications. He had no significant past medical history except hypertension and no family history. He had never smoked, did not drink alcohol and did not use any drugs.

Methods: His physical exam revealed a normal abdomen exam and some gynecomastia. He had bilateral lower extremity edema. Initial labs which included a CBC, Basic chemistry, LFTs, LDH,ESR and U/A were normal. His Beta HCG and AFP were normal

Results: He had a CT abdomen done which showed a a 2 X 3 cm mass between the right Psoas muscle and right common iliac (Fig 1) and a 2 X 3 Cm mass below the right renal vein (fig 2)and. CT guided Biopsy revealed a mixed germ cell tumor. The primary was later on found to be in the Right scrotum. He underwent radical orchectomy and chemotherapy and is tumor free at 1 yr follow up.

Conclusion: Chylous ascitis in an uncommon phenomenon and the incidence of chylous ascites is 1 case in 20,000 hospital admissions. The diagnosis is established when the concentration of triglycerides in the ascitic fluid is >200 mg/dl. The etiologies in adults can be broadly classified due to malignant and non malignant cause. The malignant causes include lymphomas and metastatic lesions from stomach, pancreas and ovarian cancer. In any young man with abdominal pain and ascities germ cell tumors must be kept in mind and a through scrotal exam must be performed.

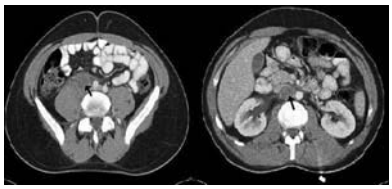

Figure 1 & 2: CT abdomen with contrast

P246

BLACK ESOPHAGUS

R. Anaparthy, MD, A. Sugumar, MD, MPH. UTMB, Galveston, TX.

Purpose: Introduction Black esophagus or esophageal necrosis is a rare condition diagnosed on endoscopy from dark pigmented appearance of the esophagus. Presentation 67 year old female presented with vomiting, diarrhea, epigastric pain, and melena. Vomiting has limited her oral intake leading to dehydration and 7 lb weight loss in one week. She had a history of hypertension, GERD and alcohol abuse. Examination showed BP of 90/60, pulse 98 with positive tilt testing. She had epigastric tenderness without guarding or rebound. She was guaiac positive.

Methods: Diagnostic evaluation She had a hemoglobin of 9g/dl. Basic metabolic panel and stool studies were unremarkable. LFTs revealed total bilirubin of 1.8 mg/dl, conjugated 1.2 mg/dl, unconjugated 0.1 mg/dl, albumin 2.0 g/dl, alkaline phosphatase 151U/L, ALT 34 U/L, AST 46 U/L. PT 16.3 seconds and INR 1.5. Abdominal sonogram revealed fatty infiltration of the liver. Hepatitis serologies and colonoscopy were unremarkable. Endoscopic appearance is shown in the figure Histology revealed necrosis and inflammation with leukocyte infiltration.

Results: She was resuscitated with fluids and was started on intravenous Pantoprazole. Sucralfate was added for cytoprotective effect with good symptomatic relief. Patient was gradually transitioned to regular diet.

Conclusion: Discussion The dramatic appearance of the esophagus on endoscopy results from circumferential black discoloration in the distal esophagus that ends at the gastroesophageal junction. Mucosal necrosis with inflammation on histology is the hallmark of diagnosis. Low flow state due to hemodynamic instability or ischemia is the main inciting factor. The condition is characterized by rapid resolution following hemodynamic stabilization. This case illustrates esophageal necrosis in a malnourished patient in the setting of acute hemodynamic stability from hypovolemic shock. The important compounding factor is poor nutritional status that can result in mucosal necrosis from compromised mucosal defense mechanism or impaired healing after insult either form acid or ischemia. This case supports previous literature that esophageal necrosis is not just a pure local phenomenon, but a manifestation of poor general condition and underlying co morbidities. Early recognition is important as this condition is potentially reversible.

Circumferential involvement of distal half of esophagus with white exudate and black pigmentation that ends at gastroesophageal junction

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PANCREATIC BURKITT'S LYMPHOMA PRESENTING AS RECURRENT ACUTE PANCREATITIS IN AN HIV PATIENT: EARLY DIAGNOSIS USING EUS/FNA

S. Chang, L. Casey, MD, V. Joshi, MD. Gastroenterology, Tulane University Health Sciences Center, New Orleans, LA.

Purpose: The incidence of pancreatitis in patients with HIV is 35 to 800 times higher than in the general population. Lymphoma involving the pancreas is rare and constitutes only 0.16-

0.2% of pancreatic malignancies. Pancreatic involvement with neoplasia in HIV patients is usually silent or subclinical until associated with disseminated disease. We report a rare case of pancreatic Burkitt's lymphoma presenting as symptomatic pancreatitis, diagnosed by endoscopic ultrasound (EUS) and fine-needle aspiration (FNA) before evident on CT scan.
Results: A 34 year old woman with HIV presented with several days of abdominal pain located in the epigastrium and left upper quadrant. The patient denied any nausea, vomiting, or change in bowel movements. She had been admitted in the past with similar episodes. Her current medications included Atripla, iron sulfate, and Bactrim. She denied use of alcohol, tobacco, or illicit drugs. On physical exam, the abdomen was tender to palpation in the epigastrium and left upper quadrant without rebound. Laboratory evaluation was notable for a white blood cell count of 7.3 10^3/μL, hemoglobin of 8.4 gm/dL, amylase of 458 U/L, and lipase 1172 U/L. CT showed an enlarged, low-density pancreas consistent with interstitial pancreatitis. No intraabdominal lymphadenopathy was noted. EGD showed thickened gastric mucosa with enlarged rugae and antral nodularity. EUS showed a diffuse, hypoechoic mass (4.3 x 4.5cm) in the pancreatic head and diffuse hypoechoic architecture of body and tail suggestive of an infiltrative process or interstitial pancreatitis. FNA of the pancreatic mass showed acini with scattered large, atypical lymphocytes with cytoplasmic vacuoles suspicious for a lymphoproliferative process. Immunostains for CMV, HSV, EBV and fungi were negative. A gastric biopsy of the thickened mucosa showed diffuse infiltrate of large cells in the submucosa with no infiltration into the epithelial lining. The pathology was consistent with large B-cell non-Hodgkins lymphoma. FISH was positive for t(8;14)(q24;q32), which is diagnostic of Burkitt's lymphoma. One month after this diagnosis, CT showed lymphadenopathy in the axilla and the mediastinum.
Conclusion: We report an unusual scenario of recurrent acute pancreatitis as an initial manifestation of Burkitt's lymphoma involving pancreas in an HIV patient. Clinicians need to maintain an increased index of suspicion for a lymphoproliferative process involving the pancreas in HIV patients with recurrent acute pancreatitis. We propose EUS/FNA as a first line diagnostic modality for evaluating recurrent acute pancreatitis in the HIV population. Delay in early accurate diagnosis may lead to high mortality.

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TWO CASES OF GASTRIC SARCOIDOSIS MANIFESTING AS SYMPTOMATIC ANEMIA: ENDOSCOPIC CLUES

S. Chang,[2] D. Victor, MD,[1] J. L. Kalarickal, MD,[1] S. D. Pollack, MD,[1] N. Copur, MD,[1] F. Regenstein, MD[1]. 1. Department of Gastroenterology, Tulane University, New Orleans, LA; 2. School of Medicine, Tulane University, New Orleans, LA.

Results: Sarcoidosis is a disease characterized by noncaseating granulomas found in any organ, most commonly the lung, lymph nodes, skin, liver, eyes, and bones. (1). The clinical course can vary from self-limiting to chronically incapacitating (1). Gastrointestinal tract involvement is rare (0.9-1%) and most patients with gastric sarcoidosis are asymptomatic (2-4). We report two unusual cases of symptomatic anemia resulting from previously undiagnosed gastric sarcoidosis. The first patient is a 22 year-old previously healthy African-American male who presented with progressive weakness and fatigue over the preceding seven months. He noted gradual weight loss and episodes of epigastric abdominal pain refractory to Omeprazole. Initial evaluation was notable for hemoglobin of 7.4 mg/dL. Further work-up revealed an iron deficiency anemia. Upper gastrointestinal endoscopy showed nodular, friable gastric mucosa with superficial ulceration and hyperemic, thickened gastric folds. Endoscopic biopsies of the gastric mucosa revealed severely active noncaseating chronic granulomatous gastritis. Transbronchial lung biopsy showed noncaseating granulomatous inflammation of bronchial mucosa with no signs of infection, clinically consistent with the diagnosis of sarcoidosis. The second patient is a 46 year-old African American female with a history of presumed idiopathic granulomatous hepatitis who presented with abdominal pain, fatigue, anorexia, nausea, hematemesis, and melena. Her hemoglobin, which had previously been normal, had fallen to 9.7 mg/dl. Upper gastrointestinal endoscopy to investigate the bleeding showed erosive gastritis with hyperemic gastric folds with atypical appearing superficial one by two centimeter ulcerations with adherent exudate. Biopsies of the ulcerated mucosa showed noncaseating granulomatous gastritis with areas of erosion. She improved dramatically with steroid therapy. In both cases other causes of granulomatous disease was ruled out. Sarcoidosis manifesting as symptomatic anemia is rare. Most patients with gastric sarcoid will be asymptomatic and those that seek attention will have vague complaints of abdominal pain or gastrointestinal bleeding (5). Therefore, gastric sarcoidosis must be considered in the differential of gastrointestinal bleeding in patients known to have sarcoidosis and in those with suggestive clinical features. Typical endoscopic findings include hyperemic, thickened gastric folds and/or superficial ulcerations with histologic evidence of non-caseating granulomas on biopsy specimens. The prognosis of gastric sarcoid is typically favorable, with improvement of the endoscopic and histopathologic findings in response to treatment of the underlying disease.

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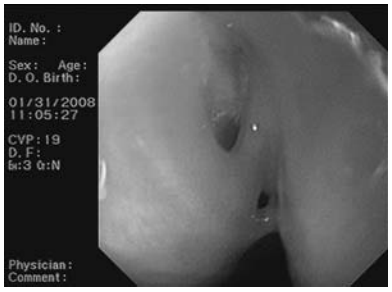
PSEUDODIVERTICULOSIS OF THE ESOPHAGUS AS A RESULT OF HIV-ASSOCIATED ULCERS

S. C. Chan, MD, P. Mantry, MD. Department of Gastroenterology, University of Rochester Medical Center, Rochester, NY.

Purpose: Esophageal intramural pseudodiverticulosis is characterized by multiple flask-shaped outpouchings within the submucosa of the esophageal wall due to abnormally dilated mucus gland ducts. This disorder is thought to be the result of chronic esophageal inflammation, and has been described in association with Candidiasis, caustic ingestion, gastroesophageal reflux, and malignancy. Although many patients are asymptomatic, some present with dysphagia due to an associated stricture. Here we present a rare case of pseudodiverticulosis in the setting of HIV-associated ulcerations of the esophagus. The patient is a 48 year-old man with end stage liver disease secondary to HIV and hepatitis C who presented to hepatology clinic with dysphagia. He had been treated with efavirenz and tenofovir for eight years with poor compliance related to alcohol abuse. Laboratories one month prior to presentation revealed a CD4 count of 254 and an undetectable HIV viral load. He also had a history of Candida esophagitis two years ago which was treated successfully with Diflucan. An upper endoscopy revealed the presence of multiple deep ulcerations in the proximal to mid esophagus, the largest of which measured 8 cm in size. Biopsies were negative for a viral etiology. Repeat bloodwork demonstrated HIV viral breakthrough, and subsequent phenotype testing indicated the development of efavirenz resistance. The patient was placed on a new HAART regimen including atazanavir, emtricitabine, and didanosine, resulting in suppression of the HIV virus once again. A repeat endoscopy six weeks later revealed complete healing of the ulcers with multiple shallow pseudodiverticula remaining. To our knowledge, this is the first reported case of pseudodiverticulosis associated with HIV ulcerations of the esophagus. Treatment of the ulcerations with HAART therapy resulted in healing of the ulcers and resolution of his symptoms. This case highlights the fact that specific treatment for esophageal intramural pseudodiverticulosis is not necessary, though these lesions have been described to disappear after empiric dilation.

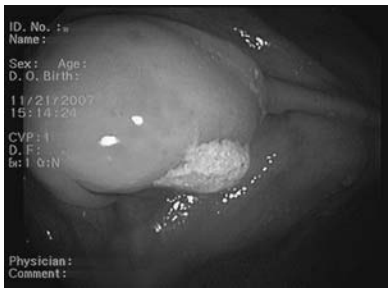


P250

A RARE CASE OF APPENDICEAL ENDOMETRIOSIS

S. C. Chan, MD, J. P. Gutman, MD, A. Shah, MD, MACG. Department of Gastroenterology, University of Rochester Medical Center, Rochester, NY.

Purpose: Endometriosis is a common gynecological disorder characterized by the presence of functional endometrial glands outside of the uterus. It is thought to occur through either retrograde menstruation into the peritoneal cavity or metastases through blood and lymphatic vessels. Various radiographic studies including CT scan, MRI, transvaginal ultrasound, and rectal ultrasound have been used to detect peritoneal implants, but definitive diagnosis requires laparoscopy and biopsy. Endometriosis of the gastrointestinal tract most commonly involves the rectosigmoid colon due to its close proximity to the reproductive organs. Here we describe a rare case of endometriosis involving the appendix. The patient is a 56 year-old healthy woman with a history of prior hysterectomy and bilateral salpingo-oophorectomy for endometriosis who was found to have a 1 cm polypoid mass at the appendiceal orifice on screening colonoscopy. Endoscopic ultrasound of the mass with the miniprobe revealed a 10 x 7 mm anechoic structure suggestive of a cystic lesion. Biopsies of this lesion were nondiagnostic. A subsequent CT scan of the abdomen revealed a 9-10 mm area of decreased attenuation adjacent to the cecum, possibly representing the lesion of interest. The patient otherwise was asymptomatic and denied any abdominal pain, weight loss, night sweats, hematochezia, or diarrhea. The patient was referred to a colorectal surgeon, as a mucocele of the appendix was suspected. The patient underwent laparascopic right hemicolectomy several months later and the final pathology of the resected specimen revealed endometriosis. Appendiceal endometriosis is a rare phenomenon with a reported prevalence of 0.054%. Many cases are asymptomatic and pass undiagnosed. However, symptoms of acute appendicitis, chronic right lower quadrant abdominal pain, cecal intussusception, and intestinal perforation have been reported. Diagnosis is difficult as endometriosis of the gastrointestinal tract mimics other disorders such as irritable bowel syndrome and requires histological demonstration of ectopic endometrial glands and stroma.



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PARVOVIRUS B19 ASSOCIATED HEPATITIS COMPLICATED BY APLASTIC ANEMIA

A. S. Behara, MD, MS,[1] J. Ahn, MD,[1] N. Shah, MD,[1] S. Jakate, MD,[2] A. Howard, MD,[2] S. M. Cohen, MD[1]. 1. Hepatology, Rush University Medical Center, Chicago, IL; 2. Pathology, Rush University Medical Center, Chicago, IL.

Purpose: Parvovirus B19 is a single-stranded DNA virus that affects mainly children. Hepatic manifestations of parvovirus B19 infection range from liver chemistry abnormalities to fulminant hepatic failure. We report a unique case of Parvovirus B19 associated hepatitis and aplastic anemia in an immunocompetent, adult patient.
Methods: A 41-year old man with a history of hypertension presented with two weeks of fevers, headaches, and lethargy. He reported spelunking in bat caves while visiting Mexico three weeks prior to admission. There was no history of hepatotoxin exposure, previous liver disease, or alcohol abuse. Physical exam showed fever and splenomegaly but no stigmata of chronic liver disease. Initial laboratory evaluation revealed AST 4124 U/L, ALT 937 U/L, AP 190 U/L, total bilirubin 3.4 mg/dL, WBC 1,260/μL, Hgb 8.7 g/dL, INR 1.5 and platelet count 27,000. The patient was admitted to the intensive care unit and empirically treated with imipenem, doxyxycline, and amphotericin. Ultrasound revealed increased echogenicity of the liver and splenomegaly. Serologies for viral hepatitis, HIV, CMV, EBV, lyme disease, urine histoplasma antigen, and blood cultures were negative. Liver biopsy revealed macrovesicular steatosis with

grade 2-3 steatohepatitis, stage 2 fibrosis, and lipogranulomas (Figure 1). Bone marrow analysis was positive for parvovirus B19 by PCR DNA and showed a hypercellular marrow with trilineage hyperplasia. The patient was treated with granulocyte macrophage colony stimulating factor and intravenous immune globulin, with resolution of his fever, liver function test and blood count abnormalities.
Results: Parvovirus B19 can cause hepatitis associated aplastic anemia and may be an underappreciated hepatotoxic virus.
Conclusion: Aplasia can be fatal in up to 88% of cases with no correlation between the severity of hepatitis and the interval to aplasia. However, as with our patient, medical management of aplasia can lead to good results. This case underlines the importance of considering parvovirus B19 infection in the differential diagnosis of hepatitis associated aplastic anemia in adults.

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FOREGUT DERIVED DUPLICATION CYST PRESENTING AS ABDOMINAL PAIN
A. S. Behara, MD, MS,[1] D. J. Deziel, MD,[2] M. D. Brown, MD[1]. 1. Gastroenterology and Nutrition, Rush University Medical Center, Chicago, IL; 2. General Surgery, Rush University Medical Center, Chicago, IL.
Purpose: Enteric duplication cysts are rare congenital malformations that can occur anywhere from the mouth to the anus. Cystic duplications are endothelium lined and share a common muscular wall and blood supply with the adjacent gastrointestinal tract. We present the unique case of a foregut derived duplication cyst presenting as abdominal pain and elevated inflammatory markers in an adult patient.
Methods: A 26 year-old Caucasian female presented to our gastroenterology clinic with 3 weeks of constant, non-radiating, epigastric abdominal pain. She denied weight change, nausea, emesis or dysphagia and had no past medical or surgical history. Medications only included lansoprazole 30 mg daily started 2 weeks prior by her primary care physician which provided no relief. She had moderate tenderness to palpation in the epigastrium and an otherwise normal physical exam. Laboratory tests were significant for WBC of 11, 300, CRP of 40.2 mg/L, and gastrin level of 156 pg/mL. Upper endoscopy revealed mild antral erythema and biopsies were consistent with non-specific gastritis. An abdominal CT demonstrated a cystic structure anterior to the gastro-esophageal junction and posterior to the left hepatic lobe measuring 1.7 x 1.6 cm (figure 1). The patient was then referred for exploratory laparoscopy which showed a smooth mass protruding through the gastrohepatic ligament. The mass was removed and grossly appeared to be a 2.7 x 2.5 x 1.5 cm cyst. The histology was consistent with a foregut derived duplication cyst of either bronchogenic or esophageal origin. Two weeks post-operatively her symptoms had resolved and laboratory values had normalized.
Results: This case is a unique presentation of a foregut derived duplication cyst presenting as epigastric abdominal pain and elevated inflammatory markers, suggesting that duplication cysts be included in the differential diagnosis of abdominal pain.
Conclusion: As the potential complications of enteric duplications include gastrointestinal bleeding and rarely malignant transformation, the recognition of duplication cysts must lead to prompt surgical evaluation.

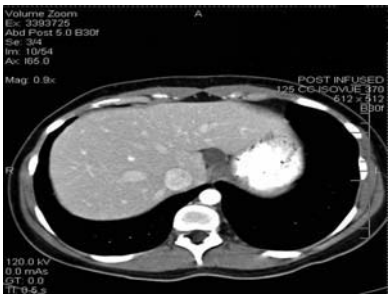

Figure 1

P253

LUMBO SACRAL SPINAL PATHOLOGY (L.S.S.P)- A CAUSE OF LOWER ABDOMINAL PAIN
G. Badarinarayanan, MD, FACG,[1] P. Murugesan, MS,[2] U. Muthukumarm, DDMRD[3]. 1. Gastroenterology, A.V.B. Gastro Care Clinic, Tirunelveli, India; 2. Orthopaedic Surgery, A.V.B. Gastro Care Clinic, Tirunelveli, India; 3. Radiology, A.V.B. Gastro Care Clinic, Tirunelveli, India.
Purpose: To analyze the cause of lower abdominal pain due to Non Abdominal Etiology
Methods: In our outpatient department a four year trial was conducted in more than 3,675 patients who had lower abdominal pain .These patients had been getting treatment in various centers for the same and had undergone elaborate investigations including routine blood,urine,stools, X-ray analysis,Gynec,Urological and C-T Scan of abdomen,with even virtual colonoscopy.
Results: We examined all these patients with detailed Questionnaires including queries about their occupation and work activities. Of the 3,675 patients 80% ranged from 40 to 60 years of age with a female predominance of 78%,the females being mainly homemakers of medium income group family and the rest were males who were either farmers or with other occupations.The remaining 20% of the 3675 gave history of either fall from a medium high place or from a two wheeler or an accident 3 to 4 years earlier which was ignored.These were the main points of attraction from our questionnaires which was not revealed in any other centers where they underwent the earlier treatment.
Conclusion: All these patients were screened with the help of our orthopaedic surgeons and were submitted for a skeletal evaluation with M.R.I.Scan of mainly LumboSacral Parts. As per the scans all these patients had either Disc prolapse indending on the Thecal sac or severe Osteoporosis leading on to the anterior Radiclitis. They were given adequate bone traction,mild painkillers and advised change in life style. Most of the patients were free from symptoms after Eight weeks. The rest required a bone bracing for one year. Hence patients with Lower abdominal pain not responding to conventional treatment require an Orthopaedic evaluation

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SCREENING COLONOSCOPY PERFORMED BY GASTROENTEROLOGISTS AND A NURSE PRACTITIONER: A SINGLE CENTER EXPERIENCE
2008 ACG Presidential Poster Award Recipient
M. Limoges-Gonzalez, RN, MSN, ANP, A. Al-Juburi, MD, N. S. Mann, MD, D. H. Tseng, BS, L. Rossaro, MD. University of California, Davis, Folsom, CA.
Purpose: To compare accuracy, safety, and patient satisfaction in screening colonoscopy performed by board certified gastroenterologists (GI-MD) and a gastroenterology trained nurse practitioner (GI-NP).
Methods: From June 2007 through April 2008 a consecutive sample of 375 average risk subjects referred for screening colonoscopy were randomized to have their procedure performed by either a GI-MD or a GI-NP. Subjects completed a preprocedure questionnaire, and just prior to dismissal a postprocedure questionnaire. Endoscopists completed a postprocedure questionnaire. Statistical analyses were performed using Fisher's exact and Kruskal-Wallis tests. Statistical significance was defined as $p<0.05$ at a 95% confidence interval.
Results: One hundred and fifty subjects met the inclusion criteria and agreed to participate in the study. One hundred subjects were randomized to have their procedure performed by one of two GI-MD's and 50 were randomized to have their procedure performed by the GI-NP. There were no statistically significant differences among the groups for subject age, gender, race, ethnicity, prior abdominal/pelvic surgery, prior diagnosis of diverticulosis and/or irritable bowel syndrome, prior nurse practitioner experience, prior colonoscopy experience, preprocedure anxiety level, or anticipated procedural pain. Cecal intubation rates, duration of procedure, sedative and analgesic use, and patient reported pain scores were also equivalent among the groups. The GI-NP group reported a statistically significant higher satisfaction score compared with the GI-MD groups combined (mean 5.9+/-13.81 and 8.6+/-16.11 respectively, $p=0.042$; VAS 0-100, 0=completely satisfied 100=completely dissatisfied). Additionally, the GI-NP group had more adenomas detected during the procedure when compared with the GI-MD groups combined (42% and 17% respectively, $p=0.001$). There were no complications reported.
Conclusion: The intensively trained GI-NP in our study performed screening colonoscopy as safely, accurately, and satisfactorily as the GI-MD's. Using well trained NP's for screening colonoscopy can be an effective strategy to increase access. These findings warrant further study with other non-physician colonoscopists and sample populations.

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THE IMPACT OF MUCOSAL HEALING ON THE ECONOMIC BURDEN OF CROHN'S DISEASE
H. C. Waters, MD,[1] H. C. Waters, MBA[2]. 1. Centocor BV, Leiden, Netherlands; 2. Centocor Ortho Biotech Services, LLC, Horsham, PA.
Purpose: Mucosal healing (MH) has become an important endpoint for clinical trials as well as a treatment goal in daily clinical practice. In a recently published Norwegian cohort study,[1] Crohn's disease (CD) patients with MH one year after diagnosis displayed a strong trend towards fewer resections when compared to patients without MH. However, the effect of MH on health care resource utilization and costs of the disease is still unknown.
Methods: We investigated the association between MH and the use of health care resources in CD by adapting a published Markov model and simulating two cohorts of 1,000 patients over the course of 10 years.[2] Transition probabilities from the CD Markov model were increased by 50% (no-MH group) or decreased by 25% (MH group) from each health state into the surgery state using resection rates from a Norwegian cohort of CD patients with or without MH.[1] Transition rates from the surgery state itself were left unchanged. Costs and utilities were calculated using previously published values [2,3] and discounted at 5% per year.
Results: In our model, patients with MH used fewer health care resources than patients without MH whilst having a comparable quality of life (QoL). Cost savings amounted to $21,224 per patient, driven mainly by a reduction in surgery costs in the MH group that exceeded the costs for increased use of medical therapy. QoL was comparable, with the MH group gaining 0.008 incremental quality-adjusted life years (QALYs) per patient over the no-MH group. Over the 120 month study period, a patient in the MH group on average spent more time in the remission (5 months), mild (4 months) and severe (1 month) disease states and less time in the surgery (1 month) and post-surgical remission state (9 months) than a patient in the no-MH group. There were fewer deaths in the MH group compared with the no-MH group, 230 vs. 235, respectively.
Conclusion: Achieving MH is associated with a tangible clinical benefit for the individual patient (avoiding surgery) as well as an economic benefit of reduced health care utilization. Although not modelled here, patients in the Norwegian cohort study with MH also had fewer complications, including abscesses and fistulas, and used fewer steroids. Therefore, the positive impact of MH on health care resource utilization, costs and the patient's quality of life may be greater. When evaluating CD treatments, the benefits of achieving MH should be considered.
References: 1. Frøslie KF et al., Gastroenterology 2007;133:412-22 2. Silverstein MD et al., Gastroenterology 1999;117:49–57 3. Clark W et al., Health Technol Assess 2003;7(3):1-67
Disclosure - D Esser - Employee: Centocor BV, Leiden, The Netherlands HC Waters - Employee: Centocor Ortho Biotech Services, LLC
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PRIMARY STOMACH AND COLON SIGNET RING CELL CARCINOMA IMMUNOHISTOCHEMICAL STAINING PATTERNS USING CDX2, MUC2 AND MUC6

F. Nowrouzzadeh, MD,[1] R. Lawson, MD,[9] D. Keller, MD,[7] D. Albrecht, MD,[8] B. Rodriguez, MD,[3] A. Snitchler, MD,[6] T. Schafer, MD,[4] N. Dow, MD,[5] J. E. Kurland, MD[2]. 1. Department of Internal Medicine, National Naval Medical Center, Bethesda, MD; 2. Department of Gastroenterology, National Naval Medical Center, Bethesda, MD; 3. Dept of Internal Medicine, Naval Hospital, Pensacola, Pensacola, FL; 4. Department of Gastroenterology, Naval Hospital, San Diego, San Diego, CA; 5. Division of Gastrointestinal Pathology, Armed Forces Institute of Pathology, Washington DC, DC; 6. Dept of Anatomic Pathology, Naval Hopsital, San Diego, San Diego, CA; 7. DMS, Naval Hospital, San Diego, San Diego, CA; 8. Director for Clinical Support Services, Naval Hospital, Portsmouth, Portsmouth, VA; 9. Department of Internal Medicine, Naval Hospital, Portsmouth, Portsmouth, VA.

Purpose: Signet Ring Cell Carcinoma (SRCC) is a poorly differentiated mucin producing adenocarcinoma that can occur in almost any organ, with more than 90% arising in stomach, colon and breast. SRCC often presents at a late stage which can make identification of the primary site challenging. Recent immunohistochemical characterization of SRCC from the stomach and colon has found some differences in staining patterns between primary gastric and colon SRCC using stains specific for CDX2 and MUC. CDX2 being a marker expressed in intestinal epithelium, and Mucins (MUC) produced by secretory epithelial cells. The purpose is to compare the immunohistochemical features of stomach and colon SRCC using MUC2, MUC6, and CDX2 stains, to the patient's clinical stage.

Methods: Naval Medical Center San Diego and Naval Hospital Portsmouth Pathology Department records identified 15 gastric and 12 colon SRCC cases. Cytoplasmic reactivity was assessed for MUC2 and MUC6. MUC2 and MUC6 staining distribution was categorized as patchy (<50%) or diffuse (>50%). Staining intensity was graded as strong or weak. Overall staining scores were graded as follows: 0 = negative; 1+ = patchy, weak staining; 2+ = patchy, strong staining; 3+ = diffuse, weak staining; 4+ = diffuse, strong staining. The Fisher's Exact Test was used to determine statistical significance.

Results: We evaluated the distribution and intensity of CDX2, MUC2 and MUC6 stains in SRCC stomach and colon tumor samples. 100% (8/8) of stage IV gastric SRCC samples had a CDX2 staining score of 0 or 1. 80% (4/5) of stage I and II gastric SRCC had a CDX2 score of ≥2 (P-value: 0.02), with 60% (3/5) still alive at 5 years. 100% (12/12) of positive gastric CDX2 stains had variable patterns. CDX2 score in colon SRCC samples showed no correlation with stage. 71% (5/7) of stage IV gastric SRCC had a MUC2 score of 0. There was no correlation between stage and MUC2 expression in colon SRCC specimens. Overall, CDX2 was positive in 80% of gastric and 75% of colon primaries (P-Value: 0.34), whereas MUC2 was positive in 47% of gastric and 83% of colon primaries, respectively (P-Value: 0.06), however, neither had met statistical significance. There was no correlation between MUC6 expression and location or stage.

Conclusion: Strong CDX2 expression is a useful marker of earlier stage and improved outcome of gastric SRCC. This is in concordance with data reported by Kim et al., DDW 2007 that showed less invasiveness with positive CDX2 staining. We have demonstrated that strong expression of CDX2 is associated with less invasiveness in gastric SRCC. Expression of MUC2, MUC6 and CDX2 were not demonstrated to be predictive of determining primary site with regard to gastric or colon SRCC.

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INFLIXIMAB DOSAGE INCREASE RATE IN PATIENTS WITH CROHN'S DISEASE

S. E. Plevy, MD,[1] E. Q. Wu, PhD,[2] A. P. Yu, PhD,[2] J. Chao, PhD,[3] P. Mulani, PhD[3]. 1. University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC; 2. Analysis Group, Inc., Boston, MA; 3. Abbott Laboratories, Abbott Park, IL.

Purpose: Patients treated with infliximab for Crohn's disease (CD) may require dosage increase (either increased drug amount or more frequent infusions) because of loss of treatment response. Past studies using data from medical charts have identified a relatively substantial rate of dosage increase in CD.

Methods: The objectives of this analysis were to assess rates of infliximab dosage increase and the factors associated with dosage escalation using a national managed care database. Patients diagnosed with CD and treated with infliximab maintenance therapy between 1999 and 2006 were selected from the Integrated Healthcare Information Services (IHCIS) National Managed Care Database, which covered >30 insurance plans and >30 million patient lives. To be included in the analysis, patients were required to have had at least 8 infliximab infusions recorded in the claims data, all of which were to have been administered for a diagnosis of CD. Dosage increase was defined as either a dosage increase of at least 1 vial compared with the second infusion dose or a frequency increase with at least 2 occurrences of a dosing interval <7 weeks. Infliximab 5 mg/kg every 8 weeks was considered the standard maintenance dosage. Kaplan-Meier methods were applied to estimate the rates of dosage increase (both drug amount increase and frequency increase) at 1 and 2 years. Patients were censored at the end of the insurance eligibility or the end of the study period. The Cox proportional hazards model was used to investigate factors associated with dosage escalation, including baseline demographics, comorbidities, and prior drug use.

Results: Among the 181 patients with a minimum of 8 infusions within the first year of receiving infliximab treatment for CD, 47.5% had a dosage increase at 1 year and 65.5% at 2 years. The Cox proportional hazards model revealed that comorbid irritable bowel syndrome was associated with a greater risk of dosage increase (hazard ratio=2.4; p=0.046).

Conclusion: Nearly half of patients required an infliximab dosage increase (either increased drug amount or more frequent infusions) during their first years of maintenance therapy. Comorbid irritable bowel syndrome was associated with an increased risk of dosage increase. This research was funded by Abbott Laboratories, Abbott Park, IL.

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RESOLUTION OF FLARE OR NONRESPONSE IN PATIENTS WITH CROHN'S DISEASE ACHIEVED IN MOST ADALIMUMAB-TREATED PATIENTS WITHOUT A DOSAGE INCREASE

S. E. Plevy, MD,[1] S. Schreiber, MD,[2] J. Colombel, MD,[3] P. F. Pollack, MD,[4] J. Chao, PhD,[5] P. Mulani, PhD[5]. 1. Division of Gastroenterology and Hepatology, University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC; 2. Christian-Albrechts University, Kiel, Germany; 3. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 4. Abbott Laboratories, Parsippany, NJ; 5. Abbott Laboratories, Abbott Park, IL.

Purpose: CHARM was a 56-week, randomized, double-blinded, placebo-controlled, Phase III trial that confirmed the sustained efficacy and safety of the fully human anti-TNF monoclonal antibody adalimumab (ADA) in maintaining clinical remission in patients (pts) with moderately to severely active Crohn's disease (CD).[1]

Methods: The objective of this analysis was to assess the clinical benefits to pts in CHARM who changed from ADA every other week (eow) to open-label (OL) ADA eow. All pts received OL induction of ADA 80 mg at Week 0 and ADA 40 mg eow starting at Week 2. Patients were then randomized to ADA 40 mg eow, ADA 40 mg weekly, or placebo at Week 4. At ≥12 weeks patients were allowed to switch stepwise to OL ADA eow and then to OL weekly for protocol-defined flares or nonresponse. This analysis determined the percentages of pts among those initially randomized to eow therapy who achieved clinical remission (CDAI<150) or a clinical response of CR-70 (drop from baseline CDAI of 70) or CR-100 (drop from baseline CDAI of 100) after changing to OL ADA eow therapy.

Results: Of the 260 pts randomized to ADA eow, 102 completed 56 weeks of blinded eow therapy, 38 withdrew, and 120 switched to OL eow for flares or nonresponse. Of these, 120 pts, 71 moved to OL weekly for repeat flares or non-response. 49 pts continued on ADA OL eow without the need for dosage increase to weekly. Of the 49 pts, a majority gained CR-70 response (32/49, 65%), with a median time to response of 29 days. In addition, 20 pts (41%) achieved clinical remission, and 59% achieved CR-100. 28 of the 49 pts were Week-4 responders. Among these pts, a majority regained CR-70 response (21/28, 75%), with a median time to response of 31 days. The clinical remission and CR-100 rates for this population were 46% and 64%, respectively.

Conclusion: A majority of blinded pts on ADA eow therapy who switched to OL eow upon flares or nonresponse achieved or regained response in a short time period without the need for dosage increase to weekly therapy. Among pts regaining response, >85% of patients did it by at least 100 points or remission. These findings demonstrate the need to evaluate all options including continuation of unchanged dosing before increasing the dosage of ADA. **Reference**:

[1]Colombel JF, et al. *Gastroenterology*. 2007;132(1):52–65. This research was funded by Abbott Laboratories, Abbott Park, IL.

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TREATMENT OF *CLOSTRIDIUM DIFFICILE* INFECTION IN A COMMUNITY-BASED COHORT

S. Aronson, MD, P. Kammer, D. Pardi, MD. Miles and Shirley Fiterman Center for Digestive Diseases, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.

Purpose: Recent reports have shown important changes in Clostridium difficile infection (CDI) including decreased responsiveness to treatment with metronidazole. All documented cases of CDI in Olmsted County, Minnesota residents diagnosed and treated at the Mayo Medical Center from 1991-2005 were reviewed to characterize changes in treatment response in a community-based cohort.

Methods: A computerized diagnostic index, which includes diagnoses and laboratory test results from all medical encounters for Olmsted County residents, was used to identify residents with possible CDI from 1991-2005. Medical records were reviewed to confirm the diagnosis, document demographic data, and assess risk factors and treatment outcomes. Definite CDI diagnoses were defined as a positive Clostridium difficile stool assay or appearance of pseudomembranous colitis endoscopically or histologically. Cases were analyzed in five-year intervals (1991-1995, 1996-2000, and 2001-2005). Initial and subsequent treatments, and responses, were recorded. Treatment failure was defined as change in initial treatment due to non-response or intolerable side effects. Recurrences were defined as return of symptoms after successful treatment within 8 weeks of diagnosis.

Results: There were 351 definite cases of CDI identified with increased number of diagnoses per 5-year interval (37, 103, and 211 cases per respective interval). Cases were diagnosed in outpatient clinics, non-acute healthcare facilities, and hospitals. Most patients were initially treated with metronidazole (increasing from 59% in the first 5 year period to 90%). Metronidazole failure occurred in 22%, with no significant change over the study period. Fewer patients were initially treated with vancomycin (35% in the first period, 5% in the later periods) and only 10% patients failed this initial therapy. Based on initial treatment, the percentages of patients to have recurrent CDI were 33% for metronidazole and 34% for vancomycin.

Conclusion: Most CDI cases were initially treated with metronidazole with a higher proportion treated with this drug in the latter study period. Treatment failure did not change during the study period. While fewer patients were treated with vancomycin, it was uncommon for these patients to fail treatment. Recurrence rates were no different for metronidazole vs. vancomycin. Responses in this community-based cohort, which included hospitalized and non-hospitalized patients, do not support the suggestions that CDI is becoming more difficult to treat or more likely to recur.

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EFFICACY OF ADALIMUMAB FOR THE TREATMENT OF TNF-ANTAGONIST–NAÏVE PATIENTS WITH CROHN'S DISEASE: SUBANALYSIS OF A PHASE III TRIAL

S. B. Hanauer, MD,[1] W. J. Sandborn, MD,[2] P. J. Rutgeerts, MD,[3] J. Colombel, MD,[4] J. Chao, PhD,[5] P. Mulani, PhD[5]. 1. University of Chicago Medical Center, Chicago, IL; 2. Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 3. University Hospital of Gasthuisberg, Leuven, Belgium; 4. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Leuven, France; 5. Abbott Laboratories, Abbott Park, IL.

Purpose: Adalimumab (ADA) is approved in the US for use in the treatment of moderate to severe Crohn's disease (CD) in adults. The CHARM trial was a 56-week, Phase III, randomized controlled trial that assessed ADA in maintaining clinical remission in patients (pts) with moderate to severe CD.

Methods: We sought to evaluate the impact of ADA maintenance therapy on clinical efficacy for TNF-antagonist–naïve pts in the CHARM trial. Pts received open-label induction therapy of 80 mg ADA at baseline (Week 0) and 40 mg at Week 2. At Week 4, pts were stratified by responder status and randomized to 40 mg ADA every other week (eow), 40 mg ADA weekly, or placebo. All TNF-antagonist–naïve pts were included in the analysis regardless of Week 4 response status. Efficacy outcomes included remission (CDAI<150), CR-70 (a decrease of 70 points in CDAI from the baseline), and CR-100 (a decrease of 100 points in CDAI from the baseline), which were compared by chi-square analysis. ANCOVA was used to control for baseline score and Week-4 responder status, and was used to compare the differences in change of IBDQ score from baseline at Week 26 and Week 56 between the ADA and placebo groups. Nonresponder imputation was used when CDAI scores were missing or pts moved out of the double-blind treatment arm.

Results: The percentage of pts in remission was significantly greater for the ADA 40-mg eow and 40-mg weekly groups vs. placebo at Weeks 26 and 56. At these same time points, clinical response rates were also significantly greater for the ADA groups vs. placebo (table). ADA maintenance therapy also demonstrated a significant benefit in IBDQ total score compared with placebo at all points after the induction period (p<0.05).

Conclusion: For TNF-antagonist–naïve pts with moderate to severe CD, both ADA eow and weekly therapies were significantly more efficacious than placebo in maintaining remission and response through 56 weeks. This research was funded by Abbott Laboratories, Abbott Park, IL.

Clinical Remission and Response in TNF-Antagonist–Naïve Patients Receiving Adalimumab

	Placebo (N=131)	ADA eow (N=127)		ADA Wkly (N=130)	
	n (%)	n (%)	P-value*	n (%)	P-value*
Remission					
Week 26	22 (16.8)	50 (39.4)	<0.0001	48 (36.9)	0.0002
Week 56	18 (13.7)	45 (35.4)	<0.0001	47 (36.2)	<0.0001
CR-70					
Week 26	36 (27.5)	66 (52.0)	<0.0001	61 (46.9)	0.0018
Week 56	24 (18.3)	53 (41.7)	<0.0001	59 (45.4)	<0.0001
CR-100					
Week 26	33 (25.2)	62 (48.8)	<0.0001	54 (41.5)	0.0076
Week 56	23 (17.6)	50 (39.4)	<0.0001	55 (42.3)	<0.0001

***vs placebo.**

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PATIENT ACCEPTANCE AND CONVENIENCE, AND EFFICACY OF 1-DAY VERSUS 2-DAY (SPLIT-DOSE) COLONOSCOPY BOWEL PREPARATION

M. A. Khan, MD,[1] B. Meredith, BS,[3] H. Z. Piotrowski, MS,[1] M. D. Brown, MD, FACG, FACP[2]. 1. Internal Medicine, West Suburban Medical Center, Oak Park, IL; 2. Gastroenterology, RUSH University Medical Center, Chicago, IL; 3. Mecicine, Loyola University Medical Center, Maywood, IL.

Purpose: Perceptions of patient inconvenience of 2-day (split-dose) (sodium phosphate tablet or PEG 2L/ascorbic acid) bowel preparations vs 1-day (PEG 4L) for colonoscopy led us to compare the patient's perceived inconvenience, symptoms' experienced, adherence to the bowel preparation and preparation interference with willingness to undergo a future colonoscopy. We also examined nurse blinded ratings of bowel content clarity, % bowel visualization and time for the procedure. This investigation is based on an earlier study of 412 patients published (GIE 2008 67: 5: AB246) using a newly revised, redesigned and expanded questionnaire

Methods: Prospective observational study with a random sample of patients scheduled for outpatient colonoscopy over a 3-month period at a community and a university hospital endoscopy unit. A patient questionnaire was completed prior to the procedure. Nurses rated visualization of the bowel wall and bowel content clarity. Chi-square tests used with significance p < .05, two-tailed for test of significance. P values are presented comparing one-day vs. two-day preps.

Results: 167 random patients were provided with a questionnaire;143 completed the survey. They were 80 (55.7%) 1 day and 63 (44.3%) 2 day patients. There was statistical superiority (p<0.05) achieved in 2 day bowel prep patients in completion of the prep, in willingness to undergo future colonoscopy (Table 1), nurse rating of clarity of bowel contents and % bowel visualized (Table 2). There was no statistically significant difference achieved in the following 2 day vs. 1 day parameters: Nausea 24.71 vs. 29.37; vomiting 8.24 vs. 8.54, waking up at night for bowel movements 45.88 vs. 43.9, bloating 24.71 vs. 34.15, abdominal pain 11.76 vs. 6.1, cramping 20 vs. 13.41, stopping in route for a bowel movement 7.06 vs. 2.44, arriving late for the appointment 1.18 vs. 3.66, soiling undergarments 8.24 vs. 15.85 and time for colonoscopy procedure 20.14 min vs. 22.43 min, respectively.

Conclusion: 2-day (split dose) bowel preparations achieved a higher degree of adherence in completing the prep, significantly improved the % bowel visualized and clarity of bowel content. Patients were more willing to repeat the procedure when using a 2-day prep and were not inconvenienced by the split dosing. This study supports the 2-day prep as the preferred method for colonoscopy bowel preparation.

Table 1

Patient Completed Prep (p < .0446)	ALL	% No	% Yes
1 Day	80	15.2	84.8
2 Day	63	4.8	95.2
Bowl Prep Experience Would Stop Them From Having a Colonoscopy in the Future (p < .0604)	%	%	%
1 Day	80	87.8	12.2
2 Day	63	96.7	3.3

Table 2

Nurse Rating of Bowel Preparation	ALL	ONE DAY N=80	TWO DAY N=63
Bowel Content (p < .0004)	%	%	%
None Seen	11.9	8.8	15.9
Clear Lavage	58.7	47.5	73.0
Liquid Stool	25.2	37.5	9.5
Solid Stool	4.2	6.3	1.6
Bowel Visualized (p < .045)	%	%	%
>75%	64.3	55.0	76.3
50-75%	30.1	36.3	22.2
25-50%	4.9	7.5	1.6
<25%	0.7	1.3	0

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CUMULATIVE INCIDENCE OF GASTROPARESIS IN PEOPLE WITH TYPE 1 AND 2 DIABETES IN THE GENERAL POPULATION

R. Choung, MD,[2] G. Locke, MD,[2] C. Schleck, BS,[1] A. R. Zinsmeister, PhD,[1] N. J. Talley, MD, PhD[2]. 1. Division of Biostatistics, Mayo Clinic, Rochester, MN; 2. Enteric NeuroScience Program (ENSP), Division of Gastroenterology, Mayo Clinic, Rochester, MN.

Purpose: Diabetic (DM) gastroparesis is commonly diagnosed when patients with diabetes develop nausea or vomiting. However, the suggested high prevalence is based on referral practice estimates which are subject to major selection bias; population-based data on the true epidemiology of diabetic gastroparesis are lacking. Aim: To estimate the cumulative incidence and prevalence of gastroparesis among diabetics in a community.

Methods: In this population-based study, a cohort of all 269 Olmsted County, MN residents with type 1 DM, a random sample of 409 residents with type 2 DM, and 2 age- and sex-stratified random samples of 751 nondiabetic residents were identified (4 groups). The diabetic and control subjects meeting criteria for gastroparesis which is defined as delayed gastric emptying by standard scintigraphy and/or symptoms of nausea (and/or vomiting) for more than 3 months with a physician diagnosis of gastroparesis were identified via review of medical charts. The cumulative incidence of type 1 diabetic gastroparesis was estimated via the Kaplan Meier method. Logistic regression models were used to evaluate the associations between diabetes and gastroparesis, adjusting for age and gender.

Results: The cumulative incidence over 10-years of type 1 diabetic gastroparesis was 4.8%. The overall proportions of subjects meeting criteria for gastroparesis were 1.0% in type 2 DM, and 0.1% in controls. The age and gender adjusted odds ratios (relative to controls) for gastroparesis in type 1 diabetics was 38.1 (95%CI: 4.6-314) and in type 2 was 6.9 (95%CI: 0.8-62.8). Significantly increased odds for gastroparesis in Type 1 DM was observed compared to Type 2 DM (OR=5.5, 95% CI: 1.4, 22.0).

Conclusion: An increased risk for gastroparesis in Type 1 and possibly Type 2 DM was observed. However, gastroparesis occurs in fewer than 5% of people with Type 1 DM and only 1% of people with Type 2 DM in the community.

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EVALUATION OF PROVIDER ADHERENCE TO CLINICAL GUIDELINES FOR GASTROPROTECTION IN PATIENTS AT INCREASED RISK OF NSAID ASSOCIATED GI BLEEDING, IN RESPONSE TO EDUCATION INTERVENTION

R. D. Acosta, MD,[1] R. A. Remtulla, MD,[2] R. A. Bell, MD,[2] B. Cash, MD[1]. 1. Gastroenterology, National Naval Medical Center, Bethesda, MD; 2. Internal Medicine, National Naval Medical Center, Bethesda, MD.

Purpose: To evaluate provider adherence with ACG guidelines for gastroprotection (GP) in patients at increased risk of gastrointestinal (GI) complications of NSAIDs in the setting of coadministration of chronic anticoagulation.

Methods: Two drug utilization reviews (DUR) were performed at the outpatient pharmacy at the National Naval Medical Center (NNMC). One DUR was performed prior to an educational intervention and the other after an educational intervention 6 months after the first DUR was performed. Each DUR was performed using the same methodology. First, the total number of patients who had received prescriptions for coumadin was identified. This cohort was then analyzed to identify the frequency of coadministration of NSAIDs (both COX-II selective NSAIDs and non-selective NSAIDs). These two cohorts were then further examined to determine the frequency of coadministration of GP agents such as H2RAs, PPIs or misoprostol to evaluate adherence rates relative to current recommendations for GP for patients coadministered warfarin and NSAIDs. The educational intervention was a flyer that was sent via mail and email to providers in clinics at NNMC who prescribe NSAIDs. The flyer contained provider adherence data based on the first DUR and outlined the ACG Guidelines on prevention of NSAID-induced ulcers.

Results: In total, the number of patients included for each DUR was 1,016 patients at baseline and 1,043 patients post intervention. Each patient was included based on having been dispensed at least one 30 day prescription for coumadin between March 10, 2007 and June 14, 2007 for the first DUR, and between September 10, 2007 and December 14, 2007, for the second. At baseline, of 198 patients who should have been on GP, only 63 were on an appropriate regimen, indicating a compliance rate with GP recommendations of 31.8%. After the educational intervention, of 310 patients that should have been on GP, 195 were on an appropriate regimen, indicating a compliance rate of 62.9%.

Conclusion: Our analysis reveals that approximately two-thirds of patients who received coumadin and concurrent NSAID therapy prior to an educational intervention were not on GP medication, placing them at increased risk for NSAID related GI complications. After an educational intervention, the compliance rate increased to 63%, demonstrating that prescriber patterns can be affected by simple and cost effective interventions. This data highlights the value of DURs and directed efforts to improve provider awareness of the risk of coadministration of coumadin and NSAIDs as well as the evidence surrounding the ACG guidelines. Future evaluations should look at whether this effect can be increased with more intensive educational initiatives.

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EVIDENCE FOR ENHANCED TELOMERASE ACTIVITY IN BARRETT'S ESOPHAGUS WITH DYSPLASIA AND ADENOCARCINOMA

M. Arora, MD,[1] S. K. Dutta, MD,[2] N. Merchant, MD, FACS,[3] S. J. Meltzer, MD[4]. 1. Department of Internal Medicine, Division of Gastroenterology, The Johns Hopkins University School of Medicine/Sinai Hospital of Baltimore and University of Maryland School of Medicine, Baltimore, MD; 2. Division of Gastroenterology, Sinai Hospital of Baltimore and University of Maryland School of Medicine, Baltimore, MD; 3. Department of Surgery, Vanderbilt University Medical Center, Nashville, TN; 4. Division of Gastroenterology, Departments of Medicine and Oncology, The Johns Hopkins University School of Medicine and Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD.

Purpose: Dysplasia (D) and adenocarcinoma (EAC) developing in Barrett's esophagus (BE) are not always endoscopically identifiable. Molecular markers are needed to better identify these focal lesions and to identify patients at increased risk of developing EAC. The aim of the current study was to correlate increased telomerase activity (TA) with dysplasia and EAC occurring in the setting of BE.

Methods: Esophageal mucosal biopsies were obtained from patients (N=62) who had pathologically verified BE at esophagogastroduodenoscopy (EGD). Mucosal biopsies were also obtained from the gastric fundus as controls. Based on histopathology, patients were divided into three groups: 1) BE without D (Both HGD and LGD) (n=25); 2) BE with dysplasia (n=13); and 3) BE with EAC (n=24). Telomerase activity was measured by a PCR-based assay (TRAPeze® ELISA Telomerase Detection Kit). Statistical analyses were performed using one-way ANOVA and post-hoc Bonferroni testing.

Results: TA was significantly higher in biopsies of BE with D and BE with EAC than in BE without D (Table 1,Fig 1). Subgroup analyses did not reveal any significant correlations between TA and patient age, length of BE, or presence of gastritis.

Conclusion: Telomerase activity in esophageal mucosal biopsies of BE may constitute a useful biomarker for the early detection of esophageal dysplasia and adenocarcinoma.

Table 1 Clinical Parameters

Groups	Age ± SEM (years) (n=49)	Length of BE (cm ± SEM) (n=38)	Use of PPI Yes:No (n=32)	Gastritis Yes:No (n=32)
BE without dysplasia (n=24)	62.3 ± 2.7	5.3 ± 0.7	16:1	7:10
BE with dysplasia (n=13)	65.6 ± 2.3	8.9 ± 1.6	8:1	6:3
Adenocarcinoma (n=25)	63.8 ± 2.2	5.8 ± 1.3	4:2	5:1

Table 2 Results

Groups	N	Telomerase Activity (Abs 450nm ± SEM)	95% Confidence intervals	
			Lower	Upper
BE without dysplasia	24	0.94 ± 0.14	0.66	1.22
BE with dysplasia	13	1.69 ± 0.19	1.27	2.12
Adenocarcinoma	25	1.55 ± 0.10	1.18	1.89

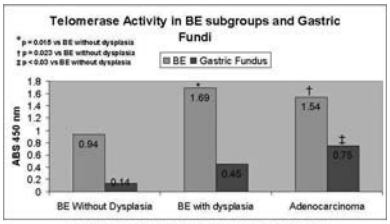

Figure 1 The figure showing telomerase activity in BE subgroups and their respective Gastric Fundi

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RISK FACTORS FOR GASTROINTESTINAL BLEEDING IN PATIENTS WITH ACUTE CORONARY SYNDROME

T. Hsieh, MD,[1] P. Chu, MD,[1] X. Zhao, MD,[2] H. Hsieh, PhD,[3] J. Mirchandani, MD,[2] K. Iswara, MD, FACG,[2] J. Shani, MD, FACC,[4] J. Li, MD, FACG,[2] S. Tenner, MD, MPH, FACG[2]. 1. Department of Internal Medicine, Maimonides Medical Center, Brooklyn, NY; 2. Division of Gastroenterology, Department of Internal Medicine, Maimonides Medical Center, Brooklyn, NY; 3. Department of Economics, Northern Michigan University, Marquette, MI; 4. Division of Cardiology, Department of Internal Medicine, Maimonides Medical Center, Brooklyn, NY.

Purpose: The risk of developing acute gastrointestinal bleeding (GIB) is increased in patients presenting acute coronary syndrome (ACS), especially when anti-thrombotic drugs and/or aggressive percutaneous coronary intervention are utilized. In order to identify factors that would increase the risk of GIB in ACS patients, we conducted the following prospective study.

Methods: Patients with acute coronary syndrome (ACS) were consecutively evaluated. Admission demographics, including underlying ACS, medications, interventions, and outcomes were collected in-hospital and analyzed after discharge. ACS patients with and without GI bleeding complicating the hospitalization were studied by regression analysis and ANOVA to determine independent predictors of outcome.

Results: Sixty-five acute coronary syndrome patients were enrolled, mean age 71.2 +/- 14.7 years. 35.5% developed significant GIB during the hospitalization. When ACS patients with GI bleeding were compared to ACS patients who did not develop GI bleeding, these patients were found to be significantly older, more likely to have an occult positive stool on admission, lower diastolic blood pressure, lower hemoglobin and hematocrit on admission ($p < 0.05$). Although there were no significant differences for patients using aspirin, Plavix and coumadin, patients who developed GI bleeding were more likely to have received IIB/IIIA inhibitors. Although there was a slight difference in the number of patients who underwent cardiac catheterization, there were no significant differences in procedure time observed between these two groups.

Conclusion: We conclude that patients with acute coronary syndromes who are found to have older age, occult positive stool on admission, lower diastolic pressure, and anemia are at an increased risk of the development of GIB. The length of time of cardiac catheterization is not a risk factor. Close monitoring of these patients may help reduce complications from gastrointestinal bleeding in patients with acute coronary syndrome. (ClinicalTrials.gov number NCT00401908)

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THE ACCESS TRIAL: ADALIMUMAB IMPROVES WORK PRODUCTIVITY IN PATIENTS WITH CROHN'S DISEASE

E. V. Loftus Jr, MD,[1] D. G. Binion, MD,[2] R. Panaccione, MD,[3] J. Li, PhD,[4] K. McHugh, PhD,[5] B. Guérette, PhD,[5] J. Chao, PhD,[6] P. Mulani, PhD[6]. 1. Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 2. Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI; 3. Medicine, University of Calgary, Calgary, AB, Canada; 4. Abbott Laboratories, Parsippany, NJ; 5. Abbott Laboratories, Montreal, QC, Canada; 6. Abbott Laboratories, Abbott Park, IL.

Purpose: Adalimumab (ADA) is approved in the US and Canada for the treatment of adults with moderate to severe Crohn's disease (CD). The Work Productivity and Activity Impairment (WPAI) is a validated, self-administered questionnaire assessing the impact of disease on productivity. ACCESS was a Canadian-based, multicenter, open-label trial of 304 patients (pts) with moderately or severely active CD.

Methods: We assessed the impact of ADA therapy on WPAI scores for pts in the ACCESS trial. Pts received induction therapy of 160/80 mg ADA at baseline (Week [Wk] 0) and Wk 2, followed by 40 mg every other wk (eow) maintenance dosing. If flare/ non-response (as determined by investigator) occurred while on maintenance dose, pts were allowed to increase to 40 mg weekly dosing ≥ Wk 8. The WPAI tool, as adapted for CD, measures the percentage of overall impairment in work productivity (including absenteeism and presenteeism) and daily activity due to CD (0%=no impairment; 100%=total loss of work productivity/activity). A 7% absolute change in WPAI score is the minimum clinically important difference (MCID). WPAI scores were recorded at baseline and Wks 4, 8, 12, and 24. Changes from baseline were assessed with paired *t* tests.

Results: Mean age of pts was 37 years (female, 57%). Mean baseline daily activity impairment was 63% (n= 295). Among employed pts, total work productivity impairment score was 55.6% (n=159), indicating severe impairment. 64% were employed at baseline; at the final visits, 69% were employed, a 5% absolute increase from the baseline. Mean changes in WPAI components

are shown below (Table). For all outcomes, a large improvement in productivity (3–4 times MCID) was observed at Wk 4 and maintained throughout the study.
Conclusion: ADA therapy significantly improved work productivity for patients with moderately to severely active CD. Further study is needed to confirm the observed trend of increased employment among pts treated with ADA. This research was funded by Abbott Laboratories, Abbott Park, IL.

Mean Absolute Change in WPAI Components With ADA Therapy

WPAI Component		Wk 4	Wk 8	Wk 12	Wk 24
Total WP impairment*	N	159	153	153	149
Mean Absolute Change, % (SD)		-22 (29)†	-22 (29)†	-30 (34)†	-31 (30)†
Daily activity impairment‡	N	295	288	280	265
Mean Absolute Change, % (SD)		-24 (27)†	-25 (28)†	-30 (29)†	-34 (30)†

***Pts employed; WP=Work Productivity; data present for all visits; p<0.05; all patients.**
Disclosure - Dr. Loftus - Consulting fees: Abbott, Research support: Abbott; Dr. Binion - Speaker's Bureau: Abbott Laboratories, Centocor, Inc., Elan Pharmaceuticals, P&G Pharmaceuticals, Prometheus Laboratories, Salix Pharmaceuticals, Shire Pharmaceuticals, UCB Pharma, Inc, Grants: National Institute of Health, P&G Pharmaceuticals; Dr. Panaccione - Study investigator and consultant: Abbott; Continuing medical education events supported by unrestricted educational grants: Abbott; Dr. Li - Employee: Abbott; Dr. McHugh - Employee: Abbott; Dr. Guerette - Employee: Abbott; Dr. Chao - Employee: Abbott; Dr. Mulani - Employee: Abbott.
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ADALIMUMAB TREATMENT SIGNIFICANTLY REDUCES HOSPITALIZATION RISK FOR TNF-ANTAGONIST–NAÏVE PATIENTS WITH CROHN'S DISEASE
E. V. Loftus Jr, MD,[1] B. Feagan, MD,[2] J. Colombel, MD,[3] E. Q. Wu, PhD,[4] A. P. Yu, PhD,[4] J. Chao, PhD,[5] P. Mulani, PhD[5]. 1. Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 2. Robarts Research Institute, University of Western Ontario, London, ON, Canada; 3. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 4. Analysis Group, Inc., Boston, MA; 5. Abbott Laboratories, Abbott Park, IL.
Purpose: Adalimumab (ADA), a fully human monoclonal antibody targeting tumor necrosis factor (TNF), is approved for treatment of adults with moderate to severe Crohn's disease (CD). CHARM was a Phase III trial in which approximately half of patients enrolled were naïve to TNF-antagonist therapy.
Methods: All patients in CHARM received an open-label induction regimen of ADA 80 mg at baseline, followed by ADA 40 mg at Week 2. At Week 4, patients were stratified by response (a decrease of ≥70 points from baseline CDAI score) and randomized to a maintenance regimen (40 mg of ADA EOW or weekly) or placebo. This post-hoc analysis evaluated the risk of all-cause and CD-related hospitalizations for TNF-antagonist–naïve patients (placebo, n=131; ADA, n=257). This analysis included both Week-4 responders and nonresponders. Pooling the 2 ADA groups, we conducted a Kaplan-Meier analysis of the risks of all-cause and CD-related hospitalizations. Hospitalizations were identified from review of adverse events, and time to all-cause and CD-related hospitalization was measured from randomization. Data were censored at 70 days after the last dose in CHARM or if patients switched to open-label therapy or were dosed in a follow-up trial. The log-rank test and a Cox proportional hazards model, with duration of disease and age as covariates, were used to compare differences in hospitalization risk between placebo and ADA.
Results: CD-related hospitalization rates in the combined ADA maintenance group and placebo were 1.7% and 7.9% at Month 3; 5.2% and 11.3% at Month 6; and 6.8% and 13.7% at Month 12, respectively. For all-cause hospitalization, 3-month rates were 3.6% and 10.4%; 6-month rates were 8.9% and 15.4%; and 12-month rates were 12.7% and 20.3% for ADA and placebo, respectively. The log-rank test demonstrated significant differences in both CD-related and all-cause hospitalizations in favor of the combined ADA maintenance group vs placebo (p=0.01 and p=0.02, respectively). In the Cox model, ADA treatment reduced both CD-related and all-cause hospitalizations (HR= 0.34 and 0.44, respectively; both p<0.01). Disease duration was associated with an increase in all-cause hospitalization (p<0.05). Among pts with a CD duration <3 years, the 12-month K-M rates for CD-related hospitalization were 3.2% for the ADA group vs 11.8% for the placebo group. In contrast, for patients with a CD duration ≥3 years, the corresponding rates were 7.9% for the ADA group vs 14.8% for the placebo group.
Conclusion: For TNF-antagonist–naïve patients with CD, ADA maintenance therapy significantly decreased the risk of CD-related and all-cause hospitalizations compared with placebo. This research was funded by Abbott Laboratories, Abbott Park, IL.
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META-ANALYSIS OF PLACEBO REMISSION RATE FOR PATIENTS WITH MODERATELY TO SEVERELY ACTIVE CROHN'S DISEASE
E. V. Loftus Jr, MD,[1] E. Q. Wu, PhD,[2] S. Johnson, PhD,[2] J. Chao, PhD,[3] P. Mulani, PhD[3]. 1. Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 2. Analysis Group, Inc., Boston, MA; 3. Abbott Laboratories, Abbott Park, IL.
Purpose: In consideration of the effectiveness of biologic therapies (eg, tumor necrosis factor antagonists) in treating patients with moderate to severe Crohn's disease (CD), a systematic review of the rates of remission achieved with placebo in biologic-eligible patients may be of interest to treating physicians.
Methods: We sought to examine the impact of placebo on remission in biologic-eligible patients with moderately to severely active CD using data from placebo arms of the trials of biologics. A systematic literature review of MEDLINE articles published between January 1990 and August 2007 was used to identify randomized controlled trials that included placebo arms comprising patients who exclusively received nonbiologic treatments for CD. Remission status was extracted from the trials. Time in remission was summarized across placebo arms of biologic trials that included patients with similar severities of disease. In addition, meta-regression for remission rates was built upon biologic and nonbiologic study arms with time and indicator for biologic trials as covariates. The remission rate for the placebo arm of the biologic trials was predicted using the meta-regression model.
Results: In total, 47 biologic and nonbiologic study arms with relevant remission data were included in this analysis. Of the 47 arms, 21 distinct treatment arms were identified as placebo arms of the biologic trials, which included a total of 1,257 patients with similar severities of disease. These patients had CD duration for an average of 7.2 years and a CDAI of 296 at baseline. Weighted by sample size and duration of the trial, results demonstrated that patients receiving placebo spent 14.6% of the time in remission. Based on two regression methods, we projected Week-26 placebo remission rates of 11.5% to 13.8% for patients with moderate to severe CD.
Conclusion: The placebo remission rate for patients with moderately to severely active CD eligible for biologic treatment was generally low. Physicians should be aware of the low placebo remission rate for patients with moderate to severe CD despite conventional treatments. This research was funded by Abbott Laboratories, Abbott Park, IL.
Disclosure - Dr. Loftus - Consulting fees: Abbott, Research support: Abbott; Dr. Wu - Employee: Analysis Group, Inc., Consultant: Abbott; Dr. Johnson - Employee: Analysis Group, Inc.; Dr. Chao - Employee: Abbott; Dr. Mulani - Employee: Abbott.
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HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH CROHN'S DISEASE IMPROVES RAPIDLY AND SIGNIFICANTLY DURING ADALIMUMAB TREATMENT
E. V. Loftus Jr, MD,[1] J. Colombel, MD,[2] P. F. Pollack, MD,[3] S. Majethia, PharmD,[4] N. Chen, MS[4]. 1. Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 2. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 3. Abbott Laboratories, Parsippany, NJ; 4. Abbott Laboratories, Abbott Park, IL.
Purpose: Adalimumab (ADA) is approved for the treatment of adults with Crohn's disease (CD). CHARM was a 56-week, randomized, double-blinded, placebo-controlled, Phase III clinical trial of ADA efficacy and safety of patients (pts) with moderate to severe CD. Previous data from CHARM have demonstrated that ADA improved patients' health-related quality of life over 56 weeks[1].
Methods: We sought to assess the clinical importance of the rapid effect of ADA induction therapy on patient-reported outcomes (PROs) for all 778 pts who participated in randomization. In CHARM, pts received an induction regimen of open-label (OL) ADA 80 mg at baseline (Week 0) and 40 mg ADA at Week 2, followed by randomization to 40 mg every other week, 40 mg weekly therapy, or placebo at Week 4. PRO data, measured by the Short Form-36 (SF-36), Inflammatory Bowel Disease Questionnaire (IBDQ), Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-F), and Zung Depression Scale, were collected at Weeks 0, 4, 12, 26, and 56. In this post-hoc analysis, changes in PRO measures from Weeks 0 to 4 were examined. The percentage of pts achieving the minimum clinically important difference (MCID) and the magnitude of changes were analyzed. MCIDs used in the analysis were 5 for each subscore of the SF-36 scale (Physical and Mental Component Summary scores), 16 for IBDQ, and 4 for FACIT-F. For the Zung Depression Scale, percentages of pts with symptoms of depression (Zung Depression Scale index ≥50) were compared between baseline and Week 4.
Results: At baseline, all 778 pts had impaired quality of life as indicated by PRO scores. Pts improved rapidly across all PRO scores during the induction phase (Weeks 0 to 4). A majority of pts achieved clinically meaningful changes by 4 weeks (table). The magnitudes of change were 20% to 140% higher than the MCID. Seventy-three percent of pts had symptoms of depression at baseline. By Week 4, this percentage had decreased to 49% (p<0.001 vs baseline).
Conclusion: ADA was associated with rapid and clinically significant improvement in patients' health-related quality of life. **Reference**: [1]Loftus EV, et al. *Gut*. 2007;56(Suppl III):A155. This research was funded by Abbott Laboratories, Abbott Park, IL.

PRO Improvements at Week 4 of CHARM

	SF-36 PCS	SF-36 MCS	IBDQ	FACIT-F
% Achieving MCID	50 (387/778)	49 (383/778)	73 (570/778)	70 (542/778)
Magnitude of change	1.2	1.3	2.2	2.4

Disclosure - Dr. Loftus - Consulting fees: Abbott, Research support: Abbott; Dr. Colombel - Consulting fees: Abbott, Research support: Abbott; Dr. Pollack - Employee: Abbott; Dr. Majethia - Employee: Abbott; Naijun Chen - Employee: Abbott.
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A PROSPECTIVE EVALUATION OF SAME DAY BIDIRECTIONAL ENDOSCOPY FOR OCCULT BLEEDING

A. Mreyoud, MD, A. Pahk, MD, G. Bakis, MD, O. Pomakov, MD, M. Baichi, MD, S. Mehboob, MD. Internal Medicine/Gastroenterology, VAMC / University at Buffalo, Buffalo, NY.

Purpose: Diagnostic colonoscopy is recommended in a patient found to have positive fecal occult blood test (FOBT) during screening for colorectal cancer, as a standard of care. Almost half of these patients will have no explanation for the source of occult GI bleeding after colonoscopy. Currently, there are no clear recommendations for further endoscopic evaluations in such patients, if they have no evidence of iron deficiency anemia. We sought to determine if any clinical or laboratory data can predict the presence of significant Upper gastrointestinal (UGI) findings in patients with non-diagnostic colonoscopy.

Methods: During a period of 12 months, we prospectively enrolled 45 patients over age 50 years with positive FOBT. Patients with documented iron-deficiency anemia, overt GI bleeding, abnormal luminal imaging within the last year, prior upper endoscopy (EGD) or colonoscopy were excluded from the study. We collected data on patient characteristics including age, ethnicity, anti-platelets or Coumadin use, prior history of upper or lower gastrointestinal bleed, family history of cancer and iron profile. Gastrointestinal symptoms were documented at the time of endoscopy. EGD and colonoscopy findings were recorded along with any management changes after significant EGD finding(Esophagitis, gastritis, duodenitis, gastric or duodenal ulcer, gastric or duodenal polyps and malignancy).

Results: A total of 45 patients were enrolled (mean age 61 years, 93% males, 82% Caucasian), 29/45 (64%) were on NSAIDs/ASA and 12/45 (27%) had UGI symptoms. None of the patients have iron deficiency anemia. Bidirectional endoscopy was unable to detect the source of occult bleeding in 10/45 patients (22.2%). EGD detected significant UGI findings in 28/45 (62%). Twenty six UGI lesions were found in 17/27 (63%) patients with a negative colonoscopy and 20 UGI lesions in 11/18 (61%) patients with a positive colonoscopy. Forty two percent of patients with positive UGI findings were on NSAIDs/ASA. The most common UGI findings were gastritis (33%), gastric ulcer (16%) and duodenitis (13%). Gastric lymphoma was detected in one patient. EGD resulted in change of management in 23 patients (51%).

Conclusion: There is high prevalence of UGI findings in patients with positive fecal occult-blood test regardless of their colonoscopy findings. UGI symptoms were not predictive of EGD findings. We recommend performing diagnostic EGD in patients with positive FOBT routinely along with colonoscopy. However, further larger studies are required.

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ADENOMA DETECTION RATE, PAY-FOR-PERFORMANCE, AND COLONOSCOPY: ARE FEMALE GASTROENTEROLOGISTS AT A DISADVANTAGE?

E. F. Yen, MD, L. K. Bianchi, MD, M. Goldberg, MD, E. Elton, MD, H. K. Roy, MD. Division of Gastroenterology, Evanston Northwestern Healthcare, Evanston, IL.

Purpose: There is an increasing drive to grade physicians on their clinical outcomes ("pay-for-performance"). For colonoscopy, the marker of quality is adenoma detection rate, given recent studies that show a wide variance in this parameter (Barclay et al., NEJM 2006). The assumption is that adenoma detection rate should be similar among endoscopists. However, this issue has not been rigorously assessed, especially with regards to gender. We evaluated adenoma detection rate based on patient age and gender in a large community-based endoscopy practice.

Methods: We reviewed the records of patients who underwent colonoscopy at Evanston Hospital, performed by one of three experienced male physicians from July 2005-December 2005 and from September 2006-March 2007. We excluded from further analysis colonoscopies which were incomplete examinations, and those performed for IBD surveillance, stent placement, or active GI bleeding. Patients were stratified by sex and age groups (age <40, 40-44, 45-49, 50-59, 60-69, 70-75,76-80, 80-84, >85). Adenoma detection was confirmed by review of pathology records.

Results: Complete records from 2,959 patients were obtained. Adenomas were detected in 29.4% of males and 19.1% of females ($p < 0.05$). In each age range, women had a significantly lower prevalence of adenomas when compared to men ($p<0.05$). Adenoma distribution in the colon was similar among both sexes: adenomas were solely found proximal to the hepatic flexure in 45.3% in women vs. 44.0% in men (NS).

Conclusion: Female gender was associated with a 50% reduction in adenoma prevalence. However, both sexes had similar high rates of adenomas proximal to the hepatic flexure only, confirming an equivalent benefit of colonoscopy over flexible sigmoidoscopy. Given that female gastroenterologists do a disproportionate number of female colonoscopies, adenoma prevalence and hence adenoma detection rate would likely be lower. It is, therefore, critical to elucidate differences in patient population and tailor pay-for-performance standards accordingly. An arbitrary benchmark that does not account these significant differences puts the female gastroenterologist at an unfair disadvantage.

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CHANGES IN AWARENESS OF GASTROESOPHAGEAL REFLUX DISEASE IN HISPANIC ADULTS: A COMPARISON OF SURVEY RESULTS FROM 2005 AND 2008

M. Illueca, MD, J. Crawley, MS. AstraZeneca LP, Wilmington, DE.

Purpose: According to the US Census Bureau, the Hispanic population is the fastest growing minority group in the United States. Recently, different organizations have developed patient education initiatives to reach this minority group. This survey was conducted to determine whether awareness of gastroesophageal reflux disease (GERD) and symptom perception has increased during the past 3 years and to describe the pattern of treatment-related behavior among Hispanics.

Methods: A telephone survey was conducted in 2005 by Impacto Group (Washington, DC) using a high-Hispanic-density, random sampling technique in Chicago, IL; Houston, TX; Los Angeles, CA; Miami, FL; and New York, NY. A similar follow-up survey was conducted in 2008 by StrategyOne (New York, NY).

Results: Of the 1001 Hispanic subjects surveyed in 2008, 65% were women, 41% were aged 15–54 years, and 51% identified themselves as being of Mexican origin. Awareness of the term *acid reflux* and its Spanish translation *reflujo ácido* or *agrura* by Hispanic adults has significantly increased from 2005 (33%) to 2008 (69%). Increases in the percentage of Hispanics reporting that they personally (30% in 2008 vs 21% in 2005) or someone in their household (19% in 2008 vs 15% in 2005) suffers from acid reflux also were found. However, the percentage of subjects reporting symptoms of acid reflux in 2008 vs 2005 remained relatively constant: heartburn, 42% vs 38%, respectively; belching, 33% vs 32%, respectively; acidic taste in the mouth, 28% vs 32%, respectively. Although 69% of participants are aware of the damage untreated acid reflux can cause, only 44% have consulted a doctor about their condition, which is similar to the proportion that had consulted a doctor in 2005 (43%). At least 1 treatment for acid reflux was used by 57% of respondents or someone in their household, including prescription medication (32% in 2008 vs 25% in 2005), over-the-counter treatments (32% in 2008 vs 36% in 2005), and home remedies (24% in both 2008 and 2005), with the rest (43%) reporting not taking any treatment in 2008.

Conclusion: The continued prominence of the use of home remedies and an apparent reluctance to seek medical treatment indicate that, although the awareness of GERD and its symptoms may have increased in the past 3 years in the Hispanic community, treatment-related behaviors have not changed proportionally. Continued educational programs designed for the Hispanic population with regard to seeking care for GERD are warranted.

Disclosure - Dr. Illueca - employee of AstraZeneca LP; Mr. Crawley - employee of AstraZeneca LP

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PPD TESTING IN PATIENTS STARTING INFLIXIMAB FOR TREATMENT OF INFLAMMATORY BOWEL DISEASE

M. Minor, MD,[1] S. Ghimire, MD,[3] S. C. Singh, MD[2]. 1. Gastroenterology, Brigham & Women's Hospital, Boston, MA; 2. General Internal Medicine, Brigham & Women's Hospital, Boston, MA; 3. D2Hawkeye, Inc., Waltham, MA.

Purpose: PPD testing to screen for latent tuberculosis is recommended for IBD patients prior to initiation of infliximab therapy. To date, despite increasing use of infliximab in the management of IBD, the rate at which these patients are being screened for latent tuberculosis infection is unknown.

Methods: A retrospective analysis was conducted using medical and pharmaceutical claims from the D2Hawkeye, Inc. commercial insurance database between 2000 and 2007. Patients included in the analysis had 2 separate medical claims for Crohn's Disease (CD; 555.x) or ulcerative colitis (UC; 556.x), at least one year of continuous enrollment, and a new pharmaceutical claim for infliximab therapy (based on a 6 month look-back period). The primary outcome examined for each eligible patient was the presence of a CPT code (86580) for PPD placement prior to initiation of infliximab. Descriptive statistics on patient characteristics (age, gender), prior use of corticosteroids or immunomodulator therapy (azathioprine, 6-MP), mean number of healthcare encounters (time adjusted), and Charlson Comorbidity Index were calculated. Chi-square tests and t-tests were used to assess differences in these variables between the PPD tested and non-PPD tested cohorts.

Results: A total of 969 patients with IBD were newly treated with infliximab. 62% had medical claims for CD, 9% had medical claims for UC, and 29% had medical claims for both CD and UC. 48% of new users of infliximab were male and 52% were female. PPD testing prior to start of infliximab was completed in 27% of IBD patients. The mean age at start of infliximab was 40 years and was similar in patients who did and did not receive a PPD (40.5 vs 39.9, $p>0.05$). PPD testing was not more likely if a patient was on corticosteroids ($p>0.05$) or immunomodulator therapy ($p>0.05$). There was no significant difference ($p>0.05$) in the mean number of outpatient clinical encounters, mean number of hospital admissions, or mean Charlson Comorbidity Index between patients who did and did not have PPD testing.

Conclusion: Although it has been established that treatment with infliximab can result in activation of latent TB, this retrospective review suggests that a majority of patients in this "real-world" dataset have not been adequately screened. In not meeting this standard process of care, patients may be at risk for adverse outcomes. In addition, PPD testing prior to starting infliximab may serve as a quality of care metric in patients with IBD. Further analyses are needed to confirm and explore determinants of PPD testing.

Disclosure - Dr. Surya Singh, MD- Senior Vice President, Clinical Operations, D2Hawkeye, Inc. Dr. Sanjay Ghimire, MD - Assistant Medical Director, D2Hawkeye, Inc.

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ADALIMUMAB MAINTENANCE THERAPY IS ASSOCIATED WITH A REDUCED RISK OF MAJOR SURGERY

S. Schreiber, MD,[1] B. Feagan, MD,[2] W. Sandborn, MD,[3] J. Colombel, MD,[4] K. G. Lomax, MD,[5] P. Mulani, PhD,[6] J. Chao, PhD[6]. 1. First Department of Medicine, Christian-Albrechts University, Kiel, Germany; 2. University of Western Ontario, London, ON, Canada; 3. Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 4. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 5. Abbott Laboratories, Parsippany, NJ; 6. Abbott Laboratories, Abbott Park, IL.

Purpose: The majority of patients with Crohn's disease (CD) will undergo surgery during their lifetimes. In 2006, CD-related hospitalizations involving surgery were twice as costly as non-surgical hospitalizations with estimated annual costs of $9,405[1]. Adalimumab (ADA) is approved in the US for use in the treatment of moderate to severe CD in adults. CHARM was a 56-week, Phase III, randomized, placebo-controlled trial that assessed the ability of ADA to maintain clinical remission in patients (pts) with moderate to severe CD.

Methods: We evaluated the effects of ADA maintenance therapy on major CD-related surgery in pts who participated in the CHARM trial. At Week 4 of the study, 778 pts were randomized to 40 mg ADA every other week (eow), 40 mg ADA weekly, or placebo, and studies through 56 weeks. All pts were followed from Week 4 (ie, after randomization) until the first occurrence of the following events: switch to open-label therapy with ADA, withdrawal from the study, or end of trial. The numbers of major CD-related surgeries for each treatment group, as assigned by 2 authors (BGF and KGL), were compared through Poisson regression analysis. Major CD-related surgeries, excluding drainage of abscess and placement of a seton, were those performed in hospital, recorded as serious adverse events in the trial, and deemed to be major by the investigators. Kaplan-Meier estimates of CD-related surgical hospitalization rates were compared using log-rank test.

Results: The rate of CD-related surgeries was significantly reduced by 80-90% in patients receiving ADA eow or weekly therapies versus patients on placebo. These rates were 0.4%, 0.8%, 0.6%, and 3.8% in the ADA eow, weekly, combined ADA, and placebo arm respectively

(all p≤0.01 vs placebo). Based on Kaplan-Meier analysis, the 1-year actuarial CD-related surgical hospitalization rates for the eow, weekly, combined ADA, and the placebo groups were 0.7%, 1.2%, 1.0%, and 4.8%, respectively (all p<0.05 vs placebo, log-rank test).
Conclusion: Patients who received adalimumab maintenance therapy had a significant decreased risk for CD-related surgery and surgical hospitalization. These findings demonstrate the importance of effective maintenance therapy for altering the natural course of disease and have significant cost implications for society and third-party payers. **Reference**: [1]Yu AP, et al. *Curr Med Res Opin*. 2008;24:319–28. This research was funded by Abbott Laboratories, Abbott Park, IL.
Disclosure - Dr. Schreiber - Investigator: Abbott, Consultant: Abbott, Continuing medical education events supported by unrestricted educational grants: Abbott; Dr. Feagan - Consulting fees: Abbott, Research support: Abbott; Dr. Sandborn - Investigator: Abbott, Consultant: Abbott, Continuing medical education events supported by unrestricted educational grants: Abbott; Dr. Colombel - Consulting fees: Abbott, Research support: Abbott; Dr. Lomax - Employee: Abbott; Dr. Mulani - Employee: Abbott; Dr. Chao - Employee: Abbott.
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P275

ANNUAL DIRECT AND INDIRECT COST OF ILLNESS IN EMPLOYEES WITH IRRITABLE BOWEL SYNDROME PLUS CONSTIPATION
R. A. Brook, MS, MBA,[1] N. L. Kleinman, PhD,[2] A. K. Melkonian, MD,[2] R. W. Baran, PharmD[3]. 1. Retrospective Analysis, The JeSTARx Group, Newfoundland, NJ; 2. Research Services, HCMS Group, Cheyenne, WY; 3. Medical Outcomes Research, Takeda Global Research and Development Center, Inc., Deerfield, IL.
Purpose: To assess the annual direct and indirect cost of illness for irritable bowel syndrome plus constipation (IBS+C) among US-based employees.
Methods: A retrospective analysis was conducted using the Human Capital Management Services Research database, which contains employee data from 2001-2005 sourced from multiple US-based employers. Data fields included medical, pharmacy, payroll, work absence (where available), and demographics. The IBS+C cohort consisted of employees identified with ICD-9 Codes 564.0 (Constipation), 564.00 (Unspecified), 564.01 (Slow Transit), or 564.09 (Other) co-occuring with 564.1x (IBS) in the same year. Employees with no claims for these codes comprised the Control cohort. The annual measurement period for each IBS+C subject began 3 months prior to the first date of service associated with IBS or C. For controls, the index date was the average index date of subjects with IBS+C. Two-part regression modeling was used to determine the annual cost differences between IBS+C and Control cohorts while controlling for age, job tenure, gender, salary, region, and Charlson Comorbidity Index score. Direct (inpatient and outpatient visits, prescription drug) and indirect (sick leave, and short-term disability [STD]) costs were analyzed.
Results: Data were available for 296,154 employees. IBS+C employees compared to Controls were more frequently (*P*<0.05) female (80.2% vs. 42.0%), not married (51.8% vs. 43.8%), and employed full time (95.5% vs. 88.6%). All annual cost outcomes comparisons (Table) were statistically greater in the IBS+C cohort (*P*<0.05). IBS+C was associated with an annual mean incremental direct cost versus controls totaling $3,590; medical costs accounted for 80% of the direct cost difference and prescription drug costs 20%. IBS+C was also associated with $702 incremental indirect costs. IBS+C contributed 1.89 incremental sick leave days (*P*<0.05) but differences in STD days were not significant.
Conclusion: IBS+C is associated with significant cost and absenteeism; in this study, the majority of total incremental costs were direct medical.

Category	IBS+C		Controls		Difference	
	N	Adjusted Mean	N	Adjusted Mean	In Means	*P*-Value
Direct:						
Medical ($)	243	$4,623	295,911	$1,758	$2,865	<0.0001
Prescription Drug ($)	243	$1,190	295,911	$465	$725	<0.0001
Indirect:						
Sick Leave ($)	108	$669	143,287	$355	$313	<0.0001
Short-term Disability ($)	140	$677	149,066	$288	$389	0.0417
Sick Leave (Days)	108	4.20	143,287	2.31	1.89	<0.0001
Short-term Disability (Days)	140	5.64	149,066	2.78	2.86	0.0691

Disclosure - Mr. Brook: Grant/Research Support: Takeda, TAP, Abbott, AstraZeneca, BMS. Consultant: Takeda, TAP, Abbott, AstraZeneca Dr. Kleinman: Grant/Research Support: Takeda, TAP, Abbott, AstraZeneca, BMS. Consultant: Takeda, TAP, Abbott, AstraZeneca Dr. Melkonian: Grant/Research Support: Takeda, BMS Dr. Baran: Employee: Takeda
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P276

ADALIMUMAB MAINTENANCE THERAPY IS COST EFFECTIVE FOR MAINTAINING REMISSION IN PATIENTS WITH CROHN'S DISEASE
B. Feagan, MD,[1] E. V. Loftus, MD,[2] S. Johnson, PhD,[3] E. Q. Wu, PhD,[3] A. P. Yu, PhD,[3] J. Chao, PhD,[4] P. Mulani, PhD[4]. 1. University of Western Ontario, London, ON, Canada; 2. Division of Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 3. Analysis Group, Inc., Boston, MA; 4. Abbott Laboratories, Abbott Park, IL.
Purpose: Adalimumab, a fully human monoclonal antibody targeting tumor necrosis factor, is approved for treatment of adults with moderate severe Crohn's disease (CD). CLASSIC I and CHARM are two Phase III studies of the effectiveness of adalimumab in inducing and maintaining remission, respectively, in patients with moderate to severe CD.
Methods: The objective of this analysis was to evaluate the cost-effectiveness of adalimumab compared to nonbiologic therapies in the maintenance treatment of CD. A cost-utility model compared these strategies from the perspective of the UK National Health Service over 1-year and lifetime horizons. Patients were modeled in four disease states based on their Crohn's Disease Activity Index (CDAI) scores. CHARM data were directly used to estimate adalimumab arm efficacy. A regression model using CLASSIC I data was used to similarly predict the CDAI state of patients who received standard of care. Hospitalizations for both arms were modeled using the clinical trials data. Utilization of other medical resources was based on CDAI states. The cost of adalimumab was £357.50 per 40 mg vial, and the cost of standard care drugs was assumed to be zero. Costs of hospitalization and other medical resources were taken from Bassi et al, 2004. All costs were inflated to 2006 British Pounds (GBP) based on the annual UK health price index. Health utility inputs were sourced from Gregor et al, 1997. Univariate and probabilistic sensitivity analyses were conducted.
Results: Compared with nonbiologic therapy, adalimumab appeared to be cost-effective in the treatment of patients with both severe CD and moderate to severe CD, with a 56-week incremental cost effectiveness ratio (ICER) of £16,064/quality-adjusted life-year (QALY) and £33,731/QALY, respectively. Sensitivity analyses demonstrated that the findings were robust. In the treatment of patients over their lifetimes, the ICERs were £5,479/QALY for patients with severe CD and £16,065/QALY for patients with moderate to severe CD. Sensitivity analyses demonstrated the robustness of the base case analysis.
Conclusion: Adalimumab maintenance therapy for CD was cost-effective when compared to conventional nonbiological management. This research was funded by Abbott Laboratories, Abbott Park, IL.
Disclosure - Dr. Feagan - Consulting fees: Abbott, Research support: Abbott; Dr. Loftus - Consulting fees: Abbott, Research support: Abbott; Dr. Johnson - Employee: Analysis Group, Inc.; Dr. Wu - Employee: Analysis Group, Inc., Consultant: Abbott; Dr. Yu - Employee: Analysis Group, Inc.; Dr. Chao - Employee: Abbott; Dr. Mulani - Employee: Abbott.
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P277

ESTIMATION OF INDUCTION AND MAINTENANCE COSTS OF INFLIXIMAB, ADALIMUMAB AND CERTOLIZUMAB PEGOL IN MANAGING CROHN'S DISEASE
B. Feagan, MD,[1] S. Tan, MD,[2] D. Malone, PhD,[3] J. Hinojosa, MD,[4] M. Brown, MD[2]. 1. Robarts Clinical Trials, Robarts Research Institute, London, ON, Canada; 2. Global Health Outcomes Research, UCB, Slough, United Kingdom; 3. College of Pharmacy, University of Arizona, Tucson, AZ; 4. Gastroenterology Unit, Hospital Sagunto, Valencia, Spain.
Purpose: To estimate the induction and maintenance costs of infliximab, adalimumab and certolizumab pegol for a patient with Crohn's disease weighing 65 kg. To conduct a cohort budget analysis for TNFα blockers in managing Crohn's disease.
Methods: A simple cost analysis was conducted using recommended induction and maintenance dosing regimens for each agent over a 2-year time horizon. Average wholesale prices (AWP) of $754.50 for infliximab 100 mg (Remicade®), $865.58 for adalimumab 40 mg (Humira®) and $822.30 for certolizumab pegol 200 mg (Cimzia®) were used in the estimations. It was assumed that the response and remission rate were the same for each agent at 60% and 40% respectively. Maintenance therapy was followed if responding to initial therapy and continued in year 2 for remitters. Per patient drug acquisition costs were estimated based on the AWP and recommended regimen of each agent. Cost for each infusion was assumed to be $50. A cohort analysis was performed for a healthcare plan of 5,000,000 members with prevalence and incidence rate of Crohn's disease of 162 per 100,000 and 9.6 per 100,000 respectively. It was assumed that 20% and 25% of the patient population received therapy with a TNFα blocker in year 1 and year 2 respectively.
Results: The estimated induction cost was approximately $9,504; $5,193 and $4,934 per patient for infliximab, adalimumab and certolizumab pegol, respectively. With maintenance therapy, the 2-year expected total cost was approximately $47,520; $48,472 and $44,044 for infliximab, adalimumab and certolizumab pegol, respectively. In cohort analysis, with uptakes of 60%, 30% and 10% in year 1 and 50%, 30% and 20% in year 2 for infliximab, adalimumab and certolizumab pegol, respectively, a total budget of $76,766,506 was estimated. In a scenario without access to certolizumab pegol, the estimated total budget was $78,307,778.
Conclusion: This study suggests that, based on the standard regimens for each of the TNFα blockers for Crohn's disease, certolizumab pegol therapy may be less costly than infliximab or adalimumab. However these estimates are likely highly sensitive to the rates and costs of dose intensification, which were not taken into account in the model.
Disclosure - Dr Feagan - Consultant, grants, advisory committee; Tan - UCB employee; Malone - Consultant; Hinojosa - Advisory committee
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P278

MAGNITUDE AND ECONOMIC IMPACT OF INAPPROPRIATE USE OF PROTON PUMP INHIBITORS FOR TREATMENT OF UPPER GASTROINTESTINAL DISORDERS IN THE AMBULATORY CARE SETTING

J. J. Heidelbaugh, MD,[1] K. L. Goldberg, PharmD,[2] J. M. Inadomi, MD[3]. 1. Family Medicine, University of Michigan, Ann Arbor, MI; 2. Veteran Affairs, VA Ann Arbor Healthcare System, Ann Arbor, MI; 3. University of California, San Francisco, San Francisco General Hospital, San Francisco, CA.

Purpose: Proton pump inhibitors (PPIs) are the most commonly prescribed anti-secretory therapy for the treatment of upper gastrointestinal (UGI) disorders. Many patients prescribed PPIs in the ambulatory care setting do not have a valid indication, or are left on PPIs indefinitely without documented re-evaluation to determine appropriateness of continued therapy. Our aim was to determine the prevalence and economic impact of inappropriate PPI utilization in an ambulatory setting.

Methods: A retrospective chart review of 946 consecutive adult patients in a VA hospital ambulatory care practice who were receiving PPI therapy was conducted. Patients were categorized according to appropriateness of pharmacotherapy based upon documented UGI diagnoses (e.g. gastroesophageal reflux disease, peptic ulcer disease, esophagitis, Barrett's esophagus), gastrointestinal or extraesophageal symptoms (e.g. dyspepsia, chest pain, cough, hoarseness) or gastroprotection (e.g. patients on coumadin or non-steroidal anti-inflammatory drugs). Costs were based on 2 settings: lowest over-the-counter (OTC) costs for the base case and average wholesale price (AWP) in a sensitivity analysis. Adverse events potentially associated with PPI use were identified.

Results: 35.2% of patients were prescribed PPI therapy for a documented UGI diagnosis while 13.1% received PPIs empirically for symptoms, 18.9% received PPIs for gastroprotection and the remaining 32.8% had no documented appropriate indication for PPI therapy. 60.9% of patients across all four categories received PPIs for over one year without documentation of re-evaluation, accounting for 643.6 patient-years of PPI use without appropriate documented indication. The total cost of inappropriate PPI use was $145,647 based on OTC PPI costs and $974,893 based on AWP costs. Adverse events included Clostridium difficile colitis (6 cases) and community-acquired pneumonia (1 case), but no cases of hip fracture or vitamin B12 deficiency were identified.

Conclusion: PPIs are often overutilized in the ambulatory care setting without documented valid indications. The majority of patients for whom PPIs are prescribed are not reassessed to confirm necessity of continued therapy. Inappropriate use of PPIs is associated with substantial cost expenditure and potential adverse events.

Disclosure - Dr. Inadomi - Consultant: TAP, AstraZeneca, Santarus

P279

ONCE-DAILY 1.5-G GRANULATED MESALAMINE IS EFFECTIVE AND SAFE IN MAINTENANCE OF REMISSION IN MILD-TO-MODERATE ULCERATIVE COLITIS

G. L. Gordon, MD,[1] R. Pruitt, MD,[2] M. A. Ringold, MD,[3] S. Sedghi, MD,[4] K. Merchant, PhD,[5] A. Shaw, PhD,[5] J. Yuan, PhD,[5] E. Bortey, PhD,[5] W. Forbes, PharmD[5]. 1. Center for Digestive and Liver Diseases, Inc., Mexico, MO; 2. Nashville Medical Research Institute and The Maria Nathanson Center at Saint Thomas Hospital, Nashville, TN; 3. New River Research Institute, Christianburg, VA; 4. Gastroenterology Associates of Central Georgia, LLC, Macon, GA; 5. Salix Pharmaceuticals, Morrisville, NC.

Purpose: Maintenance of ulcerative colitis (UC) remission is an important goal of therapy, and treatments with favorable efficacy and safety profiles over the long term are needed. Granulated mesalamine, a unique formulation that provides both delayed and extended release of 5-aminosalicylic acid (5-ASA) for once-daily (q.d.) dosing, initiates 5-ASA release in the terminal ileum with continuous release throughout the colon. Granulated mesalamine is currently under review by the Food and Drug Administration for maintenance of long-term UC remission.

Methods: Approximately 300 patients in documented UC remission (as defined by the revised Sutherland Disease Activity Index [DAI] subscores: rectal bleeding = 0; mucosal appearance <2) were randomized 2:1 to receive granulated mesalamine capsules 1.5 g q.d. (4 x 375 mg) or matching placebo capsules q.d. for 6 months. The primary efficacy endpoint was the proportion of patients who were relapse-free after 6 months of treatment (based on the revised Sutherland DAI subscores). Patients who experienced an adverse event (AE) of UC flare and those who required initiation of medication to treat UC were considered treatment failures.

Results: The demographics and UC-related baseline characteristics were similar between treatment groups. Granulated mesalamine 1.5 g q.d. was more effective than placebo in maintaining long-term remission of UC: a larger proportion of patients in the granulated mesalamine group was relapse-free (79%) compared with placebo (58%) at month 6/end of treatment (P<0.001). These results were further supported by the larger proportion of patients with a clinically favorable change from baseline in physician-rated disease activity at month 6/end of treatment in the granulated mesalamine group (78%) compared with placebo (64%; P=0.005). Patients in the granulated mesalamine group had a higher probability of remaining relapse-free (77%; 95% confidence interval [CI], 0.71-0.83) compared with patients in the placebo group (56%; 95% CI, 0.46-0.67; P<0.001) at month 6/end of treatment. Most AEs were mild or moderate in intensity, and the percentage of patients who experienced an AE was identical in the 2 treatment groups (64%). Most notably, 11% of patients who received granulated mesalamine experienced an AE of UC flare compared with 27% of patients in the placebo group, further demonstrating the effectiveness of granulated mesalamine in maintaining remission.

Conclusion: A once-daily dose of 1.5-g granulated mesalamine is effective and safe for the maintenance of remission of UC. This novel formulation may deliver mesalamine to the colon with minimal systemic exposure, reduce pill burden, and increase adherence.

Disclosure - Dr. Gordon - Consultant: Abbott, Centocor, Prometheus, Salix, Elan, UCB, Eisai, Millenium, Takeda, TAP, AstraZeneca, Dynogen, Alizyme, Axcan, P&G; Speaker's Bureau: Abbott, Centocor, Prometheus, Salix, Elan, UCB, Eisai, Millenium, Takeda, TAP, AstraZeneca, Dynogen, Alizyme, Axcan, P&G;Grant/Research Support: Abbott, Centocor, Prometheus, Salix, Elan, UCB, Eisai, Millenium, Takeda, TAP, AstraZeneca, Dynogen, Alizyme, Axcan, P&G Dr. Pruitt - Grant/Research Support: AstraZeneca, Salix, TAP, Centocor, Abbott Dr. Ringold - Grant/Research Support: Salix Dr. Sedghi - Consultant: Abbott; Speaker's Bureau: AstraZeneca; Grant/Research Support: Salix Dr. Merchant - Employee: Salix Pharmaceuticals Dr. Shaw - Employee: Salix Pharmaceuticals Dr. Yuan - Employee: Salix Pharmaceuticals Dr. Bortey - Employee: Salix Pharmaceuticals Dr. Forbes - Employee: Salix Pharmaceuticals

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THE LONG-TERM, 30 MONTHS, EFFICACY AND TOLERABILITY OF CERTOLIZUMAB PEGOL THERAPY FOR CROHN'S DISEASE

W. J. Sandborn, MD,[1] G. R. Lichtenstein, MD,[2] S. Schreiber, MD,[3] B. Feagan, MD[4]. 1. Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN; 2. University of Pennsylvania School of Medicine, Philadelphia, PA; 3. Hospital for General Internal Medicine, Christian-Albrechts University, Kiel, Germany; 4. Robarts Research Institute, University of Western Ontario, London, ON, Canada.

Purpose: To evaluate the efficacy, tolerability and safety outcomes of 2.5 years of scheduled 400mg subcutaneous monthly maintenance therapy with certolizumab pegol (CZP), a PEGylated anti-TNFα in the treatment of pts with active Crohn's disease.

Methods: Patients who had completed a 26-week double-blind, placebo-controlled, maintenance trial of CZP 400 mg q 4 week (PRECiSE 2 [P2]) were eligible for entry into an open-label extension study (PRECiSE 3 [P3]). In P2, 428/668 (64.1%) pts had a clinical response (decrease in CDAI score ≥100-points) at Week 6 following CZP 400mg open-label induction therapy (Weeks 0, 2, and 4). Of these, 215 randomized to CZP 400mg and 210 randomized to placebo (PBO) q 4 week (Week 8-24) constituted the ITT population. Pts who had re-consented to entering P3 received CZP 400mg q 4 week. Efficacy was assessed by the Harvey Bradshaw Index (HBI) where remission was defined as a HBI score ≤4. Pts lost to follow-up, withdrawn or given rescue medication were treated as non-responders/remitters from that point onwards. Adverse events (AEs) were monitored and laboratory assessments and physical examinations were performed.

Results: One hundred forty-one patients who had received CZP in P2 entered into P3 and 73.0% of these (103/141) were in remission at the start of P3 (HBI score ≤4). After 12, 18, 24 and 30 months of continued CZP treatment the remission rates were 62.4% (n=88), 55.3% (n=78), 49.6% (n=70) and 39.7% (n=56), respectively. The percentage of pts who completed assessments and achieved remission was stable throughout the study (74.1% [103/139] at 6- (start of P3) 73.3% [n=88/120] at 12-, 81.3% [n=78/96] at 18-, 83.3% [n=70/84] at 24- and 77.8% [n=56/72] at 30-months). The majority of AEs were mild or moderate in intensity. Gastrointestinal disorders and infections were the most frequently reported AEs. There were no reported cases of injection site pain. In P3, there were 4 (n=136), 5 (n=136), 19 (n=131), 6 (n=111) and 11 (n=93) serious AEs in the following study periods respectively: 0 to ≤3 months, >3 to ≤6 months, >6 to ≤12 months, >12 to ≤18 months, and>18 to ≤24 months.

Conclusion: Sustainable efficacy (defined as remission) between 6 and 30 months was observed with a stable maintenance dose of CZP 400 mg every 4 weeks. CZP was well-tolerated with no injection site pain, and no new safety signals were observed over 30 months (2.5 years) of active treatment.

Disclosure - Dr Sandborn - Consultant, Grant, Advisory Committee: UCB; Dr Lichtenstein - Consultant, Grant, Speakers Burea: UCB; Dr Schreiber - Advisory Committee: UCB; Dr Feagan - Consultant, Grant, Advisory Committee.

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P281

SAFETY OF DELAYED-RELEASE ORAL MESALAMINE 4.8 G/DAY (800 MG TABLET) COMPARED TO 2.4 G/DAY (400 MG TABLET) FOR TREATMENT OF ACTIVE ULCERATIVE COLITIS: COMBINED ANALYSIS FROM THREE RANDOMIZED, DOUBLE-BLIND, ACTIVE-CONTROLLED TRIALS

W. J. Sandborn, MD,[1] M. Hosterman, PharmD[2]. 1. Mayo Clinic, Rochester, MN; 2. Procter and Gamble Pharmaceuticals, Inc., Mason, OH.

Purpose: To evaluate the safety of an investigational 800 mg delayed-release oral tablet formulation of mesalamine dosed at 4.8 g/day, compared to that of a currently-marketed 400 mg delayed-release oral mesalamine tablet dosed at 2.4 g/day for the treatment of mildly to moderately active ulcerative colitis.

Methods: Data from 1459 patients from three randomized, double-blind, 6-week studies (ASCEND I, II & III) were combined to compare the safety of a new 800 mg tablet formulation of delayed-release mesalamine, dosed at 4.8 g/day, to that of the marketed Asacol® 400 mg tablet, dosed at 2.4 g/day, in patients with mildly to moderately active ulcerative colitis. Safety assessments evaluated across all three studies included adverse events (AEs) and baseline and exit serum creatinine.

Results: There were no clinically meaningful differences in AE rates between the two treatment groups. The most frequent AEs reported were headache, nausea, nasopharyngitis, abdominal pain, exacerbation of ulcerative colitis, diarrhea, and dyspepsia. The AE experience was similar across subgroups examined, including age, sex, race, and baseline disease state (mildly active versus moderately active ulcerative colitis). The majority of AEs were assessed by investigators as mild or moderate in severity and doubtfully related to study drug. Serious AEs were reported in 6 patients in the 4.8 g/day group and 13 in the 2.4 g/day group and primarily involved gastrointestinal disorders. The greater number of serious AEs in the 2.4 g/day dosing group (22) versus the 4.8 dosing group (8) was driven largely by a greater number of patients experiencing serious exacerbation of ulcerative colitis and ulcerative colitis symptoms. The distribution of types of AEs resulting in study withdrawal (primarily gastrointestinal symptoms associated with ulcerative colitis) was similar between treatment groups. Percent change of serum creatinine from baseline to exit was similar for both dosing groups with no evidence of a dose related increase.

Conclusion: Overall, the AEs with delayed-release oral mesalamine 4.8 g/day (investigational 800 mg tablet) in these clinical studies were comparable to 2.4 g/day (Asacol 400 mg tablet) and consistent with the post-marketing experience of the currently-marketed 400 mg tablet.

	4.8g/day (800 mg tablet) (N= 727)	2.4 g/day (400 mg tablet) (N=732)
Patients with AEs (%)	209 (28.7%)	211 (28.8%)
Patients with Serious AEs (%)	6 (0.8%)	13 (1.8%)
Patients withdrawn due to AEs (%)	28 (3.9%)	31 (4.2%)
AEs Assessed (%): Mild Moderate Severe	218 (55.3%) 146 (37.1%) 30 (7.6%)	257 (62.8%) 121 (29.6%) 31 (7.6%)
AEs Assessed (%): Doubtfully related to drug Possibly related to drug Probably related to drug	266 (67.5%) 105 (26.6%) 23 (5.8%)	297 (72.6%) 93 (22.7%) 19 (4.6%)
Number of Serious AEs	8	22

Disclosure - William J. Sandborn is a consultant for Procter & Gamble Pharmaceuticals, Inc. Mark Hosterman is an employee of Procter & Gamble Pharmaceuticals, Inc.

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MMX™ MESALAMINE THERAPY FOR THE INDUCTION OF REMISSION BEYOND 8 WEEKS: HOW LONG BEFORE SYMPTOM RESOLUTION?

W. Sandborn, MD, FACG,[1] M. Kamm, MD,[2] G. R. Lichtenstein, MD, FACG,[3] M. Sumner, MD,[4] R. Joseph, MD[4]. 1. Mayo Clinic, Rochester, MN; 2. St Vincent's Hospital, Melbourne, VIC, Australia; 3. University of Pennsylvania, Philadelphia, PA; 4. Shire Pharmaceuticals Inc., Wayne, PA.

Purpose: Recently, it has been shown that 59.5% of patients (pts) with active, mild-to-moderate ulcerative colitis who did not achieve clinical and endoscopic remission (CER) during two phase 3, placebo (pb)-controlled studies (parent studies; SPD476-302 [Kamm et al. 2007] and -301 [Lichtenstein et al. 2007]) of mesalamine with MMX Multi Matrix System® (MMX) technology (MMX mesalamine; Lialda® [Shire Pharmaceuticals Inc., Wayne, PA, USA]) could do so with up to a further 8 wks' high-dose Lialda (4.8g/d) therapy. We examined how soon these pts can expect to achieve symptom resolution (SR).

Methods: Pts in the parent studies received Lialda 2.4g/day (QD [Kamm] or 1.2g BID [Lichtenstein]), 4.8g/d (QD [Kamm and Lichtenstein]), Asacol® (mesalamine) delayed-release tablets 2.4g/d (P&G, Cincinnati, OH, USA; 0.8g TID [Kamm]) or Pb (Lichtenstein and Kamm) for up to 8 wks. Pts could withdraw from the parent studies after 2 weeks. 304/517 pts did not achieve CER in the parent studies and opted to receive up to 8 wks' high-dose (4.8g/d BID]) Lialda therapy as part of an open-label trial (acute phase of study SPD476-303). In pts who achieved CER in the 8-wk open-label trial (n=181), time from starting 'further therapy' to SR (first day of rectal bleeding cessation and stool frequency normalization) was calculated.

Results: Median time to SR was 15 days. 77 pts received 8 weeks' Lialda (18 pts received <8 weeks) and 61 pts received no treatment before entering the acute phase of study 303 (Table).

Conclusion: In pts who do not achieve CER with up to 8 weeks Lialda therapy, continuation of therapy (at 4.8g/d) can result in SR within 15 days. This may allow continuation of Lialda therapy to achieve CER.

Table. Treatment exposure in parent studies for pts who achieved CER in the acute phase of study 303

Treatment exposure (wks)	No. of patients (%)						
	Lichtenstein study			Kamm study			
	Pb (n=28)	Lialda 2.4g/d QD (n=23)	Lialda 4.8g/d QD (n=24)	Pb (n=33)	Lialda 2.4g/d BID (n=25)	Lialda 4.8g/d QD (n=23)	Asacol 2.4g/d TID (n=25)
0-<4	8 (28.6)	4 (17.4)	2 (8.3)	10 (30.3)	4 (16.0)	3 (13.0)	2 (8.0)
4-<8	3 (10.7)	0 (0.0)	1 (4.2)	9 (27.3)	1 (4.0)	3 (13.0)	2 (8.0)
8	17 (60.7)	19 (82.6)	21 (87.5)	14 (42.4)	20 (80.0)	17 (73.9)	21 (84.0)

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CERTOLIZUMAB PEGOL IS EFFICACIOUS IN CROHN'S DISEASE PATIENTS WHO HAVE FAILED INFLIXIMAB REGARDLESS OF CONCOMITANT THERAPY OR REASON FOR FAILURE

M. Abreu, MD,[1] W. Sandborn, MD,[2] G. D'Haens, MD,[3] J. Colombel, MD,[4] K. Mitchev, MD,[5] A. Raedler, MD,[6] S. Lee, MD,[7] R. Fedorak, MD,[8] S. Vermeire, MD,[9] P. J. Rutgeerts, MD[9]. 1. Gastroenterology, University of Miami, Miami, FL; 2. Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN; 3. Gastroenterology, Imelda General Hospital, Bonheiden, Belgium; 4. Hepatogastroenterology, CHU Lille, Lille, France; 5. Medical, UCB, Braine l'Alleud, Belgium; 6. Gastroenterology, Asklepios Westklinikum, Hamburg, Germany; 7. Gastroenterology, University of Washington School of Medicine, Seattle, WA; 8. Gastroenterology, University of Alberta, Edmonton, AB, Canada; 9. Gastroenterology, University Hospital Gasthuisberg, Leuven, Belgium.

Purpose: The WELCOME study prospectively evaluated the efficacy of certolizumab pegol (CZP) in patients with moderate to severe Crohn's Disease who had previously responded to infliximab (IFX) but were no longer responding or had developed hypersensitivity. The purpose of this analysis was to assess the influence of concomitant corticosteroid (CS) or immunosuppressant (IS) use on Week-6 response rates to CZP and also to determine if the reason for IFX failure had any influence on Week 6 CZP responses.

Methods: Patients (≥ 18 years) with a Crohn's Disease Activity Index (CDAI) score of 220-450 and a history of infliximab failure (loss of response and/or hypersensitivity) were eligible for inclusion in WELCOME, a 26-week, multicenter trial consisting of 2 phases: (1) a 6-week open-label induction (CZP 400 mg at Weeks 0, 2, and 4); and (2) a double-blind maintenance phase (CZP 400 mg every 2 or every 4 weeks). The primary end point was response rate (decrease in CDAI score ≥ 100 points; CDAI-100) at Week 6. Permitted concomitant medications at baseline included: CS at a stable dose for 2 weeks, and IS (azathioprine, 6-mercaptopurine, and methotrexate) at a stable dose for 8 weeks prior to screening.

Results: Of the 539 patients enrolled, 304 (56.4%) had discontinued IFX due to a loss of response, 199 (36.9%) due to hypersensitivity, 33 (6.1%) due to loss of response plus hypersensitivity, and 3 (0.6%) due to other reasons. At Week 6, 61% of all patients achieved CDAI-100; 68% achieved CDAI-70 (ie decrease in CDAI score ≥ 70 points) and 39% achieved remission (CDAI≤150-points). There was no difference in the proportion of patients achieving a clinical response (CDAI-100) to CZP when stratified by concomitant CS or IS use (Table 1). Furthermore, there was no difference in response to CZP regardless of the reason for previous IFX failure: 62.3%, 61.2%, and 57.6% of patients with previous loss of response to IFX, hypersensitivity, or loss of response plus hypersensitivity, respectively, achieved a clinical response with CZP. CZP was well tolerated and no unexpected safety signals were observed.

Conclusion: CZP demonstrated a consistent clinical response in patients with moderate to severe CD whether used as a monotherapy or with concomitant treatment with CS or IS. The reason for IFX failure (loss of response or hypersensitivity) also did not impact the response rates to CZP.

Medication use at baseline	n	Patients responding, Wk 6 (%)
CS	203	58.6
No CS	336	62.5
IS	248	64.1
No IS	291	58.4
CS & IS	95	58.9
No CS and/or IS	183	58.5

Disclosure - Dr Abreu - Consultant: UCB; Dr Sandborn - Consultant, Grants, Advisory Commitee: UCB; Dr D'Haens - Consultant, Speakers Bureau, Advisory Commitee: UCB; Dr Colombel - Consultant, Advisory Commitee: UCB; Dr Mitchev - Employee: UCB; Dr Lee - Consultant, Speakers Bureau, Grants: UCB; Dr Fedorak - Consultant, Advisory Commitee: UCB; Dr Vermeire - Grant, Speakers Bureau; Dr Rutgeerts - Consultant, Grant, Speakers Bureau.
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INCREASED EFFICACY OF DELAYED-RELEASE MESALAMINE 4.8G/D (800 MG TABLET) COMPARED TO 2.4G/D (400 MG TABLET) FOR TREATMENT OF MODERATELY ACTIVE ULCERATIVE COLITIS IN PATIENTS WITH A HISTORY OF MORE DIFFICULT TO TREAT DISEASE: COMBINED ANALYSIS FROM THREE RANDOMIZED, DOUBLE-BLIND, ACTIVE-CONTROLLED TRIALS

S. B. Hanauer, MD,[1] D. Ramsey, BS,[2] W. Sandborn, MD[3]. 1. University of Chicago Medical Center, Chicago, IL; 2. Procter and Gamble Pharmaceuticals, Inc., Mason, OH; 3. Mayo Clinic, Rochester, MN.

Purpose: To determine the efficacy of and identify patients more likely to respond to higher dose (4.8g/d, using an investigational 800mg tablet) mesalamine for the treatment of moderately active ulcerative colitis (UC) according to prior medical therapies.

Methods: Data from 3 Phase III, multi-center, randomized, double-blind, 6-week active-controlled studies of similar design (ASCEND I, II, & III) were combined and analyzed. Efficacy of delayed-release mesalamine 4.8g/d (800mg tablet) was compared with 2.4g/d (marketed Asacol® 400mg tablet) in patients with moderately active UC (Physician's Global Assessment [PGA]=2). The primary endpoint was treatment success defined as improvement from baseline in PGA (based on clinical assessments of rectal bleeding (RB), stool frequency (SF) and sigmoidoscopy) with no worsening in any individual clinical assessment. [Note that patient functional assessment was also considered in ASCEND I & II and that sigmoidoscopy results were assessed differently in ASCEND III as compared with ASCEND I & II]. Hallmark symptoms of UC, RB and SF, were evaluated identically in all three studies. Improvement in RB and SF was defined as a decrease from baseline of at least 1 point based on a 4 point scale (0-3). Clinical remission was defined as resolution of both RB and SF.

Results: A total of 1220 patients with moderately active UC were randomized and dosed. At 6 weeks, treatment success occurred in 69% and 62% of patients receiving 4.8g/d vs 2.4g/d, respectively, p=0.006. Similarly, at 6 weeks, more patients receiving 4.8g/d vs 2.4g/d had RB improvement (83% vs 79%, p=0.04), SF improvement (78% vs 73%, p=0.07) and clinical remission (43% vs 37%, p=0.06). A therapeutic advantage of 4.8g/d was seen in patients with previous use of UC medications as evidenced in the table below.

Conclusion: Delayed-release mesalamine at 4.8g/d (investigational 800mg tablet) demonstrated efficacy for the treatment of moderately active UC, with evidence of a therapeutic advantage in patients with a history of more difficult to treat disease (e.g., previous use of oral 5-ASAs, rectal therapies, steroids, or multiple medications).

	4.8g/day	2.4g/day
Previous Use of Oral 5-ASAs	N=465	N=465
Treatment Success	69%*	61%
RB Improvement	83%*	76%
SF Improvement	78%*	71%
Complete Remission	42%	36%
Previous Use of Rectal Therapies	N=282	N=278
Treatment Success	71%*	58%
RB Improvement	83%*	74%
SF Improvement	76%	71%
Complete Remission	40%*	31%
Previous Use of Steroids	N=237	N=225
Treatment Success	67%*	52%
RB Improvement	82%*	68%
SF Improvement	74%*	65%
Complete Remission	38%*	25%
Previous Use of ≧ 2 Meds**	N=345	N=324
Treatment Success	70%*	56%
RB Improvement	82%*	71%
SF Improvement	76%*	68%
Complete Remission	40%*	30%

***p<0.05; **including oral 5-ASAs, rectal therapies, steroids, or immunomodulators**

Disclosure - Stephen B Hanauer is a consultant for Procter and Gamble Pharmaceuticals, Inc. David Ramsey is an employee of Procter and Gamble Pharmaceuticals, Inc. William J Sandborn is a consultant for Procter and Gamble Pharmaceticals, Inc.

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PREDICTING POSTOPERATIVE MORTALITY FROM COMORBIDITY INDICES IN ADMINISTRATIVE DATABASES AMONG INFLAMMATORY BOWEL DISEASE PATIENTS

2008 ACG Presidential Poster Award Recipient

G. G. Kaplan, MD, MPH, J. Hubbard, MSc, R. Panaccione, MD, A. M. Shaheen, MD, MPH, G. C. Nguyen, MD, PhD, S. Devlin, MD, R. P. Myers, MD. Department of Medicine, Division of Gastroenterology, University of Calgary, Calgary, AB, Canada.

Purpose: Risk adjustment is employed in studies that use administrative data to evaluate outcomes such as mortality. The two most commonly applied risk adjustment measures are the Elixhauser and the Charlson/Deyo index. However, the predictive capabilities of comorbidity indices have not been studied in patients with inflammatory bowel disease (IBD). Thus, we evaluated whether comorbidity indices were predictive of postoperative mortality among IBD patients who underwent an IBD-related bowel operation.

Methods: We used the Nationwide Inpatient Sample (NIS) database to identify 35,588 discharge abstracts of IBD patients who underwent an IBD-related operation from 1995-2005. We used coding algorithms in SAS to evaluate the frequency of comorbidities using the Elixhauser and Charlson/Deyo indices. Multiple logistic regression analyses were performed to compare the mortality prediction achieved for each comorbidity index after adjusting for age, gender, insurance, and emergency admission. We used the c-statistic, an approximation to the area under the receiver operating characteristic curve, as our measure of model discrimination. Bootstrapping was used to estimate the 95% confidence interval (CI) for each C-statistic.

Results: The median age of IBD patients was 42 years (IQR 31-56), 48% were male, and the postoperative mortality rate was 1.9%. For the Elixhauser index, as the number of comorbidities increased from 0, 1, 2, or 3+, the unadjusted mortality following an IBD-related operation increased from 0.4%, 1.5%, 3.3%, and 7.9%, respectively; likewise, for the Charlson/Deyo index unadjusted mortality were 0.8%, 4.5%, 7.5%, and 16.3%, respectively. Among comorbidities with a prevalence > 0.4%, the most predictive comorbidities were coagulopathy (adjusted odds ratio (aOR) 12.1; 95% CI 9.2-15.9) and renal failure (aOR 8.7; 95% CI 5.4-14.1) using the Elixhauser method, and renal disease (aOR 5.3, 95% CI 3.7-7.6) and liver disease (aOR 4.7; 95% CI 2.1-10.3) for the Charlson/Deyo index. The C-statistic was higher with the Elixhauser (0.93; 95% CI 0.92-0.94) compared to the Charlson/Deyo index (0.91; 95% CI 0.90-0.92). The C-statistics for Crohn's disease and ulcerative colitis using the Elixhauser method were 0.91 (0.90-0.92) and 0.94 (0.93-0.95), respectively. Lower values were calculated for Crohn's disease (0.89, 0.87-0.91) and ulcerative colitis (0.92, 0.91-0.93) after applying the Charlson/Deyo index.

Conclusion: Mortality from IBD surgery is rare. However, comorbidities increased the risk of postoperative mortality and thus should be considered when comparing the risk/benefit ratio of medical versus surgical therapy. Although the Elixhauser index outperformed the Charlson/Deyo index, both indices were predictive of postoperative mortality.

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IBD PATIENTS WHO LEAVE AGAINST MEDICAL ADVICE: PREDICTORS OF THE PATIENT PROFILE

G. G. Kaplan, MD, MPH,[1] J. Hubbard, MSc,[1] R. Panaccione, MD,[1] C. Ma, BSc,[1] G. C. Nguyen, MD, PhD,[2] A. M. Shaheen, MD, MPH,[1] S. Devlin, MD,[1] R. P. Myers, MD[1]. 1. Inflammatory Bowel Disease Clinic, Departments of Medicine and Community Health Sciences, University of Calgary, Calgary, AB, Canada; 2. Medicine, University of Toronto, Toronto, ON, Canada.

Purpose: Approximately 1% of patients leave hospital against medical advice (AMA); these patients are more likely to be readmitted to hospital. However, the proportion and the patient characteristics of inflammatory bowel disease (IBD) patients who leave hospital AMA have never been studied. Therefore, we determined the proportion and assessed the independent predictors of IBD patients who left AMA using a nationally-representative sample of US hospitals.

Methods: We analyzed the 1995-2005 Nationwide Inpatient Sample (NIS), which represents a stratified 20% random sample of all non-federal US hospitals. We used International Classification of Diseases (ICD-9-CM) diagnosis codes to identify 94,026 discharges with a primary diagnosis of IBD (555.X and 556.X) who were admitted to hospital emergently and did not undergo surgery. We described the proportion of IBD patients who left AMA; defined by the disposition field in the NIS database. The effects of hospital and patient characteristics on AMA status were evaluated using a multivariate logistic regression model. All analyses were performed in SAS-callable SUDDAN to account for the complex sampling design of the NIS.

Results: Between 1995 and 2005, 1233 (1.31%) IBD patients left hospitals AMA. Crohn's disease patients were more likely to leave AMA compared to ulcerative colitis patients (adjusted odds ratio, 1.54; 95% confidence intervals: 1.32-1.79). Compared to children (age<18), adults less than 65 years old were significantly more likely to leave AMA (7.91, 4.53-13.83). Additional patient characteristics that were independently associated with leaving AMA included: male gender (1.75, 1.56-2.00); Medicaid (4.53, 3.78-5.42) and Medicare (3.82, 3.07-4.76) insurance, compared to private insurance; and African American race (1.35, 1.08-1.69), compared to white. While patients who used illicit drugs were more likely to leave AMA (2.79, 2.18-3.59), those who abused alcohol were not (1.15, 0.73-1.83). In contrast to patients with depression (1.06, 0.84-1.34), individuals with an ICD-9-CM code for psychosis were more likely to leave AMA (1.54, 1.12-2.12). Patients admitted to urban teaching (1.29, 1.02-1.65) or urban non-teaching (1.52, 1.20-1.93) hospitals were more likely to leave AMA as compared to rural hospitals.

Conclusion: Approximately, 1 in 76 hospital discharges for IBD patients emergently admitted for medical management leave hospital AMA. A number of independent patient and hospital factors were associated with leaving AMA. Future studies should examine outcomes in IBD patients who leave AMA.

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PREDICTIVE VALUE OF CAPSULE ENDOSCOPY FOR THE DIAGNOSIS OF CROHN'S DISEASE IN A SYMPTOMATIC POPULATION

2008 ACG Presidential Poster Award Recipient

M. Tukey, MD,[1] D. Pleskow, MD,[2] A. S. Cheifetz, MD,[2] A. C. Moss, MD[2]. 1. Internal Medicine, Beth Israel Deaconess Medical Center, Boston, MA; 2. Gastroenterology, Beth Israel Deaconess Medical Center, Boston, MA.

Purpose: Little is known about the characteristics of capsule endoscopy (CE) as a tool for diagnosing Crohn's disease in symptomatic patients. The aim of this study was to determine the positive predictive value of CE for the diagnosis of Crohn's disease

Methods: All patients who underwent CE at a single tertiary care center for investigation of abdominal pain, diarrhea, or suspected Crohn's disease were included. Patients were excluded if they carried a previous diagnosis of Crohn's disease, were actively being treated for malignancy or had inadequate CE evaluations. Medical records were reviewed to determine demographic data, symptoms prompting evaluation, and workup prior to CE. The primary outcome of the study was the diagnosis of Crohn's disease within twelve months of CE.

Results: The study included 102 patients with 12-month follow-up data. The mean age was 49.5 years (66% female). The indications for CE were abdominal pain (41%), diarrhea (14%), pain and diarrhea (41%) and suspected Crohn's disease (67%). NSAIDs were used in 27% of patients prior to CE. Most patients had undergone CT or SBFT (92%) and colonoscopy (99%) prior to CE. There were abnormal CE findings suggestive of Crohn's disease in 39 patients, including aphthous ulcers, erosions or inflammation. There was no significant difference in demographic characteristics or previous workup between patients who had an abnormal CE and normal CE. The prevalence of Crohn's disease in the study population was 13%. The sensitivity of CE for the diagnosis of Crohn's disease was 92%, the specificity was 71%, the positive predictive value was 32% and the negative predictive value was 98%. Analysis using strict criteria of "more than 3 ulcers" as the definition of an abnormal CE study improved the positive predictive value of CE to 52% (table 1). Age<30 (PPV 67%) and absence of NSAID use (PPV 42%) improved the predictive value of an abnormal test.

Conclusion: The positive predictive value of an abnormal CE for the diagnosis of Crohn's disease ranges from 32% to 67% depending on the criteria used to define an abnormal test, and the population studied.

Test Characteristics of Capsule Endoscopy in Patients with Suspected Crohn's Disease According to Capsule Findings

Test Characteristics	Grade A	Grade B	Grade C
Sensitivity	77.0	85.0	92.0
Specificity	89.0	89.0	71.0
Positive Predictive Value	50.0	52.0	32.0
Negative Predictive Value	96.0	98.0	98.0
Prevalence	13.0	13.0	13.0
Likelihood Ratio +	6.8	7.5	3.2
Likelihood Ratio -	0.3	0.2	0.1
Post-test Odds	0.9	1.0	0.4

Grade A: > 3 small bowel ulcers; Grade B: > 3 small bowel ulcers or < 3 ulcers with inflammation; Grade C: any small bowel ulcers OR inflammation

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A PATIENT SUPPORT PROGRAM (PSP) TO ENHANCE MEDICATION ADHERENCE AND QUALITY-OF-LIFE IN PATIENTS PRESCRIBED MESALAMINE FOR ULCERATIVE COLITIS – A PILOT STUDY

M. Tukey, MD, K. Falchuk, MD, A. Cheifetz, MD, A. C. Moss, MD. Gastroenterology, BIDMC / Harvard Medical School, Boston, MA.

Purpose: Medication adherence is an issue in patients with ulcerative colitis (UC) prescribed mesalamine. There is a paucity of research examining the impact of interventions to address this issue. We sought to measure the feasibility and impact of a patient-support program (PSP) on medication adherence and quality-of-life in patients with UC in remission that were prescribed mesalamine (Asacol).

Methods: Randomized controlled trial of either standard follow-up (control) or a 23-week nurse-delivered PSP. Medication adherence was assessed using Steiner's formula based on refill intervals. Quality-of-life was measured using the short IBD questionnaire (IBDQ).

Results: A total of 44 patients were enrolled. Patients in the PSP arm received 3 support phone calls from a nurse. Baseline patient characteristics were similar in both arms of the study. The median Simple Colitis Clinical Activity Index scores were 1.5 in the control arm and 2 in the PSP arm (remission < 2.5). The median short IBDQ score (0-7) was 6 in the control arm and 5.7 in the PSP arm. At 3 months, median medication compliance (Inter-Quartile Range) was 69% (51-84) in the control arm, and 74% (65-84) in the PSP group. Medication adherence (> 80% compliance) over 3 months occurred in 22% of the control group and 36% of the PSP group. Median change in short IBDQ score (ΔsIBDQ) over 3 months was -0.2 (-1.0 – 0.2) in the control arm and -0.1 (-0.7 – 0.5) in the PSP arm. There were no statistically significant differences in these outcomes. Two patients in the control arm (10%), and no patients (0%) in the PSP arm, experienced disease flares during the initial study period. No patients were hospitalized for disease flares during this period.

Conclusion: A patient-support program for mesalamine is feasible in patients with ulcerative colitis in remission. A larger cohort will be required to determine if PSPs significantly improve medication adherence in patients taking mesalamine.

Disclosure - Alan C Moss - Grant support, Procter & Gamble Adam Cheifetz - Speaker's Bureau, Procter & Gamble

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PYLORIC GLAND METAPLASIA IS ASSOCIATED WITH A CHANGE IN DIAGNOSIS TO CROHN'S DISEASE IN ILEAL POUCH ANAL ANASTOMOSIS (IPAA) PATIENTS

S. Agarwal, BA,[1] K. G. Dendrinos, MD,[1] A. Stucchi, PhD,[2] S. Cerda, MD,[3] M. O'Brien, MD, MPH,[3] W. Lamorte, MD, MPH,[4] T. Heeren, PhD,[5] J. Becker, MD,[2] F. A. Farraye, MD, MSc[1]. 1. Gastroenterology, Boston University Medical Center, Boston, MA; 2. Surgery, Boston University Medical Center, Boston, MA; 3. Pathology, Boston University Medical Center, Boston, MA; 4. Epidemiology, Boston University School of Public Health, Boston, MA; 5. Biostatistics, Boston University School of Public Health, Boston, MA.

Purpose: We conducted a case-control study to evaluate the serologic and histologic features of patients with ulcerative colitis (UC) who underwent IPAA for associations with the development of post-operative complications.

Methods: Twenty-eight cases and 36 controls were enrolled during office visits to Boston Medical Center. Cases were defined as: Crohn's disease (CD) (patients with a pre-operative diagnosis of UC, who underwent IPAA, and had the diagnosis changed to CD post-operatively as determined by clinical, radiologic, endoscopic and histologic criteria) or chronic pouchitis (either more than 3 episodes of pouchitis requiring antibiotics during the last year or the inability to discontinue antibiotics and/or the use of steroids, immunosuppressives or biologic therapy) or the development of fistulae 6 months post-operatively. Controls were UC patients who underwent IPAA and had a normal post-operative course defined as: at least 6 months with no pouchitis and no more than 2 episodes of pouchitis in the last year. Demographic and clinical data was entered into a database at the time of enrollment. A blood sample was taken from each patient at the time of enrollment and sent to Prometheus labs for analysis of anti-Saccharomyces-cerevisiae (ASCA IgG and IgA), perinuclear antineutrophil cytoplasmic antibody, anti-outer membrane porin C, and anti-CBirl. Where available, biopsies of the pouch and the afferent limb were reviewed by two GI pathologists in a blinded fashion for degree of inflammation, villous atrophy, and pyloric gland metaplasia (PGM).

Results: Age, gender, race, family history, and smoking were not associated with CD or chronic pouchitis. Of 64 subjects, 39 had pathologic data available (22 cases and 17 controls). Of the cases 55% (12/22) had evidence of PGM in their pouch and/or small bowel biopsies, as compared to 12% (2/17) of the controls (p=0.006). Of 12 subjects with CD, 9 (75%) were found to have PGM vs. subjects with chronic pouchitis in which 25% (2/8) were found to have PGM (p=0.03). Twenty-eight percent (11/39) had ASCA titer levels > 20. Of these, 73% (8/11) had PGM, compared to 21% (6/28) of those with ASCA titer levels < 20 (p=0.003). There was a trend of ASCA positivity (both IgG and IgA, p=0.20) and also a trend of higher ASCA titer levels (p=0.07) in those with post-operative complications.

Conclusion: This study expands on earlier findings showing that PGM is associated with post-operative complications in UC patients undergoing IPAA by demonstrating that the presence of PGM favored a diagnosis of CD over chronic pouchitis. An ASCA IgG titer level of greater than 20 was associated with the presence of PGM. A larger study to validate these findings is ongoing.

Disclosure - Dr. Farraye-Prometheus Laboratories: Speakers bureau and research support

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NOVEL GENOMIC BIOMARKERS THAT DIFFERENTIATE BETWEEN INFLAMMATORY BOWEL DISEASE AND NORMAL PATIENTS USING PERIPHERAL BLOOD SPECIMENS

J. Alsobrook II, PhD,[1] T. Y. Ma, MD, PhD,[2] J. A. Leighton, MD,[3] L. Tang, PhD,[1] P. Doherty, RN,[1] F. Zhou, PhD,[1] T. Williams, MD,[4] L. Davis, PhD,[1] C. Harris, MS[1]. 1. Exagen Diagnostics, Inc., Albuquerque, NM; 2. Internal Medicine, Division of Gastroenterology and Hepatology, University of New Mexico, Albuquerque, NM; 3. Division of Gastroenterology and Hepatology, Mayo Clinic, Scottsdale, AZ; 4. Pathology, University of New Mexico, Albuquerque, NM.

Purpose: Accurate laboratory diagnosis of Inflammatory Bowel Disease (IBD) would have great clinical utility for primary care physicians and gastroenterologists. We describe here a gene expression biomarker set that distinguishes patients with an IBD diagnosis from normal patients.

Methods: We applied Exagen's proprietary *in silico* data analysis engine[1] Coperna™ to publicly available full-genome expression microarray data from 85 IBD patients and 42 normal controls[2]. Results of those discovery phase analyses were used to select a small set of 10 genes for diagnostic performance optimization in a pilot study of independently ascertained prospective cohorts of 91 patients with Ulcerative Colitis, 98 patients with Crohn's Disease, and 98 healthy individuals free from GI symptoms. Each IBD patient was diagnosed by a board-certified gastroenterologist; IBD diagnoses were confirmed by endoscopy. All protocols were IRB approved; informed consent was obtained and peripheral blood samples and clinical data were collected from all patients. Expression data were obtained from peripheral whole blood samples (with no mononuclear enrichment) by isolating total mRNAs, synthesizing cDNAs, and performing real-time quantitative PCR. Expression levels of the 10 candidate biomarker genes were assayed on each patient specimen and normalized to a within-patient reference gene.

Results: An optimal scoring algorithm for classification of patients as IBD or normal was derived based on 6 of the 10 tested genes (BLCAP, GPX1, RAP1A, UBE2G1, CALM3, NONO). The classification of patients by clinical diagnosis and test result is given in Table 1. The diagnostic performance of the classification is summarized in Table 2. The NPV for an adjusted 25% prior probability of IBD (a rule-out scenario) is 95%. The PPV for an adjusted 75% prior probability of IBD (a rule-in scenario) is 91%.

Conclusion: The genes identified as diagnostic of IBD in this pilot study, if confirmed in a larger clinical validation study, have potential as a clinical laboratory diagnostic test for IBD. **References** [1] http://images.apple.com/science/pdf/Exagen_WP.pdf [2] Burczynski et al. J Molec Diag 8(1):51-61, 2006.

Table 1. Classification by 6-gene IBD biomarker

		Clinical Diagnosis	
		IBD	Normal
Biomarker Classification	IBD	168	25
	Normal	21	73
Fisher's exact Odds Ratio (2-sided) = 23.0, $p < 2 \times 10^{-16}$			

Table 2. Diagnostic performance of 6-gene IBD biomarker

accuracy*	84%
sensitivity	89%
specificity	75%
positive predictive value*	87%
negative predictive value*	78%
AUC-ROC	0.91

***result based on study prevalences**

Disclosure - Dr. Alsobrook - Employee: Exagen Diagnostics, Inc; Dr. Ma - Advisory Board Member: Exagen Diagnostics, Inc.; Dr. Leighton - Advisory Board Member: Exagen Diagnostics Inc.; Dr. Tang - Employee: Exagen Diagnostics, Inc.; Ms. Doherty - Employee: Exagen Diagnostics, Inc.; Dr. Feng - Employee: Exagen Diagnostics, Inc.; Dr. Williams - Employee: Exagen Diagnostics, Inc.; Dr. Davis - Employee: Exagen Diagnostics, Inc.; Mr. Harris - Employee: Exagen Diagnostics, Inc.;

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SHARED MOLECULAR PATHWAYS IN INFLAMMATORY BOWEL DISEASE AND IRRITABLE BOWEL SYNDROME SUGGESTED BY GENOMIC BIOMARKERS

J. Alsobrook II, PhD,[1] L. Tang, PhD,[1] P. Doherty, RN,[1] F. Zhou, PhD,[1] T. Williams, MD,[2] L. Davis, PhD,[1] C. Harris, MS[1]. 1. Exagen Diagnostics, Inc., Albuquerque, NM; 2. Pathology, University of New Mexico, Albuquerque, NM.

Purpose: Current understanding of Inflammatory Bowel Disease (IBD) and Irritable Bowel Syndrome (IBS) holds them as completely distinct entities, with IBD as an organic disease and IBS as a functional syndrome. Some studies hypothesize a relationship between the two disorders. A better understanding of the molecular pathways involved in the causation or response mechanisms of these two disorders would advance diagnostic testing and treatment of patients. We describe here the overlap of two sets of gene expression biomarkers that have significant diagnostic ability in IBD and IBS.

Methods: We applied Exagen's proprietary *in silico* data analysis engine[1] Coperna™ to publicly available full-genome expression microarray data from 85 IBD patients and 42 normal controls[2]. Results of those discovery phase IBD analyses were used to select a small set of 10 genes for diagnostic performance optimization in this independently ascertained pilot study of prospective cohorts of 91 patients with Ulcerative Colitis, 98 patients with Crohn's Disease, 98 patients with IBS, and 98 healthy individuals free from GI symptoms. Each IBD and IBS patient was diagnosed by a board-certified gastroenterologist. The IBD diagnoses were confirmed by endoscopy; the IBS diagnoses used Rome I criteria. The study was IRB approved and all subjects gave informed consent. Peripheral blood samples and clinical data were collected from all patients. Expression data were obtained from peripheral whole blood samples (with no mononuclear enrichment) by isolating total mRNAs, synthesizing cDNAs, and performing real-time quantitative PCR. Expression levels of the 10 candidate biomarker genes were assayed on each patient specimen and normalized to a within-patient reference gene.

Results: Optimal scoring algorithms for classification of patients as IBD versus normal and IBS versus normal were derived separately using the expression levels of the 10 genes assayed in these pilot study patients. The optimal gene set for each test and each set's performance is indicated in Table 1. The classification results had odds ratios of 23.0 and 28.3, respectively, with both p-values < $2x10^{-16}$. Two genes were common to both diagnostic marker sets.

Conclusion: The genes identified as diagnostic for the comparisons in this pilot study reveal an overlap between IBD and IBS patients. This overlap of highly statistically significant biomarkers suggests a shared biology. Additional studies are necessary to determine whether these genes have a causative role or are part of a common response mechanism. **References** [1] http://images.apple.com/science/pdf/Exagen_WP.pdf[2] Burczynski et al. J Molec Diag 8(1):51-61, 2006.

Table 1. Highly significant expression biomarker sets in IBD and IBS*

	IBD vs Normal	IBS vs Normal
odds ratio and p-value of set's classification (Fisher's 2-sided exact)	OR=23.0, p=$2x10^{-16}$	OR=28.3, p=$2x10^{-16}$
genes in marker sets		
BLCAP	+	+
UBE2G1	+	+
TH1L		+
CALM3	+	
HIST1H2BK		+
GPX1	+/-	
NONO	+	
RAP1A	+	

*** univariate expression difference relative to Normal:**
"+" increased; "-" decreased; "+/-" no difference

Disclosure - Dr. Alsobrook - Employee: Exagen Diagnostics, Inc; Dr. Tang - Employee: Exagen Diagnostics, Inc.; Ms. Doherty - Employee: Exagen Diagnostics, Inc.; Dr. Feng - Employee: Exagen Diagnostics, Inc.; Dr. Williams - Employee: Exagen Diagnostics, Inc.; Dr. Davis - Employee: Exagen Diagnostics, Inc.; Mr. Harris - Employee: Exagen Diagnostics, Inc.;

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TRAFICET-EN, AN ORAL CCR9-SPECIFIC ANTAGONIST, INDUCES HIGH LEVELS OF REMISSION IN THE OPEN-LABEL PHASE OF PROTECT-1 IN CROHN'S DISEASE

P. Bekker, MD, PhD,[2] G. Hamilton, MD,[4] D. Johnson, MS,[2] S. Keshav, MBChB, DPhil, FRCP,[3] T. J. Schall, PhD[1]. 1. R&D, ChemoCentryx, Inc., Mountain View, CA; 2. Medical and Clinical Affairs, ChemoCentryx, Inc, Mountain View, CA; 3. Gastroenterology, John Radcliffe Hospital, Oxford, United Kingdom; 4. Medical and Clinical Affairs, ChemoCentryx, Inc., Oxford, United Kingdom.

Purpose: The chemokine receptor CCR9 and its sole ligand TECK (CCL25) regulate trafficking of T lymphocytes to the intestinal mucosa. It plays a central role in the pathophysiology of Crohn's disease (CD). Traficet-EN (CCX282-B), an orally administered CCR9-specific antagonist, is in advanced clinical development for treatment of IBD. Approximately 500 subjects have received at least 1 dose of Traficet-EN in eight human clinical trials. PROTECT-1 (Prospective, Randomized, Oral-Therapy Evaluation in Crohn's disease Trial) evaluates safety and efficacy of CCX282-B in patients with moderate to severe CD.

Methods: The study has 3 phases: Following a randomized, double-blind, placebo-controlled 12-week induction period (A) involving 430 subjects, all subjects receive 250 mg CCX282-B b.i.d. open label for 4 weeks (B), and responders (CDAI drop of at least 70 points), then continue in a 36-week placebo-controlled maintenance period (C). Study enrollment has been completed. Final results from the 4-week active treatment period are presented here.

Results: 211 subjects completed the 4-week treatment with CCX282-B 250 mg b.i.d. Baseline mean (SD) age was 37 (12) yrs, 53% of subjects were women, and the mean duration of CD was 7 (6) yrs. The study population represented individuals with high CD activity, as reflected by a mean baseline CDAI of 332 (57) and CRP level of 29 (28) mg/L. After 4-week open label CCX282-B treatment, 82% of subjects had a CDAI drop of ≥70 points, 75% had ≥100-point drop, and, remarkably, nearly half (45%) of subjects were in clinical remission (CDAI≤150) compared to their baseline status. The mean decrease in CDAI was 192 points. Remitters tended to have lower baseline CDAI levels (322 vs. 340 in non-remitters), but CRP levels were similar (30 vs. 28 mg/L). Study drug was well tolerated.

Conclusion: A 4-week active treatment with Traficet-EN in the PROTECT-1 trial led to a high percentage of patients achieving clinical remission. These results are highly encouraging and compare favorably with the response rates reported with high-dose glucocorticoids and biologic therapies for Crohn's disease.

Disclosure - Drs. Bekker, Hamilton, and Schall, and Mr. Johnson - Employees and stockholders: ChemoCentryx; Dr. Keshav - Advisory Board Member and stockholder: ChemoCentryx
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LONG-TERM ADALIMUMAB TREATMENT IS ASSOCIATED WITH SUSTAINED FISTULA HEALING IN PATIENTS WITH MODERATE TO SEVERE CROHN'S DISEASE

J. Colombel, MD,[1] M. A. Kamm, MD,[2] D. Schwartz, MD,[3] R. Panaccione, MD,[4] J. Li, PhD,[5] K. G. Lomax, MD,[5] P. F. Pollack, MD[5]. 1. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 2. Imperial College, London, United Kingdom; 3. Gastroenterology, Vanderbilt University Medical Center, Nashville, TN; 4. Medicine, University of Calgary, Calgary, AB, Canada; 5. Abbott Laboratories, Parsippany, NJ.

Purpose: Adalimumab (ADA), a fully human monoclonal antibody that targets tumor necrosis factor, is approved for the induction and maintenance of remission in adults with moderate to severe Crohn's disease (CD). Fistulizing disease complicates the course of CD in 20–40% of patients (pts). The efficacy of ADA in complete fistula closure for up to 12 months has been demonstrated previously in the CHARM study.

Methods: To assess the long-term efficacy of ADA in fistula healing, we followed pts in the CHARM trial for an additional 2 years of treatment in an open-label extension (OLE) study. Pts with draining fistulas at baseline of CHARM were evaluated after 3 years of ADA treatment. Following a 4-week, open-label induction period, pts in CHARM were randomized to placebo, ADA 40 mg every other week (eow), or ADA 40 mg every week (ew). At/after Week 12, pts with flare or nonresponse could receive open-label ADA. At the end of CHARM (56 weeks), pts were allowed to enroll in an OLE, in which they received ADA (eow) and could change from eow to ew for flares or nonresponse, or, if receiving OL ADA ew, continued on this dose. All ADA patients were analyzed as a single group using observed cases.

Results: The percentages of pts with healed fistulas at 6 and 12 months in the blinded study and through an additional 2 years of ADA exposure in the OLE is summarized in the table. Month 12 in CHARM and Weeks 60 and 108 in the OLE represent approximately 1, 2, and 3 years of ADA therapy, respectively.

Conclusion: Rates of fistula healing were sustained after 3 years of ADA therapy. ADA therapy resulted in sustained fistula closure in more than 60% of the ADA-treated pts in the OLE who had fistulas at baseline of CHARM. This research was funded by Abbott Laboratories, Abbott Park, IL.

Long-Term Efficacy of Fistula Healing With 3 Years of ADA Therapy

Time Point	Fistula Healing, n (%)
6 months CHARM	32/58 (55)
12 months CHARM	29/50 (58)
24 weeks OLE	25/42 (60)
48 weeks OLE	23/37 (62)
60 weeks OLE	22/37 (60)
72 weeks OLE	24/35 (69)
84 weeks OLE	24/34 (71)
96 weeks OLE	24/34 (71)
108 weeks OLE	21/31 (68)
120 weeks OLE	19/30 (63)

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LONG-TERM SAFETY OF CERTOLIZUMAB PEGOL IN CROHN'S DISEASE: INTEGRATED SAFETY FINDINGS ON SERIOUS ADVERSE EVENTS OF SPECIAL INTEREST

J. Colombel, MD,[1] S. Schreiber, MD,[2] P. J. Rutgeerts, MD,[3] W. Sandborn, MD,[4] S. B. Hanauer, MD[5]. 1. Hepatogastroenterology, CHU Lille, Lille, France; 2. Hospital for General Internal Medicine, Christian Albrechts University, Kiel, Germany; 3. Gastroenterology, University Hospital Gasthuisberg, Leuven, Belgium; 4. Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN; 5. Gastroenterology & Nutrition, University of Chicago Medical Center, Chicago, IL.

Purpose: To evaluate safety data collected from studies included in the certolizumab pegol (CZP) Crohn's disease (CD) development program.

Methods: Serious adverse event (SAE) data of special interest were analysed from 9 studies including: a 12-week, phase II, placebo-controlled study (CZP 100, 200, and 400 mg); an 8-week, phase II, iv single-dose study (CZP 1.25, 5, 10, and 20 mg/kg); 2 pivotal 26-week, placebo-controlled, phase-III studies1,2 (4-weekly CZP 400 mg sc to Week 26 following CZP or placebo induction [PRECiSE 1] or CZP induction [PRECiSE 2] at Weeks 0, 2, and 4); 2 ongoing, open-label extension studies (CZP 400 mg every 4 weeks in both) for patients completing PRECiSE 1 or 2 (PRECiSE 3) or prematurely terminating either study due to exacerbation of CD (PRECiSE 4); 2 phase IIIb studies in patients with moderate-to-severe CD who have failed treatment with infliximab (WELCOME: 26 weeks, CZP 400 mg every 2 or 4 weeks; and a Greek study: 14 weeks; CZP 400 mg); and a phase IIIb, 54-week endoscopy study (MUSIC; CZP 400 mg). A cut-off date for SAE reporting of July 16, 2007 was used in these analyses. The safety population comprised all patients who had received ≥1 dose of study medication.

Results: The safety population comprised 2166 patients with a total exposure to CZP of over 2160 patient-years with duration of exposure of up to 3.5 years. Incidence rates (per 100 patient-years) for SAEs of particular interest are shown in Table 1. Seven cases of a solid tumor (excluding non-melanoma skin cancer) were observed: 2 cases each of rectal cancer and small intestinal cancer; and 1 case each of prostate cancer, breast cancer, and metastatic malignant melanoma. Up to the cut-off date of July 16, 2007 there have been no cases of lymphoma in patients receiving CZP in the CD development programme. Opportunistic infections (other than tuberculosis) were reported in 3 patients: Herpes zoster, candidiasis, and esophageal candidiasis.

Conclusion: In this integrated analysis of CZP safety in 2166 moderate-to-severe CD patients with over 2160 patient-years exposure, no unexpected safety findings were identified. **References** [1]Sandborn et al. *N Engl J Med*. 2007;357:228–38. [2]Schreiber et al. *N Engl J Med*. 2007;357:239–50.

	Incidence rate, 100 patient-years (95% CI)		
SAE	**Placebo**	**All CZP doses**	
	Placebo-controlled studies (n = 426)	**Placebo-controlled studies (n = 1046)**	**All studies (n = 2166)**
Death	0	0.47 (0.06-1.71)	0.42 (0.19-0.79)
Malignancies*	1.3 (0.16-4.70)	0.24 (0.01-1.32)	0.32 (0.13-0.67)
Non-melanoma skin cancer	0	0	0.09 (0.01-0.33)
Opportunistic infections	0	0	0.14 (0.03-0.41)
Tuberculosis**	0	0.24 (0.01-1.32)	0.32 (0.13-0.67)

***Excluding non-melanoma skin cancer. **No cases observed in North America.**

Disclosure - Dr Colombel - Consultant, Advisory Committe: UCB; Dr Schreiber - Advisory Commitee: UCB; Dr Rutgeerts - Consultant, Grant, Advisory Committee: UCB; Dr Sandborn - Consultant, Grant, Advisory Commitee: UCB; Dr Hanauer - Consultant, Advisory Committee, Grant: UCB.

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NATALIZUMAB USE DURING PREGNANCY

U. Mahadevan, MD,[1] M. Nazareth, MD,[1] L. Cristiano, MD,[2] M. Kooijmans, MD, PhD,[2] G. S. Hogge, DVM, MS, PhD[3]. 1. UCSF Center for Colitis and Crohn's Disease, University of California, San Francisco, San Francisco, CA; 2. Drug Safety and Risk Management, Biogen Idec, Inc., Cambridge, MA; 3. Medical Affairs, Elan Pharmaceuticals, Inc., South San Francisco, CA.

Purpose: Natalizumab (NAT), an IgG4 antibody, is approved for the induction and maintenance of response and remission in Crohn's disease (CD) and for slowing disability progression and reducing relapses in multiple sclerosis (MS). An FDA pregnancy Class C agent, the safety of use during pregnancy is not known.

Methods: Records from the natalizumab global safety database show 143 reported pregnancies among patients with CD and MS. These case reports were reviewed for maternal demographics and infant outcomes data.

Results: Of the 143 reported pregnancies as of February 2008, 82 are from clinical trials, 36 are from a pregnancy registry and 25 are from post-marketing surveillance. Results are summarized in the table. Of the 137 prospective cases, follow-up is ongoing for 32 cases and outcomes were reported in 106 cases (Note: one completed pregnancy resulted in two outcomes of live birth). Natalizumab exposure during pregnancy resulted in a 15% (21/137) rate of spontaneous abortion, which is similar to the expected rate in the US general population. There were 55 live births out of 137 prospective pregnancies, including one premature birth. There were no congenital anomalies reported.

Conclusion: To date no significant adverse outcomes has been reported in patients exposed to natalizumab during pregnancy and the spontaneous abortion rate is comparable to what is expected in the general population. However, the number of exposed patients is too low to draw any definitive conclusions and further data are needed before the safety of natalizumab in pregnancy can be established.

Table: Cumulative Pregnancy Outcomes (through 23 February 2008)

	Clinical Trials cumulative natalizumab exposed pregnancies only		Postmarketing cumulative natalizumab exposed pregnancies			
	MS studies	CD studies	Spontaneous reports		Pregnancy Registry	Total # natalizumab exposed pregnancies
			Prospective	Retrospective		
Total # of pregnant subjects	59	23	19	6	36*	143
Live Birth (excluding premature birth)	22	12	6	1	14	55
Premature birth	1	0	0	1	0	2
Elective Termination	19	6	2	1	0	28
Spontaneous Abortion	12	5	1	2	3	23
Pregnancy Ongoing	5	0	7	0	20	32
Stillbirth	0	0	0	0	0	0
Unknown	0	0	3	1	0	4

*** One completed pregnancy resulted in two outcomes.**

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ORAL HYGIENE AND INFLAMMATORY BOWEL DISEASES

S. Singhal, MD,[2] A. Farhadi, MD, MS, FACG,[1] M. Afsharzadeh, MD,[1] A. Keshavarzian, MD, FACG[1]. 1. Section of Gastroenterology and Nutrition, Rush University Medical Center, Chicago, IL; 2. Rosalind Franklin University of Medicine and Science, Chicago, IL.

Purpose: 'Hygiene Hypothesis', suggests that a reduction in microbial burden by public health measures has contributed to an immunological imbalance in the intestine and increased incidence of autoimmune diseases such as Inflammatory Bowel Diseases (IBD). We have evaluated the impact of oral hygiene on IBD.

Methods: We developed and administered a multiple choice questionnaire to evaluate oral hygiene and dental care practices of 137 subjects (83 Inflammatory Bowel Disease-IBD and 54 healthy controls). Factors such as frequency of brushing, use of floss, use of breath freshener, visit to dentist and frequency of dental problems were considered at disease onset and at the time of filling questionnaire.

Results: Of 83 cases with IBD 31% had Ulcerative Colitis and 69% had Crohn's Disease. The frequency of brushing in IBD cases at disease onset was significantly higher than in controls ($p<0.001$). Also the frequency of use of dental floss and breath freshener at disease onset was significantly higher in IBD than in controls ($p = 0.001$). Patients with IBD were more visit to dentist at disease onset ($p < 0.001$). There was no significant difference in these practices between the cases and controls at the time of filling of questionnaire except for the visit to dentist, which continued to be significantly more often ($p=0.029$) than controls. IBD cases have significantly higher frequency of dental complications such as caries tooth ($p=0.001$), dental decay ($p=0.045$), oral ulcers ($p=0.014$), dry mouth ($p=0.001$) and loosening of teeth ($p=0.045$) as compared to healthy controls. The frequency of bleeding gums, receding gums and dental fillings was not different between cases and controls.

Conclusion: This study suggests that there is difference in oral hygiene of subjects with IBD and healthy controls. Considering the oral cavity as one of the major place for residing bacterial flora, homeostasis of the oral bacteria may contribute to the pathogenesis of IBD by possible impact on the gut flora dysbiosis which may play a key role in the pathogenesis of IBD. This study can not determine whether, increased frequency of dental problems in IBD cases are due to alteration of flora or it is related to disease per se. Further prospective studies on oral microflora are necessary to answer this question.

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THE PERSPECTIVE OF PATIENT WITH ORGANIC AND FUNCTIONAL BOWEL DISEASE ON COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM)

S. Singhal, MD,[2] A. Farhadi, MD, MS, FACG,[1] M. Afsharzadeh, MD,[1] D. Dian, MD,[1] A. Keshavarzian, MD, FACG[1]. 1. Section of Gastroenterology and Nutrition, Rush University Medical Center, Chicago, IL; 2. Rosalind Franklin University of Medicine and Science, Chicago, IL.

Purpose: With the increasing demand and usage of complementary/alternative medicine (CAM) in various chronic disorders, it is vital that gastroenterologists can make informed decisions when advising or referring their patients who wish to use CAM. It is thus important to determine patient's perspective to assist them in informed decision making. We previously reported the willingness of subjects with IBD to use CAM. In this study we compared data with subjects with subjects with functional bowel disease and healthy controls.

Methods: We developed and administered a multiple choice questionnaire to evaluate perspectives of 148 subjects (83 Inflammatory Bowel Disease-IBD, 11 Irritable Bowel Syndrome-IBS and 54 healthy controls) on CAM. All collected data were statistically analyzed to evaluate responses.

Results: There was no significant difference in all measured variables between subjects with IBS and IBD. Thus, we combined both groups and compared the data with healthy controls. 20% of patients thought CAM were potent and effective, while 10% thought CAM is not strong enough. 39% were scared to try CAM without doctor's advice. Of 26/94 (28%) of IBD/IBS patients were using CAM at the time of the study which was significantly more than healthy controls 7/54 (13%) ($p = 0.034$). Of IBD/IBS using CAM; 35% had great improvement in symptoms, 27% had mild improvement, 12% had small and 15% had no improvement in symptoms. A significantly more number of IBS/IBD patients 71/94 (76%), as compared to healthy controls 16/54 (30%) have willingness to use CAM ($p< 0.001$). The most popular CAM modality that either IBD or IBS patients were currently using or willing to use were nutrient supplementation 71%, vitamins and minerals 70%, probiotics 55%, acupuncture 50%, Chinese medications 50%, western herbs 45% and ayurvedic 34% medicine.

Conclusion: Our study indicates that there is an unmet need in terms of willingness of patients with gastrointestinal problem to use CAM regardless of organic or functional nature of their GI disorders. This increases the role of gastroenterologist to be more knowledgeable, skillful, and have a balanced approach regarding judicious use of CAM. Our findings are preliminary but can provide a basis for multi-center, cross-cultural studies to further evaluate the patient perspective on the process of integrating CAM into the conventional regimens for treatment of both organic and functional bowel disorders.

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INCIDENCE OF COLORECTAL CANCER IN INFLAMMATORY BOWEL DISEASE

L. Liu, MD, MPH,[1] F. S. Velayos, MD, MPH,[2] J. E. Allison, MD,[2] J. P. Terdiman, MD,[2] J. D. Lewis, MD, MSCE,[3] S. M. Hutfless, MPH,[1] L. J. Herrinton, PhD[1]. 1. Division of Research, Kaiser Foundation Research Institute, Oakland, CA; 2. Department of Gastroenterology, University of California, San Francisco, San Francisco, CA; 3. Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania, Philadelphia, PA.

Purpose: Patients with inflammatory bowel disease (IBD) are at increased risk of colorectal cancer (CRC). Estimates of the magnitude of this increased risk in the United States have not been provided for a large, diverse, community-based population. Our aim was to compare the incidence of CRC in IBD patients with that in the general population.

Methods: From the Kaiser Permanente IBD Registry, we identified patients of all ages with prevalent Crohn's disease (CD) or ulcerative colitis (UC) during the period 1996-2006. Only patients with two or more visits for IBD were included. We further restricted our study population to patients with at least one year of follow-up and without prior total colectomy. Cancer patients were identified from the Northern California Cancer Registry, a participant in the National Cancer Institute's Surveillance, Epidemiology, and End-Results program. Cancer incidence was standardized to the age and gender distribution of the 2000 Census population.

Results: Among 4,120 CD patients and 8,067 UC patients in our IBD registry, CRC was diagnosed in 23 CD and 43 UC patients. The average annual incidence rates per 100,000 were 40.9 for CD, 38.8 for UC, and 42.8 for the general health-plan membership. The relative risk of developing CRC was 1.0 for CD (95% confidence interval (CI): 0.6-1.4) and 0.9 for UC (CI: 0.7-1.2). The stage distribution of CRC in the IBD patients was very similar to that of general health-plan members (36% local, 40% regional, 21% distant), while surgical treatment differed between the IBD and general populations (colectomy vs. local excision, 95% in IBD patients and 79% in general members). The number of resulting deaths from CRC was 18 (8 in CD, 10 in UC) and from other causes was 16 (5 in CD and 11 in UC).

Conclusion: This study did not find an increased risk of CRC cancer in IBD. Further study is needed to evaluate the roles of disease management, CRC prevention, and CRC surveillance in this encouraging result.

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UTILIZATION OF CERVICAL TESTING AMONG WOMEN WITH INFLAMMATORY BOWEL DISEASE

2008 ACG/Centocor IBD Abstract Award

M. D. Long, MD, MPH,[1] C. Q. Porter, BS,[3] R. S. Sandler, MD, MPH,[1] M. Kappelman, MD, MPH[2]. 1. Gastroenterology and Hepatology, University of North Carolina- Chapel Hill, Chapel Hill, NC; 2. Pediatric Gastroenterology and Hepatology, University of North Carolina-Chapel Hill, Chapel Hill, ND; 3. Cecil G. Sheps Center for Health Services Research, University of North Carolina-Chapel Hill, Chapel Hill, NC.

Purpose: Women with inflammatory bowel disease (IBD) have a higher incidence of abnormal Pap smear compared to women without IBD. However, the actual rate of cervical testing among women with IBD is unknown. We aimed to determine cervical testing rates among a large sample of women with IBD and specifically among women with IBD on immunosuppressant medications. We also aimed to identify specific risk factors associated with poor cervical testing rates among women with IBD in order to target future quality improvement initiatives.

Methods: We extracted medical and pharmacy claims from the PharMetrics Patient-Centric Database, containing data from 87 health plans in 33 states spanning the period January 2003-December 2005. We identified cases of CD and UC with claims for at least 3 IBD-associated visits or at least 1 visit and 1 IBD-specific prescription. For each case, we randomly selected up to 3 non-IBD controls, matched for age, health plan, and geographic region. Using logistic regression, we compared utilization of cervical testing (identified by a validated claims algorithm) by IBD case status, age, immunosuppressive medication use, Medicaid insurance status (a proxy for socioeconomic status) and whether a primary care physician (PCP) was seen.

Results: Only 70.4% of women with IBD (n=9356) and 65.2% of their non-IBD matched controls (n=25849) received recommended cervical testing (at least once every three years). Women with IBD who had a primary care visit had improved odds of cervical testing (OR 1.37 95% CI 1.19-1.59). Factors associated with reduced cervical testing included Medicaid insurance (OR 0.28, 95% CI 0.19-0.41), immunosuppressant medication use (OR 0.81, 95% CI 0.74-0.88) and increasing age (OR 0.77; 95% CI 0.74-0.81 for each 10 year increase in age). When only women with IBD on immunosuppressive medications were evaluated (n=7415), only 51.0% obtained cervical testing within a 15 month period (to approximate the recommended 12 month interval for immunosuppressed women). Those with a PCP had improved odds of cervical testing (OR 1.28, 95% CI 1.14-1.45). Those with Medicaid insurance had reduced odds of cervical testing (OR 0.54, 95% CI 0.39-0.74).

Conclusion: Women with IBD, especially those with Medicaid insurance, have suboptimal cervical testing rates. Women with IBD who had at least 1 visit to a primary care physician had improved rates of recommended cervical testing. Quality improvement initiatives are needed in order to improve preventive services, including cervical testing, for women with IBD.

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IMPACT OF ANTI-TNF-α TREATMENT FAILURE COMPLICATING LONG-TERM MAINTENANCE THERAPY FOR CROHN'S DISEASE

L. Perera, MD, A. N. Ananthakrishnan, MD, MPH, M. Issa, MD, S. Skaros, PA-C, K. Lemke, PA-C, A. Ward, RN, J. Knox, PA-C, Y. Zadvornova, MD, MBA, D. G. Binion, MD. Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI.

Purpose: Although long-term anti-TNF-α therapy has emerged as the mainstay of treatment for refractory moderate to severe Crohn's disease (CD), a significant subgroup of patients discontinue treatment due to immunogenicity and/or loss of efficacy. Clinical outcome of CD patients who discontinue long-term biologic maintenance treatment with infliximab (IFX) has not been well defined.

Methods: This was a retrospective observational cohort analysis of CD pts who had received long-term, scheduled maintenance IFX for > 1 year, but subsequently discontinued therapy. All patients were followed at a single tertiary referral IBD Center between 1998 -2007. Our primary outcomes were health related quality of life (QOL) measured using the short inflammatory bowel disease questionnaire (SIBDQ), hospitalizations, surgeries and permanent work disability. We analyzed patterns of IFX dose intensification prior to discontinuation, concomitant immunomodulator use and subsequent forms of therapy.

Results: Among153 CD patients who received maintenance IFX treatment beyond 1 year, 42 patients (27%) discontinued treatment. CD patients who failed long-term IFX had a mean age of 39±13 y; a mean disease duration of 15±14.5 yrs; and had a slight female predominance (57%). Prior to discontinuation, 57% of patients (24/42) required IFX dose escalation. 64% of patients failing IFX (27/42) were started on adalimumab (ADA), among whom 22% (6/27) failed the second anti-TNF-α agent. 66% of pts who continued on ADA were maintained on concomitant immunomodulators (IMM). Among IFX long-term failures, 24% of patients received subsequent IMM monotherapy, and 12% were on no specific CD therapy. Following IFX failure, mean SIBDQ scores were similar between patients on IMM monotherapy (41.5±13) or ADA maintenance (42.5±13). CD patients failing a second anti-TNF-α had significantly lower SIBDQ scores (28.8± 13) ($p<.05$). Among the 27 ADA treated patients, there were 39 surgeries and 47 hospitalizations prior to therapy. The 21 ADA responders had a mean of 0.1 hospitalizations (n=2) per patient and 0 surgeries (n=0) during follow-up compared to corresponding means of 1.7 and 0.7 among those who failed the second anti-TNF-α agent. Among all long-term IFX failures, permanent disability was seen in 21% (9/42).

Conclusion: Long-term anti-TNF-α failures in CD have low QOL and high rates of permanent disability. Patients who respond to a second anti-TNF-α agent have better QOL and lower health care utilization compared with the subgroup of patients who have failed a second anti-TNF-α biologic.

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PERCEPTION AND REALITY: PATTERNS OF HOSPITALIZATION, SURGERY, PERMANENT WORK DISABILITY AND DEATH IN CROHN'S DISEASE PATIENTS REQUIRING ANTI-TNF-α THERAPY

L. Perera, MD, A. N. Ananthakrishnan, MD, MPH, M. Issa, MD, S. Skaros, PA-C, K. Lemke, PA-C, J. Knox, PA-C, A. Ward, RN, Y. Zadvornova, MD, MBA, D. G. Binion, MD. Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI.

Purpose: Anti-TNF-α therapy has emerged as a mainstay for the treatment of moderate to severe Crohn's disease (CD) refractory to standard immunosuppressive agents. Perception regarding risk, specifically neoplastic and infectious complications may prompt clinicians to limit or cease use of biologic therapy. However, the natural history of moderate to severe CD and its associated complications including hospitalization, surgery, permanent work disability and death, in a routine clinical setting have not been well characterized in the biologic therapy eligible population. This information is essential to better understand risk-benefit assessment of the use of biologics in the treatment of CD.

Methods: This was a retrospective observational cohort analysis at a single tertiary referral center. CD patients with any exposure to infliximab comprised the study population. Patients were grouped based on status of anti-TNF-α therapy, as either ONGOING MAINTENANCE (OM) or DISCONTINUED (DIS) therapy. Demographic information, location of disease, CD related hospitalization, surgery, permanent work disability or death were determined.

Results: Out of 930 CD patients, 435 had been exposed to infliximab (47%) among who 205 were receiving ongoing maintenance (OM) therapy (22%) during the time period 1998 - 2007. There was no difference regarding mean age (40.9y vs. 42.3y) or duration of disease (16.8y vs. 13.5y) between the OM and DIS groups. There was also no difference between hospitalizations and surgeries prior to infliximab initiation between the two groups. We identified strong trends towards higher mean per patient medical hospitalizations (1.80 vs. 1.23, $p=0.07$) and surgery (2.30 vs. 1.73, $p=0.05$) in the DIS group compared to those with those with ongoing maintenance. Rates of permanent work disability were also higher in the DIS (10.0%, n=23) compared to the OM (3.4%, n=7; $p=0.005$). Deaths occurred in 1% of the OM group (n=2) and 3.4% of the DIS group (n=8) ($p=0.08$) during the study period.

Conclusion: CD patients who warrant anti-TNF-α biologic therapy have high rates of disease-related complications. Patients who discontinued maintenance biologic therapy had more adverse outcomes including higher health care utilization. Accurate risk-benefit assessment in the management of moderate-to-severe CD needs to take into account the high rate of complications associated with inadequately treated disease.
Disclosure - Dr. Binion - Consultant, Speakers Bureau, Grant/Research Support: Centocor. Consultant, Grant/Research Support: Elan Biogen.
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A PROTOTYPE SYSTEM DYNAMICS MODEL TO COMMUNICATE THE RISK OF CROHN'S DISEASE COMPLICATIONS TO PATIENTS AND THEIR PREDICTED TREATMENT RESPONSE
C. A. Siegel, MD,[1] L. S. Siegel, PhD,[2] B. E. Sands, MD,[3] I. Wrobel, MD,[4] G. Wahbeh, MD,[5] A. Quiros, MD,[6] G. Silber, MD,[7] R. Bahar, MD,[8] M. C. Dubinsky, MD[8]. 1. Dartmouth-Hitchcock Medical Center, Lebanon, NH; 2. Siegel Environmental Dynamics, LLC, Hanover, NH; 3. Massachusetts General Hospital, Boston, MA; 4. Alberta Children's Hospital, Calgary, AB, Canada; 5. Seattle Children's Hospital, Seattle, WA; 6. California Pacific Medical Center, San Francisco, CA; 7. Phoenix Children's Hospital, Phoenix, AZ; 8. Cedars-Sinai Medical Center, Los Angeles, CA.
Purpose: Crohn's disease (CD) patients and their parents need to make treatment decisions that require an understanding of complex factors. System dynamics analyses (SDA) can predict and graphically convey outcomes using multiple variables. Our aim was to formulate a prototype communication tool to allow individual patients and their parents to see how medical therapy influences their personal risk of disease related complications.
Methods: Using data from 276 CD patients (ages 6 months-19 yrs) prospectively collected from the Western Regional Pediatric IBD Research Alliance we developed a model using SDA. The primary outcome of the model was the probability of developing a CD related complication (internal penetrating (IP), stricturing (S), or surgery) in the first 10 years after diagnosis. Model input variables included: age at diagnosis, gender, disease phenotype, serologic immune responses, NOD2 variants (SNP 8, 12, 13), type of complication and medical treatment. The solution procedure relies on Euler's method to numerically approximate the partial differentials of dynamic functions. Statistical analyses were performed using Statgraphics and the SDA model was developed using Vensim DSS. Logistic regression and Cox proportional analyses defined the probability of IP or S and surgery.
Results: There was a higher probability of complications with increasing serologic quartile sum, age of diagnosis, and upper tract disease location (each $p<0.05$), and lower with delivery of anti-TNF treatment ($p=0.07$). Using the Mann-Whitney W test to compare medians, the model's projected time to complication is statistically similar to the actual patient data ($p=0.36$) . Model results can be displayed graphically by inputting individual patient characteristics with a computer interface resulting in a personalized profile of the probability of developing a complication and how this is modified by medical therapy. The model also incorporates a framework for starting medications based on a patient's risk threshold of developing a complication of their disease or treatment.
Conclusion: We have used SDA to formulate a model to predict the probability of a complication of CD in the first 10 years after diagnosis and demonstrate the influence of anti-TNF therapy on this outcome. This model is structured to incorporate other medical treatment options including early aggressive therapy and account for treatment related complications, and these will be added as emerging data become more robust. Once validated, this model will be used as a communication tool to provide informed consent of the personal risks of surgery and treatment, and assist patients to make decisions with their physicians based on their personal preferences and risk thresholds.
Disclosure - Dr. Siegel - Consultant: Abbott, UCB; Dr. Dubinsky - Consultant: Prometheus, Abbott, Centocor, UCB; Dr. Sands - Consultant: Prometheus, Abbott, Centocor, UCB

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ADALIMUMAB EFFECTIVENESS IN TNF-ANTAGONIST–NAïVE PATIENTS AND IN INFLIXIMAB NONRESPONDERS WITH CROHN'S DISEASE: RESULTS FROM THE CARE STUDY
R. Lofberg, MD,[1] E. Louis, MD, PhD,[2] W. Reinisch, MD,[3] M. Kron, PhD,[4] A. Camez, MD,[4] P. F. Pollack, MD[5]. 1. IBD-Unit, Karolinska Institutet, Stockholm, Sweden; 2. University of Liège, Liège, Belgium; 3. Medical University of Vienna, Vienna, Austria; 4. Abbott GmbH & Co. KG, Ludwigshafen, Germany; 5. Abbott Laboratories, Parsippany, NJ.
Purpose: Adalimumab (ADA), a fully human, anti–TNF monoclonal antibody, is approved for the treatment of Crohn's disease (CD). ADA induces and maintains remission in CD patients (pts) naïve to or experienced with TNF antagonist therapy.
Methods: In the Crohn's Patients Treated with Adalimumab: Results of a Safety and Efficacy Study (CARE), we evaluated efficacy and safety of ADA in a large population of patients whose treatment approximated usual clinical practice. Pts with Harvey Bradshaw Index [HBI] score >7 enrolled in this multicenter, open label European Phase IIIb trial. We evaluated ADA's ability to induce response and remission in both bio-naïve patients as well as those who had failed IFX. Pts received induction therapy of 160-mg/80-mg ADA at Weeks 0/2, followed by ADA 40 mg every-other-week maintenance therapy through at least Week 20. Endpoints included remission (HBI<5) and response (decrease in HBI≥3; data not shown). Results were analyzed by prior exposure to IFX, as well as by reason for discontinuing IFX (primary nonresponse [PNR], loss of response [LOR], or intolerance/adverse events).
Results: Of 945 pts, 60% were female, 68% were <40 years old, 48% failed prior IFX therapy, 43% had concomitant steroid use, and 55% had concomitant IMM therapy. Week-4 and Week-20 remission data are provided (table). At Week 4, >25% of IFX PNR pts achieved remission, and at Week 20, 36% were in remission. ADA was well-tolerated, with 17% serious adverse events (SAEs), 5% infectious SAEs, 1% opportunistic infections, <1% malignancies, one case of demyelinating disease and no lupus, TB, or deaths.
Conclusion: ADA induction therapy led to substantial efficacy at Wk 4, sustained through Wk 20, including for patients who had never responded to IFX. Half of all pts were in remission at Wk 20. Remission rates are consistent with those reported in pivotal clinical trials. ADA was well-tolerated, with safety consistent with prior reports in CD. This research was funded by Abbott Laboratories, Abbott Park, IL.

Wk-4 and Wk-20 Remission Rates*

	Wk 4	Wk 20
All patients, ITT	43% (405/945)	52% (493/945)
TNF-antagonist-naïve	49% (241/488)	61% (299/488)
Prior IFX†	36% (164/457)	42% (194/457)
PNR	28% (26/94)	36% (34/94)
IFX, LOR	36% (62/174)	40% (69/174)
Intolerance/adverse events	39% (45/114)	46% (52/114)

***Nonresponder imputation; all reasons for discontinuation.**
Disclosure - Dr. Lofberg - Consulting assignments and/or receiving research funding: Abbott Labs, Asahi, AstraZeneca, Celltech, Centocor, Connexion, Cosmo, Elan, InDex Pharmaceuticals, Meda, Otsuka, Pharmacia-Pfizer, Schering Plough, Schering AG, Serono, UCB; Dr. Louis - Research grant: AstraZeneca, Scehring Plough, Speaker fee: AstraZeneca, UCB, Abbott, Schring Plough, Ferring, Advisory board member: Abbott, UCB, Ferring; Dr. Reinisch - Speaker: Abbott; Advisory Boards: Abbott; Dr. Kron - Employee: Abbott; Dr. Camez - Employee: Abbott, Stocks: Abbott; Dr. Pollack - Employee: Abbott
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CHANGING PATTERNS IN THE USE OF HOME PARENTERAL NUTRITION IN CROHN'S DISEASE PATIENTS
D. Wiese, BS,[1] R. Rivera, MD,[2] D. L. Seidner, MD, FACG,[5] R. Razack, MD,[6] R. Lopez, MS,[4] E. Steiger, MD[3]. 1. Cleveland Clinic Lerner College of Medicine, Cleveland Clinic, Cleveland, OH; 2. Digestive Disease Center, Cleveland Clinic, Cleveland, OH; 3. General Surgery, Cleveland Clinic, Cleveland, OH; 4. Quantitative Health Services, Cleveland Clinic, Cleveland, OH; 5. Center for Human Nutrition, Vanderbilt University Medical Center, Nashville, TN; 6. Internal Medicine, University of Medicine and Dentistry of New Jersey, Newark, NJ.
Purpose: This is a descriptive study of the changing patterns of home parenteral nutrition (HPN) use in Crohn's Disease(CD) patients treated at the Cleveland Clinic from the years of 1986-2006.
Methods: We identified subjects through a prospectively maintained electronic database of all patients receiving HPN through the Cleveland Clinic. Information was extracted from the HPN database for the years of 1986-2006. A separate CD-HPN database was created in Microsoft Access by adding data from the colorectal surgery database, the electronic chart, and paper charts of our subjects. The HPN episodes were categorized into 3 time frames: 1) 1970's and 1980's, 2) 1990's and 3) 2000's (N=15, 26, and 101 respectively). To assess whether there were significant trends over time in factors such as duration of TPN and total energy amount, univariable cumulative logit models were created modeling decade as the outcome; Jonckheere-Terpstra tests were used for categorical factors. A $P<0.05$ was considered statistically significant.
Results: There were a total of 112 subjects and 142 episodes of HPN use in CD. Number of subjects starting HPN increased over time from 15 to 101 per decade. Months of HPN use decreased significantly from 88.6 months in the 1970's/1980's to 4.4 months in the 2000s ($p<0.0001$). Indications for HPN changed from short bowel as the main indication in the early time period to post-op fistula in the 2000's. The duration of HPN was inversely associated with the year in which it was started for short bowel and post-op fistula ($R= -0.74$, $p <0.001$; $R=-0.40$, $p=0.01$ respectively). TPN composition changed significantly with increases in protein Kcal/day (243.5 to 368.1, $p=0.002$), fat Kcal/day (74.7 to 133.1, $p=0.049$), total Kcal/day (989.1 to 1644.4, $p=0.02$) and number of infusion days (5.7 to 6.3, $p=0.009$). It appeared that there was an increase in infections over time however our data on complications during the early time period was limited ($p=0.01$).
Conclusion: To our knowledge this is one of the largest and longest reports of HPN use in CD patients. Our experience shows that more patients are being placed on HPN than in the past. This is likely due to the trend to send patients with post-op fistula and prolonged ileus home whereas in the past they were observed in the hospital until these problems resolved. The increase in total kcal, protein kcal, fat kcal and number of infusion days reflects this increasing trend of discharging severe bowel dysfunction CD patients that require greater intakes rather than administering in-hospital TPN.

Changes in Indications, Duration and Composition of HPN in CD

	1970-1980's (N=15)	1990s (N=26)	2000s (N=101)	P-value
Months HPN	88.6 (2, 161.8)	16.7 (9.4, 57.5)	4.4 (2.2, 10.4)	<0.001
HPN Indication				0.02
Jejunostomy	0 (0.0)	1 (4.4)	12 (12.2)	
Short Bowel	8 (66.7)	14 (60.9)	24 (24.5)	
Post-Op Fistula	0 (0.0)	4 (17.4)	35 (35.7)	
Obstruction	1 (8.3)	2 (8.7)	14 (14.3)	
Other	3 (25.0)	2 (8.7)	13 (13.3)	
Total Kcal/day	989.1 (568.2, 1248.6)	1575.1 (1138.8, 1811.1)	1644.4 (1312.1, 1937.5)	0.02
Protein Kcal/day	243.5 (147.7, 296.4)	308.6 (244.4, 394)	368.1 (320, 428.9)	0.002
Fat Kcal/day	74.7 (1.6, 91.4)	141 (111.2, 189.5)	133.1 (117.7, 200.4)	0.049

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THE EFFECT OF DELAYED DIAGNOSIS OF INFLAMMATORY BOWEL DISEASE ON DISEASE MANAGEMENT AND COURSE

2008 ACG/Centocor IBD Abstract Award

U. Iroku, MD, MHS,[1] B. P. Bosworth, MD,[2] E. J. Scherl, MD, FACP[2]. 1. College of Physicians and Surgeons, Columbia University, New York, NY; 2. Weill Medical College of Cornell University, New York, NY.

Purpose: Inflammatory Bowel Disease (IBD) is a relapsing and remitting disorder of the gastrointestinal system with genetic, microbiological and immune mediated pathophysiologic processes that simultaneously result in systemic manifestations. IBD has been established to have a progressive nature with time from diagnosis, and has an increasing incidence of fistulization, stricturing and risk of neoplasia. There is mounting evidence that treatment of disease, even when quiescent may be associated with important outcomes such as short and long term mucosal healing; and slowing pathophysiologic processes leading to reduced cancer incidence. There is however little data addressing the importance of the duration of the pre-diagnosis phase of IBD on subsequent IBD management and course. The aim of this study is to determine the effect of delay in the diagnosis of IBD on the disease management and course.

Methods: The information was prospectively collected from patients seen at the Roberts IBD Center and stored in the center research database. Supplemental information was obtained via patient interviews and the data was analyzed retrospectively. Delay in IBD diagnosis was defined as a duration between onset of symptoms and formal diagnosis that exceeds five years. Primary endpoints were steroid dependence (defined as cumulative steroid use exceeding 12 months). Additional examined endpoints included need for immunomodulator and/or anti-TNF therapy; new draining fistulas and strictures; hospitalizations and need for IBD related surgery. Outcomes in the groups of interest were compared using logistic regressional methods while controlling for potentially confounding variables including age, duration of post-diagnosis phase of IBD, and type of IBD – Crohn's Disease (CD) vs. Ulcerative Colitis (UC).

Results: 143 adult patients with IBD were analyzed with a mean time of delay in diagnosis of 1.9y (0-24.3y) for CD and 2.3y (0-23.0y) for UC. Patients with a delay in diagnosis (>5yrs) had an increased likelihood of steroid dependence (OR:6.49, p=0.005); and an increased subsequent development of extraintestinal manifestations of IBD (1.03, p=0.05). Development of fistulizing disease (p=0.12), development of stricturing disease (p=0.66), abscess formation (p=0.37) and surgery for IBD related complication (p=0.32) were not found to be statistically different in the delayed vs. the non-delayed diagnosis groups.

Conclusion: A delay in the diagnosis of IBD is associated with an increased risk of steroid dependence. An accelerated work-up with prompt initiation of medical therapy when appropriate in patients with a high level of suspicion for IBD may be lead to better outcomes in the disease management and course.

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EARLY AND SUSTAINED EFFICACY OF DELAYED-RELEASE ORAL MESALAMINE IN MODERATELY ACTIVE ULCERATIVE COLITIS PATIENTS: COMBINED RESULTS FROM THE ASCEND I, II, & III TRIALS

G. R. Lichtenstein, MD,[1] D. Ramsey, BS,[2] E. V. Loftus, MD[3]. 1. Hospital of the University of Pennsylvania, Philadelphia, PA; 2. Procter & Gamble Pharmaceuticals, Inc., Mason, OH; 3. Mayo Clinic, Rochester, MN.

Purpose: Early and sustained relief of the symptoms of ulcerative colitis (UC) is a key treatment goal in patients experiencing a flare. The purpose of this analysis was to determine if patients who respond to therapy at 3 weeks sustain the response at 6 weeks.

Methods: Data from 3 multi-center, randomized, double-blind, active-controlled studies (ASCEND I, II, III) were combined and analyzed. Efficacy and safety of delayed-release mesalamine 4.8 g/day (investigational 800mg tablet) was compared with 2.4 g/day (marketed Asacol® 400mg tablet) in patients with moderately active UC (Physician's Global Assessment [PGA] =2). The hallmark symptoms of UC, rectal bleeding and stool frequency, were evaluated. Improvement in rectal bleeding and stool frequency was defined as a decrease from baseline of at least 1 point based on a 4 point scale (0-3). Clinical remission was defined as resolution (score = 0) of both rectal bleeding and stool frequency.

Results: A total of 1220 patients with moderately active UC were randomized and dosed. The table below reviews treatment outcome results in patients with moderately active UC at 3 and 6 weeks and reports the percent of patients who had a response at 3 weeks with a continued response at 6 weeks. A high percentage of patients who had a response at 3 weeks also had a response at 6 weeks.

Conclusion: Results from this large combined analysis showed that delayed-release oral mesalamine provided early (in as few as 3 weeks) and sustained efficacy in patients with moderately active UC.

	4.8g/day N=602			2.4g/day N=618		
	3 Weeks	6 Weeks	3 Week Responders with Sustained Response at 6 Weeks	3 Weeks	6 Weeks	3 Week Responders with Sustained Response at 6 Weeks
Rectal Bleeding Improvement	76%	83%*	91%	74%	79%	91%
Stool Frequency Improvement	73%*	78%	88%	64%	73%	89%
Clinical Remission (rectal bleeding and stool frequency=0)	26%*	43%	80%	20%	37%	75%

***p<0.05 for 4.8g/day vs 2.4g/day**

Disclosure - Gary R. Lichtenstein is a consultant for P&G Pharmaceuticals. David Ramsey is an employee of P&G Pharmaceuticals. Edward V. Loftus is a consultant for P&G Pharmaceuticals.

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THE CLINICAL VALUE OF THE TERMINAL ILEUM BIOPSY: A NATION-WIDE CLINICO-PATHOLOGIC ANALYSIS

M. H. Saboorian, MD, C. M. Schuler, MD, K. Stuckhoff, MS, R. M. Genta, MD. Caris Diagnostics, Irving, TX.

Purpose: Biopsies from the terminal ileum (TI) are commonly obtained during colonoscopy, even though their diagnostic yield is believed to be low (Yoong, Surg Endosc 2006; McHugh, Am J Gastroenterol 2007). Using a nation-wide sample of patients who underwent colonoscopy, we designed this study to assess the value of biopsies from the TI in relation to clinical indications and endoscopic impression.

Methods: We analyzed electronic data from Caris Diagnostics, a specialized gastrointestinal pathology group receiving specimens from community-based gastroenterologists in 40 states. The database includes demographic and clinical information, summary of the endoscopic report, site of origin, and histopathologic report for each biopsy. To identify eligible TI biopsies we extracted data from all cases signed-out from 4/01/07 to 3/31/08 and stored them in a Microsoft Access database. Statistical calculations were performed using SigmaStat 3.5; chi-square test, Student's t-test and the Mann-Whitney Rank Sum Test were used as appropriate. A p value < 0.05 was considered significant.

Results: A biopsy from the TI was available from 11,296 unique patients (57.3 % women; median age 48 years, range 1-99). For this analysis we included 7,179 patients whose stated clinical indications for the colonoscopy fell into one of five categories: diarrhea (3,188 patients); abdominal pain (1,259); evaluation of or suspected Crohn disease (CD, 1,163); evaluation of or suspected ulcerative colitis (UC, 491); and screening colonoscopy (1,078). Availability of concurrent colonic biopsies varied from from 96% (patients with UC) to 80% (patients with CD). Some degree of ileitis was diagnosed in 36% of CD patients, in 18% of those with abdominal pain, and in 12% to 16% of the remaining patients; Chronic Active Ileitis (CAI, a more specific indicator of CD) was detected in 16% of patients evaluated for CD, but only in 2.6% to 0.1% of the other groups. When CD was suspected at endoscopy, the CAI rate went up to 24%. Chronic active colitis (a good indicator of IBD) was present in the colonic biopsies of 13% of CD patients, 23% of UC patients, 4.1% of those with diarrhea and < 2% of the other groups. Adenomas were rare in CD and UC patients (6.2% and 4.4%, respectively) vs. 38.1% for screened subjects.

Conclusion: The ileal biopsy should not be dismissed based on an allegedly low diagnostic yield. In a quarter of patients with suspected Crohn disease it provides invaluable confirmatory information; the absence of CAI confirms >99% of suspected cases of UC; and the occasional finding of active ileitis in patients with non-specific GI manifestations may raise the suspicion of NSAID-associated injury or enteropathic arthritis (Holden, Rheum Dis N Am, 2003).

Disclosure - Dr. Saboorian, Dr. Schuler, Dr. Genta, and Mr. Stuckhoff are employees of Caris Diagnostics, Irving, Texas.

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CROHN'S DISEASE IS ASSOCIATED WITH RESTLESS LEGS SYNDROME: A NEW EXTRAINTESTINAL MANIFESTATION

L. B. Weinstock, MD,[1] B. P. Bosworth, MD,[2] E. Scherl, MD,[2] E. Li, MD,[3] M. A. Munsell, MD,[4] G. E. Mullin, MD,[4] A. S. Walters, MD,[5] S. P. Duntley, MD[6]. 1. Gastroenterology, Specialists in Gastroenterology, St. Louis, MO; 2. Gastroenterology, Weill Cornell Medical Center, New York, NY; 3. Gastroenterology, Washington University School of Medicine, St. Louis, MO; 4. Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, MD; 5. NJ Neuroscience Institute at JFK Medical Center, Seton Hall University School of Graduate Medical Education, Edison, NJ; 6. Neurology, Washington University School of Medicine, St. Louis, MO.

Purpose: Extraintestinal manifestations of Crohn's disease (CD) rarely include the central nervous system (CNS). Restless legs syndrome (RLS) is a CNS disorder that is either idiopathic or secondary to a number of diseases. RLS is the strong urge to move the legs often with discomfort, occurs in 10% of the population, and causes poor sleep and reduced quality of life. The aim of this study was to determine if CD was associated with RLS since both are associated with iron deficiency. Inflammation and bacterial overgrowth are also associated with RLS and occur commonly in pts with CD.

Methods: All consecutive CD outpatients (F-151, M-121; mean age 43.8 yrs) were prospectively surveyed by gastroenterologists at Specialists in Gastroenterology, a community GI practice (N=135), Weill Cornell Medical Center (N=71), Washington University School of Medicine (N=54), and Johns Hopkins School of Medicine (N=12). No patients were excluded or refused the survey. All four international criteria were required to be positive for RLS: 1) urge to move legs often with discomfort, 2) worse at rest, 3) worsening at night, and 4) relief with activity. Incidence (having RLS at any point in time), prevalence (having RLS at time of survey), clinical characteristics, RLS risk factors, and potential qualitative relationship to GI symptoms were queried. One IRB limited the RLS frequency question to prevalence and did not allow RLS risk factor questions (54 of 272 surveys).

Results: RLS incidence was 42.7% (93/218). Prevalence of RLS was 30.2% (82/272; CI 29.9-30.3%) vs. 8.7% (17/194; CI 8.6-8.8%) of spouses (p<0.0001; odds ratio = 4.5; CI 2.54-7.87%). In 91.8% pts, RLS started during or after onset of diagnosis of CD. Among 72 RLS(+) pts, 44.5% stated there was correlation of qualitative RLS symptom improvement with overall CD symptom improvement. RLS(+) pts and RLS(-) CD pts had: mean age of 46.8 vs. 42.6 yrs, small intestine involvement in 77.9% vs. 66.7%, colon involvement in 39.7% vs. 63.2%, and prior iron deficiency anemia in 49.3% vs. 33.1%. There was no difference between the CD groups with respect to: gender ratio, current iron deficiency (4.6%), RLS family history (12%), or the rare prevalence of concomitant RLS disorders.

Conclusion: RLS occurs frequently in CD and appears to be a new extraintestinal manifestation. Factors other than iron deficiency play a role in RLS pathophysiology in CD. The potential relationship of RLS with CD activity needs further investigation. Determination of the effect of RLS on the quality of life in CD is warranted.

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OUTCOMES AFTER ACUTE SEVERE ULCERATIVE COLITIS: TEN-YEAR SINGLE-CENTER EXPERIENCE

S. B. Ingle, MD,[1] E. V. Loftus, MD,[1] W. S. Harmsen, MS,[2] A. R. Zinsmeister, PhD,[2] W. Sandborn, MD[1]. 1. Miles & Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN; 2. Biostatistics, Mayo Clinic, Rochester, MN.

Purpose: Severe ulcerative colitis (UC) requires inpatient admission and accounts for substantial resource utilization, including colectomy. Little data related to colectomy risk are available in the modern era, and whether anti-TNF and other therapies are altering disease course is unclear. We sought to describe clinical features and outcomes, including colectomy, and mortality, of UC patients requiring hospitalization for disease exacerbation.

Methods: All UC patients admitted to the gastroenterology inpatient service at our institution between January 1, 1997 and December 31, 2006 for disease activity were identified. (Patients admitted for planned surgery were excluded from the analysis.) Demographics and pertinent clinical features of the index hospitalization and the post-hospitalization course were recorded. Logistic regression was used to identify factors associated with colectomy during the index hospitalization, and the Kaplan-Meier survival method was used to estimate survival free of colectomy following discharge from the index hospitalization.

Results: A total of 281 UC patients were admitted for disease activity. Sixty percent were male and 86% Caucasian. Median age at hospitalization was 39.8 years, median disease duration was 18.2 months, and 25% reported a previous hospitalization elsewhere. Median length of stay at the index hospitalization was 9 days (2-38). Median follow-up in patients not undergoing a colectomy was 14.5 months. Overall, 275 patients were alive at last follow-up. No inpatient deaths occurred. One-hundred twenty-five patients (44%) underwent colectomy during the index hospitalization after a median duration of 6 days. Variables significantly associated with an index hospitalization colectomy included previous inpatient stay for UC (odds ratio [OR], 1.9; 95% CI, 1.1-3.3), previous need for intravenous corticosteroids (OR, 2.1; 1.2-3.5), Hgb less than 12 g/dL (OR, 2.1; 1.3-3.3), endoscopic Baron score 3 or 4 (OR, 2.1; 1.3-3.5) and BMI <25 relative to BMI>30, (OR, 2.2; 1.1-4.2). Ten patients were treated with cyclosporine, and 7 (70%) required colectomy during hospitalization. Of the 8 patients who received infliximab, 3 (37.5%) required colectomy. Survival free of colectomy post-hospitalization was 64.3% at 1 yr (56.2%-73.5%), 57.1% at 2 yr (48.3%-67.3%), and 50.0% at 5 yrs (38.3%-64.0%).

Conclusion: Acute severe UC led to colectomy during the same hospitalization in 44% at our institution over the past 10 years. Factors associated with early colectomy included previous hospitalization for UC, previous IV steroids, anemia, and endoscopically moderate to severe colitis. The natural history of acute severe colitis appears largely unchanged despite advances in medical practice.

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ADALIMUMAB IS EFFECTIVE IN PATIENTS WITH FISTULIZING CROHN'S DISEASE WHO WERE PRIMARY NONRESPONDERS TO INFLIXIMAB TREATMENT

S. Lichtiger, MD,[1] D. G. Binion, MD,[2] D. Wolf, MD,[3] D. H. Present, MD,[4] K. G. Lomax, MD,[5] S. Rafiq, MA,[5] F. Holdbrook, PhD[5]. 1. Gastroenterology, Mount Sinai Medical Center, New York, NY; 2. Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI; 3. Atlanta Gastroenterology Associates, Atlanta, GA; 4. Internal Medicine, Mount Sinai Medical Center, New York, NY; 5. Abbott Laboratories, Parsippany, NJ.

Purpose: Adalimumab (ADA), a fully human anti-tumor necrosis factor monoclonal antibody, is approved for the induction and maintenance of remission in adults with moderate to severe Crohn's disease (CD). Fistula healing and response was demonstrated in the 1-year CHARM trial, in which one-third of patients (pts) with fistulas had complete healing at the end of 1 year.[1]

Methods: Fistula healing and response in the CHOICE trial, a US-based, multicenter, open-label trial of pts with moderately or severely active CD who failed infliximab therapy, were examined in this analysis. Patients who had previously responded to infliximab were enrolled, as well as primary nonresponders to infliximab. After a minimum 8-week infliximab washout, pts received open-label ADA as induction (160/80 mg at Weeks 0/2) and maintenance (40 mg every other week) therapies. Minimum study duration was ≥8 weeks, continuing until ADA was commercially available for CD. At/after 8 weeks, pts could be switched to ADA 40 mg weekly for flare/nonresponse. Complete fistula healing was measured at Week 0 and at the final study visit or early termination by lack of draining with gentle compression. All ADA patients were analyzed as a single group using both nonresponder imputation (NRI) and observed cases. Data were also summarized for 2 subgroups relative to infliximab failure: primary nonresponders (PNR) and initial responders (IR) who developed intolerance of or loss of response to infliximab.

Results: Of the 673 pts in CHOICE, 88 had fistulas at baseline and 83 had data available at the last visit (ranging from Weeks 4 to 36). Complete fistula healing at last visit is shown in the table. Of the pts with complete fistula healing, 35% (12 of 34) completed Week 12 and 65% (22 of 34) completed Weeks 24 or 36.

Conclusion: ADA was effective in this difficult-to-treat population of pts who had fistulas and had failed infliximab. Forty percent of pts had complete fistula healing at their last visit. Fistula healing was similar among the hard-to-treat pts who were primary nonresponders to infliximab. Fistula data from CHOICE are consistent with the efficacy demonstrated in CHARM.

Reference: [1]Colombel JF, et al. *Gastroenterology*. 2007;132(1):52–65. This research was funded by Abbott Laboratories, Abbott Park, IL.

Complete Fistula Healing With Adalimumab Therapy

Population	Nonresponder Imputation	Observed
Total ADA	39% (34/88)	41% (34/83)
Primary nonresponders	31% (4/13)	33% (4/12)
Initial responders	40% (30/75)	42% (30/71)

Disclosure - Dr. Lichtiger - Consultant: Procter & Gamble Pharmaceuticals, Prometheus, Grant/Research Support: Abbott Laboratories, Centocor, Osiris, Procter & Gamble Pharmaceuticals, Salix, UCB, Speaker's Bureau: Abbott Laboratories, Procter & Gamble Pharmaceuticals, Prometheus, UCB; Dr. Binion - Grant Support: National Institute of Health, Procter & Gamble Pharmaceuticals, Speaker's Bureau: Abbott Laboratories, Centocor, Elan Pharmaceuticals, Procter & Gamble Pharmaceuticals, Prometheus, Salix Pharmaceuticals, Shire Pharmaceuticals, UCB; Dr. Wolf - Clinical research support: Abbott, Consultant: Abbott,Speakers bureau: Abbott; Dr. Present - Grant/Research Support: Abbott, Alaven, Centocor, Crohn's and Colitis Foundation of America, Elan Pharmaceuticals, Inc, Mayo Clinic, Proctor & Gamble Pharmaceuticals, National Institute of Health (U. of Pennsylvania) Tech Lab, Teva Pharmaceuticals USA, UCB, Consultant/Scientific Advisor: Abbott, Alaven, Axcan Pharma, Inc., Centocor, Elan Pharmaceuticals, Proctor & Gamble Pharmaceuticals, Salix Pharmaceuticals, UCB, Speaker's Bureau: Axcan Pharma, Elan Pharmaceuticals, Proctor & Gamble Pharmaceuticals, Salix Pharmaceuticals, Shire Pharmaceuticals, UCB; Dr. Lomax - Employee: Abbott; Shuvobrata Rafiq - Employee: Abbott; Dr. Holdbrook - Employee: Abbott.

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EFFICACY OF FIBER IN IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] N. J. Talley, MD,[2] B. M. Spiegel, MD,[3] A. Foxx-Orenstein, MD,[4] L. R. Schiller, MD,[5] E. M. Quigley, MD,[6] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Department of Medicine, Mayo Clinic Florida, Jacksonville, FL; 3. VA Greater Los Angeles Healthcare System; David Geffen School of Medicine at UCLA, UCLA School of Public Health, UCLA/VA Center for Outcomes Research and Education (CORe), Los Angeles, CA; 4. Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN; 5. Digestive Health Associates of Texas, Baylor University Medical Center, Dallas, TX; 6. Department of Medicine, Cork University Hospital, Cork, Ireland.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). The role of fiber in the treatment of IBS remains controversial. We conducted a systematic review and meta-analysis to estimate efficacy of fiber in treatment of IBS.

Methods: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (up to April 2008) to identify randomized controlled trials (RCTs) comparing fiber with placebo or no treatment in adult IBS patients. A diagnosis of IBS could be based on either clinical impression or symptom-based diagnostic criteria, combined with the results of investigations to exclude organic disease. Subjects were required to be followed up for at least 1 week, and studies had to report either a global assessment of IBS symptom cure or improvement, or abdominal pain cure or improvement, after completion of therapy. Data were extracted as intention-to-treat analyses where all drop-outs were assumed to be treatment failures, wherever trial reporting allowed this. Symptom data were pooled using a random effects model, and the effect of fiber compared to placebo or no treatment was reported as the relative risk (RR) of remaining symptomatic, with a 95% confidence interval (CI). The number needed to treat (NNT) and 95% CIs were calculated from the reciprocal of the risk difference from the meta-analysis.

Results: We identified 12 RCTs comparing fiber with placebo or no treatment in 591 patients. There were 155 of 300 (51.7%) patients assigned to fiber with persistent or unimproved IBS symptoms following therapy, compared to 168 of 291 (57.7%) allocated to placebo or low fiber diet (RR of remaining symptomatic = 0.87; 95% CI 0.76-1.00, P = 0.05). The NNT with fiber to prevent IBS symptoms persisting in one patient was 11 (95% CI 5 to 100). This effect was limited to ispaghula, with 6 RCTs randomizing 321 patients to either ispaghula or placebo. Eighty-three of 161 (51.6%) patients receiving ispaghula had persistent symptoms compared to 103 of 160 (64.4%) receiving placebo (RR of symptoms persisting = 0.78; 95% CI 0.63 to 0.96). The NNT with ispaghula was 6 (95% CI 3 to 50).

Conclusion: Soluble fiber, particularly ispaghula, is effective in the treatment of IBS. Insoluble fiber does not appear to exacerbate IBS symptoms as has been previously reported.

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EFFICACY OF ANTIDEPRESSANTS IN IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] N. J. Talley, MD,[2] P. S. Schoenfeld, MD,[3] E. M. Quigley, MD,[4] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Department of Medicine, Mayo Clinic Florida, Jacksonville, FL; 3. Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI; 4. Department of Medicine, Cork University Hospital, Cork, Ireland.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). IBS is a chronic functional gastrointestinal disorder with a relapsing and remitting course. Current evidence for treatment of IBS with antidepressants is limited.We conducted a systematic review to estimate efficacy of antidepressants in the treatment of IBS.

Methods: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (up to April 2008) to identify randomized controlled trials (RCTs) comparing antidepressants with placebo in adult IBS patients. A diagnosis of IBS could be based on either clinical impression or symptom-based diagnostic criteria, combined with the results of investigations to exclude organic disease. Subjects were required to be followed up for at least 1 week, and studies had to report either a global assessment of IBS symptom cure or improvement, or abdominal pain cure or improvement, after completion of therapy. Data were extracted as intention-to-treat analyses with drop-outs assumed to be treatment failures. Symptom data were pooled using a random effects model, and effect of antidepressants compared to placebo was reported as the relative risk (RR) of remaining symptomatic, with a 95% confidence interval (CI). The number needed to treat (NNT) and 95% CIs were calculated from the reciprocal of the risk difference from the meta-analysis.

Results: 13 RCTs were eligible for inclusion, including 789 patients, 432 of whom received antidepressants and 357 placebo. 8 RCTs used tricyclic antidepressants (TCAs), 4 RCTs selective serotonin reuptake inhibitors (SSRIs), and 1 RCT both. There were 182 of 432 (42.1%) patients assigned to antidepressant therapy with persistent or unimproved IBS symptoms following therapy, compared to 231 of 357 (64.7%) allocated to placebo. The RR of IBS symptoms persisting after treatment with antidepressants versus placebo was 0.66 (95% CI 0.57 to 0.78). The NNT with antidepressants was 4 (95% CI 3 to 6). 9 RCTs compared TCAs to placebo in 575 patients. Of the 319 patients receiving TCAs, 132 (41.4%) had persistent symptoms after treatment, compared to 153 of 256 (59.8%) receiving placebo (RR of IBS symptoms persisting = 0.68; 95% CI 0.56 to 0.83). The NNT with TCAs was 4 (95% CI 3 to 8). 5 RCTs compared SSRIs with placebo in a total of 230 patients. There were 50 of 113 (44.2%) patients allocated to SSRIs with persistent symptoms following therapy, compared to 83 of 117 (70.9%) placebo patients. The RR of IBS symptoms persisting with SSRIs compared to placebo was 0.62 (95% CI 0.45 to 0.87), and the NNT was 3.5 (95% CI 2 to 14).

Conclusion: Antidepressants are effective in the treatment of IBS.

Disclosure - Alexander C Ford: none declared. Nicholas J Talley: has received consultancy fees from Procter and Gamble, Lexicon Genetics, Inc., Astellas Pharma US, Inc., Pharma Frontiers, Ltd., Callisto Pharmaceuticals, AstraZeneca, Addex Pharma, Ferring Pharma, Salix, MGI Pharma, McNeil Consumer, Microbia, Dynogen, Conexus, Novartis, and Metabolic Pharmaceuticals, and has received research support from Novartis, Takeda, GlaxoSmithkline, Dynogen, and Tioga. Phillip S Schoenfeld: has received consultancy fees from Salix Pharmaceuticals, Takeda Pharmaceuticals North America, and Novartis Pharmaceuticals. Eamonn MM Quigley: has received consultant's and speaker's bureau fees from Nycomed, Boehringer Ingelheim, Procter and Gamble, Reckitt Benckiser and Prometheus, and holds equity in Alimentary Health. Paul Moayyedi: chair at McMaster University partly funded by an unrestricted donation by AstraZeneca, and has received consultant's and speaker's bureau fees from AstraZeneca, AxCan Pharma, Nycomed, and Johnson and Johnson.

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EFFICACY OF PSYCHOLOGICAL THERAPIES IN IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] N. J. Talley, MD,[2] P. S. Schoenfeld, MD,[3] E. M. Quigley, MD,[4] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Department of Medicine, Mayo Clinic Florida, Jacksonville, FL; 3. Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI; 4. Department of Medicine, Cork University Hospital, Cork, Ireland.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). Current evidence for the treatment of IBS with psychological therapies is conflicting. We conducted a systematic review to estimate the efficacy of various psychological therapies in IBS.

Methods: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (up to April 2008) to identify randomized controlled trials (RCTs) comparing psychological therapies with sham therapy or a physician's "usual management" in adult IBS patients. A diagnosis of IBS could be based on either clinical impression or symptom-based diagnostic criteria, combined with results of investigations to exclude organic disease. Subjects were required to be followed up for at least 1 week, and studies had to report either a global assessment of IBS symptom cure or improvement, or abdominal pain cure or improvement, after completion of therapy. Data were extracted as intention-to-treat analyses with drop-outs assumed to be treatment failures. Symptom data were pooled using a random effects model, and effect of psychological therapy compared to sham therapy or a physician's "usual management" was reported as relative risk (RR) of remaining symptomatic, with a 95% confidence interval (CI). The number needed to treat (NNT) and 95% CIs were calculated from the reciprocal of the risk difference from the meta-analysis.

Results: We identified 20 RCTs comparing psychological therapies to sham therapy or a physician's "usual management" for the treatment of IBS in 1278 patients. 7 RCTs used cognitive behavioral therapy (CBT), 4 RCTs relaxation therapy, 2 RCTs hypnotherapy, 2 RCTs multicomponent psychological therapy, 2 RCTs dynamic psychotherapy, 1 RCT self-administered CBT, 1 RCT stress management, and 1 RCT both CBT and relaxation therapy. IBS symptoms persisted in 356 of 700 (50.9%) patients receiving psychological therapies compared to 419 of 578 (72.5%) receiving physician's "usual management" or sham therapy (RR = 0.67; 95% CI 0.57 to 0.79). The NNT was 4 (95% CI 3 to 5). We performed sub group analyses according to type of psychological therapy. CBT (RR = 0.64; 95% CI 0.48 to 0.86, NNT = 3; 95% CI 2 to 7), hypnotherapy (RR = 0.48; 95% CI 0.26 to 0.87, NNT = 2; 95% CI 1.5 to 7), multi-component psychological therapy (RR = 0.67; 95% CI 0.48 to 0.93, NNT = 3; 95% CI 2 to 11), and dynamic psychotherapy (RR = 0.60; 95% CI 0.39 to 0.93, NNT = 3.5; 95% CI 2 to 25) were all more effective than sham therapy or a physician's "usual management" for IBS.

Conclusion: Psychological therapies are effective in the treatment of IBS.

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EFFICACY OF 5HT3-ANTAGONISTS IN NON-CONSTIPATION PREDOMINANT IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] L. J. Brandt, MD,[2] A. Foxx-Orenstein, MD,[3] W. D. Chey, MD,[4] P. S. Schoenfeld, MD,[4] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Division of Gastroenterology, Montefiore Medical Center, New York, NY; 3. Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN; 4. Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). Current evidence for the efficacy of various 5HT3-antagonists in IBS is conflicting. We conducted a systematic review to estimate their efficacy in the treatment of non-constipation predominant IBS.

Methods: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (up to April 2008) to identify randomized controlled trials (RCTs) comparing 5HT3-antagonists with placebo in adult IBS patients. We also hand-searched abstract books up to 2007 to identify potentially eligible studies published only in abstract form. A diagnosis of IBS could be based on either clinical impression or symptom-based diagnostic criteria, combined with the results of investigations to exclude organic disease. Subjects were required to be followed up for at least 1 week, and studies had to report either a global assessment of IBS symptom cure or improvement, or abdominal pain cure or improvement, after completion of therapy. Data were extracted as intention-to-treat analyses with drop-outs assumed to be treatment failures. Symptom data were pooled using a random effects model, and effect of 5HT3-antagonists compared to placebo was reported as the relative risk (RR) of remaining symptomatic, with a 95% confidence interval (CI). The number needed to treat (NNT) and 95% CIs were calculated from the reciprocal of the risk difference from the meta-analysis.

Results: 11 RCTs were eligible for inclusion, including 7071 patients with non-constipation predominant IBS, 4258 of whom received 5HT3-antagonists and 2813 placebo. 8 RCTs used alosetron in 4842 patients, and 3 RCTs cilansetron in 2229 patients. There were 2088 of 4258 (49.0%) patients assigned to 5HT3-antagonists with persistent or unimproved IBS symptoms following therapy, compared to 1814 of 2813 (64.5%) allocated to placebo. The RR of IBS symptoms persisting after treatment with 5HT3-antagonists versus placebo was 0.78 (95% CI 0.71 to 0.85), with a NNT of 7 (95% CI 5 to 11). In the 8 RCTs that used alosetron, 1546 (49.2%) of 3142 patients receiving active therapy had persistent symptoms compared to 1093 (64.3%) of 1700 allocated to placebo (RR = 0.79; 95% CI 0.69 to 0.90, NNT = 8; 95% CI 5 to 16). In the 3 RCTs that used cilansetron, 542 (48.6%) of 1116 patients receiving active therapy had persistent symptoms compared to 721 (64.8%) of 1113 allocated to placebo (RR = 0.75; 95% CI 0.69 to 0.82, NNT = 6; 95% CI 5 to 8).

Conclusion: 5HT3-antagonists are more effective than placebo in the treatment of non-constipation predominant IBS, with similar efficacy demonstrated by both alosetron and cilansetron.

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EFFICACY OF 5HT4-AGONISTS IN NON-DIARRHEA PREDOMINANT IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] L. J. Brandt, MD,[2] A. Foxx-Orenstein, MD,[3] W. D. Chey, MD,[4] P. S. Schoenfeld, MD,[4] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Division of Gastroenterology, Montefiore Medical Center, New York, NY; 3. Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN; 4. Division of Gastroenterology, University of Michigan School of Medicine, Ann Arbor, MI.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). Current evidence for the efficacy of various 5HT4-agonists in the treatment of IBS is conflicting. We conducted a systematic review to estimate their efficacy in the treatment of non-diarrhea predominant IBS.

Methods: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (up to April 2008) to identify randomized controlled trials (RCTs) comparing 5HT4-agonists with placebo in adult IBS patients. We also contacted pharmaceutical companies and visited the Food and Drug Administration website to obtain data from unpublished studies. A diagnosis of IBS could be based on either clinical impression or symptom-based diagnostic criteria, combined with the results of investigations to exclude organic disease. Subjects were required to be followed up for at least 1 week, and studies had to report either a global assessment of IBS symptom cure or improvement, or abdominal pain cure or improvement, after completion of therapy. Data were extracted as intention-to-treat analyses with drop-outs assumed to be treatment failures. Symptom data were pooled using a random effects model, and effect of 5HT4-agonists compared to placebo was reported as the relative risk (RR) of remaining symptomatic, with a 95% confidence interval (CI). The number needed to treat (NNT) and 95% CIs were calculated from the reciprocal of the risk difference from the meta-analysis.

Results: 16 RCTs were eligible for inclusion, including 10643 patients with non-diarrhea predominant IBS, 7012 of whom received 5HT4-agonists and 3631 placebo. 9 RCTs used tegaserod, 3 RCTs renzapride, and 4 RCTs cisparide. There were 3607 of 7012 (51.4%) patients assigned to 5HT4-agonists with persistent or unimproved IBS symptoms following therapy, compared to 2141 of 3631 (60.0%) allocated to placebo. The RR of IBS symptoms persisting after treatment with 5HT4-agonists versus placebo was 0.87 (95% CI 0.82 to 0.93), with a NNT of 13.5 (95% CI 9 to 26). The effect of 5HT4-agonists in IBS appeared to be limited to tegaserod (RR of symptoms persisting = 0.86; 95% CI 0.81 to 0.91, NNT = 11; 95% CI 8 to 17), with no statistically significant effect on IBS symptoms detected for renzapride (RR of symptoms persisting = 0.94; 95% CI 0.76 to 1.17) or cisapride (RR of symptoms persisting = 0.93; 95% CI 0.61 to 1.42).

Conclusion: 5HT4-agonists are more effective than placebo in the treatment of non-diarrhea predominant IBS, though their effect is modest and efficacy appears to be limited to tegaserod.
Disclosure - Alexander C Ford: none declared. Larry Brandt: none declared. Amy Foxx-Orenstein: none declared. William D Chey: None declared. Philip S Schoenfeld: has received consultancy fees from Salix Pharmaceuticals, Takeda Pharmaceuticals North America, and Novartis Pharmaceuticals. Paul Moayyedi: chair at McMaster University partly funded by an unrestricted donation by AstraZeneca, and has received consultant's and speaker's bureau fees from AstraZeneca, AxCan Pharma, Nycomed, and Johnson and Johnson.

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EFFICACY OF ANTISPASMODICS AND PEPPERMINT OIL IN IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] N. J. Talley, MD,[2] B. M. Spiegel, MD,[3] A. Foxx-Orenstein, MD,[4] L. R. Schiller, MD,[5] E. M. Quigley, MD,[6] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Department of Medicine, Mayo Clinic Florida, Jacksonville, FL; 3. VA Greater Los Angeles Healthcare System; David Geffen School of Medicine at UCLA, UCLA School of Public Health, UCLA/VA Center for Outcomes Research and Education (CORe), Los Angeles, CA; 4. Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN; 5. Digestive Health Associates of Texas, Baylor University Medical Center, Dallas, TX; 6. Department of Medicine, Cork University Hospital, Cork, Ireland.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). The roles of antispasmodics and peppermint oil in treatment of IBS remain controversial. We conducted a systematic review to estimate efficacy of antispasmodics and peppermint oil in IBS.
Methods: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (up to April 2008) to identify randomized controlled trials (RCTs) comparing antispasmodics or peppermint oil with placebo in adult IBS patients. A diagnosis of IBS could be based on either clinical impression or symptom-based diagnostic criteria, combined with the results of investigations to exclude organic disease. Subjects were required to be followed up for at least 1 week, and studies had to report either a global assessment of IBS symptom cure or improvement, or abdominal pain cure or improvement, after completion of therapy. Data were extracted as intention-to-treat analyses with drop-outs assumed to be treatment failures. Symptom data were pooled using a random effects model, and effect of therapy compared to placebo was reported as the relative risk (RR) of remaining symptomatic, with a 95% confidence interval (CI). The number needed to treat (NNT) and 95% CIs were calculated from the reciprocal of the risk difference from the meta-analysis.
Results: We identified 22 RCTs comparing antispasmodics with placebo in 1778 patients. In total, 350 of 905 (38.7%) receiving antispasmodics remained symptomatic compared to 485 of 873 (55.6%) allocated to placebo. The RR of IBS symptoms persisting was 0.68 (95% CI 0.57 to 0.81). The NNT to prevent IBS symptoms persisting was 5 (95% CI 4 to 9). We examined effect of different antispasmodics separately. Most data were available for otilonium and hyoscine. 4 RCTs used otilonium in 435 patients, with a RR of symptoms persisting of 0.55 (95% CI 0.31 to 0.97), and a NNT of 4.5 (95% CI 3 to 10). There were 3 RCTs randomizing 426 patients to either hyoscine or placebo. The RR of symptoms persisting with hyoscine was 0.63 (95% CI 0.51 to 0.78), with a NNT of 3.5 (95% CI 2 to 25). 4 RCTs compared peppermint oil with placebo in 392 patients, with 52 of 197 (26.4%) patients randomized to peppermint oil having persistent symptoms compared to 127 of 195 (65.1%) receiving placebo (RR = 0.43; 95% CI 0.32 to 0.59). The NNT was 2.5 (95% CI 2 to 3).
Conclusion: Antispasmodics, particularly otilonium and hyoscine, and peppermint oil are both effective in the treatment of IBS.
Disclosure - Alexander C Ford: none declared. Nicholas J Talley: has received consultancy fees from Procter and Gamble, Lexicon Genetics, Inc., Astellas Pharma US, Inc., Pharma Frontiers, Ltd., Callisto Pharmaceuticals, AstraZeneca, Addex Pharma, Ferring Pharma, Salix, MGI Pharma, McNeil Consumer, Microbia, Dynogen, Conexus, Novartis, and Metabolic Pharmaceuticals, and has received research support from Novartis, Takeda, GlaxoSmithkline, Dynogen, and Tioga. Brennan MR Spiegel: none declared. Amy Foxx-Orenstein: none declared. Lawrence R Schiller: none declared. Eamonn MM Quigley: has received consultant's and speaker's bureau fees from Nycomed, Boehringer Ingelheim, Procter and Gamble, Reckitt Benckiser and Prometheus, and holds equity in Alimentary Health. Paul Moayyedi: chair at McMaster University partly funded by an unrestricted donation by AstraZeneca, and has received consultant's and speaker's bureau fees from AstraZeneca, AxCan Pharma, Nycomed, and Johnson and Johnson.

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UTILITY OF DIAGNOSTIC TESTS FOR CELIAC DISEASE IN IRRITABLE BOWEL SYNDROME: SYSTEMATIC REVIEW AND META-ANALYSIS

A. C. Ford, MD,[1] W. D. Chey, MD,[2] N. J. Talley, MD,[3] A. Malhotra, MD,[4] B. M. Spiegel, MD,[5] P. Moayyedi, MD[1]. 1. Gastroenterology Division, McMaster University Medical Centre, Hamilton, ON, Canada; 2. Division of Gastroenterology, University of Michigan Medical Center, Ann Arbor, MI; 3. Department of Medicine, Mayo Clinic Florida, Jacksonville, FL; 4. Division of Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN; 5. VA Greater Los Angeles Healthcare System; David Geffen School of Medicine at UCLA, UCLA School of Public Health, UCLA/VA Center for Outcomes Research and Education (CORe), Los Angeles, CA.

Purpose: This study was performed to inform the American College of Gastroenterology monograph on irritable bowel syndrome (IBS). Irritable bowel syndrome (IBS) sufferers often report abdominal pain, bloating, and diarrhea, symptoms similar to those in celiac disease (CD). Prevalence of CD may be increased in IBS, but evidence is conflicting, and current IBS guidelines do not recommend routine screening for CD.
Methods: MEDLINE and EMBASE were searched (up to April 2008) to identify case series and case-control studies recruiting unselected adult subjects with a presumptive diagnosis of IBS, and applying serological tests for CD to all enrolled individuals. Diagnosis of IBS could be based on a physician's opinion, questionnaire data, after investigation to exclude organic disease, or specific symptom-based diagnostic criteria. The proportion of individuals with a presumptive diagnosis of IBS testing positive using antigliadin antibodies (AGAs), endomysial antibodies (EMAs), and tissue transglutaminase (tTG), or having biopsy-proven CD, were combined for both case series and case-control studies to give a pooled prevalence of positive serology and biopsy-proven CD in subjects meeting diagnostic criteria for IBS in all studies. In addition, for case-control studies data were pooled for both cases and controls, and pooled prevalence of positive serology and biopsy-proven CD was compared between the 2 groups with an odds ratio (OR) and 95% confidence intervals (CI) .
Results: 11 studies were identified containing 3626 subjects, 1700 (47%) of whom had IBS, making various comparisons. 8 studies used AGAs to screen for CD in 1245 IBS subjects. The pooled proportion testing positive was 8.3% (95% CI 3.1%-16%). 6 of these were case-control studies, and the odds for a positive AGA in 1002 IBS cases compared to 1848 controls was 1.76 (95% CI 1.33-2.33). 10 studies used EMAs or tTG in 1443 subjects with IBS, the pooled proportion testing positive was 1.85% (95% CI 0.6%-3.7%). 7 of these were case-control studies, and the odds for a positive EMA or tTG in 1052 IBS cases compared to 1926 controls was 2.94 (95% CI 1.36-6.35). 6 studies followed positive celiac serology of any type with the offer of duodenal biopsy in 1209 individuals with IBS. The pooled proportion of IBS subjects with biopsy-proven CD in these 6 studies was 4.3% (95% CI 1.7%-8.0%). 5 of these were case-control studies, and the odds for biopsy-proven CD in 952 IBS subjects compared to 1798 controls was 4.34 (95% CI 1.78-10.6).
Conclusion: Prevalence of biopsy-proven CD in subjects with IBS was over 4-fold that in non-IBS controls, suggesting routine screening in IBS may be worthwhile.

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EXPRESSIVE WRITING AS A THERAPEUTIC MODALITY IN IRRITABLE BOWEL SYNDROME (IBS)

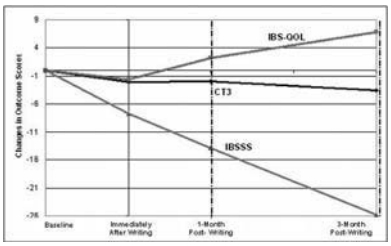
A. Halpert, MD, A. Verma, BA. Gastroenterology, Boston University Medical Center, Boston, MA.

Purpose: Expressive writing involves writing about traumatic, stressful or emotional events and results in significant improvements in a variety of health outcomes (Pennebaker et al., Psychological Sci., 1997, & Psychosomatic Med, 2004). The utility of expressive writing in IBS has not been studied. Aim: To test the effectiveness of writing about disease–related emotional experiences on IBS-specific quality of life (IBS–QOL) and change in health cognition (CT3–catastrophizing/coping).
Methods: In a national online study, IBS subjects were asked to write about their thoughts and feelings about IBS for 30 minutes for four consecutive days. Subjects were encouraged to explore their emotions, the effects and the meaning of IBS. The outcomes of the study (IBS–QOL, CT3, IBS severity–IBSSS) were collected longitudinally after writing, at one and three months. The outcome measures were evaluated using a linear mixed effects model.
Results: : A total of 156 subjects enrolled in the study of which 82(53‰)completed all four writings, age(mean±SD), 43.3±11.7 F 92‰, years of education 15.9±2.6, years w/IBS 6.9±3.4, IBS type- constipation 24.4‰, diarrhea 31.7‰, mixed 43.9‰, and 81(98‰) had previously seen MD for IBS. The baseline scores were (mean±SD): IBS–QOL 47.0±25.1 (range 0–100, 100=best QOL), CT3 17.5±8.1 (range 0–36, 36=poor cognition), and IBSSS 164.3 ± 52.1 (range 0–500, 500=high disease severity). The mean length of the writing was 3/4 of a typed page (range 0.5–1.5 pages). We found that CT3 and IBSSS scores improved significantly at 1 and 3 months post–writing, and IBS–QOL scores improved significantly at 3 months, but not at 1-month (See Table 1 and Graph 1).
Conclusion: Our data suggests that expressive writing improves quality of life, cognition, and severity of disease in IBS. We plan to undertake a large controlled study to evaluate the therapeutic potential of this novel modality.

Changes in Outcome Scores Between Baseline and 1 & 3-Months Post-Writing

		Baseline to 1-Month Follow-up		Baseline to 3-month Follow-up	
		MEAN±SD	P-VALUE	MEAN±SD	P-VALUE
Outcome Measures	CT3	-1.9 ± 0.6	0.0017	-3.5 ± 0.8	0.0001
	IBS-QOL	2.2 ± 1.5	0.1493	6.9 ± 2.1	0.0015
	IBSSS	-14.0 ± 4.8	0.0042	-25.8 ± 6.7	0.0002

CT3 -↑score = ↓adaptive cognition
IBS–QOL -↑score = ↑QOL
IBSSS -↑score = ↑disease severity



Changes in Outcome Scores Between Baseline and 1 & 3-Months Post-Writing

ABSTRACTS POSTERS SUNDAY

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EFFICACY OF LONG TERM TREATMENT REGIMENS ON CYCLIC VOMITING SYNDROME IN ADULTS

R. A. Hejazi, MD, T. Lavenbarg, RN, S. C. Reddymasu, MD, P. Foran, LPN, R. W. McCallum, MD, FACP, FACG. Center for Gastrointestinal Nerve and Muscle Function and GI Motility Division, Department of Medicine, Kansas University Medical Center, Kansas City, KS.

Purpose: Cyclic vomiting syndrome (CVS) is a disorder characterized by recurrent and stereotypic episodes of severe nausea and vomiting separated by symptom-free periods. It is now diagnosed more in adults than children. It's recurrent and disabling character requires more preventive and therapeutic options to reduce emergency department (ED) visits and hospitalizations and improve quality of life in these patients.

Methods: In an open labelled study of 45 patients diagnosed with CVS based on Rome III criteria, we investigated the long term efficacy of tricylclic antidepressant (TCA) alone or in combination with Propranolol or Keppra on frequency and duration of CVS episodes and frequency of ED visits or hospitalizations during one and two years follow up.All received detailed information about the disorder, psychological support and help in identifying the trigger events as well as standard back ground support with Alprazolam for anxiety, Dicyclomine for abdominal pain and Promethazine for back up nausea. Demographic data, TCA dosage, duration and frequency of CVS episodes, ED visits and hospitalizations and subjective global assessment at baseline and during TCA therapy were recorded. Adverse effects with TCA were monitored. 5 stopped the medication, 2 within 3 months and 1 after 12 months, as their symptoms had completely resolved, 1 because of a lack of response and 1 due to severe hallucinations.

Results: The results are summarized in table. We followed 40 patients (19 female), mean age 35 years (18-63) on TCA and or TCA plus Keppra (n=1) or Propranolol (n=1) for one year and 23 for two years. 37 were on amitriptyline, 2 on nortriptyline and 1 on doxepine. Mean age of symptoms onset was 26 years and 32 years for making the diagnosis of CVS. The goal dose of TCA was 1 mg/kg and the actual doses achieved were 25-200 mg (average 90 mg, qhs). Side effects were reported in 35 percent of our patients and included: dry mouth, somnolence, constipation, postural hypotension, chronic fatigue, blurred vision, and mild hallucinations. 86 percent reported an improved quality of life by subjective global assessment.

Conclusion: Long-term TCA therapy significantly reduces the frequency and duration of CVS episodes, ED visits & hospitalizations and improves quality of life.($p<0.05$) These data indicate that TCAs are the treatment of choice for adult CVS patients. Their efficacy could be explained by the hypothesized role of the brain-gut axis in the pathogenesis of this disorder.

Effect of Tricyclic Antidepressant therapy on Cyclic Vomiting Syndrome Charecteristics.

Characteristic	Baseline Mean (95%Confidence levels)	After 1 year of Tricyclic Antidepressant therapy Mean (95%Confidence levels)	After 2nd year of Tricyclic Antidepressant therapy Mean (95%Confidence levels)	P-value 1st year	P-value 2nd year
Frequency of CVS episodes/ q weeks	3.02 (0.14-12)	9.83 (0-54)	16 (0-52)	0.003	0.002
Duration of CVS episodes(days)	6.7 (0.2-30)	2.2 (0-10)	2.2 (0-10)	0.0008	0.0008
Number of ED visits and Hospitalization / year	15(1-27)	4.2(0-20)	3.3 (0-14)	0.0001	0.007

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GASTRIC EMPTYING PATTERNS IN CYCLIC VOMITING SYNDROME IN ADULTS

R. A. Hejazi, MD,[1] P. R. Saridena, MD,[2] T. Lavenbarg, RN,[1] R. W. McCallum, MD, FACP, FACG[1]. 1. Center for GI Nerve & Muscle Function and GI Motility Division, Department of Medicine, Kansas University Medical Center, Kansas City, KS; 2. Gastroenterology, Bridgeport Hospital, Yale University, Bridgeport, CT.

Purpose: Cyclic vomiting syndrome (CVS) is a disorder characterized by recurrent and stereotypic episodes of severe nausea and vomiting separated by symptom-free periods. Both rapid and delayed gastric emptying have been observed but the reports involved small numbers of CVS patients.

Methods: We performed a retrospective study of 61 patients who met Rome III diagnostic criteria for CVS between 2003-2007 at the Kansas University Medical Center. Gastric emptying was measured by standardized scintigraphic method involving a low fat (2%) isotope labeled egg white meal of 250 calories, with anterior and posterior gastric imaging in the standing position obtained at 0,1,2,4 hours after meal ingestion. The percent remaining in the stomach at each time point is reported. Normal values at key time points: 1hr <80% retention, 2hr <60%, and 4hr <10%, Rapid gastric emptying was defined as <60% retention at 1st hr and <30% at 2nd hrs.

Results: 61 patients were analyzed: 31 males and 30 females, age range of 16-58 years. There were total of 20 patients with a personal or family history of migraine, 10 patients with history of marijuana use, 10 had diabetes mellitus (DM) and 8 had irritable bowel syndrome (IBS) as an accompanying diagnosis. 40 patients (65.57%) had rapid gastric emptying, 6 (9.83%) had normal gastric emptying, and 15 patients (24.60%) had slow gastric emptying with percent retention at 2hr >60% and/or 4hr >10%(4 DM and 1 on narcotics). 62% with IBS symptoms were identified as rapid and 73% of DM had either rapid or normal gastric emptying.

Conclusion: Our study, the largest reported series of adult patients with CVS in whom gastric emptying data are available shows that the most common abnormality is rapid gastric emptying being identified in 66% of patients. Therefore CVS is a new addition to the differential diagnosis of rapid gastric empting or dumping syndrome and this new observation could help clinicians suspect the diagnosis of CVS when evaluating vomiting states. The rapid emptying could be explained as part of an autonomic neuropathy present in CVS patients.

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CAUCASIAN IBS PATIENTS HAVE HIGHER PREVALENCE OF PRIOR TRAVELER'S DIARRHEA AS COMPARED TO AFRICAN AMERICANS

A. Minocha, MD; FACG,[1] W. D. Johnson, PhD,[2] W. Wigington, MD[2]. 1. Medical Service (111G), VA Medical Center, Shreveport, LA; 2. University of Mississippi Medical Center, Jackson, MS.

Purpose: The role of biological risk of traveler's diarrhea in IBS patients based on race has not been examined. Racial differences in the risk would imply differences in pathogenesis of IBS between races. We present a study with head to head racial comparison of traveler's diarrhea associated with IBS among patients living in same community where the two communities are roughly equal.

Methods: We conducted a survey of population at 9 different sites in our metropolitan area. Subjects filled a questionnaire which included Rome II criteria for IBS. Subjects were asked about history of travel outside USA as well as history of traveler's diarrhea. In addition, we also asked for demographic as well as clinical characteristics. Subjects with prior history of chronic IBD and GI cancer were excluded. Student's t test and Chi-square test were performed as indicated.

Results: One thousand three hundred and three subjects were offered participation in the study. 84% of the questionnaires were returned. 109 subjects were excluded because of incomplete or illegible answers or incorrect marking of questionnaires. Overall, 990 subjects including 670 African Americans (AA) and 320 Caucasian Americans (CA) were included in the final analysis. The mean age of the subjects was 37.7 years (+13.9) and there was no difference between the AA and CA. There were no gender differences (76% females in AA group and 72% in CA group; p=NS). IBS VERSUS NON-IBS SUBJECTS: IBS subjects had more food allergies (5.3% v 1.1% $p<0.05$), but similar prevalence of drug allergies (22% v 20%). There was no difference in foreign travel between IBS and non-IBS subjects (16.8% v 20.9%). However, there was a trend towards increased prevalence of traveler's diarrhea in IBS subjects (5.3% v 2.4%; p=0.09). RACIAL DIFFERENCES IN IBS PATIENTS: Greater number of Caucasian IBS patients had history of foreign travel (26.2% v 9.4%; $p<0.05$). There was higher prevalence of traveler's diarrhea among CA patients with IBS (11.9% v 0; $p<0.05$) as compared to AA patients.

Conclusion: Caucasian American patients with IBS have a higher prevalence of traveler's diarrhea as compared to African Americans. This suggests that different pathogenic mechanisms may be involved in the pathogenesis of IBS between the two races. This may have implications for targeted therapies for management of CA patients with IBS as compared to AA.

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SEXUAL ABUSE, PHYSICAL ABUSE AND GENERAL HEALTH ISSUES ASSOCIATED WITH IBS PATIENTS IN A MULTIETHNIC POPULATION: COMPARISON BETWEEN AFRICAN AMERICAN AND CAUCASIAN AMERICAN PATIENTS

A. Minocha, MD; FACG,[1] W. D. Johnson, PhD,[2] W. Wigington, MD[2]. 1. Medical Service (111G), VA Medical Center, Shreveport, LA; 2. Medicine, University of Mississippi Medical Center, Jackson, MS.

Purpose: Despite the consensus about the biopsychosocial model of pathogenesis, the racial/ethnic dimensions of the IBS have not been specifically examined in detail. There is lack of a head to head racial comparison of general health, sexual and physical abuse associated with IBS among patients living in same community where the two communities are roughly equal. HYPOTHESIS: African American (AA) patients with IBS are likely to have different pattern of general health, sexual and physical abuse as compared to Caucasian Americans (CA).

Methods: We conducted a survey of population at 9 different sites. Subjects filled a questionnaire which included Rome II criteria for IBS. Subjects were also asked about demographic as well as clinical characteristics. Subjects with prior history of chronic IBD and GI cancer were excluded.

Results: Analysis was carried out after eliminating 109 incomplete forms yielding 990 subjects. The overall prevalence of IBS was 9.5%. IBS v NON-IBS SUBJECTS: There was significantly increased prevalence of family history of IBS in the IBS as compared to non-IBS controls. Similarly, IBS subjects had more food allergies (5.3% v 1.1% $p<0.05$) and were more likely perceive to have poor health as well as physical limitations. They also c/o frequent fatigue (21% v 10%; $p<0.05$). We found greater degree of prior physical abuse (7.4% v 3%; $p<0.05$) and sexual abuse (10.5% v 3.5%; $p<0.05$) in the IBS patients. In addition, IBS subjects were more likely to have lost interest in life and had at some point had suicidal thoughts (26% v 12%; $p<0.05$). RACE-BASED DIFFERENCES: Comparison between CA and AA subjects with IBS revealed that Caucasians with IBS had a significantly greater prevalence of frequent fatigue (36% v 9%; $p<0.05$). However, there was no difference in sexual abuse (11.9% v 9.4%), physical abuse (11.9% v 3.8%; p=NS), PTSD (4.8% v 3.8%; p=NS) or loss of interest in life (52% v 64%; p=NS) between the IBS patients of two races. There was no difference in use of psychiatric medicines including SSRIs as well as alternative and complimentary therapies among IBS patients of the two races.

Conclusion: IBS patients have greater prevalence of prior physical and sexual abuse but the prevalence is similar between the two races. While the IBS subjects are more likely to perceive to have poor health as well as physical limitations, there is no difference between the IBS subjects of the two races.

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INVESTIGATION OF COLONIC AND RECTAL SENSORY PROPERTIES AND COMPLIANCE AND ITS REPRODUCIBILITY IN HUMANS

S. Rao, MD, PhD, FRCP, R. Mudipalli, MD, J. Paulson, BS, C. K. Brown, MS, K. Seaton, BS. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA.

Purpose: Assessment of colonic and rectal sensory function and compliance can provide both mechanistic understanding and diagnostic information in IBS, chronic constipation and other functional GI disorders. However, these two properties have not been investigated in the same individual and whether they are reproducible is unknown. The aims of this study were to sys-

tematically examine the colonic and rectal sensory properties and compliance in the same individual, and to test its reproducibility.
Methods: A six sensor solid state manometry probe with a 10 cm long highly compliant balloon was placed under endoscopic and fluoroscopic guidance such that the center of balloon was located in the mid descending colon in 7 healthy subjects. 24 hours after probe placement, balloon distentions were performed with a barostat; using 2 mmHg intermittent balloon distention protocol, until maximum tolerance. After 30 minutes, the probe and balloon were pulled down and repositioned in the rectum, and intermittent balloon distentions were performed after reassessing IOP. Pressure and volume thresholds for first sensation, desire to defecate/discomfort and urgency to defecate or pain were assessed at each site. Studies were repeated after two week intervals. Subjects scored their sensations using a scoring chart.
Results: (see table – Mean± s.d.) Rectal sensory pressure and volume thresholds for first sensation, desire to defecate and urgency to defecate together with urgency to defecate were similar between study 1 and study 2 with a Kappa statistic of . Likewise, colonic sensory thresholds were similar between the two studies. There was greater variability in volume thresholds but there was no difference (Table). The rectal wall compliance (dv/dp) for Study 1 was 11.9± vs. 12.2± and for colonic wall compliance was 5.56± vs. 6.8± respectively.
Conclusion: Both colonic and rectal sensory thresholds and can be assessed in the same subject and are reproducible. Volume-based sensory thresholds appear to be less reproducible than pressure-based thresholds. These data provide evidence that measurements of both colonic and rectal sensation and colonic and rectal wall compliance are robust and valid.

	Colon		Rectum	
Pressure	Study 1	Study 2	Study 1	Study 2
1st Sensation, mmHg	16.7±5.7	15.3±3.7	16±2.8	15.2±2.9
D. Defecate, mmHg	32.7±10.3	26.6±10.6	24.8±4.6	27.2±9.5
Urgency/Pain, mmHg	38.8±9.1	33.1±10.3	36±7.3	28±5.7
Volume	Study 1	Study 2	Study 1	Study 2
1st Sensation, cc	76.9±34.5	63±26.2	75.8±31	74±28.5
D. Defecate, cc	155.8±58.3	120.3±27.2	210.8±59	194.8±89.5
Urgency/Pain, cc	150.8±31.7	131.9±54	248.6±57	198.6±90.7

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RELATIONSHIP BETWEEN THE COLONIC TRANSIT OF WIRELESS CAPSULE (SMARTPILL®) AND RADIO OPAQUE MARKERS IN CONSTIPATION

S. Rao, MD, PhD, FRCP,[1] J. Paulson, BS,[1] B. Kuo, MD,[2] R. McCallum, MD,[3] M. Sitrin, MD,[9] W. D. Chey, MD,[4] J. Lackner, PsyD,[5] J. Semler, PhD,[6] G. Wilding, PhD,[7] H. P. Parkman, MD[8].
1. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA;
2. Gastroenterology Unit, Massachusetts General Hospital, Boston, MA; 3. Center for GI Nerve & Muscle Function & GI Motility, University of Kansas Medical Center, Kansas City, KS;
4. Internal Medicine, University of Michigan, Ann Arbor, MI; 5. Medicine, University of Buffalo School of Medicine, SUNY at Buffalo, Buffalo, NY; 6. The SmartPill Corporation, Buffalo, NY;
7. Biostatistics, SUNY at Buffalo, Buffalo, NY; 8. Medicine, Temple University School of Medicine, Philadelphia, PA; 9. Medicine, Western New York VA Medical Center, SUNY at Buffalo, Buffalo, NY.

Purpose: Recently, it has been shown that the colonic and whole gut transit time as assessed by a novel wireless pH and pressure recording capsule (SmartPill®(SP)) correlates well with radio opaque markers (ROM), both in constipated and healthy subjects (Am J Gastroenterol 2007;1075:S512). Whether the SP traverses the colon at the same speed as ROM is however not known. This multicenter study aimed to simultaneously assess and compare the location of SP capsule with the majority of ROM that were either present on a plain x-ray of the abdomen taken at two specified time intervals or with those that had been expelled in constipated (Rome II) and healthy subjects.
Methods: After overnight fast, subjects ingested a nutrient bar (260 kcal) followed by a Sitzmark® capsule (24 ROMs) and a SP capsule. Subjects wore a data receiver for 5 days or until SP was expelled and kept stool diary. Abdominal x-rays were obtained on days 2 & 5. The x-rays obtained on day 2 and day 5 were analyzed by two independent observers and the number of ROM located in the right colon and the left colon were counted. The difference between the number of markers ingested and those retained on the x-rays were taken as markers expelled. The location of the SP on day 2 or day 5 x-ray with respect to the right and left colon was also recorded. Chi-square test was used to examine the association between the location of the majority of ROM on the day 2 and day 5 x-ray with the location of the SP.
Results: 73 constipated (m/f=8/65; mean age=46 ± 1.7 years) and 91 healthy (m/f=48/43; mean age=37 ± 1.3 years) subjects participated. Table shows the number of subjects in whom the SP and the majority of ROM were seen on day 2 and day 5 x-rays and in the two colonic segments as well as those that had been expelled. The location of SP in the colon and when expelled on day 2 and day 5 were strongly associated with the location of the majority of ROM ($p<0.0001$). Likewise, the location of SP was also associated with the majority of ROM in the constipated and healthy group of subjects.
Conclusion: The location of SP is strongly associated with the region of the colon where a majority of retained markers were seen or with those that had been expelled. This suggests that SP traverses the colon at approximately the same speed as ROM. These data further reaffirm that SP is a useful and valid technique of assessment of colonic and whole gut transit time.

	Day 2		Day 5	
	No of Subjects with SP	No of Subjects (%) with Majority of ROM	No of Subjects with SP	No of Subjects (%) with Majority of ROM
Right Colon	14	7 (54%)	3	0 (0%)
Left Colon	47	39 (83%)	12	10 (83%)
Expelled	101	85 (84%)	130	123 (95%)

Disclosure - Satish Rao, M.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.; Braden Kuo, M.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.; Richard W. McCallum, M.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.; Michael Sitrin, M.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.; William D. Chey, M.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.; Jeffrey M. Lackner, Psy.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.; John R. Semler,Ph.D.-Employee and Stockholder/Ownership; Gregory E. Wilding, Ph.D-Consultant: SmartPill Corp.; Henry P. Parkman, M.D.-Consultant, Speaker's Bureau, Advisory Committee/Board Member: SmartPill Corp.
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A STUDY ON THE ASSOCIATION BETWEEN SELF-REPORTED FUNCTIONAL GASTROINTESTINAL SYMPTOMS AND TRAVELERS' DIARRHEA AMONG US TROOPS DEPLOYED TO SOUTHWEST ASIA AND THE MIDDLE EAST
2008 ACG Presidential Poster Award Recipient

M. S. Riddle, MD, DrPH,[1] B. D. Cash, MD, FACG,[2] J. W. Sanders, MD, MPH&TM,[3] S. D. Putnam, PhD,[4] A. W. Armstrong, DO, MSPH,[5] D. R. Tribble, MD, DrPH[2]. 1. Enteric Diseases Department, Naval Medical Research Center, Silver Spring, MD; 2. Uniformed Services University of the Health Sciences, Bethesda, MD; 3. Naval Medical Research Center Detachment, Lima, Peru; 4. US Naval Medical Research Unit No.2, Jakarta, Indonesia; 5. US Naval Medical Research Unit No.3, Cairo, Egypt.

Purpose: Postinfectious irritable bowel syndrome (IBS) has been described among travelers after an episode of travelers' diarrhea (TD). Due to deployment length and location, US military is a population of travelers at risk for multiple episodes of TD. This study evaluated the relationship between self-reported functional gastrointestinal (FGI) symptoms associated with IBS and episodes of TD during deployment.
Methods: Between March 2006 - July 2007, a questionnaire was provided to US troops on deployment in the region, who were on a 4-day Rest & Recuperation in Doha, Qatar. The questionnaire was one page, anonymous and voluntary; and included questions on self-reported TD (standard case definition), presence of FGI symptoms (based on Rome II), and if FGI symptoms were pre-existing before deployment. Differential risk between number of episodes of TD and development of FGI symptoms consistent with PI-IBS was assessed (Poisson assumptions met).
Results: 6,435 troops returned the questionnaire, of which 76% were supporting Operation Iraqi Freedom (OIF) and 15% Operation Enduring Freedom (OEF) and had been on deployment for a median of 7.3 months. Respondents were mostly male (84%), Army (76%), and Enlisted rank (89%). When limiting to those with complete responses regarding primary endpoints and ≥ 4 months in country at time of survey, 1,538/5,796 (26%) reported one or more episodes of TD. FBD symptoms consistent with an IBS diagnosis were identified in 112 (1.9%), 94 of which were new onset (incident IBS). Incident IBS-D was identified in 39.4%, and IBS-C in 11.7%. Factors associated with increased risk of IBS included OEF deployment (Incident Rate Ratio [IRR] 2.75, $p<0.001$), rank (mid-grade Enlisted IRR 2.1, $p=0.02$; Officer IRR 4.64, $p<0.001$; referent junior Enlisted), those who describe their unit as Special Operations or 'Other' (IRR 3.17, $p=0.03$; IRR 2.1, $p=0.05$, respectively; referent Command/Support/Ground units). Female gender was not associated. An increased risk of FGI symptoms was associated with increased number of self-reported TD episodes during deployment (table).
Conclusion: While FGI have been found more common among deployed veterans compared to matched non-deployed veterans, no studies have been published directly linking them with TD during deployment. Though exposure and/or diagnostic misclassification bias may exist, these data suggest an incremental increase in risk of FGI symptoms with increasing TD incidence. The differential risk associated with rank, unit type, and operations in Afghanistan could be explained by unique occupational risks or pathogen exposures. Assessing the burden of TD in US military and other travelers needs to consider both acute illness and chronic sequelae of these infections.

Table. Prevalence description and Poisson regression estimating risk of incident FGI symptoms consistent with IBS and episodes of TD while deployed

No. of TD episodes	IBS symptom prevalence (%)	Incident rate ratio	p-value
None	0.4	referent	
1	1.7	4.1	0.003
2-3	4.8	9.8	<0.001
4-5	6.1	14.3	<0.001

TD: travelers' diarrhea; FGI: functional gastrointestinal; IBS: irritable bowel syndrome

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FUNCTIONAL BOWEL SYMPTOMS AFTER AN EPISODE OF TRAVELERS' DIARRHEA AMONG US MILITARY PERSONNEL RETURNING FROM DEPLOYMENT TO EGYPT AND TURKEY

M. S. Riddle, MD, DrPH,[1] C. D. Schlett, MPH,[2] D. R. Tribble, MD, DrPH,[3] M. R. Monteville, PhD,[2] A. W. Armstrong, DO, MSPH,[4] J. W. Sanders, MD, MPH&TM[5]. 1. Enteric Diseases Department, Naval Medical Research Center, Silver Spring, MD; 2. Uniformed Services University of the Health Sciences, Bethesda, MD; 3. Navy and Marine Corps Public Health Center, Norfolk, VA; 4. Naval Medical Research Unit No.3, Cairo, Egypt; 5. Naval Medical Research Center Detachment, Lima, Peru.

Purpose: Postinfectious irritable bowel syndrome (PI-IBS) occurring after an acute enteric illness has been frequently described among various populations, including travelers. The US military are a unique population of travelers that is at high risk for travelers' diarrhea (TD), and to date no published studies have linked TD with PI-IBS in this population. This study was designed to evaluate the relationship between TD during deployment and the development of symptoms consistent with IBS among US military personnel upon return from deployment.

Methods: A follow-up study among US military returning from deployment to the Multinational Force Observers in the Sinai, Egypt (n=33) or Incirlik Air Base, Turkey (n=89) was conducted where participants were asked to complete an online survey on history of TD during deployment, as well new onset IBS symptoms (Rome II) experienced since returning (6 months later). Differential risk between TD during deployment and development of incident PI-IBS was assessed. Differences between the clinical presentations of TD among those with IBS were compared to those who did not develop IBS.

Results: Among the 121 respondents (74% male), 99 (82%) experienced TD while deployed. In 63% of the episodes, the individual sought care at a military treatment facility. Those who developed TD had similar baseline demographic characteristics as those who did not report TD, though TD tended to occur more frequently among males (77% vs. 59%, p=0.11). Among the 17 respondents who met criteria for IBS, 16 (94%) reported at least one episode of TD compared to 77/103 respondents reporting TD without function bowel symptoms (OR 5.4, Fisher's exact p=0.11) Nausea, vomiting and/or fever occurred more frequently with TD reported by IBS cases compared to those who did not develop IBS symptoms. No difference in antibiotic treatment of TD was noted between those with and without IBS symptoms (43% in both).

Conclusion: While chronic gastrointestinal complaints have been found to occur more frequently among deployed veterans compared to matched non-deployed veterans, this is among the first studies to suggest that the risk of PI-IBS that occurs in other traveler populations is likely to be found among US military returning from high risk TD regions as well. Furthermore, the findings of differential presentation of TD associated with PI-IBS cases and non-cases are consistent with prior studies which have found more severe illness resulting in higher PI-IBS risk. From a Department of Defense perspective, the burden of acute infectious diarrhea, including the impact of the acute illness and that associated with its chronic sequelae need to be considered in the justification for continued efforts to mitigate this health threat.

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ROME CRITERIA FOR IRRITABLE BOWEL SYNDROME (IBS) SHOULD BE A QUANTITATIVE TRAIT AND NOT A QUALITATIVE TRAIT

2008 ACG Presidential Poster Award Recipient

Y. Saito-Loftus, MD, MPH,[1] A. Almazar-Elder, BS,[1] J. J. Larson, BS,[2] E. Atkinson, MS,[2] N. J. Talley, MD, PhD[3]. 1. Enteric Neuroscience Program, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Department of Health Sciences Research, Division of Biostatistics, Mayo Clinic, Rochester, MN; 3. Department of Internal Medicine, Mayo Clinic, Jacksonville, FL.

Purpose: The Rome criteria are well-recognized diagnostic criteria for irritable bowel syndrome (IBS). The diagnosis depends on patients endorsing the correct combination of symptoms and results in a qualitative (yes/no) outcome. We and others have shown the sensitivity of the Rome criteria range from 39-85% with poor agreement compared with physician diagnosis, resulting in frequent inconsistency between the criteria and clinical diagnosis. The aim of this study is to explore whether a quantitative version of the Rome criteria would be better representative of IBS than the current qualitative measure.

Methods: As part of a large, family case-control study, outpatients with a physician diagnosis of IBS and outpatients without IBS completed a validated bowel disease questionnaire. The Rome criteria were analyzed by the following 15 symptoms: pain/discomfort (PD) with defecation, PD with more stool, PD with less stool, PD with looser stool, PD with harder stool, >3 bowel movements (BM)/d, <3 BMs/wk, harder stools, looser stools, straining, urgency, incomplete evacuation, mucus, bloating, distension at least 25% of the time. Multivariable logistic regression was performed to evaluate each symptom in predicting case or control status.

Results: Data was analyzed from 505 case- and 428 control-probands. 69% of cases and 0% controls met Rome I or II criteria for IBS. By multivariable logistic regression, nine symptoms were associated ($p<0.05$) with case-status: PD with defecation, PD with more BMs, PD with fewer BMs, PD with looser BMs, >3 BMs/d, incomplete evacuation, urgency, and bloating/distension. Distribution for Rome symptoms by case/control status resulted in a normal curve for cases and left-skewed curve for controls, suggesting the increasing number of Rome symptoms relate to the affectedness of IBS. Among the case-probands who met Rome criteria, they endorsed a median of 8 symptoms (range 2-15 symptoms) and case-probands who did not meet Rome still reported a median of 4 Rome symptoms. Nearly half of the Rome-negative case group still experienced infrequent (>10%, but not >25%) symptoms consistent with the Rome criteria, suggesting milder symptoms. Over 60% of controls did not endorse any Rome symptoms, but nearly 40% still reported 1-8 Rome symptoms.

Conclusion: Individual symptoms of the Rome criteria are valid and are still predictive measures for IBS, but the current dichotomous Rome criteria are insensitive to mild or infrequent affectedness. Clinically, a count of the individual IBS symptoms may be more useful than the current binary Rome criteria in representing the degree of IBS affectedness and may better reflect the clinical diagnosis of IBS applied by physicians. Supported by NIH DK066271

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IRRITABLE BOWEL SYNDROME (IBS) IS NOT A MAJOR GENE, MENDELIAN DISORDER

Y. Saito-Loftus, MD, MPH,[1] J. J. Larson, BS,[2] E. Atkinson, MS,[2] B. L. Fridley, PhD,[2] N. J. Talley, MD, PhD[3]. 1. Enteric Neuroscience Program, Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Department of Health Sciences Research, Division of Biostatistics, Mayo Clinic, Rochester, MN; 3. Department of Internal Medicine, Mayo Clinic, Jacksonville, FL.

Purpose: Classic traditional genetic diseases resulting from rare mutations in a single gene typically follow a specific pattern of transmission. We and others have previously shown that IBS aggregates in families and twin studies suggest that there is a genetic basis for IBS. Formal construction and analysis of transmission of IBS through pedigrees has not been performed to determine whether IBS follows a specific Mendelian pattern of inheritance. **Primary Aim:** To determine if there is evidence for a major gene involved in the etiology of IBS using complex segregation analysis.

Methods: A large, family case-control study was conducted of outpatients with IBS (probands) who completed a bowel symptom questionnaire and provided contact information for first-degree relatives (FDRs). FDRs were then contacted by mail to complete a questionnaire to determine IBS status as defined by meeting Rome I or II criteria for IBS or reporting a physician diagnosis of IBS. Using the questionnaire data, pedigrees were constructed. Maximum likelihood segregation analysis was performed using the P.A.P. statistical package.

Results: Data were collected from 499 case-probands. Based on information provided by the probands, in the 499 pedigrees, there were a total of 3509 family members in their family structure. Mailings were sent to nearly 2300 living FDRs permitted contact. Symptom data was collected from 1560 relatives, of which 763 (49%) were affected with IBS. Pedigrees were constructed using data from participating relatives as well as proband-provided IBS status for non-participating relatives whereby unknowns were counted as unaffected. By segregation analysis, the major locus models converged, but the mixed and general models did not. The genetic models were clearly a better fit than the sporadic model. The "best" model was the autosomal dominant model. The analysis was repeated using only proband-provided data, without changes in overall findings.

Conclusion: The pattern of IBS in families does not appear sporadic, however, the lack of convergence of the models suggests that transmission of IBS through families does not appear consistent with a major gene, Mendelian disorder. The above findings suggest that if there is a genetic basis for IBS, IBS is a complex genetic disorder resulting from genes of modest effect and environment. Supported by NIH DK066271.

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THE FUJINON INTELLIGENT COLOR ENHANCEMENT SYSTEM (FICE): A NEW COMPUTED VIRTUAL CHROMOENDOSCOPY TOOL FOR DIAGNOSING COLORECTAL NEOPLASIA DURING COLONOSCOPY

A. M. Buchner, MD, PhD,[1] M. S. Ghabril, MD,[1] M. Krishna, MD,[2] H. Wolfsen, MD,[1] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL; 2. Pathology, Mayo Clinic, Jacksonville, FL.

Purpose: Conventional colonoscopy offers no reliable discrimination between neoplastic and nonneoplastic colorectal lesions and histopathology assessment remains the gold standard method of colorectal lesions classification. Computed virtual chromoendoscopy (CVC) with the Fujinon intelligent color enhancement (FICE) system is a new dyeless imaging technique that is based on narrowing the bandwidth of the conventional endoscopic image arithmetically by a spectral estimation technology without the need of optical filters as in narrow band imaging. It enhances mucosal and vascular patterns and thus it may allow the classification of colorectal lesions in real time and distinguishing neoplastic from nonneoplastic lesions.The aim of the study is to assess the efficacy of the new FICE system for diagnosing colorectal neoplasia during routine colonoscopy.

Methods: Thirty eight patients underwent colonoscopy using high resolution zoom colonoscopes with the EPC 4400 processor (Fujinon Inc.Ft Wayne, NJ). Each colorectal lesion was evaluated in FICE mode previously determined to offer the highest contrast between neoplastic and non-neoplastic tissue (Image mode "4"). The surface pit pattern was determined using the Kudo pit classification with patterns 1 and 2 representing non-neoplastic lesions and patterns 3 to 5 representing neoplastic lesions. Histopathology of all lesions was confirmed by evaluation of endoscopic mucosal resection or biopsy specimens. The sensitivities, specificities and accuracies and their corresponding confidence intervals of the FICE system in predicting neoplasia were reported as compared to gold standard histopathology.

Results: A total of 38 patients underwent colonoscopy (female 19, male 19). Of the total of 57 colorectal lesions (a mean size of 13 mm) found in thirty six patients, 37 were neoplastic lesions (tubular adenoma 25, tubulovillous 8, villous 2, adenocarcinoma 2) and 20 were hyperplastic polyps. For identifying neoplastic lesions, the FICE system had a sensitivity of 86.5% (CI 75.5-97.5%), specificity of 60.0% (CI 38.5-81.5%) and diagnostic accuracy of 77.2% (CI 66.3-88.0%) respectively.

Conclusion: The FICE system as in vivo modality has an overall good accuracy for prediction of colorectal neoplasia . However further studies assessing the efficacy of this technique in large prospective cohorts are warranted.

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ARE FOUR EYES BETTER THAN TWO? EFFECT OF TRAINEE PARTICIPATION IN COLONOSCOPY ON ADENOMA DETECTION RATE. A RETROSPECTIVE STUDY OF 1273 PATIENTS

A. M. Buchner, MD, PhD, M. S. Ghabril, MD, S. A. Gross, MD, A. Schore, MD, K. R. Gill, MD, M. Picco, MD, PhD, D. S. Loeb, MD, H. Wolfsen, MD, M. B. Wallace, MD, MPH. Gastroenterology, Mayo Clinic, Jacksonville, FL.

Purpose: The adenoma detection rate during colonoscopy is an important measure of the quality of colonoscopy. It has not been well established whether trainee (fellow) participation in colonoscopy could influence the adenoma detection.The aim of this study was to determine if trainee participation (fellow)affects the detection rates of adenomas.

Methods: This is a retrospective case control study of colonoscopies performed in our ambulatory surgical center between 09/2006 and 05/2007,comparing colonoscopies performed by trainee with a supervising staff endoscopist vs. colonoscopies performed by a staff endoscopist without trainee participation. The patients were matched based on demographics characteristics, colonoscopy indications, and bowel preparation status, family history of colon cancer and type of colonoscope used. Study participants included patients who underwent screening, surveillance or diagnostic colonoscopies in our GI suite. Categorical and quantitative measures of adenoma detection were compared between the two groups by Chi square and Mann Whitney tests.
Results: A total of 1273 patients participated in the study, of whom 194 had colonoscopies performed by trainee with attending (Attending-Fellow Group AFG) as compared to 1079 performed by staff endoscopists alone (Attending Group AG). Table 1 lists the specific matching characteristics. Overall adenoma detection rate was 30.1% in AFG group as compared to 24.4% in AG (p=0.096). The rate of adenoma per person among participants assigned to AFG was 0.50 ± 1 as compared to 0.46 ± 1.1 in AG group (p=0.12) The rates of small adenomas (0-5 mm) per patient were 0.32 ± 0.7 in AFG, and 0.26 ± 0.8 in AG (p=0.029). Among patients receiving colonoscopy for screening (n=587), AFG group participants had an estimated adenoma rate of 0.62 ± 1.2, while AG group participants had an adenoma rate of 0.48 ± 1.2 in AG (p= 0.031).
Conclusion: Overall adenoma detection rates with fellows participation were not significantly higher, however fellows' participation was associated with higher rates of small (<5mm) adenomas, as well as all adenomas in screening patients.

Matching characteristics of the study patients

	AFG (n=194)	AG (n=1079)
Gender(male)	55.2%	55.7%
Ethnicity		
Caucasian	92.3%	91.9%
African American	4.1%	3.8%
Hispanics	1.5%	3.3%
Other	2.1%	0.9%
Age	62.1± 12	63.4± 13
Indication		
Screening	50%	45.4%
Surveillance	23.7%	28.4%
Other	26.3%	26.2%
Adequate Bowel Prep	65.4%	67.7%
Family history of colonic neoplasia	14.6%	12.1%
High definition colonoscopes	53.6%	47.6%

p value not significant for all comparisons

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MAGNETIC RESONANCE IMAGING (MRI)COMPATIBILITY OF ENDOCLIPS
K. R. Gill, MD,[1] R. A. Pooley, PhD,[2] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL, Jacksonville, FL; 2. Radiology, Mayo Clinic, Jacksonville, FL.
Purpose: Several types of endoscopic clipping devices are now available for treatment of gastrointestinal hemorrhage and microperforations. The package inserts on all available endoclips suggest they are MRI incompatible. No data is available about the actual magnetic field strength at which endoclips are first deflected nor the clinical relevance magnetic fields on endoclips used in gastrointestinal endoscopy. The purpose of this study was to determine the compatibility of different endoclips with MRI.
Methods: In this prospective observational study, the physical deflection and strength of attraction of endoclips including Resolution Clip (Boston Scientific, Natick, MA), TriClip (Cook Endoscopy, Winston Salem, NC), QuickClip (Olympus America, Melville, NY) and Ethicon Endo-surgery Clip (Ethicon Endo-Surgery, Cincinnati, OH) were measured in different positions, using a MRI scanner at a field strength of 1.5 Telsa. The distance (feet) and field strength (Gauss) at which the clip was first observed to be deflected from the magnetic field were measured. Additionally, the endoclips demonstrating deflection were attached to pig stomach and tested for detachment from gastric tissue at a 1.5 Telsa MRI field strength.
Results: The data for all endoclips is shown in table 1. All endoclips except that made by Ethicon Endo-surgery demonstrated physical deflection under the tested conditions. The magnetic attraction was strongest for Resolution Clip (0.7 Gauss) compared to TriClip (1.2 Gauss) and QuickClip (26.8 Gauss). Only Triclip demonstrated detached from the pig gastric tissue under testing conditions.
Conclusion: 1) The Ethicon Endo-surgery clip are compatible with MRI. 2) The TriClip, QuickClip and Resolution Clip physically deflect under standard magnetic field of 1.5 Telsa, indicating their ferromagnetic properties. 3) Although, Resolution Clips have the strongest attraction among all clips followed by TriClip and QuickClip, only TriClip demonstrated detachment from gastric tissue, hence should be considered MRI incompatible.

Distance (feet) and field strength (Gauss) at which the clip was first observed to be deflected from the magnetic field.

Endoclip	Distance (ft)	Field Strength (gauss)
Ethicon Endo-surgery Clip	Not deflected	Not deflected
QuickClip	9	26.8
TriClip	15	1.2
Resolution Clip	16	0.7

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ENDOSONOGRAPHIC MORPHOLOGICAL FEATURES FOR THE IDENTIFICATION OF MEDIASTINAL LYMPH NODE METASTASIS IN LUNG CANCER
K. R. Gill, MD,[1] M. S. Ghabril, MD,[1] L. H. Jamil, MD,[1] S. A. Gross, MD,[1] M. Raimondo, MD,[1] T. Woodward, MD,[1] B. Hoffman, MD,[2] R. Hawes, MD,[2] J. Romagnuolo, MD,[2] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL, Jacksonville, FL; 2. Department of Gastroenterology, Medical University of South Carolina, Charleston, SC.
Purpose: Endoscopic ultrasonography (EUS) is useful in determining mediastinal lymph nodes (LNs) metastases in patients undergoing staging for lung cancer. However, fine needle aspiration (FNA) of LNs is often performed only if suspicious features are present. The utility of individual LN features in predicting metastases remains unclear. The objective of the study was to prospectively evaluate the diagnostic value of mediastinal LN characteristics by EUS for predicting metastatic involvement.
Methods: 382 patients with primary lung cancer underwent EUS. All mediastinal LNs were described, and FNA was obtained of all suspicious (>0 features) lymph nodes. LNs were measured for short and long axis (mm) diametery, shape (round, oval, triangular), echogenicity (diffusely hypoechoic or other), and edge characteristics (sharp or fuzzy). EUS-FNA cytology was classified as benign or abnormal (suspicious/malignant). The accuracy of LN features in predicting metastases were determined and further analyzed by univariate/multivariate logistic regression.
Results: EUS detected 710 LN in 382 patients, and FNA was obtained in 580 LNs. By ROC analysis, short axis >8.3 mm and long axis >17 mm provided the best sensitivity and specificity for predicting metastasis. Sensitivity, specificity and accuracy for individual LN features are described in table 1. On univariate analysis, all features were predictive, however on multivariate analysis only round shape, short axis >8.3 mm, and sharp margins were predictive of metastases. (Table 1)
Conclusion: This study suggests that EUS features of round shape, sharp margins and short axis > 8.3 mm are significant predictors of mediastinal LN metastases in patients with lung cancer. The usual EUS features of LN metastasis in lung cancer staging can be simplified to these three features.

Table 1. Diagnostic value of EUS features predictive of malignant lymphadenopathy.

Characteristic	Sensitivity	Specificity	Accuracy	Hazard Ratio (95 %CI)*	P value*
Diffusely hypoechoic	85%	30%	40%	1 (0.54-20.2)	0.9
Long axis >17 mm	59%	58%	58%	1.1 (0.60-1.96)	0.7
Sharp Margins	80%	45%	51%	1.9 (1.08-3.44)	0.02
Short axis >8.3 mm	70%	68%	68%	3.9 (2.21-6.92)	<0.001
Round Shape	56%	85%	80%	5.9 (3.45-10.01)	<0.001

***Multivariate analysis**

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NOVEL STRUCTURAL & FUNCTIONAL IMAGING OF THE COLONIC MUCOSA USING STRUCTURED LIGHT ILLUMINATION SECTIONING ENDOMICROSCOPY (SLISE)

2008 ACG Presidential Poster Award Recipient

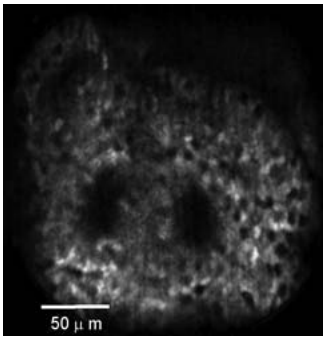
A. C. Bartoo, PhD,[1] S. Santos, MS,[2] J. Mertz, PhD,[2] S. Singh, MD[1]. 1. Medicine-Gastroenterology, Boston University School of Medicine, Boston, MA; 2. Biomedical Engineering, Boston University College of Engineering, Boston, MA.

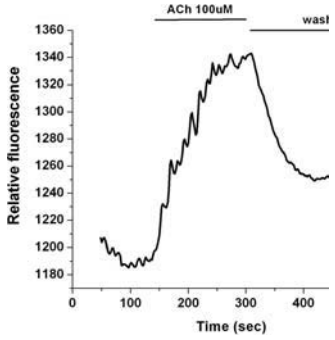
Purpose: Confocal fluorescence endomicroscopy has been used for real-time, in vivo imaging. We have designed a fiberoptically-mediated widefield endomicroscope based on structured light illumination sectioning endomicroscopy which we have termed "SLISE." SLISE has no moving parts and is limited only by camera and processing speed. Since colonic mucosa is altered during gastrointestinal disease, we used SLISE optical sectioning to functionally image the colonic mucosa.

Methods: Our SLISE uses a 490nm diode laser and illumination and imaging via CCD camera is mediated by a flexible fiberoptic bundle with 30,000 cores and a 70μm working distance objective at the tip. Out-of-focus background light is rejected using a LCD spatial light modulator to obtain optical sectioned images. Exteriorized mouse colonic mucosa was loaded with 10 μM BCECF-AM, SNARF1-AM, or Fluo-4AM for 10 min to image intracellular pH or calcium.

Results: Surface cells, goblet cells, and dye loading along the axis of the crypts were seen clearly using SLISE. Furthermore, we were able to visualize (1) dramatic rises in intracellular calcium in colonocytes following application of acetylcholine (100μM) and (2) characteristic changes in intracellular pH in response to a 20 mM NH4Cl prepulse using pH reporter dyes.

Conclusion: We have successfully imaged structural features as well as functional physiological parameters using SLISE in situ. The advantages of our SLISE system over existing laser scanning systems include lower component costs, optical simplicity, and no moving parts. Thus, SLISE represents a new type of clinically-accessible fluorescence endomicroscopy technology to provide real-time histology as well as physiological/functional mucosal imaging.





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RISK OF CLINICALLY SIGNIFICANT POSTPOLYPECTOMY HEMORRHAGE IN PATIENTS TAKING CLOPIDOGREL

T. Judge, MD,[2] N. K. Patel, MD,[1] S. Peikin, MD, FACG,[2] A. Elfant, MD, FACG,[2] C. Deitch, MD,[2] H. Krystal, MBA[3]. 1. Dept of Internal Medicine, Cooper University Hospital, UMDNJ-RWJMS, Camden, NJ; 2. Dept of Gastroenterology, Cooper University Hospital, UMDNJ-RWJMS, Camden, NJ; 3. Dept of Biostatistics, Cooper University Hospital, UMDNJ-RWJMS, Camden, NJ.

Purpose: Antiplatelet medication clopidogrel is commonly used for the primary and secondary prevention of atherothrombosis. There is no data regarding the risk of postpolypectomy hemorrhage (PPH) in pts taking clopidogrel. This study was designed to estimate the rate of clinically significant PPH in pts taking clopidogrel.

Methods: This retrospective study (1/99–2/08) included hospitalized patients who underwent colonoscopic polypectomy (CP) and had received clopidogrel within 7 days prior to the CP. Pts were identified by ICD-9 procedure codes 45.25 - endoscopic biopsy of large intestine, 45.42 - endoscopic polypectomy of large intestine, 45.43 - endoscopic excision / destruction of lesion / tissue of large intestine, 48.36 - endoscopic polypectomy of rectum; and CDM charge code 04300935 (clopidogrel). Exclusion criteria included: (1) Use of Warfarin or Enoxaparin for long term anticoagulation after polypectomy; (2) congenital or liver failure induced coagulopathy; and (3) platelet disorders. Chart review was performed to acquire the data. For follow up, hospital records were reviewed to identify any ED visit or admission due to PPH within 30 days following the CP. PPH rates and their corresponding 95% confidence intervals were calculated.

Results: 48 polyps were removed from 33 pts who met the eligibility criteria (mean age 69 ± 11 yrs; 16 male, 17 female). Counting CP day as "Day 0", 24 pts received clopidogrel on day 0, 4 pts on day 1, 3 pts on day 2, 1 pt on day 3, and 1 pt on day 6 prior to CP. 15 pts also received aspirin within 3 days prior to CP. Mean size of polyp was 5.42 mm ± 3.25 mm. Size of polyp was 1 to 5 mm in 34 cases, 6 to 10 mm in 9 cases, and 11 to 15 mm in 5 cases. Biopsy forceps were used in 39 cases, snare polypectomy was performed in 7 cases, and 2 polyps were fulgurated. One pt had a hemodynamically significant PPH on Day 2. In this pt snare polypectomy was performed on 12 mm, 12 mm, and 8 mm polyps. Bleeding was identified at all 3 sites and was controlled with cautery and epinephrine injections. Estimated rate of clinically significant PPH in our series was 3.3% per pt (95% CI 0 to 15%), 6.3% per polyp (95% CI 1 to 17%), 0% for biopsy forceps polypectomy (95% CI 0 to 8%), and 43% for snare polypectomy (95% CI 10 to 82%).

Conclusion: In this study of hospitalized patients receiving clopidogrel within 7 days prior to CP, estimated rate of clinically significant PPH was 3.3%. These preliminary results suggest that biopsy forceps polypectomy of small polyps may be safe in pts medicated with clopidogrel. The rate of PPH was significantly higher when snare polypectomy was performed; however, further studies are required to determine whether snare polypectomy can be safely performed in pts receiving clopidogrel.

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Poster Withdrawn

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ENDOSCOPIC FULL-THICKNESS PLICATION FOR THE TREATMENT OF GASTROESOPHAGEAL REFLUX DISEASE USING MULTIPLE PLICATOR IMPLANTS: 12-MONTH MULTI-CENTER STUDY RESULTS

D. von Renteln, MD,[1] K. Fuchs, MD,[3] M. Philipper, MD,[4] S. Raczynski, MD,[2] W. Breithaupt, MD,[3] I. Schiefke, MD,[2] K. Caca, MD,[1] H. Neuhaus, MD[4]. 1. Department of Gastroenterology, Klinikum Ludwigsburg, Ludwigsburg, Germany; 2. Department of Gastroenterology, University of Leipzig, Leipzig, Germany; 3. Department of Surgery, Markuskrankenhaus Frankfurt, Frankfurt, Germany; 4. Medizinische Klinik, EVK Duesseldorf, Duesseldorf, Germany.

Purpose: The full-thickness Plicator® (NDO Surgical, Inc., Mansfield, MA) restructures the antireflux barrier by delivering transmural pledgeted sutures through the gastric cardia. To date, studies of the Plicator procedure have involved the placement of a single transmural suture to create a single tissue plication. The purpose of this study was to evaluate 12-month safety and efficacy of the Plicator procedure for the treatment of GERD by placing multiple de novo transmural sutures to restructure the GE junction.

Methods: A multi-center, prospective, open-label trial was conducted at four tertiary centers. Patients eligible for treatment included those with symptomatic GERD and pathologic reflux requiring daily proton pump inhibitor therapy. Patients were excluded for Barrett's epithelium, esophageal dysmotility, hiatal hernia > 3cm, and grades III and IV esophagitis. All patients underwent endoscopic full-thickness plication with linear placement of at least two transmural pledgeted sutures in the anterior gastric cardia. Primary 12-month efficacy was determined through GERD-HRQL analysis. Patients were also evaluated for GERD medication use and heartburn/regurgitation scores.

Results: Forty-one patients underwent endoscopic full-thickness plication with placement of two or three transmural sutures. Using per-protocol analysis at 12-months post-treatment, 74% of patients demonstrated GERD-HRQL score improvement ≥ 50%, with a mean GERD-HRQL improvement of 17.6 vs. off medication baseline (7.8 vs. 25.4, p<0.001). Using intent-to-treat analysis at 12-months post-treatment, 63% of patients demonstrated GERD-HRQL score improvement ≥ 50%, with a mean GERD-HRQL improvement of 15.0 vs. off medication baseline (11.0 vs. 26.0, p<0.001). The need for daily PPI therapy was eliminated in 69% of patients at 12-months on a per-protocol basis and 59% on an intent-to-treat basis. Adverse events occurred mainly in the immediate post-treatment phase and included abdominal pain (44%), shoulder pain (24%), and chest pain (17%). No adverse events resulted in any long-term patient injury.

Conclusion: Endoscopic full-thickness plication using multiple Plicator implants safely and effectively reduced GERD symptoms and medication use in a multi-center study. Further randomized controlled trials are warranted to evaluate the role of this procedure compared to the established surgical and medical GERD therapies.

This research was supported by an industry grant from NDO Surgical, Inc., Mansfield, MA

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THE ENDOSCOPIC PLICATOR PROCEDURE FOR GERD USING TWO FULL-THICKNESS PLICATIONS: 18-MONTH PILOT STUDY RESULTS

D. von Renteln, MD, U. Brey, MD, B. Riecken, MD, MPH, K. Caca, MD. Department of Gastroenterology, Klinikum Ludwigsburg, Ludwigsburg, Germany.

Purpose: The Plicator® (NDO Surgical, Mansfield MA) endoscopically delivers full-thickness pledgeted sutures to restructure the gastroesophageal junction and the anti-reflux barrier. To date, all Plicator studies have involved the placement of a single, full-thickness suture at the gastro-esophageal junction. The purpose of this pilot study was to evaluate the safety and effectiveness of placing two pledgeted sutures in the anterior gastric cardia.

Methods: Patients with symptomatic GERD requiring maintenance proton pump inhibitor therapy were entered in an open-label, prospective, single-center pilot study. Patients with hiatal hernias >3cm, grade III and IV esophagitis, and Barrett's esophagus were excluded. All patients received two full-thickness Plicator sutures in the anterior gastric cardia, serially placed within 1cm of the GEJ. The following were assessed at baseline and 18-months post-treatment: GERD-HRQL, VAS and medication use. The primary study endpoint was ≥50% improvement in GERD-HRQL score.

Results: Thirty-seven patients underwent endoscopic full-thickness plication using two sutures. At 18-months post-treatment, the proportion of patients achieving ≥50% improvement in GERD-HRQL score was 57%. Median GERD-HRQL scores improved 61% compared to baseline off-meds scores (12.5 vs. 25.9, p<0.001) and were superior when compared to patients' baseline on-meds GERD-HRQL scores (12.5 vs.15.6, p=0.023). Heartburn symptoms measured by VAS showed a median improvement of 77% versus off-med baseline (p<0.001). Complete PPI cessation was achieved in 35% of patients, with an additional 39% of patients able to reduce their PPI dose by at least half. All procedure-related adverse events occurred acutely, as previously reported, and no new adverse events were observed during extended follow-up.

Conclusion: Endoscopic full-thickness plication using two sutures showed in 57% of patients an improvement in GERD-HRQL ≥50% at 18 months. Median GERD-HRQL scores improved 61% and heartburn symptoms showed a median improvement of 77%. Complete PPI cessation was achieved in 35% of patients. No new adverse events were observed during the 18 month follow-up.

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APPROPRIATENESS OF THE 'STRAIGHT TO TEST' GASTROSCOPY REQUESTS FOR PATIENTS WITH SUSPECTED GASTROINTESTINAL CANCERS

I. Amin, MBBS, P. Steer, RN, R. Madhotra, MBBS, FRCP. Gastroenterology, Milton Keynes General Hospital, Milton Keynes, United Kingdom.

Purpose: Aim and background: In our experience 'Straight to Test' referral for gastrointestinal endoscopy is safe, cost effective, and efficient in establishing early diagnosis and appropriate management in patients with new diagnosis of gastrointestinal cancer. However 'straight to test' endoscopy adds further burden to our ever stretched endoscopy units. In The UK National Institute of Clinical Excellence (NICE) has provided guidelines for requesting urgent endoscopy in patients with suspected gastrointestinal cancer. The aim of this study is to evaluate appropriateness of the urgent gastroscopy referrals for suspected gastrointestinal cancer in our endoscopy unit at Milton Keynes General Hospital.

Methods: Between December 2005 and March 2008 all consecutive patients with requests for urgent gastroscopy from their General practitioners under 'Straight to test' rule were prospectively evaluated for their appropriateness and followed until their final diagnosis. All referrals were compared against the current NICE recommendations and categorising them into appropriate or inappropriate. Prevalence of cancer diagnosis was calculated in both population groups.

Results: Out of a total of 509 referrals, mean age 66.7 years range 20 to 99, the commonest clinical category for referral was Dyspepsia 342(67%), followed by Dysphagia 230(45%). Weight loss, Iron deficiency anaemia (IDA) and jaundice was seen in 40%, 17% and 4% respectively. 54 (10.6%) referrals were found to be Inappropriate and 453 (88.9%) were found to be appropriate. No cancers were diagnosed in the inappropriate group. In the Appropriate group 69(15%) patients were diagnosed with cancer. Common reasons for inappropriate referrals included long duration of symptoms (< 12 months) 18 (31%), anaemia not investigated before referring 13 (22%), dyspepsia under 55 without alarm symptoms 9 (16%), persistent vomiting without alarming symptoms 4 (7%) and miscellaneous 6 (10%). Total duration of symptoms, evaluation of anaemia (serum ferritin and MCV) and weight loss quantification was given 199(39%),73 (83%) and 18 (8.8%) patients only.

Conclusion: We believe approximately 10% patients reffered for urgent gastrointestinal endoscopy do not require it urgently. By adhering strictly to our professional body guidelines significant number of gastroscopies will be avoided thereby further improving the cost effectiveness of the service. By adding a mandatory space for duration of symptoms, Haemoglobin, Mean Corpuscular Volume and serum ferritin for Iron deficiency Anaemia, and Quantification of weight loss in a specified time period within every 'Straight to Test' request forms may help to achieve these goals more effectively.

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EVALUATION OF OPEN ACCESS COLONOSCOPY IN ONTARIO; AN ASSESSMENT OF ITS PREVALENCE AND PATIENT, PHYSICIAN AND INSTITUTIONAL DETERMINANTS OF ITS USE

S. Hadlock, MD,[1] L. Paszat, MD, MS, FRCPC,[2] L. Rabeneck, MD, MPH, FRCPC,[1] A. S. Wilton, MS,[2] R. Sutradhar, PhD,[2] J. Tinmouth, MD, PhD, FRCPC[2]. 1. University of Toronto, Toronto, ON, Canada; 2. Institute for Clinical Evaluative Sciences, Toronto, ON, Canada.

Purpose: Increasing demand for colonoscopy (CS) has led to the creation of an open access scheduling model (referring directly to endoscopy without prior consultation) in several countries outside of Canada. Although this practice may increase efficiency and decrease wait times, concerns have been raised regarding appropriate informed consent, pre-colonoscopy assessment and follow up of endoscopic results. Anecdotally, the practice of open access colonoscopy (OAC) does exist in North America but has yet to be characterized at the population level. Our objective was to describe the temporal trends of open access colonoscopy in Ontario between 1997-2007 and to identify patient, physician and institutional factors associated with this practice.

Methods: Using the databases housed at the Institute for Clinical Evaluative Sciences (ICES), we identified all adult outpatients with a first time colonoscopy (index CS) in Ontario between 1997-2007. OAC was defined as the absence of any Ontario Health Insurance Program (OHIP) consultation or procedure billing claims by the physician performing the index CS in the preceding 5 years. Data were collected on patient (age, sex, comorbidity, median neighborhood income, urban/rural status, and health region), physician (specialty, endoscopist volume, years of practice), and institution characteristics (type of facility). The proportion of OAC was calculated for each year of the study period. Univariate analyses using chi square testing were performed to compare the OAC and the non-OAC groups.

Results: During the study period 1,079,259 index CS were performed. The use of OAC increased from 14% in 1997 to 26% in 2007 (P<0.0001). Men living in higher income neighborhoods and those living in urban areas (P<0.0001) were more likely to receive OAC. Gastroenterologists, higher volume endoscopists and those with more years of clinical experience were more likely to perform OAC (P<0.0001). Nearly half of OAC were performed in non-hospital settings. Those performed in hospital settings were more likely to occur in academic than community hospitals (39% vs. 13%, P<0.0001).

Conclusion: In Ontario, rates of OAC have increased substantially since 1997. Patient, physician and institution factors contribute to the variation in the practice of OAC; in particular, a significant proportion of these procedures occur in non-hospital settings. In light of these findings and given recently published concerns regarding the quality of colonoscopy performed in non-hospital settings in Ontario, the interaction between OAC and colonoscopy setting merits further exploration.

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A PROSPECTIVE STUDY EVALUATING COLONOSCOPY COMPLICATIONS

J. Leigh, MD, MPH,[2] M. S. Hoffman, MD, MPH,[1] M. H. Max, MD,[1] J. M. Roa, DO,[1] A. Fernandes, MD,[1] T. Buchanan, BS[1]. 1. Gastroenterology, Bay Pines VA Health System, St. Petersburg, FL; 2. USF College of Medicine, Tampa, FL.

Purpose: Colonoscopy is the principal modality for colon cancer screening and diagnosis of colorectal diseases. Though relatively benign, colonoscopy is an invasive procedure with the potential for serious and life threatening complications. We previously reported our experience from 1996 through 2002. We are now updating the subsequent six years and combining these data to provide the largest single center review of colonoscopy complications.

Methods: 17,181 consecutive patients who underwent colonoscopy at Bay Pines VAMC for fiscal years 1996 through 2008 were prospectively followed to determine the incidence of endoscopic complications. Following the colonoscopy all patients were contacted by a registered nurse two to four days after the colonoscopy to assess for adverse events. To detect all possible complications, each patient's medical record was also reviewed to ascertain for hospitalization within two weeks of the colonoscopy and thirty-day mortality. Colonic perforation, bleeding, post polypectomy syndrome/abdominal pain, cardiovascular events, mortality within thirty days of procedure and hospitalization within fourteen days of procedure were the complications considered.

Results: Out of 17,181 colonoscopies performed the overall thirty day mortality rate was 0.42% (n=73). The morbidity rate for all examinations was 0.40% (n=69). The most frequent complication was post-polypectomy bleeding occurring in 30 patients, and thirteen patients required a blood transfusion. There were nine cases of perforation (0.05% of all colonoscopies). Four cases following a polypectomy, two resulting from a screening diagnostic colonoscopy, one with obstructing sigmoid cancer, one with severe left sided ulcerative colitis and one cecal perforation after reduction of a sigmoid volvulus. Of the ten cases of abdominal pain, there were six cases of post polypectomy syndrome, one case of pancreatitis, one case of air distention, and two cases of appendicitis. Cardiovascular complications occurred in twenty patients (0.12%): four myocardial infarctions, two sudden deaths within two weeks of colonoscopy, five arrhythmias, two symptomatic bradycardias, two cases of syncope, one dizziness, two episodes of post procedure hypotension, one ischemic heart disease and one case of high blood pressure.

Conclusion: As guidelines for colorectal cancer screening are continuously being revised, it is important to provide up to date data on complications arising from the primary screening modality, the colonoscopy. This data will give providers current information so that they can best counsel their patients when making screening decisions.

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ENDOSCOPIC NECROSECTOMY IN THE MANAGEMENT OF SYMPTOMATIC WALLED OFF PANCREATIC NECROSIS

U. Navaneethan, MD,[1] M. Al Mohajer, MD,[1] N. Schmulewitz, MD,[1] S. Chauhan, MD,[1] S. Ahmad, MD,[2] J. B. Palascak, MD,[1] A. Gelrud, MD, MMSc[1]. 1. Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH; 2. Surgery, University of Cincinnati Medical Center, Cincinnati, OH.

Purpose: Walled-off organized pancreatic necrosis (WOPN) is a complication of acute pancreatitis characterized by a well-circumscribed area of sterile or infected necrosis. Surgical pancreatic necrosectomy has been the standard of care for symptomatic patients with WOPN and is associated with significant morbidity and mortality. Endoscopic necrosectomy has been shown in small recent series to be a safe and effective alternative treatment. The aim of this study is to evaluate the outcome of patients undergoing minimally invasive endoscopic necrosectomy.

Methods: Retrospective analysis of patients with symptomatic WOPN who underwent endoscopic necrosectomy between May 2004 and April 2008 was performed. All patients underwent cystgastrostomy by needle knife access followed by balloon dilatation to 20 mm; introduction of the duodenoscope and direct endoscopic debridement of the necrosis followed by multiple 10Fr double pigtail stents placement across the cystogastrostomy

Results: Eight patients were selected with WOPN and their clinical characteristics are detailed in the table. The median diameter of the collection was 10.6 +/- 2.6 cm. The median time from the onset of pancreatitis and the necrosectomy was 58 days. Two patients underwent endoscopic ultrasound (EUS) for localization of the drainage site before the procedure. Seven patients (87.5%) had successful resolution of the necrosis with a median time for the resolution of 31 days (Range: 22 to 176). Two patients required a second endoscopic procedure for successful drainage (Further debridement performed). One patient required surgery after failed endoscopic treatment as the pseudocyst extended into the pelvis. One patient had complications requiring laparotomy with lavage of the peritoneal cavity. The pseudocyst was not intervened or treated. One of the seven patients who underwent successful necrosectomy for WOPN later died of persistent multiorgan failure. The median follow up was 166 days (Range 32-979 days). The overall clinical success rate with complete resolution of the collection and related symptoms was 75 % (6/8).

Conclusion: Successful resolution of symptomatic WOPN can be achieved using minimally invasive endoscopy. This technique is safe and effective. Further prospective randomized studies comparing surgical vs. endoscopic drainage are warranted.

Clinical Characteristics of patients

No/Sex/Age	Size (cm)	Symptoms	Transfer from Outside hospital	Etiology	Multiorgan failure	Location	Number of procedures	Infected vs. Sterile	Number of stents	Time between onset and procedure	Resolution time (wks)	Discharge time
1/F/48	11x 15	Abdominal pain	No	Acute-Hypercalcemia	No	Head and Body	1	Sterile	3	4	4	Overnight
2/M/43	12x 18	Abdominal pain/vomiting	No	Acute-Biliary	No	Entire pancreas	2	Infected/ Infected	5/4	11	12	Overnight/10 days
3/M/36	7.1x 11.1	Abdominal pain/vomiting/fever	Yes	Acute-Biliary	Yes	Head (Extension to pelvis)	1	Infected	6	9	Needed surgery	33 days
4/M/55	10.3x 15.9	Abdominal pain/vomiting	Yes	Acute-Biliary	Yes	Head	1	Infected	5	5	3	Died after 25 days
5/M/48	4x 10	Abdominal pain/vomiting	No	Chronic-Alcohol	No	Head	1	Sterile	4	11	3	Overnight
6/M/54	5.3x 8.9	Abdominal pain/vomiting/fever	No	Acute-Alcohol	No	Body	1	Infected	5	8	25	6 days
7/M/47	9.9x 21	Abdominal pain/vomiting	No	Chronic- Biliary	No	Body and tail	2	Sterile/ Sterile	2/3	5	18	Overnight/7 days
8/M/51	7.9x 13	Abdominal pain	No	Acute-Biliary	No	tail	1	Sterile	5	7	22	Overnight

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EFFECT OF ADVANCING TECHNOLOGY ON THE ACCURACY IN NODAL STAGING OF RECTAL CANCERS WITH ENDOSCOPIC ULTRASOUND: A META-ANALYSIS AND SYSTEMATIC REVIEW

S. R. Puli, MD, J. BK Reddy, MD, M. L. Bechtold, MD, A. Choudhary, MD, F. Rashid, MD, M. R. Antillon, MD. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO.

Purpose: To evaluate if advancing technology affected the accuracy of endoscopic ultrasound (EUS) in nodal staging of rectal cancers. This was analyzed by grouping EUS studies into three time periods to standardize the change in EUS technology and the change in EUS criteria for nodal invasion. These time periods were 1984 to 1994, 1995 to 2000, and 2001 to 2008. The aim of this meta-analysis was to evaluate the accuracy of EUS in nodal staging of rectal cancers.

Methods: Study Selection Criteria: Only EUS studies confirmed by surgery were selected. EUS criteria used for nodal invasion were: larger than one centimeter, hypoechoic, and round instead of elliptical. Only studies from which a 2 X 2 table could be constructed for true positive, false negative, false positive, and true negative values were included. Data collection & extraction: Articles were searched in Medline, Pubmed, Ovid journals, Cumulative index for nursing & allied health literature, International pharmaceutical abstracts, old Medline, Medline non-indexed citations, and Cochrane controlled trials registry. Two reviewers independently searched and extracted data. The differences were resolved by mutual agreement. 2 X 2 tables were constructed with the data extracted from each study. Statistical Method: Meta-analysis for the accuracy of EUS was analyzed by calculating pooled estimates of sensitivity, specificity, likelihood ratios, and diagnostic odds ratios. Pooling was conducted by both Mantel-Haenszel method (fixed effects model) and DerSimonian Laird method (random effects model). The heterogeneity of studies was tested using Cochran's Q test based upon inverse variance weights.

Results: Initial search identified 3,730 reference articles. Of these, 379 relevant articles were selected and reviewed. 42 studies (N=5038) which met the inclusion criteria were included in this analysis. During the time periods of 1984 to 1994 and 1995 to 2000, there were 6 and 13 studies were identified, respectively. Fifteen studies met the inclusion criteria for the time period between 2000 to 2006. Pooled estimates for these time periods are shown in table 1. All the pooled estimates, calculated by fixed and random effect models, were similar. The p for chi-squared heterogeneity for all the pooled accuracy estimates was > 0.10.

Conclusion: EUS is a good diagnostic tool to evaluate nodal metastasis of rectal cancers. This meta-analysis shows that EUS specificity has improved but the sensitivity did not increased over time. EUS is an excellent diagnostic tool; however, improvements in technology and diagnostic criteria are needed to increase the sensitivity for nodal staging of rectal cancers.

Table 1: Pooled diagnostic accuracy estimates of EUS for different time periods with 95 % confidence intervals

Time Period	No of Studies	Pooled Sensitivity	Pooled Specificity	Pooled Positive Likelihood Ratio	Pooled Negative Likelihood Ratio	Pooled Diagnostic Odds Ratio
1984 to 1994	6	79.7% (74.0 - 84.6)	62.9% (55.5 - 69.9)	2.6 (1.2 - 5.7)	0.39 (0.25 - 0.610	7.4 (1.9 - 28.1)
1995 to 2000	13	73.0% (67.9 - 77.7)	76.4% (72.6 - 79.9)	2.8 (2.2 - 3.6)	0.39 (0.28 - 0.57)	9.2 (6.5 - 13.1)
2001 to 2008	15	70.9% (67.3 - 74.3)	78.6% (75.5 - 81.5)	2.8 (1.8 - 4.2)	0.44 (0.30 - 0.64)	7.1 (3.6 - 14.1)

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DEVELOPING AN ULCERATIVE COLITIS ENDOSCOPIC INDEX OF SEVERITY (UCEIS): RESULTS OF PILOT PHASE

W. J. Sandborn, MD,[1] S. Travis, DPhil, FRCP,[2] D. Schnell, PhD,[3] P. Krzeski, MD,[3] C. A. Bernhardt, PhD[3]. 1. Mayo Clinic, Rochester, MN; 2. John Radcliff Hospital, Oxford, United Kingdom; 3. Procter & Gamble Pharmaceuticals, Inc., Mason, OH.

Purpose: There are 9 different endoscopic indices of activity for ulcerative colitis (UC) developed for clinical trials; none have been validated. All 9 indices are subject to interobserver variation (IOV), which has been incompletely quantified. IOV potentially exerts an influence on trial outcome and patient management. The results of the pilot phase of an international initiative to validate an endoscopic index of activity are reported. The purpose of this pilot phase was to confirm the extent of IOV; compare four-point (normal, mild, moderate and severe) and visual analogue scales (VAS, 0-100mm); short (5min) vs complete video clips; and a pre-study evaluation of individual index components.

Methods: Ten specialists in UC were asked to assess 16 sigmoidoscopies from a pool of 24 digitally recorded videos from a treatment trial that had predefined method and assessment of sigmoidoscopy and mucosal friability. Videos (from a total 334) were selected to represent normal to severe activity, based on the blinded, independent assessment of a central reader (CR). To avoid index-selection bias, the 10 assessors were asked to score severity according to their custom, without reference to different indices. The individual terms used in the Baron score were identified as present or absent, allowing use of Baron's score as the reference index. All assessors were blinded to symptomatic and histologic activity.

Results: Activity scores calculated from individual assessors differed from the CR Baron's score by ≧ 2 grades in 3/157 assessments (2%); the median % of assessments (across assessors) that differed by ≧ 1 grade was 50% (range 31-63). 10 videos had a mean VAS<20mm and 7/10 were rated normal by the CR; 3 scored 20-40mm and all were rated mild; 8 scored 41-70mm and 3/8 rated moderate; 3 scored >70mm and 0/3 were rated severe by the CR. There was a trend towards an increase in VAS when evaluating a complete procedure vs a short version. There was no consistency regarding the relative contribution of individual terms (erythema, granularity, friability, mucopus, ulceration and bleeding), as assessors are determining severity.

Conclusion: There is IOV in endoscopic scoring of UC activity among specialists in UC, either by Baron's score or VAS. Nevertheless, mean VAS provided a reasonable indication of UC activity. IOV needs to be considered when assessing trial outcome.

Concordance-severe activity	76%
Concordance-moderate activity	47%
Concordance-quiescent or normal activity	25%
VAS range < 20mm (good agreement)	25%
VAS range 20-40mm (modest agreement)	42%
VAS range >40mm (poor agreement)	33%

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EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (ESWL)WITH ERCP FOR MANAGEMENT OF CHRONIC PANCREATITIS WITH PANCREATIC DUCT CALCULI

M. S. Wagh, MD,[1] L. McHenry, MD,[2] J. L. Watkins, MD,[2] E. L. Fogel, MD,[2] S. Sherman, MD,[2] G. A. Lehman, MD[2]. 1. Division of Gastroenterology, University of Florida, Gainesville, FL; 2. Division of Gastroenterology, Indiana University Medical Center, Indianapolis, IN.

Purpose: ESWL can be used to fragment pancreatic duct stones and facilitate their endoscopic removal. We report our experience of ESWL for pancreatic duct calculi over the past 14 years at Indiana University. Aim: To assess the success of adjunctive ESWL in the management of pancreatic calculi.

Methods: Our lithotripsy database was retrospectively reviewed to identify patients who had undergone ESWL for pancreatic calculi between 1/1993 through 12/2006. Three types of lithotripters were utilized: Wolf lithotripter, Dornier lithotripter, and Healthtronics Lithotron lithotripter (14-26 kV). Overall efficacy of ESWL to aid in pancreatic stone clearance at the time of the last ERCP was determined as follows: complete stone clearance was defined as >90% of stone burden removed from the main pancreatic duct while partial clearance as 50-90% of stone burden removal. ESWL was considered unsuccessful (failed) if <50% of the stone burden was removed. Re-intervention rate via ERCP (not related to initial ESWL) and need for pancreatic surgery was used to assess efficacy of ESWL. Mortality rate was obtained by querying the Social Security Death Index (SSDI) database.

Results: 274 patients (59% male, median age 53 yrs) underwent a total of 445 ESWL sessions (mean 1.6 sessions/patient; range 1-6 sessions/patient, mean 4343 shocks per session). 61% had alcoholic chronic pancreatitis while 30% had idiopathic pancreatitis. Stones were located primarily in the head in 76%, in the body in 17%, in the tail in 1%, and 6% had calculi in both the head and body. Median size of the largest stone was 8 mm (range 2 – 20 mm). 258 patients had adequate assessment at follow-up pancreatography. Complete clearance of main pancreatic duct stones was achieved in 127 patients (49%), partial clearance in 88 patients (34%), and failed clearance in 43 patients (17%). Patients underwent a median number of 2 ERCPs after ESWL (range 1-10) for duct clearance. Re-intervention via ERCP was required in 26% patients for PD stones (17%), PD strictures (15%), BD stones (7%), and for pseudocyst drainage (1%). Pancreatic surgery was needed in 16/206 (8%) patients after ESWL. Mortality rate was 8% (17/ 212) and death occurred at a mean of 2.4 years after ESWL. Mean age at death was 66.5 years. No major adverse events and no mortality were noted after ESWL.

Conclusion: ESWL is effective in fragmenting and facilitating clearance of pancreatic duct stones. Reintervention via ERCP or pancreatic surgery can be avoided in the majority of patients undergoing ESWL for pancreatic calculi.

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ORAL ADMINISTRATION OF EDIBLE OIL PRIOR TO ERCP: EFFECT ON SELECTIVE BILIARY CANNULATION

M. S. Wagh, MD,[1] J. L. Watkins, MD,[2] E. L. Fogel, MD,[2] L. McHenry, MD,[2] S. Sherman, MD,[2] G. A. Lehman, MD[2]. 1. Division of Gastroenterology, University of Florida, Gainesville, FL; 2. Division of Gastroenterology, Indiana University Medical Center, Indianapolis, IN.

Purpose: Selective cannulation of the duct of intent is the first crucial step during ERCP. A prior report has shown that a liquid fatty meal prior to ERCP relaxes the sphincter of Oddi & facilitates biliary cannulation. Aim: To assess the effect of oral administration of oil prior to ERCP on deep biliary cannulation at a tertiary care ERCP center involving both trainees & expert faculty endoscopists.

Methods: Patients undergoing ERCP for biliary etiology & arriving > 1 hr prior to the procedure were given 45ml corn oil (42gm fat; Crisco,Orrville,OH) by mouth. Patients not receiving oil served as controls. Only patients with a virgin papilla were included. Exclusion criteria:prior sphincterotomy, prior unsuccessful ERCP, indwelling stent, acute pancreatitis, altered anatomy, gastroparesis, or sphincter of Oddi manometry. Appearance of the papillary orifice, deep biliary cannulation time, fluoroscopy time, rate of successful cannulation, & complications were noted for both fellows & faculty endoscopists.

Results: Oil was administered to 38 patients (mean age 52 yrs;50% male) while 42 pts served as controls (mean age 55 yrs;57% male). The papillary orifice was gaping or open in 26/38 (68%) & 22/41 (53%) patients in the oil & control groups respectively. Bile flow from the papilla was seen in 63% & 43% pts in the 2 groups. There was no difference in time to successful cannulation for fellows in each group (3.3 min, range 0.5–14.5 min; and 3.5 min, range 0.2–8.3 min respectively). Fluoro time for biliary cannulation for fellows was 0.9 min (0.1–2.1) & 1.3 min (0.3–5) in the two groups respectively. Fellows were successful in deep biliary cannulation in 22/35 (63%) & 23/38 (61%) respectively. Faculty endoscopists were successful in 15/15 (100%) and 13/14 (93%) respectively after fellows had failed. Faculty endoscopists were successful in all cases performed without fellows (3/3 and 4/4 in each group & precut sphincterotomy was not required). Overall cannulation success rate was 38/38 (100%) & 40/41 (98%) respectively, including precut sphincterotomy in 5/38 (6%) & 3/41 (7%) in the oil & control groups. Biliary cannulation was unsuccessful in 1/41 (2%) in the control group despite precut sphincterotomy. The procedure was aborted in 1 patient in the control group due to arrhythmia. There were no complications (including aspiration, pancreatitis) in either group.

Conclusion: Papillary orifice was more open after oil, & bile flow was seen in more patients receiving oil than in controls. However, there was no difference in the success rate of biliary cannulation, cannulation time or fluoro time in the two groups. Further studies with larger numbers of patients may be necessary to demonstrate a beneficial effect, especially at major ERCP centers.

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HIGH RESOLUTION COLONOSCOPY WITH NARROW-BAND IMAGING CAPABILITY DOES NOT IMPROVE POLYP DETECTION RATES COMPARED WITH STANDARD RESOLUTION COLONOSCOPY

T. Erim, DO,[1] J. Rivas, MD,[1] E. Velis, MD, MS,[2] F. Castro, MD[1]. 1. Department of Gastroenterology, Cleveland Clinic Florida, Weston, FL; 2. Health Services Administration Master Program, Barry University, Miami Shores, FL.

Purpose: The aim of this study was to compare the rates of polyp detection in a mixed risk population using standard resolution colonoscopes vs. high-resolution colonoscopes with narrow-band imaging capability. Much emphasis has been placed on improving visualization and reducing the miss rates of adenomatous polyps and cancers during colonoscopy in recent years. Several technological innovations have been developed and studied, yet only high resolution and narrow-band imaging have become widely available and used commonly in the US.

Methods: This was a retrospective cohort comparative study of 3 colonoscopists who each consecutively performed 150 standard resolution (SR) colonoscopies and 150 high-resolution (410,000 pixel) (HR) colonoscopies in a community teaching hospital. Colonoscopists were free to use narrow-band imaging as needed. Narrow-band imaging capability was not present on the standard resolution colonoscopes.

Results: A total of 900 colonoscopies were evaluated (mean age 56, 47% men), 450 with each resolution. Polyps of any type were detected in 45% of standard resolution and 43% of high-resolution colonoscopies (p>0.05). There was no significant difference between HR (M=0.85) and SR (M=0.89) regarding detection rate of all polyps among all patients examined, (p>0.05). One or more adenomatous polyps were detected in 23.8% of patients with HR colonoscopy and 24.0% of patients with SR colonoscopy (p>0.05). There was no significant difference between HR (M=0.41) and SR (M=0.41) regarding detection rate of all adenomatous polyps among all patients examined (p>0.05). There was no significant difference between HR (M=0.076) and SR (M=0.087) regarding all advanced adenoma polyp detection rate among all patients examined, (p>0.05). There was no significant difference between HR (M=0.004) and SR (M=0.007) regarding cancer detection rate among all patients examined, (p>0.05).

Conclusion: High-resolution colonoscopy with narrow-band imaging capability did not improve yield of cancer, adenomatous polyp or overall polyp detection in a population of individuals with mixed risk for colorectal cancer.

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DOES LUBIPROSTONE DECREASE GASTRIC AND SMALL BOWEL TRANSIT TIME AND IMPROVE VISUALIZATION OF SMALL BOWEL WITH CAPSULE ENDOSCOPY?

B. Hooks, MD, T. J. Rutland, MD, J. A. Di Palma, MD. Gastroenterology, University of South Alabama College of Medicine, Mobile, AL.

Purpose: Lubiprostone, a selective activator of type 2 chloride channels, is approved for treatment of chronic idiopathic constipation and constipation predominant IBS. It has been suggested that lubiprostone has a prokinetic effect. This investigation was designed to evaluate lubiprostone as a preparation and propulsive agent for small bowel capsule endoscopy.

Methods: The PillCam Small Bowel (SB) capsule endoscopy system (Given Imaging, Yoqneam, Israel) utilizing the PillCam SB1 capsule and Rapid 5 software platform was used. The study was designed as a double blinded placebo-control trial in 40 healthy adults to compare gastric transit time (GTT), small bowel transit time (SBTT), and small bowel cleansing preparation. The study subjects received lubiprostone 24mcg or placebo 30 minutes prior to PillCam capsule ingestion. Capsule endoscopy studies were read by two independent investigators unaware of the study medication received and differences in interpretation were resolved by consensus. Anatomical landmarks were identified and GTT and SBTT were calculated. Overall preparation assessment of the proximal, mid, and distal small bowel was determined by a 4 step scale. Percentage of visualized bowel was determined by review of 10 minute video segments at 1hr intervals after the capsule passed through the pylorus.

Results: In the lubiprostone group (n=20), 2 subjects did not pass the capsule through the pylorus in the 8hr battery time of the capsule. An additional 3 capsules did not pass into the colon. In the placebo group (n=20), all capsules passed into the small bowel, but 1 did not pass into the colon. The subjects in which the capsules did not pass into the small bowel were excluded from the small bowel analysis. In the subjects that the capsules did not reach the colon, the SBTT was determined by total number of minutes subtracted from the gastric emptying time for each subject. The mean GTT in the lubiprostone group was 126 minutes and 43 minutes in the placebo group (p=0.0095). The mean SBTT in the lubiprostone group was 208 minutes and 228 minutes in the placebo group (p=0.249). The overall preparation assessment of the small bowel was not statistically significant between the 2 groups in the proximal, mid or distal small bowel (p-=0.119-proxmial, 0.118-mid, 0.121-distal). There was no significant difference in lubiprostone vs. placebo in the percentage of visualized small bowel.

Conclusion: Lubiprostone had a significant increase in GTT but did not result in a significant decrease in SBTT as compared to placebo. The administration of lubiprostone prior to capsule ingestion did not result in improved overall preparation of the small bowel for capsule endoscopy or increase the percentage of visualized small bowel.

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STENTING FOR MALIGNANT COLONIC OBSTRUCTION: A COMPARISON OF COLONIC AND EXTRACOLONIC MALIGNANCY

R. N. Keswani, MD,[1] R. Azar, MD,[1] S. A. Edmundowicz, MD,[1] Q. Zhang, MD,[2] T. Ammar, MD,[1] S. S. Jonnalagadda, MD[1]. 1. Gastroenterology, Washington University in St. Louis, St. Louis, MO; 2. Biostatistics, Washington University in St. Louis, St. Louis, MO.

Purpose: Endoscopically placed self-expanding metal stents are efficacious in relieving obstruction from colorectal cancer (CRC). However, the utility and safety of colorectal stenting for colonic obstruction due to extracolonic malignancy (ECM) is unclear. The primary aim of this study was to compare the clinical success of colorectal stenting in patients with CRC versus those with ECM. The secondary aim was to compare the complication rates of stenting between these two groups.

Methods: Retrospective review of patients who underwent attempted colon stent placement for a malignant indication over a 7-year period (9/00-12/07).

Results: A total of 58 procedures were performed in 49 patients. Stenting was performed for CRC in 34 patients (69%) and ECM in 15 patients (31%). Sigmoid colon strictures were significantly more common in ECM patients than CRC patients (67% vs. 29%, p < 0.05) but stricture length was similar between the two groups. Patients with ECM were more likely to have undergone prior radiation therapy, chemotherapy, and abdominal surgery. Overall technical success (one or more stents completely bridging the stricture) was significantly greater in CRC patients compared to ECM patients (Table 1). Patients with CRC were more likely to have clinical success after initial endoscopy than those with ECM (89% vs. 20%, p < 0.0001). Clinical success after all endoscopic therapy remained greater in the CRC group. Surgical diversion to relieve obstructive symptoms was required in significantly more ECM patients. Only underlying ECM was predictive of failed colon stent placement by multivariate analysis (OR 21.0, p = 0.0013). Two deaths occurred due to attempted stent placement and both patients were in the ECM group. A history of radiation therapy was the sole predictor of subsequent complications (OR 7.8, p = 0.048).

Conclusion: Colon stenting for ECM is often unsuccessful and is associated with an increased complication rate, likely due to prior radiation therapy. Given these concerns, endoscopic placement of a colon stent for ECM should only be attempted if decompressive surgery is not feasible.

Table 1. Outcomes of Colon Stent Placement

	CRC (n=34)	ECM (n=15)	p Value
Technical Success	33 (97%)	10 (67%)	0.008
Clinical success after first endoscopy	31 (89%)	3 (20%)	< 0.0001
Clinical success after all endoscopy therapy	32 (94%)	3 (20%)	< 0.0001
Need for surgical therapy	2 (6%)	9 (60%)	< 0.0001
Major complications	3 (9%)	5 (33%)	0.046

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FEASIBILITY OF SINGLE-BALLOON ENTEROSCOPY FOR EVALUATION OF THE SMALL BOWEL: HIGH DIAGNOSTIC VALUE AND EASIER HANDLING COMPARED TO DOUBLE-BALLOON ENTEROSCOPY

A. Leodolter, MD, D. Zielinski, MD, J. Labenz, MD. Medical Department, Ev. Jung-Stilling Hospital, Siegen, Germany.

Purpose: The single-balloon enteroscope (SBE) for investigation of the small bowel was introduced very recently. The handling of the device might be simplified by omitting the balloon on the top of the endoscope compared to the double-ballon enteroscope (DBE). In this prospective study we have investigated the handling and the diagnostic and therapeutic opportunities in the small bowel as well as the complications of the SBE.

Methods: An enteroscopy was performed in 38 patients with (mean age 62y, 25 female, 13 male) using the singe-balloon device (SIF-Q180, Olympus, Germany). Overall 53 investigations were performed (41 via oral route, 12 via anal route) in combined midazolam/propofol sedation under fluoroscopic control. Indications were occult GI-bleeding after previous endoscopic evaluation of the upper and lower GI tract (n=18), IBD (n=13), suspected malignant disease (n=3), unclear malabsorption syndrome (n=4). The push and pull-back of the endoscope is comparable to the DBE. Instead of insufflation of the second balloon at the top of the endoscope, the endoscope is in a stable position fixed by bending behind a fold during the pull-back of the endoscope and the overtube. The deepest point during SBE was marked by submucosal ink injection.

Results: Overall a diagnostic and/or therapeutic gain was reached in 22 patients (58%) by SBE. Angiodysplasias were the most common findings, treated immediately with APC. Rare diagnosis like jejunal diverticulitis and primary adenocarcinoma of the jejunum were diagnosed. We have seen cases with segmental inflammation of the jejunum, lymphangiectasia and one pneumatosis. In one case the diagnosis of celiac disease was made on biopsies from jejunum with normal findings in the duodenum. Intubation of the ileum is sometimes difficult, we failed in 3 patients. The mean investigation time was 68min, we used in the mean 2.5mg midazolam and 460mg Propofol (=7mg/min). In 7 patients significant increase of amylase/lipase was observed, none of them suffered from abdominal pain. Superficial mucosal lacerations have been observed in 4 cases. The preparation time before the investigation is about 15 min less compared to DBE because there is no installation of a second balloon on the top of the endoscope.

Conclusion: The single-balloon enteroscope is a highly sufficient device for investigations of the small bowel. Advantages are due to the easier handling and resulting in a reduced need of man power. The diagnostic possibilities should be equal compared to the DBE.

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COMPARATIVE EFFICACY OF TWO LOW-VOLUME (2L) POLYETHYLENE GLYCOL (PEG) ELECTROLYTE LAVAGE SOLUTIONS FOR BOWEL CLEANSING PRIOR TO COLONOSCOPY: A PILOT STUDY

S. Sanyal, BA, L. B. Cohen, MD, C. von Althann, BA, A. E. Dikman, BA, K. M. Miller, MD, J. Aisenberg, MD. Medicine, Mount Sinai School of Medicine, New York, NY.

Purpose: MoviPrep® (Norgine Pharmaceuticals Ltd) is a new 2L PEG lavage solution with electrolytes plus ascorbic acid (PEG+Asc) to increase its osmotic effect and improve the taste. Several studies have confirmed its safety and demonstrated comparable efficacy when compared with sodium phosphate solution and 4L PEG solution. Our goal was to determine whether PEG+Asc is as effective as the other commercially available 2L PEG-based lavage solution (HalfLytely®, Braintree Laboratories, Inc) that combines PEG lavage with bisacodyl tablets (PEG+BIS)for bowel cleansing in patients undergoing colonoscopy.

Methods: Forty average risk patients undergoing colonoscopy in an office-based practice were invited to participate in this randomized, single-blind, parallel group pilot study. Patients were directed to use both PEG preparations as per the manufacturers' recommednations. The PEG+Asc group began clear liquid diet at noon the day prior to the procedure. One liter of PEG+Asc followed by 500 mL clear liquid was consumed starting at 6pm the evening before the procedure, and this was repeated 6 hours before the procedure. The PEG+BIS group began clear liquids at 8 am on the day before colonoscopy. At noon on the day prior to colonoscopy, patients swallowed 2 bisacodyl tablets (10 mg). Once the initial bowel movement occurred or not more than 6 hours after consuming the bisacodyl tablets, patients drank 2L of PEG+BIS over 1 hour and 20 minutes. The PEG+BIS group were instructed to consume nothing by mouth, except clear liquids, from the time the preparation was completed until midnight. All patients were instructed not to eat or drink anything from midnight until completion of examination. Overall colon cleansing was assessed by the investigator using a 4-point scale developed by Johanson (Am J Gastro 2007;102:2238-46) where 1=excellent, 2=good, 3=fair, 4=inadequate. The primary endpoint was mean overall colon-cleansing score. Ascending colon cleansing was also assessed. Responses were used to compute an overall efficacy measure of satisfactory cleansing outcome (excellent or good).

Results: 20 pts receiving PEG+Asc and 20 pts receiving PEG+BIS underwent colonoscopy. The mean overall colon-cleansing scores for PEG+Asc and PEG+BIS were 2.10 (SD 0.89) and 2.6 (SD 0.59) (P=0.014), respectively. Satisfactory bowel cleansing in the ascending colon was reported in 56.5% and 15.8% (P=0.01) for PEG+Asc and PEG+BIS, respectively.

Conclusion: PEG+Asc (MoviPrep®) using a PM/AM split dose regimen provided superior overall and ascending colon bowel cleansing when compared to PEG+BIS (HalfLytely®).

Disclosure - Dr. Lawrence B Cohen - Speaker's Bureau and Advisory Board - Salix Pharmaceuticals

P351

FROM THE URINARY TRACT TO GASTROINTESTINAL TRACT – COST SAVING, SAFE, EFFECTIVE BANDS TURNED OUT FROM URINARY CATHETERS FOR VARICEAL BANDING IN DEVELOPING COUNTRIES- THE SRI LANKAN EXPERIENCE – A PILOT STUDY

R. L. Satarasinghe, MD, MACG,[1] R. Jayawardana, MBBS,[1] U. Wickramasingha, MBBS,[1] A. Riyaaz, MBBS,[1] A. Perera[2]. 1. Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka; 2. Endoscopy unit, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka.

Purpose: To invent an alternative, low cost, safe, effective and reproducible kit for banding ligation of oesophageal varices suitable for developing countries, and to study the immediate and long term outcome of the results of such therapy as banding ligation of significant oesophageal varices has become the safest cornerstone treatment to save life in portal hypertension, but in developing countries most of the patients cannot afford the expensive imported commercially available banding kits used for such purposes.

Methods: The alcoholic and non alcoholic patients who were endoscopically diagnosed to have Grade III-IV oesophageal varices admitted to the principal author's unit from 01.11.2003 to 30.04.2008 were offered banding ligation, with bands turned out of slicing a 14 G urinary catheter which was meticulously molded on to a ligating unit, using a string mechanism. The ligating unit was fitted onto a standard gastroscope. The bands were freed using a release mechanism following sucking of the varix into the ligating unit. The kit was disinfected using biodegradable PERAsafe® ten minute medical device sterilant, prior to usage, similar to the endoscope disinfection. The patients were explained about the procedure and were given the option to select either the commercially available banding kit (cost 160 USD) and the locally made kit (cost 30 USD) The written consent was obtained prior to the procedure.

Results: The total population selected to buy the low cost banding kit. The total study population comprised of 84 males and 16 females, with the following characteristics. Alcoholic group; male: female 70:3, 35 had primary prophylactic banding while 38 had secondary banding, average number of banding sessions 4-9, mean age 54.7±9.8SD years. Non alcoholic group; male: female ratio 14:13, primary banding 14, secondary banding 13, mean age 61.6±18.5SD years (range 18-70), average banding sessions 2-4, both groups were followed up to 1-5 years. Both groups who underwent secondary banding ligation, had effective control of variceal banding, without recurrences until the next session of banding and had no complications during the follow up period.

Conclusion: The low cost banding set produced from the urinary catheters are very safe and effective in arresting variceal bleeding like the costly imported commercially available bands which is an ideal alternative for developing countries. Outcome results On the results produced Cosmetics, Devices and Drugs Authority of Ministry of Health Sri Lanka had given approval for the usage of said local banding kits in patients needing variceal banding.

P352

PSYCHOMOTOR RECOVERY AFTER ENDOSCOPIC PROCEDURES USING A COMPUTER-ASSISTED PERSONALIZED SEDATION SYSTEM TO ADMINISTER PROPOFOL OR STANDARD OF CARE SEDATION: IMPLICATIONS FOR CARE EFFICIENCY

M. L. Weinstein, MD,[1] R. Hardi, MD,[1] D. J. Pambianco, MD,[2] J. J. Vargo, MD, MPH[3]. 1. Metropolitan Gastroenterology Group, Chevy Chase, MD; 2. Charlottesville Medical Research, Charlottesville, VA; 3. Department of Gastroenterology, The Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Ambulatory endosopic procedures using sedatives for procedural comfort include the problem of post-procedural sedation, because depending upon the medication used, the patient's recovery from sedation determines to some extent the length of monitoring needed and therefore is a factor in the total cost of the procedure and endoscopy suite efficiency. The SEDASYS™ System is an investigational computer-assisted personalized sedation system intended to provide endoscopist/nurse teams an 'on-label' method to safely and effectively administer propofol sedation for colonoscopy and EGD procedures. Returning to a MOAA/S measure of 5, following scope-out (protocol-defined recovery time) is a common measure of determining when a patient is ready to be discharged following an endoscopic procedure. Another factor is the patient's recovery of psychomotor skills. The Digit Symbol Substitution Test (DSST) is a measure of attention, perceptual speed, motor speed, visual scanning and memory.

Methods: The study included 1,000 subjects who underwent sedation for colonoscopy and EGD comparing the SEDASYS™ System (SS Group) (fentanyl with propofol infusion) to the current standard of care (CSC group) for sedation (fentanyl or meperidine with midazolam). The Digit Symbol Substitution Test (DSST) was administered to subjects prior to their procedure, at the time of recovery based on a return of alertness (MOAA/S score of 5), and 30 minutes after recovery.

Results: In this study, more subjects in the SS group had restored psychomotor skills to their pre-procedure score at time of recovery (51% for colonoscopy and 40% for EGD) compared to subjects in the CSC group (12% for colonoscopy and 9% for EGD). Thirty minutes after recovery the SS group (82% for colonoscopy and 85% for EGD) maintained an advantage over the CSC group (51% for colonoscopy and 51% for EGD). The CSC group had restored psychomotor scores 30 minutes after recovery similar to what the SS subjects had at time of recovery.

Conclusion: A patient sedated with propofol by an endoscopist/nurse team using the SEDASYS System could, therefore, possibly be discharged, following an endoscopic procedure, 30 minutes sooner than a patient sedated with the CSC. These 30 minutes could have a significant benefit on reliability of scheduling, reduction in costs associated with nursing, and the reduction in patient backlog.

	Colonoscopy		EGD	
	SS	CSC	SS	CSC
Restored DSST at Recovery (% of Subjects)	51% (n=355)	12% (n=352)	40% (n=133)	9% (n=139)
Restored DSST 30 min Post Recovery (% of Subjects)	82% (n=354)	51% (n=348)	85% (n=131)	51% (n=137)

Disclosure - Dr. Weinstein - Investigator: Ethicon Endo-Surgery, Inc. Dr. Hardi - Investigator: Ethicon Endo-Surgery, Inc. Dr. Pambianco - Investigator, Consultant: Ethicon Endo-Surgery, Inc. Dr. Vargo - Investigator: Ethicon Endo-Surgery, Inc., educational grant from Oridion,Inc. and from Olympus America.

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P353

ENDOSONOGRAPHIC (EUS) DIAGNOSIS OF FOREGUT DUPLICATION CYSTS: JUST SAY NO TO THE NEEDLE!

R. Cheruvattath, MD,[1] D. Go, MD,[2] D. L. Diehl, MD[1]. 1. Gastroenterology, Geisinger Medical Center, Danville, PA; 2. Radiology, Geisinger Medical Center, Danville, PA.

Purpose: To highlight the potential for infectious risk of EUS-FNA for these cysts, and to suggest CT and EUS features that can suggest this diagnosis without FNA.

Methods: Retrospective case review

Results: Foregut duplication cysts are benign, rare anomalies that arise during early embryonic development. They are typically discovered incidentally on radiologic imaging. The diagnosis can usually be made by CT and EUS appearance. EUS-guided FNA has been used to establish the diagnosis of duplication cyst and is considered to have a low risk of infection. Case reports: We describe 3 patients who underwent EUS- FNA for diagnosis of incidental mediastinal lesions, who developed cyst infection requiring surgical treatment, despite prophylactic periprocedure antibiotics. Patient #1 was a 50 y/o male with dyspnea; chest CT showed a 4 cm lesion in the right posterior mediastinum. The CT attenuation was 40 Hounsfield units (HU). EUS showed a well-defined hypoechoic mass, and FNA was done. 5 days after the FNA, the patient developed fever and epigastric pain. Repeat CT showed increased size of the mass with peripheral enhancement. Resection showed an infected bronchial duplication cyst. Patient #2 was a 32 y/o female presenting with epigastric pain; a chest CT showed a well-defined 3.7 cm subcarinal lesion of 42 HU. EUS demonstrated a hypoechoic mass and FNA showed degenerated ciliated cells consistent with an esophageal duplication cyst. Chest pain occurred 5 days after FNA. CT showed increased cyst size with pleural effusions. Resection of an infected cyst was necessary. Patient #3 was a 59 y/o male with a 5.7 cm posterior mediastinal lesion with attenuation of 38 HU. EUS-FNA showed a hypoechoic mass yielding benign squamous epithelium. He subsequently developed fever and chest pain; repeat CT showed increase in size of the cyst with inflammatory changes. Resection was again necessary.

Conclusion: CT scans provide valuable information regarding size and location of foregut duplication cysts. These cysts typically have an attenuation value of 0 +/- 20 HU. The lesion can have higher HU if there is hemorrhage, proteinaceous material or septations. Typical EUS appearance of duplication cysts are well-defined thin-walled cystic structures that are anechoic or hypoechoic. In the above cases, the CT appearance and location was consistent but attenuation was higher than expected. The EUS appearance was hypoechoic, which prompted the FNA, with negative consequences. At EUS, characteristic location, and hypoechoic but not anechoic appearance may be suggestive of a foregut duplication cyst. Combined CT and EUS appearance may be sufficient in making this diagnosis without FNA and its potential for infectious complication.

P354

PA, A NOVEL COMBINATION OF DELAYED RELEASE (DR) ASPIRIN (ASA) AND IMMEDIATE-RELEASE (IR) OMEPRAZOLE, IS ASSOCIATED WITH A DECREASED RISK OF GASTRODUODENAL MUCOSAL INJURY: POOLED DATA FROM THREE PHASE I, 4-WEEK ENDOSCOPIC STUDIES

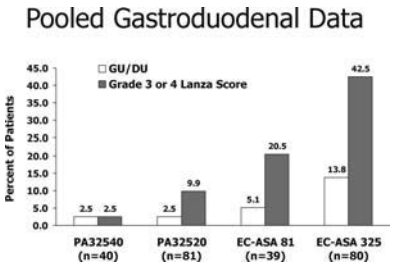
J. G. Fort, MD, E. Orlemans, PhD, C. Unal, PhD, J. Platechetka, PharmD. Pozen, Inc, Chapel Hill, NC.

Purpose: To evaluate via endoscopy the gastroduodenal effects of the fixed combination tablet of DR ASA 325 mg and IR omeprazole (20 or 40 mg).

Methods: We conducted 3 Phase I, single-blind, randomized, controlled trials in healthy volunteers (>50 yrs) with normal baseline endoscopy (Lanza score 0). Two studies evaluated PA32520 (DR ASA 325 mg + IR omeprazole 20 mg) vs. either enteric-coated (EC)-ASA 81 mg or 325 mg. The third study compared PA32540 (DR ASA 325 mg + IR omeprazole 40 mg) with EC-ASA 325 mg. All medications were dosed once daily for 4 weeks. The primary endpoint was the proportion of subjects with Grade 3 or Grade 4 Lanza scores at Week 4. Additional assessments included incidence of gastric or duodenal ulcers (GU/DU) at 4 weeks and pharmacokinetics. Data were pooled across the 3 studies.

Results: A total of 240 subjects participated. As shown in the Figure, Grade 3 or 4 Lanza scores and the incidences of GU/DU for the PA products were lower than for EC-ASA. With regard to Grade 3 or 4 Lanza scores: PA32520 vs. EC-ASA 81 mg (9.9 vs. 20.5%, p=0.151); PA32520 vs. EC-ASA 325 mg (9.9% vs. 42.5%, p<0.001); PA32540 vs. EC-ASA 81 mg (2.5% vs. 20.5%, p=0.014); PA32540 vs. EC-ASA 325 mg (2.5% vs. 42.5%, p<0.001). With regard to the incidence of GU/DU: PA32520 vs. EC-ASA 81 mg (2.5% vs. 5.1%, p=0.595); PA32520 vs. EC-ASA 325 mg (2.5% vs.13.8%, p=0.009); PA32540 2.5% vs. EC-ASA 81 mg (2.5% vs. 5.1%, p=0.615); PA32540 vs. EC-ASA 325 mg (2.5% vs. 13.8%, p=0.059). Plasma salicylic acid pharmacokinetics was similar following dosing with PA32520 or PA32540 and EC-ASA 325 mg following both single-dose and repeat-dose administration.

Conclusion: Gastroduodenal Grade 3 or 4 Lanza scores and incidence of GU/DU for EC-ASA were dose-related. The fixed dose combination of DR ASA and IR omeprazole was associated with a significant reduction in gastroduodenal Grade 3 or 4 Lanza scores and GU/DU that were dose-related to the proton pump inhibitor. PA32540 demonstrated the least gastroduodenal damage and may provide an important option for at-risk patients who require long-term ASA therapy.



Disclosure - Dr. Fort - Employee, Stockholder/Ownership Interest: Pozen, Inc. Dr. Orlemans - Employee, Stockholder/Ownership Interest: Pozen, Inc. Dr. Unal - Employee, Stockholder/Ownership Interest: Pozen, Inc. Dr. Platechetka - Employee, Stockholder/Ownership Interest: Pozen, Inc.

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RADIAL EUS VS. LINEAR EUS IN EVALUATION OF MEDIASTINAL LYMPH NODES IN LUNG CANCER STAGING. A PROSPECTIVE DOUBLE BLIND TRIAL

L. H. Jamil, MD,[1] K. R. Gill, MD,[1] S. A. Gross, MD,[1] J. Crook, PHD,[2] T. Woodward, MD,[1] M. Raimondo, MD,[1] M. B. Wallace, MD, MPH[1]. 1. Gastroenterology, Mayo Clinic, Jacksonville, FL; 2. Biostatistics, Mayo Clinic, Jacksonville, FL.

Purpose: Endosonography has recently being used for mediastinal lymph node (MLN) evaluation during staging of lung cancer. The radial endoscopic ultrasound (R-EUS) provides high quality cross sectional images, but cannot guide fine needle aspiration (FNA). Linear EUS (L-EUS) has the ability to guide FNA but has a limited field of view. Use of both endoscopes may improve lymph node detection but is less efficient. In this study, we evaluated the accuracy of radial and linear EUS endoscopes alone and in combination for the detection of mediastinal lymph nodes

Methods: Patients suspected of having lung cancer underwent back to back R-EUS and L-EUS evaluation by 1 of 3 experienced endosonographers. Patients were blindly randomized to which procedure would be performed first. If an FNA was required, it would be performed after completing both R-EUS and L-EUS examination. Examinations were recorded in the following order; Liver, Celiac axis, Left Adrenal, and Mediastinal/Esophageal pull through. Recorded procedures were then to be reviewed by 2 different experienced endosonographers; neither of whom had performed the procedure. Both were blinded to the original findings and the alternate procedure results. IRB approval was obtained.

Results: To date, a total of 9 patients (study ongoing) underwent evaluation for suspected lung cancer. A total of 13 abnormal MLNs were noted on both procedures. There was agreement on 5/13 (38%) in regards to location (table 1). Both R-EUS and L-EUS identified a malignant appearing celiac LN. L-EUS picked up a malignant appearing liver lesion. Both R-EUS and L-EUS found 4 malignant appearing MLNs that were not seen by the other examination. There were 8 benign appearing MLNs. There was poor agreement on the location of any benign MLNs (table 2). There was an adrenal adenoma that was seen on R-EUS only. In total, there was an agreement on the presence of MLNs in 5/21 (24%). Limitations: Small number of patients, Malignant and benign appearing and location decision was based on the endosonographers interpretation recorded imaging of the MLN

Conclusion: Based on reviewing recorded R-EUS and L-EUS for MLNs, there is poor agreement in number and location of benign and malignant appearing MLNs. Patients undergoing lung cancer staging should undergo both procedures for proper staging evaluation

Table 1 Number of Malignant appearing mediastinal Lymph nodes, according to location, as seen by R-EUS and L-EUS.

		Linear EUS			
		Station 8 & 9	Station 7	Station 4R & 5	Not seen
	Station 8 & 9	1			2
Radial EUS	Station 7		4		1
	Station 4R &5				1
	Not seen		1	3	

There was an agreement in 5/13 lymph nodes

Table 2 Number of benign appearing mediastinal lymph nodes, according to location, as seen by R-EUS and L-EUS

		Linear EUS			
		Station 8 & 9	Station 7	Station 4R & 5	Not seen
	Station 8 & 9				1
Radial EUS	Station 7				4
	Station 4R & 5				
	Not seen		1	2	

There was no agreement between R-EUS and L-EUS as to location of these lymph nodes

P356

UNDERSTANDING OF CLEAR LIQUID INSTRUCTIONS AS PART OF COLONOSCOPY PREPARATION

S. Paranjape, MD, N. Nickl, MD, L. Selby, MD. Gastroenterology, University of Kentucky, Lexington, KY.

Purpose: Complete bowel preparation is key for proper visualization during colonoscopy. Poor preparation is common and is often attributed to patient noncompliance, though patients may have simply not understood the prep regimen. Research suggests health literacy is a major problem in the US. Many patient queries at our center relate to the nature of acceptable items for ingestion during the prep process. Our goal was to evaluate patients' comprehension of the clear liquid part of colonoscopy prep instructions since this aspect of the prep process is common to most regimens regardless of the active cleansing agent.

Methods: We asked patients and their companions to fill out a 10 item survey while awaiting their procedures. We asked subjects how the prep instructions were presented to them, how long ago this occurred, and if they understood the instructions. Other information included: age, gender, education level, and past experience with procedures that required clear liquids. They were asked to correctly choose the clear liquids from a list of 24 common foods and beverages. Scoring was calculated as follows: # correct - # incorrect/ total # possible correct answers x 100.

Results: 72 subjects completed the study, 39 patients and 33 companions. The mean age of both groups was 55. 36% of patients and 42% of companions were male. 28% of patients and 33% of companions had a 9th -12th grade education. 54% of patients and 52% of companions had a college/post-graduate education. 77% of patients and 64% of companions had a prior procedure with clear liquid instruction. 92% of patients and 52% of companions said they understood the instructions. 31% of patients and 27% of companions selected clear liquids from the list of food/drink items with > or = 80% accuracy. With the Fisher exact probability test, we assessed multiple associations in both groups with the following categorical variables. We compared the association of accurately selecting clear liquids > or < 80% of the time and if the subject selected a non-clear item with: 1)education > or < 12th grade, 2)report of understanding prep instructions and 3)receipt of similar procedure in the past.

Conclusion: Although our study is small, we feel the sample size is clinically relevant. There is no statistically significant correlation of patients' level of education, self-report of instruction comprehension, or past procedure experience with how well they select a clear liquid from a list of food items. We hypothesize that many patients have a poor prep because they do not understand standardized instructions on the clear liquid aspect of the prep process. Further research into the causes of poor comprehension and methods to improve understanding are important for future study.

P357

GASTROINTESTINAL SYMPTOMS ARE MORE COMMON IN YOUNG SCHOOL AGED CHILDREN WITH SLEEP DISTURBANCES

S. Moole, MD,[1] R. Singareddy, MD,[2] S. Calhoun, PhD,[2] A. Vgontzas, MD,[2] E. Bixler, PhD[2].
1. Division of Gastroenterology, Hershey Medical Center, Hershey, PA; 2. Sleep Research & Treatment Center, Penn State College of Medicine, Hershey, PA.

Purpose: Sleep has significant influence on the physiology of the upper gastrointestinal tract. As a result there is substantial literature exploring the association between gastrointestinal symptoms, particularly gastroesophagel reflux and sleep in adults. However, studies exploring relationship between sleep and gastrointestinal symptoms/disorders in children are lacking. In this study we examine gastrointestinal system related symptoms in young school aged children with versus without sleep disturbances.

Methods: A random sample of local elementary school children (K-5) was assessed using a two-phased strategy. During Phase I, over the course of 5 years, a 16 item screening questionnaire based on validated survey was sent home to parents of every student in these school districts (n=7,312) with a 78.5% response rate. Among this sample, randomly selected children and their parents were selected to participate in the Phase II of the study which consisted of detailed medical history, physical examination, and 9-hour overnight polysomnogram. The final sample of 687 was divided into two groups based on parents response to sleep related items (Trouble falling asleep? and Restless during sleep?) in the screening questionnaire. 267 (38.9%) of these children had "often" or "very often" had either or both of these sleep disturbances [SD(sleep disturbances)group] and 420 (61.1%) either sometimes or never had these sleep disturbances (NON-SD group).

Results: The two groups did not differ in gender or percentile for body mass index for age. The SD group was older (SD 8.99+1.7; NON-SD 8.5 +1.6). SD group had significantly more stage 2 NREM and REM sleep but significantly less stage 3 NREM sleep. The two groups did not differ in apnea/hypopnea index. Significantly more children in the SD group reported heartburn (SD: 7.5%; NON-SD: 3.6%; X2=5.1, df=1, p =.024), pain/colic (SD 12.4%; NON-SD 6.7%; X2=6.4, df=1, p =.012), vomiting (SD 4.1%; NON-SD 1.4%; X2=4.8, df=1, p=.028), and other (SD 10.2%; NON-SD 5.7%; X2=4.6, df=1, p=.031) gastrointestinal symptoms in comparison to NON-SD group. However, there was no difference in complaints of regurgitation.

Conclusion: In this population based sample of young children gastrointestinal system related symptoms were more common in children who also had sleep disturbances. Further, there seems to be some polysomnographic changes in the children with parent reported sleep disturbances.

P358

DISEASE DURATION DOES NOT AFFECT OUTCOME FOLLOWING INFLIXIMAB IN CHILDREN WITH CROHN'S DISEASE

J. Hyams, MD,[1] W. Crandall, MD,[2] S. Kugathasan, MD,[3] A. Griffiths, MD,[4] M. Blank, PhD,[5] G. Lang, PhD,[5] R. Heuschkel, MD,[6] G. Veereman-Wauters, MD,[7] R. Baldassano, MD[8].
1. Connecticut Children's Medical Center, Hartford, CT; 2. Columbus Children's Hospital, Columbus, OH; 3. Medical College of Wisconsin, Milwaukee, WI; 4. The Hospital for Sick Children, Toronto, ON, Canada; 5. Centocor Research and Development, Inc., Malvern, PA; 6. Royal Free Hospital, London, United Kingdom; 7. Queen Paola Children's Hospital, Antwerp, Belgium; 8. Children's Hospital of Philadelphia, Philadelphia, PA.

Purpose: The REACH study showed that infliximab (IFX) was effective in inducing response and remission in moderate to severe Crohn's disease (CD) in children. Previous observations in both children and adults have suggested that longer disease duration adversely affects outcomes following IFX therapy. We assessed outcome following IFX therapy in relation to disease duration in the REACH study population.

Methods: In REACH, patients (n=112, median age 13 years) with a Pediatric Crohn's Disease Activity Index (PCDAI) score >30 received IFX 5 mg/kg at weeks 0, 2, and 6. Patients responding to treatment at week 10 were randomized to receive IFX 5 mg/kg every 8 weeks or every 12 weeks through week 46 and followed through week 54. Clinical response (decrease from baseline in the PCDAI score ≥15 points, and a total score ≤30) and remission (PCDAI score ≤10 points) were assessed at weeks 10, 30, and 54. As the median disease duration in all patients was 1.6 years, we determined outcome in those with <2 or ≥2 years disease duration.

Results: At week 10, 99/112 (88%) patients responded to IFX and 66/112 (59%) patients achieved clinical remission. At week 54, 33/52 (64%) and 29 of 52 (56%) patients receiving IFX every 8 weeks were in clinical response and clinical remission, respectively, compared with 17 of 51 (33%) and 12 of 51 (24%) patients receiving treatment every 12 weeks (p=0.002 and p<0.001, respectively). Sub-group analysis revealed no effect of disease duration < 2 years vs. ≥2 years.

Conclusion: Response and remission after IFX therapy in children with moderate to severe CD is similar when given < 2 years or ≥2 years following diagnosis.

Visit	Disease Duration	Response n(%)		Remission n(%)	
		IFX N=112		IFX N=112	
Wk10	<2	N=66 59(89)		N=66 37(56)	
	≥2	N=46 40(87)		N=46 29(63)	
		IFX q8 N=52	IFX q12 N=51	IFX q8 N=52	IFX q12 N=51
Wk 30	<2	N=26 20(77)	N=36 18(50)	N=26 15(58)	N=36 13(36)
	≥2	N=26 18(69)	N=15 6(40)	N=26 16(62)	N=15 5(33)
Wk 54	<2	N=26 17(65)	N=36 11(31)	N=26 16(62)	N=36 8(22)
	≥2	N=26 16(62)	N=15 6(40)	N=26 13(50)	N=15 4(27)

Disclosure - Hyams-Centocor, Research Support Crandall-Centocor, Research Support Kugathasan-Centocor, Research Support Griffiths-Centocor, Research Support Blank-Centocor employee Lang-Centocor employee Heuschkel-Centocor, Research Support Veereman-Wauters-Centocor, Research Support Baldassano-Centocor, Research Support
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P359

CLINICAL OUTCOMES OF CHILDREN WITH IBD WITH UNFAVORABLE THIOPURINE METABOLISM: EFFECT OF ALLOPURINOL

2008 ACG Presidential Poster Award Recipient

N. M. Candela, MD, E. Iofel, MD, L. Moy, MD, T. Weinstein, MD, J. Levine, MD, J. Markowitz, MD. Pediatric Gastroenterology and Nutrition, Schneider Children's Hospital, North Shore-LIJ Health System, New Hyde Park, NY.

Purpose: There are well-established data supporting the use of immunomodulatory therapy with the thiopurine agents azathioprine (AZA) or 6-mercaptopurine (6-MP) for the treatment of patients with inflammatory bowel disease (IBD). A poor clinical response to thiopurine can be seen in patients with preferential production of 6-MMP, an inactive thiopurine metabolite, and associated low 6-TGN levels. The use of allopurinol in 6-MP or AZA–treated adults with preferential 6-MMP production increases levels of 6-TGN while reducing 6-MMP. We describe the clinical outcomes of children with IBD who were treated with allopurinol because of preferential metabolism of AZA/6-MP to 6-MMP rather than 6-TGN .

Methods: A retrospective chart review was performed. Subjects were poor responders to AZA/6-MP and had elevated 6-MMP metabolite levels. All were started by their clinicians on allopurinol and had their dose of AZA/6-MP reduced to 25-50% of their initial dose. A clinical goal was defined at the beginning of therapy for each subject, and response was defined as successfully achieving the goal by 3 months after initiating allopurinol. In addition, lab values (6-TGN, 6-MMP, WBC and ALT) were compared before and 3 months after starting allopurinol. Disease activity was categorized by physician's global assessment (PGA).

Results: 12 children (ages 7-18 yrs, 8 males, 11 Crohns, 1 UC) met inclusion criteria. Indications for treatment included active disease (5) and increased transaminases (7). Lab values pre- and post-allopurinol are summarized in the Table. The addition of allopurinol led to achieving clinical goals in 10/12 subjects. One subject with high ALT did not respond, and 1 discontinued treatment due to leukopenia. A third initially had an improved PGA, but required resection 4 months after starting allopurinol. 4/4 steroid dependent patients discontinued steroids after starting allopurinol.

Conclusion: Allopurinol + reduced dose AZA/6-MP effectively optimizes 6-TGN levels and improves clinical outcomes in children whose metabolism promotes the production of 6-MMP. Hepatotoxicity can be reversed, and steroid dependence eliminated.

Laboratory Values Pre- and Post-Allopurinol

	6-MMP (pmol/8x10^8 RBC)	6-TGN (pmol/8x10^8 RBC)	WBC (x10^8/L)	ALT (IU)
Pre-allopurinol	10,253 ± 5193*	171 ± 47**	7.0 ± 2.9	81 ± 58***
Post-allopurinol	436 ± 971* #	357 ± 139**	7.0 ± 2.2	33 ± 45***

***p < 0.0000; ** p = 0.0002; *** p = 0.0337;**
 # 10/12 subjects had levels less than the lower limit of detection

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OVERWEIGHT CHILDREN AND PARENTAL PERCEPTIONS

2008 ACG Presidential Poster Award Recipient

R. L. Levy, MSW, PhD, MPH,[1] N. E. Sherwood, PhD,[2] S. L. Langer, PhD,[1] R. Reid, MD, PhD,[3] S. A. Ballard, BA[1]. 1. School of Social Work, University of Washington, Seattle, WA; 2. Epidemiology, University of Minnesota, Minneapolis, MN; 3. Preventive Care, Group Health, Seattle, WA.

Purpose: The prevalence of overweight among children has increased dramatically in recent years (Joliffe, 2004). This phenomenon is associated with a number of significant adverse health outcomes. Weight loss and obesity prevention programs for overweight children that involve parents have been and continue to be developed. However, for these programs to be success-

ful, parents must first believe that their child is either currently overweight or at risk for obesity. This study sought to explore accuracy of parental perceptions of their child's weight and risk for developing obesity as an adult.
Methods: Forty-six parents of 5-9 year old child patients at an HMO-affiliated pediatric clinic were recruited on the basis of child BMI of 70th percentile or higher. Child height and weight were measured by a trained observer during a routine clinic visit. As part of data collection for an intervention study, parents were mailed a battery of questionnaires, which included questions on their perception of their child's current weight status and whether their child was at risk for developing obesity as an adult. Response categories were "Not at all-below average," "Average," or "Above average/Very High."
Results: The average BMI percentile for these children was 89.0 (SD=8.4). Responses of parents to their child's current weight and adult obesity risk respectively were: Not at all/below average: 5.1% and 31.4%; Average: 82.0% and 41.2%; Above average/Very High: 12.8% and 27.5%.
Conclusion: Although all of the children were in the 70th %ile or higher, less than 13% of the parents reported their child as currently overweight, and less than one-third reported that their child's risk for obesity is above average or very high. Clearly there is a significant misperception by parents of their child's weight and risk for obesity. Clinicians need to incorporate this phenomenon into any efforts directed at parents to alter children's weight status. [Supported by TREC NIH awards to Drs. Levy and Sherwood]

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PHARMACOKINETICS OF TWO DOSE LEVELS OF PANTOPRAZOLE SODIUM DELAYED-RELEASE GRANULES FOR ORAL SUSPENSION IN INFANTS AGED 1 THROUGH 11 MONTHS WITH A PRESUMED DIAGNOSIS OF GERD

B. Tammara, PhD,[1] J. E. Sullivan, MD,[2] M. Springer, MD,[3] J. Kierkus, MD,[4] N. J. Rath, BS, RN,[1] C. Fu, MS,[1] X. Meng, PhD,[1] M. K. Maguire, PharmD,[1] G. M. Comer, MD, FACG[1]. 1. Wyeth Research, Collegeville, PA; 2. Kosair Charities Pediatric Clinical Research Unit, University of Louisville, Louisville, KY; 3. Louisiana State University Health Sciences Center, Shreveport, LA; 4. Department of Gastroenterology, Hepatology and Immunology, The Children's Memorial Health Institute, Warsaw, Poland.
Purpose: Characterize the pharmacokinetic (PK) profile of single and repeated oral doses of pantoprazole at baseline and at steady state in infants aged 1 through 11 months with presumed GERD.
Methods: This was a multicenter, open-label, randomized study. Pantoprazole was administered once daily for a minimum of 5 consecutive days. Patients were randomly assigned to either a high (1.2 mg/kg) or low (0.6 mg/kg) dose group, and the actual dose was based on their baseline weight. Plasma concentrations were determined by LC/MS/MS from samples obtained pre-dose and 0.5, 1, 2, 4, 6 and 12 hours post dose on study day 1, and at 2 and 4 hours post dose after 5 consecutive daily doses (steady state). The concentration-time data were analyzed using non-compartmental methods. Mean (SD) PK parameters, summarized by dose group, included peak concentration (C_{max}), time to C_{max} (t_{max}), area under the concentration-time curve (AUC), half-life ($t_{1/2}$), and apparent clearance (Cl/F). Routine safety was evaluated by adverse events (AEs), physical examinations, vital signs, ECGs and laboratory tests. Genotyping was done for CYP2C19 and CYP3A4.
Results: 27 males and 15 females with a mean age/corrected age of 5.45 months (range 1.1-11.9 months) completed the PK component of the study. The race/ethnicity distribution was 64% Caucasian, 33% Black and 2% Other. Twenty-three were full term infants. There were no poor metabolizers for CYP2C19. Seven patients were heterozygous for CYP2C19*1/*2 and 8 for CYP3A4*1/*1B, and 3 were homozygous for CYP3A4*1B/*1B. The PK parameters are presented in the table below. There was no evidence of drug accumulation upon multiple dosing. There was one serious AE and it was deemed unrelated to pantoprazole (in the low dose group). Few treatment-related AEs occurred.
Conclusion: The pharmacokinetics of pantoprazole in children ages 1 through 11 months with GERD was well characterized and exposures with the 1.2 mg/kg dose were similar to that of adults receiving 40 mg tablet. The doses used in this study were safe and well tolerated.

Dose (mg)	C_{max} ng/mL Mean±SD	t_{max} hr Mean±SD	$t_{1/2}$* hr Mean±SD	AUC* ng x hr/mL Mean±SD	Cl/F* L/hr/kg Mean±SD
0.6 mg/kg (n=21)	503±506	2.0±2.5	1.8±1.3	1043±1037	1.5±2.4
1.2 mg/kg (n=21)	1318±1307	1.6±1.1	1.4±0.76	3593±3266	0.88±1.4

***Estimated only in patients with sufficient data.**
Disclosure - Pantoprazole is a Wyeth drug. Brinda Tammara, Natalie Rath, Caifeng Fu, Xu Meng, Mary Maguire, and Gail Comer are employees of Wyeth. Janice Sullivan, Margaret Ann Springer, and Jaroslaw Kierkus were investigators in this study and received research support from Wyeth Research.
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PHARMACOKINETICS OF SINGLE AND MULTIPLE DOSES OF PANTOPRAZOLE IN ADOLESCENTS WITH GERD

B. Tammara, PhD,[1] R. M. Ward, MD,[2] G. L. Kearns, PharmD, PhD,[3] M. O'Gorman, MD,[4] L. P. James, MD,[5] M. H. Katz, MD,[6] M. K. Maguire, PharmD,[1] N. J. Rath, BS, RN,[1] X. Meng, PhD,[1] G. M. Comer, MD, FACG[1]. 1. Wyeth Research, Collegeville, PA; 2. Pediatric Pharmacology Program, University of Utah, Salt Lake City, UT; 3. Children's Mercy Hospitals and Clinics and the University of Missouri, Kansas City, KS; 4. University of Utah Health Sciences Center, Salt Lake City, UT; 5. Arkansas Children's Hospital Research Institute and the University of Arkansas for Medical Sciences, Little Rock, AR; 6. Division of Pediatric Gastroenterology, Children's Hospital of Orange County, Orange, CA.
Purpose: Characterize the pharmacokinetic (PK) profile of single and multiple doses of pantoprazole in patients 12 through 16 years of age with GERD.
Methods: This was a multi-center, randomized, open-label, single and multiple-dose PK study in adolescents with a clinical diagnosis of GERD. Patients received either 20 or 40 mg pantoprazole tablets daily up to 14 days. Plasma concentrations were determined by HPLC/MS/MS from samples obtained pre-dose and 1, 1.5, 2, 2.5, 3, 3.5, 4, 6, 8 and 12 hours post dose on study day 1, and at 2 and 4 hours post dose on day 8 ± 3. The concentration-time data for each patient were analyzed using standard non-compartmental methods. PK parameters, which included the peak concentration (C_{max}), time to C_{max} (t_{max}), area under the concentration-time curve (AUC), half-life ($t_{1/2}$), and clearance (Cl/F), were summarized by dose group. Routine safety was evaluated from the results of adverse events (AE), physical examinations, vital signs, ECGs and laboratory tests. Genotyping was done for CYP2C19 and CYP3A4.
Results: Ten males and 12 females with a mean age of 14.4 years received study drug. The race/ethnicity distribution was 68.2% Caucasian, 27.3% African-American and 4.5% Hispanic. All patients had symptomatic GERD, confirmed in 12 patients by endoscopy, histology, or pH-metry. Pantoprazole was absorbed relatively rapidly, and absorption was variable. The C_{max} and AUC values increased with increasing dose. Plasma concentrations at 12 hours post dose were below or close to LLQ, and there was no evidence of drug accumulation after multiple doses. All patients were extensive metabolizers for CYP2C19. Three patients were heterozygous for CYP2C19*1/*2, 7 for CYP3A4*1/*1B, and 1 was homozygous for CYP3A4*1B/*1B. PK results were similar to those of adults[1] for the 40 mg dose group. Three patients in the 20 mg dose group had unexplained high clearance resulting in a higher clearance for that group. There were no serious AEs or withdrawals due to AEs. All AEs were mild or moderate in severity with only 2 categorized as related to study drug.
Conclusion: The PK parameters of oral pantoprazole in adolescents with GERD were well characterized and shown to be comparable to adults at 40 mg. Pantoprazole at the doses tested in this study was safe and well tolerated. [1]Protonix USPI

Dose (mg)	C_{max} ng/mL Mean±SD	t_{max} hr Mean±SD	$t_{1/2}$* hr Mean±SD	AUC* ng x hr/mL Mean±SD	Cl/F* L/hr/kg Mean±SD
20 (n=10)	889±482	1.89±0.65	0.83±0.29	1305±620	0.28±0.17
40 (n=11)	2202±1412	3.64±3.54	0.93±0.30	4262±3087	0.18±0.08

***Estimated only in PK-evaluable patients with sufficient data points.**
Disclosure - Protonix is a Wyeth drug. Brinda Tammara, Mary Maguire, Natalie Rath, Xu Meng, and Gail Comer are employees of Wyeth Research. Robert Ward, Gregory Kearns, Molly O'Gorman, Laura James, and Mitchel Katz were investigators for this study that was supported by Wyeth Research.
This research was supported by an industry grant from Wyeth Research supported this study.

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PHARMACOKINETICS OF TWO DOSE LEVELS OF PANTOPRAZOLE SODIUM GRANULES AND TABLETS IN CHILDREN AGED 1 THROUGH 11 YEARS WITH ENDOSCOPICALLY PROVEN GERD

B. Tammara, PhD,[1] K. Adcock, PharmD,[2] G. L. Kearns, PharmD, PhD,[3] R. M. Ward, MD,[4] J. M. Giblin, MD, FAAP,[5] C. Shaheen, BSN,[1] X. Meng, PhD,[1] M. K. Maguire, PharmD,[1] G. M. Comer, MD, FACG[1]. 1. Wyeth Research, Collegeville, PA; 2. University of Mississipi Medical Center, Jackson, MS; 3. Children's Mercy Hospitals and Clinics and the University of Missouri, Kansas City, MO; 4. University of Utah Primary Children's Medical Center, Salt Lake City, UT; 5. Clinical Study Centers, LLC, Little Rock, AR.

Purpose: To characterize the pharmacokinetic (PK) and safety profile of single and repeated doses of pantoprazole granules and tablets in children aged 1-11 yr with endoscopically proven GERD.

Methods: This was a multicenter, randomized, open-label study of 2 dose levels of pantoprazole (0.6 mg/kg and 1.2 mg/kg) administered once daily as granules or tablets to children aged 1-11 yr weighing ≥8.3 kg to <25 kg. Patients were stratified by age group (1 through <2 yr, 2 through <6 yr, 6 through <12 yr). For patients aged 1 through <6 yr, dose strength was based on weight: 5 or 15 mg pantoprazole granules for patients who were ≥8.3 to ≤12.5 kg and 10 or 20 mg for those >12.5 kg to <25 kg. Patients aged 6 through <12 yr received 20 or 40 mg tablets. Plasma concentrations were determined by HPLC/MS/MS from samples obtained pre-dose and 0.5, 1, 2, 4, 6 and 12 hr post dose on study day 1, and at 2 and 4 hr post dose on day 7 ± 2. Concentration-time data were analyzed with non-compartmental methods. PK parameters, summarized by formulation for each dose group, included peak concentration (C_{max}), time to C_{max} (t_{max}), half-life ($t_{1/2}$), area under the concentration-time curve (AUC), and apparent clearance (Cl/F). Routine safety was evaluated. Genotyping was done for CYP2C19 and CYP3A4.

Results: 41 patients were enrolled, 17 aged 1-5 yr (granules) and 24 aged 6-11 yr (tablets). The mean age was 6.4 yr with 61% males and 83% Caucasians. All patients had a CYP2C19 genotype predictive of an extensive metabolizer type. Eight patients were heterozygous for CYP2C19*1/*2 and 7 for CYP3A4*1/*B, and 1 was homozygous for CYP3A4*B/*B. Pantoprazole was absorbed more rapidly for the tablet compared with the granules formulation. C_{max} and AUC values increased with increasing dose. Plasma concentrations after single dose administration were below or close to LLQ at 12 hr post dose, and there was no evidence of drug accumulation after multiple doses (data not shown). Wide variability in the absorption of pantoprazole was observed. There were no serious AEs or withdrawals due to AEs.

Conclusion: Pantoprazole granules or tablets were safe and well tolerated in patients aged 1 through 11 yr with endoscopically proven GERD. Exposure observed with the 1.2 mg/kg dose (40 mg) in children aged 6 to 11 years was similar to that observed in adults with a 40 mg dose.

Dose (mg)	C_{max} ng/mL Mean±SD	t_{max} hr Mean±SD	$t_{1/2}$ * hr# Mean±SD	AUC* ng x hr/mL Mean±SD	Cl/F* L/hr/kg Mean±SD
Age <6 yr (granules)					
0.6 mg/kg (n=7)	229±196	4.0±2.5	1.1	293±146	2.1±1.3
1.2 mg/kg (n=10)	653±645	3.2±1.9	1.7±0.64	2448±2170	1.3±1.2
Age ≧ 6 yr (tablets)					
0.6 mg/kg (n=10)	1643±1229	2.1±0.75	0.77±0.22	2497±2099	0.41±0.30
1.2 mg/kg (n=13)	2067±1320	2.0±0.74	0.70±0.16	3782±1837	0.40±0.22

***Estimated only in subjects with sufficient data points. #Excludes outlier patient with a terminal phase that was not well defined.**

Disclosure - Pantoprazole is a Wyeth drug. Brinda Tammara, Carol Shaheen, Xu Meng, Mary Maguire and Gail Comer are employees of Wyeth Research. Kim Adcock, Gregory Kearns, Robert Ward, and John Giblin were investigators is this study that was supported by Wyeth Research.

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COLON CANCER NOT PREVENTED BY COLONOSCOPY

2008 ACG/Olympus Award, 2008 ACG Presidential Poster Award Recipient

R. Gupta, MS,[2] B. N. Brownlow, BS,[3] R. A. Domnick, BS,[3] G. Harewood, MD,[4] M. Steinbach, PhD,[2] V. Kumar, PhD,[2] P. C. de Groen, MD[1]. 1. Internal Medicine & Gastroenterology, Mayo Clinic, Rochester, MN; 2. Computer Science and Engineering, University of Minnesota, Minneapolis, MN; 3. Information Technology, Mayo Clinic, Rochester, MN; 4. Gastroenterology, Beaumont Hospital, Dublin, Ireland.

Purpose: The reported miss rate for detection of colorectal cancer (**CC**) or advanced adenomas during colonoscopy (**C**) varies greatly and depends on the type of study, with retrospective studies reporting lower rates than prospective, double procedure - such as CT colography/colonoscopy - studies. **Aims**: (1) To determine the development of CC not prevented by C (**CCdespiteC**) in patients undergoing screening or surveillance C at Mayo Clinic Rochester (**MCR**). (2) To investigate the possible reasons for development of CCdespiteC.

Methods: A large dataset was created containing (1) all patients who had undergone C at MCR between 1992 and 2004, and (2) all patients who had a tissue specimen diagnosis of CC between 1993 and 2006. A CCdespiteC was defined as a CC that was diagnosed between 90 days and 3 years since last C.

Results: A total of 10,136 patients with either primary or metastatic colon cancer were identified between 1992 and 2004 at MCR. Of these, 2692 patients had undergone a total of 4743 colonoscopies at MCR. From this database, 187 Cs were identified in 145 patients who developed CCdespiteC. Considering that some patients who had undergone C at MCR might have been later diagnosed with CC elsewhere, a conservative estimate of the CCdespiteC rate is 4% (~187/4743). Three main reasons for development of CCdespiteC were identified: (1) CC was truly missed (120 Cs in 100 patients – 19 Cs performed under sub-optimal colon preparation); in some of these patients, CC was missed multiple times (2, 3 or even 4 times); (2) a lesion was seen at or close to the anatomic location of the CCdespiteC but not treated or recognized as important (9 Cs in 9 patients); and (3) a lesion was seen and treated with intent of completeness at or close to the anatomic location of the CCdespiteC (58 Cs in 46 patients). Among the endoscopists who performed at least 50 Cs in CC patients, CCdespiteC rate per endoscopist varied from 1.1% and 9.4%. Moreover, considering only the Cs in which the endoscopist was able to examine the subsequent anatomic location of CC, there was no significant difference in CCdespiteC rate in the left and right colon. The interval of truly missed CC ranged from just over 90 to just under 1095 days with cases evenly distributed over the 2 year 9 month time span.

Conclusion: CCdespiteC occurs in a significant number of patients. Most CCdespiteC are truly missed lesions as confirmed by the interval between C and CCdespiteC diagnosis. Reasons for development of CCdespiteC include truly missed lesions and failure to recognize, to adequately treat or to arrange appropriated follow-up for advanced adenomas. The skill set of the endoscopist is of critical importance given the 9-fold variation of CCdespiteC rate among endoscopists.

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Poster Withdrawn

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THE LONG-TERM USE OF STATINS IS ASSOCIATED WITH A DECREASED INCIDENCE OF ADVANCED ADENOMATOUS COLON POLYPS

A. A. Siddiqui, MD,[1] S. Pandove, MD,[1] A. Mahgoub, MD,[1] S. J. Spechler, MD,[2] H. Nazario, MD[1]. 1. Internal Medicine, UT Southwestern Medical Center, Dallas, TX; 2. Internal Medicine, Dallas Veteran's Affairs Medical Center, Dallas, TX.

Purpose: Studies have suggested that the long-term use of statins may reduce the risk of developing colorectal cancer (CRC). CRCs are thought to arise from adenomatous polyps (AP) in most cases, but little information is available on how statins affect the development of APs. The aim of our study was to determine how the long-term use of statins influences the development of APs.

Methods: We performed a retrospective study of patients who were found to have one or more histologically-confirmed APs on an index colonoscopy, and who also had a follow-up colonoscopy 3 to 5 years later. APs found on the follow-up colonoscopy were evaluated for location, size, number and advanced features (i.e. size≥1 cm in diameter and/or villous component and/or high grade dysplasia). Patients were divided into two groups: 1) those who used statins continuously during the interval between colonoscopies and 2) those who were statin naive or not on statins continuously during the interval between colonoscopies. Twelve clinical factors were evaluated for their association with advanced APs in both groups. Multiple stepwise logistic regression analysis was used to determine independent predictors for advanced APs.

Results: 1060 patients with a history of AP were identified (mean age 64 + 1.1(SE) years; 4% Hispanic, 74% Caucasian, 22% African American). There were 586 continuous statin users and 474 non-users. Univariate analysis showed that patients in the continuous statin group had fewer total number of APs ($p = 0.005$), fewer advanced APs ($p < 0.01$), and smaller mean AP size ($p = 0.04$) than those in the non-user group. Patients in the continous statin group also were older ($p = 0.04$), and used NSAIDs and/or aspirin more frequently than patients in the non-user group ($p < 0.05$). Multiple logistic regression analysis revealed that statin use was associated with smaller mean number of polyps (2.6 vs. 3.1; p=0.002) and a smaller mean polyp size (7.1 vs. 7.9mm; p=0.04). Statin users also had a 29% reduced incidence of advanced APs compared to non-users (OR=0.71, CI=0.52-0.96, p=0.03). These relationships were significant even when adjusted for NSAID use, age, sex, family history of CRC and BMI.

Conclusion: The use of statins was associated with a 29% reduction in the incidence of advanced APs during a period of 3 to 5 years, even after adjustment for other known polyp risk factors. In addition, patients with continuous statin use had significantly smaller and fewer APs detected on follow-up colonoscopy. We speculate that long-term statin use may reduce the development of CRCs by reducing the development of advanced APs.

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RANDOM VIDEO FILE PEER REVIEW TO ASSESS QUALITY OF COLONOSCOPY

P. C. de Groen, MD,[1] L. A. Szarka, MD,[1] D. L. Francis, MD,[1] J. J. Poterucha, MD,[1] J. A. Schaffner, MD,[1] B. Petersen, MD,[1] F. B. Enders, PhD,[2] J. Oh, PhD,[4] W. Tavanapong, PhD,[3] J. Wong, PhD[3]. 1. Mayo Clinic, Rochester, MN; 2. Health Sciences Research, Mayo Clinic, Rochester, MN; 3. Computer Science, Iowa State University, Ames, IA; 4. Computer Science, University of North Texas, Denton, TX.

Purpose: At present, average withdrawal time (**WT**) and polyp detection rate per endoscopist are used as surrogate markers that an endoscopist is performing a high quality colonoscopy (**C**) as more direct and specific procedure- or patient-based methods do not exist. We have developed a completely automated, real-time image analysis system that detects when an endoscope is inside a patient and records the entire procedure as a digital video file. Using this system we have created a video file database of approximately 3000 anonymous endoscopies. **Aim**: To develop and test video file peer review as a new method to assess quality in C.

Methods: 75 video files obtained from two rooms over 4 consecutive days in 2007 were randomly selected from the database. 50 files represented C in an intact colon; from these 10 (3 smallest, 4 median and 3 largest) were selected based on size for review by a panel of 6 colonoscopists at Mayo Clinic Rochester (**MCR**). Three review panels were created to document (1) colonic preparation; (2) scores reflecting (a) visualization of mucosa (0-100%), (b) effort at stool removal (0-10), (c) distension of colon (0-10); and (3) video frames marking (a) entry into cecum, (b) maximal extent and (c) extubation of colon.

Results: Colonic preparation was inadequate or poor in 2/10 cases. There was perfect agreement among reviewers regarding extubation of colon for all 10 video files; entry into cecum and maximal extent times only showed close agreement in 7 of 10 files. Average WT was 3.7±1.3 Min (Mean±SD; range 1.8-5.8), 8.4±4.6 Min (2.8-13.6), and 20.0±13.1 Min (3.2-36.7) for small, medium and large video files respectively using "entry into cecum", and 2.3±0.3 Min (1.8-2.6), 6.7±4.2 Min (1.7-12.4), and 16.7±14.7 Min (2.3-35.8) using "maximal extent" as start of WT. In 8/10 colons the average WT across the 6 reviewers using "maximal extent" was less than 6 minutes. Numeric scores for visualization of colon, effort at stool removal and distension of colon were 56±26% (Mean±SD; range average per colon 31-76), 7±3 (2-9), and 6±3 (2-8) respectively. None of these scores was significantly related to WT (p=0.95, 0.67 and 0.53 respectively).

Conclusion: (1) Random Video File Peer Review is a novel, promising quality control method. (2) WT as currently documented at MCR overestimates true WT. (3) There is no relationship

between WT and visualization of colon, effort at stool removal or distension of colon. (4) None of procedures reached 80% inspection of the colonic mucosa. (5) Better colon preparation and endoscopist visualization techniques are required to decrease the chance of missing advanced adenomas or colorectal cancers during C. (6) Current markers used to assess quality of C are inadequate and provide a false sense of quality.
Disclosure - De Groen - Stock options in EndoMetric Tavanapong - Stock options in EndoMetric Oh - Stock options in EndoMetric Wong - Stock options in EndoMetric

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ASSESSING QUALITY OF COLONOSCOPY: MD VS. MACHINE
P. C. de Groen, MD,[1] L. A. Szarka, MD,[1] D. Francis, MD,[1] J. J. Poterucha, MD,[1] J. A. Schaffner, MD,[1] B. Petersen, MD,[1] F. B. Enders, PhD,[2] J. Oh, PhD,[4] W. Tavanapong, PhD,[3] J. Wong, PhD[3]. 1. Internal Medicine & Gastroenterology, Mayo Clinic, Rochester, MN; 2. Health Sciences Research, Mayo Clinic, Rochester, MN; 3. Computer Science, Iowa State University, Ames, IA; 4. Computer Science, University of North Texas, Denton, TX.
Purpose: At present, Withdrawal Time (**WT**) during Colonoscopy (**C**) is used as an indicator of quality, irrespective of whether clear or blurred images are seen. Moreover, the start of the WT phase is subjective and determined by the endoscopist making true inter-endoscopist and -institutional comparisons impossible. **Aims**: To develop a completely automated method to measure WT and to assess the fraction of the WT that consists of clear images.
Methods: We have developed a completely automated, real-time image analysis system that detects when an endoscope is inside a patient and records the entire procedure as a digital video file. Using this system we have created a database of about 3000 anonymous endoscopies at Mayo Clinic Rochester (**MCR**). 75 video files obtained from two rooms over 4 consecutive days in 2007 were randomly selected from the database. 50 files represented Cs in an intact colon; from these 10 (3 smallest, 4 median and 3 largest) were selected based on size for review by a panel of 6 colonoscopists at MCR (**MD**). A review panel was created to document video frames marking (a) entry into cecum, (b) maximal extent and (c) extubation of colon. Algorithms were developed to determine maximal extent of intubation based on cessation of forward movement and clear or blurred state of the digital video image (**Machine**).
Results: The MDs and Machine agreed on timing of extubation for all patients. For timing of "entry into cecum" and "maximal extent", the 6 MDs and Machine had perfect agreement for 4/10 patients. In the remaining 6 patients, although MDs disagreed about one or both of these time points, Machine placed "maximal extent" between or at one of the MDs' coding of "entry into cecum" and "maximal extent" time points. The WT for the 10 Cs was 10.8±10.5 and 7.0±10.4 Min (Mean±SD, range 2.8-36.4 and 1.7-35.5) for MDs using these time points respectively as the start of WT. Mean WT for Machine was 10.0±9.6 Min (range 2.5-34.6). When blurry frames were removed, mean Machine WT was 5.1±4.9 Min (range 0.8-13.3); 6/10 Cs had a Machine clear WT below 3 Min.
Conclusion: (1) Algorithm-based, automated quality assessment of C is a novel, promising quality control method. (2) MD and Machine come to similar WT conclusions when human reviewers are in complete agreement regarding "entry of cecum" and "maximal extent" time points. (3) When human reviewers do not come to complete agreement regarding insertion time points, Machine always provides a time point that is similar to some of the reviewers. (4) WT as currently documented at MCR does not reflect the actual time that clear images of the mucosa are seen and provides a false sense of quality. Large studies that correlate Machine-based measures of quality with patient outcomes are needed.
Disclosure - De Groen - Stock options in EndoMetric Tavanapong - Stock options in EndoMetric Oh - Stock options in EndoMetric Wong - Stock options in EndoMetric

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PREVALENCE OF ADVANCED ADENOMAS IN PATIENTS AGES 40 TO 49 AT SCREENING COLONOSCOPY
F. Tsai, MD,[1] W. Strum, MD[2]. 1. Gastroenterology, Scripps Clinic, La Jolla, CA; 2. Gastroenterology, The Scripps Research Institute, La Jolla, CA.
Purpose: Patients <50 yrs old are considered low risk for advanced adenomas at screening colonoscopy. The prevalence of advanced adenomas in patients 40-49 yrs old is not well established in all populations.
Methods: We designed a large, prospective study of an unselected population in San Diego to assess the prevalence of advanced adenomas in patients 40-89 yrs old. Patients between ages 40-89 referred for colonoscopy were included. Patients with heme positive stools, hematochezia, anemia, h/o cancer or adenoma, IBD, FAP, HNPCC or incomplete exams were excluded. Patients with minor complaints such as change in bowel habits, mild abdominal pain and modest weight loss were included. Advanced adenoma was defined as having size >10 mm, villous features, HGD or cancer. Family history of colorectal cancer was obtained for all patients prior to colonoscopy. The prevalence of advanced adenomas was assessed after separating patients by gender and age groups in 5-yr intervals from ages 40-89 yrs. We tested the null hypothesis that there is no difference in the prevalence of advanced adenomas in men and women ages 40-49 yrs compared to older patients.
Results: We evaluated 6,905 patients referred for colonoscopy between January 2005 and December 2006. 4,967 patients met the inclusion criteria. Overall, 1,361 had a polyp of any type, 930 had an adenoma of any size and 249 had an advanced adenoma, 8 of which were carcinoma. The 4,967 patients had a mean age of 58.8 yrs and consisted of 58.6% women. The prevalence of advanced adenomas was 4.6% for patients 40-49 yrs old compared to 5% for patients 50-89 yrs old (RR 0.92; 95%CI=0.57-1.49; p=0.82). When excluding all patients with one or more first-degree relatives with colorectal cancer, the prevalence of advanced adenomas was 4.8% for patients 40-49 yrs old compared to 5.6% for patients 50-89 yrs old (RR 0.86; 95%CI=0.43-1.73; p=0.80). When the entire cohort was separated by gender, 6.3% of men and 4.1% of women had an advanced adenoma (RR 1.52; 95% CI=1.19-1.94; p=0.001). Advanced adenomas were found in 3.3% of women ages 40-49 compared to 4.2% in women ages 50-89 (RR 0.78; 95%CI=0.37-1.65; p=0.63) and 6.6% of men ages 40-49 compared to 6.2% in men ages 50-89 (RR 1.05; 95%CI=0.56-1.97; p=0.99).
Conclusion: Our data found the prevalence of advanced adenomas in patients 40-49 yrs old to be comparable to older patients. This finding did not change after excluding patients with a family history of colorectal cancer or separating the patients by gender. In our population, the prevalence of advanced adenomas is sufficiently high in patients 40 to 49 years old to consider screening colonoscopy.

Advanced Adenoma Rates by Age of Patient at Colonoscopy

			age (years)			
% Adv Adenomas	40-44	45-49	50-59	60-69	70-79	80-89
All Pts (n=4967)	4.9%	4.5%	3.9%	6.0%	8.2%	5.4%
Men (n=2057)	5.4%	7.3%	4.1%	9.1%	9.0%	10.0%
Women (n=2910)	4.5%	2.7%	3.7%	3.8%	7.7%	2.9%

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PILOT STUDY OF COLONOSCOPY BY NURSE PRACTITIONER FOR COLORECTAL CANCER (CRC) SCREENING IN A SAFETY NET HEALTHCARE SYSTEM
D. W. Hamilton, RN, MSN, ACNP-BC, J. P. Thomas, BS, Y. V. Lin, MA, R. Munoz, BA, H. F. Yee, MD, PhD, J. P. Cello, MD, J. M. Inadomi, MD. Medicine, San Francisco General Hospital, San Francisco, CA.
Purpose: CRC screening by colonoscopy in the public hospital setting is limited by capacity. Due to economic constraints in the "safety-net" healthcare environment, creative means to increase services must be explored. Our aim was to determine whether a nurse practitioner can perform acceptable colonoscopy in the context of CRC screening.
Methods: A single nurse practitioner underwent a program based on the colonoscopy training for gastroenterology fellows. Following completion of 140 colonoscopies including 30 individual snare polypectomies under supervision of a single gastroenterologist, consecutive cases of colonoscopy were examined by multi-society quality standards. Documentation of appropriate procedural indication, the informed consent process, and preparation quality were examined. Cecal intubation rates were confirmed via photodocumentation. Withdrawal times were assessed via photo time stamps of the cecum and retroflexion view of the rectum. Adenoma detection rates were histologically confirmed. Procedure-related complications were determined by review of electronic medical records capturing county-wide healthcare encounters.
Results: Following completion of 140 training colonoscopies, 534 lower endoscopic procedures were performed including 511 (95.7%) colonoscopies and 23 flexible sigmoidoscopies. For all patients appropriate procedural indication and informed consent were documented. Cecal intubation was achieved in 490 (95.9%) colonoscopies. One hundred ninety-three (37.8%) of colonoscopies were performed for screening patients at average risk for development of colorectal cancer; the remainder were to evaluate positive fecal occult blood tests or surveillance for prior history of adenomas. Withdrawal times averaged 15.1 minutes (standard deviation [SD] ± 9.7) for all colonoscopies and 13.5 minutes (SD ± 7.1) for screening colonoscopies. Adenoma detection among screening patients was 32.1% (62/193). There were no complications including perforation, hemorrhage or sedation medication reversal.
Conclusion: The performance of colonoscopy by a rigorously trained nurse practitioner for the purpose of CRC screening and surveillance is safe and effective. In a safety-net healthcare setting, the use of highly-skilled nurse practitioners to perform colonoscopy may allow CRC screening to become feasible.

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SERUM PEPSINOGEN LEVEL, ATROPHIC GASTRITIS AND THE RISK OF INCIDENT COLORECTAL CANCER – A LONG-TERM PROSPECTIVE STUDY
A. O. Laiyemo, MD, MPH,[1] F. Kamangar, MD, PhD,[2] P. M. Marcus, PhD,[3] P. R. Taylor, MD, ScD,[2] J. Virtamo, MD,[4] D. Albanes, MD,[2] R. Z. Stolzenberg-Solomon, PhD[2]. 1. Cancer Prevention Fellowship Program, National Cancer Institute, Bethesda, MD; 2. Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD; 3. Division of Cancer Prevention, National Cancer Institute, Bethesda, MD; 4. Department of Health Promotion and Chronic Disease Prevention, National Public Health Institute, Helsinki, Finland.
Purpose: Atrophic gastritis is a pre-malignant condition for gastric cancer which results from multiple causes including *Helicobacter pylori* infection and long-term treatment with proton pump inhibitors. Atrophic gastritis induces secondary hypergastrinemia which may increase the risk of colorectal cancer. We prospectively examined the association between low serum pepsinogen I (SPGI) level (a biomarker for atrophic gastritis), histologically proven atrophic gastritis, and the risk of incident colorectal cancer.
Methods: The Alpha-Tocopherol, Beta-Carotene Cancer Prevention (ATBC) Study was a double-blind, placebo-controlled, 2 x 2 factorial design, primary prevention trial that tested whether alpha-tocopherol and/or beta-carotene supplementation could reduce the incidence of cancer among 29,133 male smokers in Finland. The analytic cohort for this study included 22,210 men who had serum pepsinogen I levels measured using serum samples collected at baseline (1985 - 1988) and during follow-up (3 years after enrollment). Of these, 2,189 (9.9%) had low serum pepsinogen I levels (<25 mcg/l) at baseline or follow-up and were invited for gastroscopy which was completed in 1,344 (61.4%) of the invited subjects. Atrophic gastritis was histologically confirmed in 1,219 (90.7%) subjects who underwent gastroscopy. We used Cox proportional hazards regression to estimate the risk of incident colorectal cancer.
Results: During a mean follow-up of 12.3 years (273,332 person-years), 438 incident colorectal cancers were diagnosed. The incidence rates were 1.65, 1.18, and 1.38 per 1,000 person-years of follow-up for participants with high serum pepsinogen I level, low serum pepsinogen I level, and histologically-confirmed atrophic gastritis, respectively. Compared to subjects with high serum pepsinogen I levels, there was a reduced risk of colorectal cancers among subjects with low serum pepsinogen I level (HR=0.63; 95%CI: 0.43-0.91) and among those with histologically-confirmed atrophic gastritis (HR=0.72; 95%CI: 0.47-1.12), in multivariate analyses.
Conclusion: Atrophic gastritis was not associated with an increased risk of colorectal cancers among Finnish men. Rather, our study suggests a possible inverse relationship. This may provide further indirect evidence for lack of harm of long-term therapy with proton pump inhibitors with respect to colorectal cancer development.

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AN UPDATED LOOK AT COLORECTAL CARCINOMA INCIDENCE AND STAGE DISEASE IN VIRGINIA AND THE U.S

2008 ACG Presidential Poster Award Recipient

R. Majithia, MD, D. A. Johnson, MD, FACP, FACG, D. Freeman, MD, D. Pilocarpio, DO. Gastroenterology, Eastern Virginia Medical School, Norfolk, VA.

Purpose: National coverage for Medicare screening of high risk and average risk colorectal carcinoma (CRC) individuals began in 1998 and 2001. The first insurance mandate on a state level that required colonoscopy as the preferred strategy for CRC screening began in Virginia in July of 2000. This study correlates yearly trends of incidence and stage of disease at time of diagnosis with screening mandates.

Methods: The most current available data on CRC incidence, and stage of disease at time of diagnosis were evaluated from the American Cancer Society (ACS), Virginia Cancer Registry (VCR), and National Cancer Institute's (NCI) registries. Yearly differences of new cases, incidence, and stage of disease were compared.

Results: Compared to values from the year 2001, when Medicare coverage began for CRC screening of average risk individuals, the diagnoses of CRC in the U.S. increased yearly by an average of 12,833 cases *See Table 1*. This is a 12% increase in the incidence of CRC diagnosis with a yearly trend showing positive correlation ($p<0.05$, $r^2=0.8167$). This trend was evident with a 17.6% increase in male CRC incidence and a 9.6% increase in female incidence. These values are compared to 1997-1999 where incidence rates in the U.S. were on average 2,866 less per year. In VA an average increase of 682 cases was seen from 2004-2007 *See Table 2*. In 2005, there was a 25% increase in number of cases localized ($r^2=0.791$), and a 23.6% decrease in incidence of regional CRC diagnosed ($r^2=0.753$).

Conclusion: Analysis of databases from the ACS, VCR, and NCI shows a definitive relationship between CRC screening mandates allowing screening colonoscopy and the reported incidence of CRC. More cases of CRC are being diagnosed since Medicare and state legislative (VA) coverage have been established. A clear positive correlation for detection of cancer at earlier stages can be documented. The data suggests that legislative mandates for CRC screening effectively increase early detection. The long term benefit of polyp recognition/resection will likely only amplify this early evidence of a beneficial effect.

U.S. Colorectal Cancer Incidence 2001-2007

YEAR	COUNT	RATE	MALE	RATE	FEMALE	RATE
2001	135,400	197.49	67,300	215.50	68,100	182.43
2002	148,300	216.31	72,600	232.47	75,500	202.79
2003	147,500	215.14	72,800	233.11	74,700	200.11
2004	146,940	214.32	73,620	235.73	73,320	196.41
2005	145,290	211.92	71,820	229.97	73,470	196.81
2006	148,610	216.76	72,800	233.11	75,810	203.08
2007	153,760	224.27	79,130	253.38	74,630	199.92

Rates are per 100,000 and age adjusted to the screening guidelines. (ACS)

Virginia Colorectal Cancer Incidence 2001-2005

YEAR	COUNT	RATE	MALE	RATE	FEMALE	RATE
2001	2,997	130.30	1,688	160.76	1,665	133.84
2002	2,979	129.52	1,686	160.57	1,627	130.79
2003	3,193	138.83	1,795	170.95	1,766	141.96
2004	3,236	140.70	1,804	171.81	1,773	142.52
2005	3,072	133.57	1,765	168.10	1,683	135.29

Rates are per 100,000 and age adjusted to the screening guidelines. (VCR)

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INDUCTION OF C-TERMINAL SRC KINASE (CSK) ACTIVITY AS A PUTATIVE MEDIATOR OF CHEMOPREVENTION BY POLYETHYLENE GLYCOL (PEG): MODULATION BY PRL-3

M. Scheer, DO, J. Koetsier, BS, R. Wali, PhD, D. Kunte, PhD, H. K. Roy, MD. Research Institute, Evanston Northwestern Healthcare, Evanston, IL.

Purpose: Polyethylene glycol (PEG) has shown remarkable efficacy in suppressing colon carcinogenesis in experimental models outperforming conventional agents such as NSAIDS (Corpet and Pierre *Cancer Epidemiol Biomarkers Prev* 2003). Moreover, its outstanding long term clinical safety record (treatment of chronic constipation) makes it an attractive agent for chemoprevention of colon carcinogenesis. Our group and others have previously shown that PEG decreases epithelial hyperproliferation; however, the molecular mechanisms of PEG remain unclear (*Mol Cancer Therap* 2006). Emerging data indicates that the tumor suppressor gene, c-terminal Src kinase (CSK), plays a central role in control of proliferation. CSK is involved both in progression and also initiation of colon carcinogenesis (*FEBS* 2005), making it a plausible target in chemoprevention. We, therefore, wanted to assess the effect of PEG treatment on CSK.

Methods: HT-29 cells (human CRC cell line) were treated with vehicle or 10% PEG3350 for 24-72h and subjected to mRNA and protein analysis by RT-PCR and Western blotting, respectively. Standard techniques were used and immunoblots were analyzed with densitometry. CSK activity was gauged by an immunoprecipitation-kinase assay.

Results: PEG treatment did not effect the expression of CSK protein or message (91.9 ±11.2% and 97.1±3.9%). PEG resulted in a dramatic augmentation of CSK activity (173±15.9% of control, p-value< 0.05). While the regulation of CSK activity remains incompletely understood, emerging evidence underscores the role of the tyrosine phosphatase, PRL (protein of regenerating liver)-3, (Liang et al. *J Biol Chem* 2007). We, therefore, assessed PRL-3 levels and noted a marked decrease in the HT-29 cells treated with 10% PEG (71.5 ±7.5% of control, p-value< 0.05).

Conclusion: We demonstrate for the first time that PEG treatment caused an increase in CSK enzyme which corresponds to our previously described anti-proliferative activity. While the mechanism of the CSK activation was not completely elucidated, our data suggests that suppression of the tyrosine phosphatase PRL-3 may be important. This is the first report to indicate that the PRL-3/CSK signaling axis may represent an important pathway in chemoprevention. Moreover, this may have relevance to treatment of CRC (chemotherapy) given the established role of PRL-3 in CRC invasion/metastasis (Saha et al., *Science* 2001). Future studies will focus on the role of the PRL-3/CSK pathway in chemoprevention.

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JUST HOW ADEQUATE IS THE TERM "ADEQUATE" TO DESCRIBE BOWEL CLEANLINESS DURING COLONOSCOPY?

A. H. Calderwood, MD, B. C. Jacobson, MD, MPH. Gastroenterology, Boston University Medical Center, Boston, MA.

Purpose: The US Multi-Society Task Force on Colorectal Cancer suggests that when bowel preparation is inadequate to exclude polyps >5 mm, repeat colonoscopy should be done before planning a long-term surveillance program. We hypothesized that there is significant variability in physician interpretation of adequacy, and this leads to discrepancies in recommended screening intervals.

Methods: Twelve gastroenterologists viewed 10 video recordings of the withdrawal portions of screening colonoscopies representing a broad range of bowel cleanliness from poor to excellent. Each participant viewed the videos twice, in random order, several weeks apart. For each video, participants assessed the quality of bowel preparation using a valid and reliable scale, the Boston Bowel Preparation Scale (BBPS), in which scores range from 0 (unprepared) to 9 (perfectly clean). They reported whether the bowel preparation was adequate to detect polyps >5 mm, and when the next screening colonoscopy should occur, assuming the video was from a 60 year-old man with no family history of colon cancer presenting for his first screening colonoscopy.

Results: Videos were viewed by each participant an average (SD) of 61 (35) days apart. When the quality of bowel preparation reflected either end of the spectrum (e.g. poor and very good), there was excellent agreement about adequacy and screening intervals both between participants and for the same individual over time (Table 1). When preparation quality was in the mid-range, there was substantial variation in both assessments of adequacy and recommended screening intervals between participants and for the same individual over time. However, in 92% of instances when a preparation was deemed adequate (n=106), the recommended interval was 10 years. Likewise, in 97% of instances when the preparation was deemed inadequate (n=134), the recommended interval was <1 year.

Conclusion: There is substantial variability in the interpretation of bowel preparation adequacy only in the mid-range of cleanliness. This results in inconsistent screening interval recommendations. Efforts are needed to standardize how bowel preparation adequacy is determined.

	Video A	Video B	Video C	Video D	Video E	Video F	Video G	Video H	Video I	Video J
BBPS score, mean (SD)	0 (0)	1.7 (0.9)	1.9 (0.7)	3.1 (0.8)	5.0 (1.2)	5.2 (0.5)	6.3 (0.9)	7.2 (0.8)	7.3 (1.2)	8.0 (1.1)
% Saying preparation was adequate	0%	0%	0%	0%	33%	25%	75%	100%	100%	100%
Recommended screening interval in years, mean (SD)	0 (0)	0 (0)	0 (0)	0.3 (0.9)	3.3 (4.9)	2.3 (3.9)	7.3 (3.9)	10 (0)	10 (0)	10 (0)
Concordance in assessment of adequacy between two viewings by same MD	100%	100%	100%	100%	83%	75%	67%	100%	100%	100%

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INTRAGASTRIC (IG) pH CONTROL IN HISPANIC ADULTS WITH SYMPTOMATIC GASTROESOPHAGEAL REFLUX DISEASE (GERD): COMPARATOR TRIAL OF ESOMEPRAZOLE, LANSOPRAZOLE, AND PANTOPRAZOLE

D. Morgan, MD,[1] J. Pandolfino, MD,[2] P. O. Katz, MD,[3] J. L. Goldstein, MD,[4] P. N. Barker, PhD,[5] M. Illueca, MD[5]. 1. UNC School of Medicine, Chapel Hill, NC; 2. Northwestern U, Chicago, IL; 3. Albert Einstein Medical Center, Philadelphia, PA; 4. U of Illinois, Chicago, IL; 5. AstraZeneca LP, Wilmington, DE.

Purpose: To compare in Hispanic patients with symptomatic GERD the pharmacodynamic efficacy of once-daily oral dosing of esomeprazole, lansoprazole, and pantoprazole for IG pH control.

Methods: In this open-label, comparative 3-way crossover study (D9612L00106), Hispanic adults aged 18–69 y with symptomatic GERD (heartburn ≥2×/wk on average for past 3 mo) were randomized to 1 of 6 treatment sequences each consisting of three 5-d dosing periods of esomeprazole 40 mg, lansoprazole 30 mg, and pantoprazole 40 mg separated by a 10–17-d washout period. Patients took study drugs each day 30 min before breakfast. On day 5 of each dosing period, a calibrated, dual-channel pH catheter was positioned 10 cm below the lower esophageal sphincter. IG pH was recorded every 5 s for 24 h. Least-squares mean percentages (LSM %) of time in the 24-h monitoring period with pH >2.5, >4 (primary objective), and >6 were calculated for each treatment and analyzed using a mixed model with fixed effects for treatment, sequence, and period. Patients with valid pH data for all 3 periods and no major protocol violations comprise the per protocol (PP) population.

Results: Of 123 patients randomized, 83 met the PP criteria (women, 63%; *H pylori*-seropositive, 24%; mean age, 39 [range, 19–69] y; mean BMI, 29.4 kg/m^2). Duration of IG pH control was significantly longer for esomeprazole than lansoprazole or pantoprazole (P<.001; Table). Significantly more patients had pH >4 for >12 and >16 h with esomeprazole (95.2% and 67.5%, respectively) than lansoprazole (69.9% and 48.2%, respectively) or pantoprazole (57.8% and 36.1%, respectively) (for all, P<.001). Results for the intention-to-treat and PP populations were consistent.
Conclusion: This study is the first to assess pharmacodynamic efficacy of proton pump inhibitors in Hispanic GERD patients. In these patients, esomeprazole more effectively controlled IG acid at steady state than lansoprazole or pantoprazole.

Time above pH threshold during the 24-h monitoring period (distal probe; N=83)

pH Threshold	Esomeprazole 40 mg		Lansoprazole 30 mg		Pantoprazole 40 mg	
	LSM, % (SEM)	Hours	LSM, % (SEM)	Hours	LSM, % (SEM)	Hours
>2.5	84.8 (1.9)	20.3	78.9 (1.9)[a]	18.9	72.0 (1.9)[b]	17.3
>4	74.4 (2.4)	17.9	63.9 (2.4)[b]	15.3	56.0 (2.4)[b]	13.4
>6	36.5 (2.4)	8.8	28.5 (2.4)[b]	6.8	25.0 (2.4)[b]	6.0

[a]***P*<.001 vs esomeprazole; [b]*P*<.0001 vs esomeprazole.**
Disclosure - Pandolfino: AstraZeneca – speaker, consultant, grant/research support Katz: AstraZeneca – speaker, consultant, grant/research support; Santarus – speaker; TAP – speaker, consultant; Negma-Lerads – consultant; Prometheus – consultant Goldstein: AstraZeneca – speaker, consultant, grant/research support, independent contractor Barker: AstraZeneca – employee, stock ownership Illueca: AstraZeneca – employee Morgan: AstraZeneca – grants/research support, consultant; Given Imaging – grants/research support, Speakers Bureau; Axcan – Speakers Bureau; Spirus – grants/research support; SuCampo – grants/research support Supported by AstraZeneca
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CHARACTERISTICS OF PATIENTS WITH DYSPLASTIC BARRETT'S ESOPHAGUS FAILING RADIOFREQUENCY ABLATION
G. A. Prasad, MD, MS, S. Achra, MBBS, Y. Bhardwaj, MBBS, N. S. Buttar, MD, R. J. Badreddine, MD, L. S. Lutzke, LPN, L. S. Borkenhagen, RN FNP, K. T. Dunagan, LPN, K. K. Wang, MD. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.
Purpose: Radiofrequency ablation (RFA) is a promising new technique for the endoscopic ablation of dysplastic Barrett's esophagus (BE). A recent sham controlled randomized trial showed RFA to be superior to surveillance in the elimination of dysplasia in patients with BE. Failure rates for the elimination of dysplasia ranged from 10% (for LGD) to 20% (for HGD). Patients who fail RF ablation remain poorly characterized. We aimed to characterize a cohort of patients who failed RFA for dysplastic BE.
Methods: We prospectively followed all patients treated with RFA over the last 3 years. We defined failure of RFA as the presence of dysplasia (LGD or HGD) on biopsies taken at the first endoscopy after completion of RFA treatments as performed in the randomized trial (initial Halo 360 ablation with 12 Joules followed by Halo 90 ablation with 12 joules using standard manufacturer recommended methodology, for elimination of all visible BE) AND patients where RFA could not be completed due to any reason. Patients were then treated with additional ablative techinques for treatment of any residual dysplasia. Demographic and clinical data were extracted from a prospectively maintained database.
Results: 9 out of 30 patients treated at Mayo Clinic Rochester met the above criteria for RFA failure (mean age 66 years (SD 10.4); 6 (67%) males). 7 had HGD, 1 had mucosal adenocarcinoma and 1 had LGD before ablation. Median length of the BE segment was 7 cm (IQR 6-10).7 patients (78%) had nodularity of the BE segment on initial evaluation and underwent endoscopic mucosal resection (EMR) prior to RF ablation. All except one patient underwent initial ablation with the Halo 360 device followed by additional ablation using the Halo 90 device (mean 1.6 applications, SD 1.6). Endoscopy with biopsy was done at a median interval of 4.7 m (IQR 2.6-6.6m) after initial ablation. Biopsies revealed LGD in 5 patients (55%) and HGD in 4 (45%) patients. 2 patients developed strictures : this precluded further RF ablation in one patient, and one developed bleeding from a treatment site needing endoscopic therapy for hemostasis and blood transfusions. Dysplasia was further treated in patients with a combination of EMR (2 patients) and additional ablation (using RF ablation and multipolar electrocoagulation) in 6 patients over a median total follow up of 15 months (IQR 7-20m). The patient who developed a stricture precluding passage of the HALO 90 device was treated with cryotherapy. Pathology at last follow up revealed LGD in 5 patients (55%) and no residual BE in the remainder.
Conclusion: A subset of patients with dysplastic BE (particularly with nodular HGD and longer segments of BE) may be difficult to treat with RF ablation. Factors predicting failure should be investigated.
Disclosure - Dr.Wang: Research Funding from BARRX

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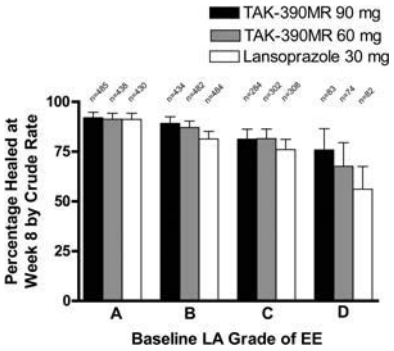
IMPACT OF BASELINE LA GRADE ON HEALING OF EROSIVE ESOPHAGITIS (EE) FOLLOWING TREATMENT WITH TAK-390MR, A PROTON PUMP INHIBITOR (PPI) WITH A NOVEL DUAL DELAYED RELEASE FORMULATION, COMPARED WITH LANSOPRAZOLE (LAN)
N. Shaheen, MD, MPH,[1] D. Peura, MD,[2] M. Perez, MD,[3] B. L. Pilmer, RN, BSN,[3] G. Witt, MS,[3] P. Sharma, MD[4]. 1. Division of Gastroenterology and Hepatology, University of North Carolina School of Medicine, Chapel Hill, NC; 2. Division of Gastroenterology and Hepatology, University of Virginia Health System, Charlottesville, VA; 3. Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL; 4. Division of Gastroenterology and Hepatology, University of Kansas School of Medicine, Kansas City, KS.
Purpose: Healing rates are reported to be lower in patients with more severe EE (LA Grades C/D) who are treated with conventional delayed release PPI therapy. TAK-390MR is a novel Dual Delayed Release™ formulation of TAK-390, an enantiomer of LAN, designed to prolong the plasma–concentration time profile and extend the duration of acid control. We assessed the efficacy of TAK-390MR on EE healing as a function of baseline LA grade.
Methods: The efficacy and safety of TAK-390MR 60 and 90 mg once daily (QD) were compared with LAN 30 mg QD in 2 identically designed, double-blind, randomized controlled trials that assessed overall EE healing at week 8 in a total of 4092 patients. Analysis of healing at week 8 in moderate to severe EE (grades C/D, 29% of patients) was a secondary endpoint in each study in which treatments were compared using a CMH test; in addition, the impact of baseline EE severity on healing was also examined in prespecified subgroup analyses of crude healing rates stratified by baseline EE grade (A, B, C, D). Data from both trials were subsequently combined and analyzed in a post-hoc integrated analysis.
Results: TAK-390MR 60 and 90 mg produced consistently high healing rates in all grades of EE. In the integrated analysis, the differences in healing rates (therapeutic gains) between TAK-390MR and LAN increased as the severity of baseline EE increased (**Figure**) and were greatest in those with grade D EE (therapeutic gains: 12% for the 60-mg dose and 20% for 90-mg dose). In a separate analysis of the integrated studies, of the 29% of patients with LA Grades C/D EE at baseline, TAK-390MR 90 mg was significantly superior to LAN 30 mg. Overall, no significant differences in adverse events were observed between any treatment group.
Conclusion: TAK-390MR 60 and 90 mg QD were highly effective in healing patients with all grades of EE and demonstrated benefits over LAN in more difficult-to-treat patients as EE severity increased. This observation may be important in clinical practice where empiric therapy is often initiated without knowing underlying disease severity.



Disclosure - Nicholas J Shaheen - investigator, consultant for TAP Pharmaceutical Products Inc. Prateek Sharma - investigator, speaker, consultant, advisory board member for TAP Pharmaceutical Products Inc. David Peura - speaker, consultant, advisory board member for TAP Pharmaceutical Products Inc. M. Claudia Perez, Betsy Pilmer, Galen Witt all are TAP employees, TAP Pharmaceutical Products Inc., Lake Forest, IL.

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EVALUATION OF SYMPTOM ASSOCIATION WITH GERD: IS THERE CONSENSUS AMONG THE EXPERTS?
2008 ACG Presidential Poster Award Recipient
N. Sharma, MD,[1] A. Agrawal, MD,[1] R. Tutuian, MD,[2] M. Vela, MD, MSCR,[1] D. Castell, MD[1]. 1. Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC; 2. Gastroenterology, University Hospital of Zurich, Zurich, Switzerland.
Purpose: Whether it is conventional 24hr pH testing or combined impedance-pH technology, ambulatory reflux monitoring is a major tool used to diagnose GERD. Perhaps as important as diagnosing reflux is determining whether or not it is related to symptoms. The symptom index (SI) and symptom association probability (SAP) are two main parameters that are used to establish symptom association with reflux, and there is much debate over which parameter is more sensitive and specific. The aim of this study was to determine if there is agreement among experts in evaluating symptoms during ambulatory reflux monitoring and in establishing symptom association with GERD.
Methods: Twenty-one leading worldwide authorities in esophageal diseases were asked to answer a questionnaire regarding reflux monitoring. All experts were asked which commercial software they use for analysis and how mealtimes and cluster of symptoms were evaluated, but the remainder of questions differed depending on use of SI or SAP as the main parameter for establishing symptom association with reflux.
Results: Seventeen experts (81%) responded to the questionnaire. Nine of them chose the SI as their diagnostic parameter, and 8 preferred the SAP. Of those who chose the SI, all 9 use the same formula (# symptom events preceded by reflux/number of symptom events), calculated manually; 7/9 use a 5-minute time interval for establishing a positive correlation, and 2/9 use a 2-minute window. There is variability among the number of symptom events used in the denominator for the SI: 2/9 include symptom events during meals, 8/9 count a cluster of symptom events within two minutes of each other as one symptom event, and 4/9 always include symptom events that occur after meals even if there is not a two or five minute "meal-free" analysis time. There were no two experts who agreed on all answers. Of those who chose the SAP, all 8 allow the software to calculate the value, and 4/8 do not know the formula used by the software. There is variability among the total number of symptom events included in the SAP: 2/8 include symptom events during meals, 7/8 count a cluster of symptom events within two minutes of each other as one symptom event, and 1/8 counts a cluster of symptom events within thirty seconds of each other as one symptom event. There were no two experts who agreed on all answers.
Conclusion: With the exception of grouping a cluster of symptom events, there is no consensus among worldwide GERD experts in determining the association between reflux and symptoms. In addition, the SI or SAP value is not necessarily the same in laboratories around the world.

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GENDER-RELATED VARIATION IN LOWER ESOPHAGEAL SPHINCTER PRESSURE AND ESOPHAGEAL BODY FUNCTION

2008 ACG/Radhika Srinivasan Gender Based Research Award

K. J. Vega, MD,[1] T. Langford-Legg, RN,[1] M. Jamal, MD[2]. 1. Division of Gastroenterology, University of Florida/Jacksonville, Jacksonville, FL; 2. Division of Gastroenterology, Long Beach VA Medical Center, Long Beach, CA.

Purpose: Esophageal manometry (EM) is the gold standard examination for diagnosis of esophageal motor disorders. Gender-related variation is a well recognized normal physiological phenomenon. To date, there are very limited gender specific data relevant to EM measurements. The aim of this study was to obtain values of EM in healthy males and females to determine if gender variation exists in normal esophageal motor function.

Methods: Healthy men and women were recruited from the Jacksonville, FL metropolitan area. Exclusion criteria were symptoms suggestive of esophageal disease, medication use or concurrent illness that could affect EM. All underwent EM using a solid-state system with wet swallows (Polygram Net, Medtronic Inc., Minneapolis, MN). Resting lower esophageal sphincter pressure, percent peristaltic contractions, distal esophageal body contraction velocity, distal esophageal body contraction amplitude and distal esophageal body contraction duration were measured at end-expiration.

Results: Sixty-three males and 66 females were enrolled. All subjects completed EM without difficulty. The male group was significantly younger than the female group (M 31.4 ± 10.6 years old, F 35.2 ± 10; $p < 0.04$). Resting lower esophageal sphincter pressure (RELSP), distal esophageal contraction duration (DEBCD) and distal esophageal body contraction amplitude (DEBCA) were significantly higher in females compared to males while distal esophageal body contraction velocity (DEBCV) was significantly lower in females than males ($p < 0.05$, table). There were no differences seen in lower esophageal sphincter length (LESL) and percent peristaltic contractions (%PC).

Conclusion: Significant gender-related differences exist in EM findings. These differences underscore the need for gender specific reference values for EM studies to allow for the accurate diagnosis of esophageal motility disorders.

Gender specific esophageal motility parameters

Motility Parameter	Male (N=63, mean ± SD)	Female (N=66, mean ± SD)	p value
RLESP (mm Hg)	26.89 ± 9.49	31.29 ± 13.53	<0.04
LESL (cm)	3.64 ± 0.89	3.58 ± 0.9	NS
% PC	94 ± 6	94 ± 6	NS
DEBCA (mm Hg)	85.1 ± 36.3	101.1 ± 38	< 0.02
DEBCV (cm/sec)	4.81 ± 3.34	3.72 ± 2.3	< 0.04
DEBCD (sec)	3.91 ± 1.4	4.52 ± 1.66	< 0.03

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DIET RESTRICTION REDUCES DAY-TO-DAY VARIABILITY IN ACID REFLUX PATTERNS USING THE BRAVO pH MONITORING SYSTEM

E. Abate, MD, J. C. Lipham, MD, J. M. Leers, MD, S. Ayazi, MD, A. Oezcelik, MD, J. A. Hagen, MD, F. Banki, MD, S. R. DeMeester, MD, T. R. DeMeester, MD. Surgery, University of Southern California, Los Angeles, CA.

Purpose: The Bravo catheter-free pH monitoring system overcomes the discomfort and social inconvenience associated with catheter-based 24-h ambulatory pH testing and extends the recording period to 48 hours. Previous studies have reported significant day-to-day variability in esophageal acid exposure measured with the Bravo system. The aim of our study is to prospectively assess if a controlled diet during pH monitoring reduces this variability.

Methods: 85 patients with reflux symptoms were prospectively enrolled and had esophagogastroduodenoscopy (EGD) with placement of the Bravo pH capsule. Forty-four patients were randomized to follow specific dietary and behavioral restrictions (controlled diet) while forty-one were instructed to consume their usual meals (free diet) without restrictions. Distal esophageal acid exposure was monitored for 48 hours and the results of the 1st and 2nd 24 hour recordings were compared.

Results: Composite score, total % time pH < 4, upright % time pH < 4 and the post-prandial % time pH < 4 were significantly different ($p < 0.05$) between the first and the second 24 hour recording periods of the study in the free diet group. No such differences were observed between day 1 and day 2 in the controlled diet group. Supine % time pH < 4 and the number of episodes were not significantly different between day 1 and day 2 in either group. 9/41 (22%) patients in the free diet group compared to only 5/44 (11%) patients of the controlled diet group had discordant classification between the 1st and 2nd 24 hour recording periods using composite score or total % time pH < 4 (p=0.2).

Conclusion: Patients on a controlled diet have no significant day-to-day variability in any parameter of Bravo pH monitoring. Patients without diet restrictions have significant variability in composite score, total and upright % time pH < 4, and post-prandial % time pH < 4. Patients undergoing esophageal pH testing should follow a restricted diet during the monitoring period.

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THE ACID AND THE PAIN: DIAGNOSING AND TREATING GERD

J. H. Aron, MD, MA,[1] A. Al-Juburi, MD[2]. 1. Internal Medicine, University of California Davis Medical Center, Sacramento, CA; 2. Gastroenterology, University of California Davis Medical Center, Sacramento, CA.

Purpose: The aim of our study was to determine the accuracy of a historical diagnosis of GERD by clinicians at UC Davis Medical Center compared to the gold standard, pH study.

Methods: The records of 88 consecutive patients referred to UCDMC for pH study were reviewed retrospectively. These patients were diagnosed as having or not having GERD by history prior to the pH study. Data included age, sex, BMI, indication for pH study, whether a diagnosis of GERD was present prior to the study, and the pH study result. Sensitivity, specificity, positive predictive value, and negative predictive value were calculated for a historical diagnosis of GERD compared to pH study result. Sensitivity was defined as the number of patients diagnosed with GERD by history that had a positive pH study result divided by this population plus the number of patient that did not have a diagnosis of GERD by history but had a positive pH study result. Specificity was defined as the number of patients that did not have a diagnosis of GERD by history that had a negative pH study result divided by this population plus the number of patients that had a diagnosis of GERD by history but a negative pH study result.

Results: Among 88 patients, 75 (85%), had a diagnosis of GERD by history, while 66 (75%) had a diagnosis of GERD by pH study. Of the 75 patients who had a diagnosis of GERD by history, 60 (80%) had their diagnosis confirmed by pH study. Of the 13 patients who did not have a diagnosis of GERD by history, 6 (46%) had a positive pH study. The sensitivity of the diagnosis of GERD by history when compared to pH study was 91%, (95% CI: 84.1%-97.9%). The specificity was 32%, (95% CI: 22%-42%). The positive predictive value was 80%. The negative predictive value was 54%.

Conclusion: The positive predictive value of 80% for a diagnosis by GERD by history and the low specificity supports following the ACG guidelines for diagnosis and treatment of GERD. These guidelines recommend starting with PPI trial, then progressing to EGD, pH study, and manometry if PPI trial is not successful. Our data suggest that failure to follow the guideline can lead to missed diagnosis and over prescribing of PPIs, which lead to increased morbidity and health care costs. A further large-scale prospective investigation is warranted.

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ESOPHAGEAL THICKNESS IN NORMAL ESOPHAGUS: ENDOSCOPIC ULTRASOUND (EUS) ASSESSMENT

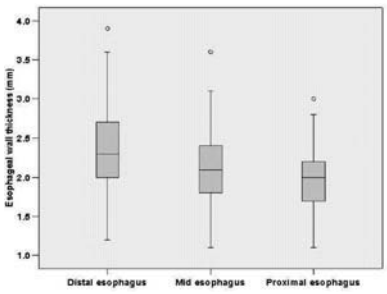
K. R. Gill, MD, M. S. Ghabril, MD, L. H. Jamil, MD, S. A. Gross, MD, T. Woodward, MD, M. B. Wallace, MD, H. Wolfsen, MD, S. R. Achem, MD, M. Raimondo, MD. Gastroenterology, Mayo Clinic, Jacksonville, FL, Jacksonville, FL.

Purpose: Studies have reported that esophageal wall thickness (EWT) measured by endoscopic ultrasound (EUS) may be increased in various esophageal disease states compared to normal esophagus. These studies have usually evaluated the average thickness in the diseased and the normal esophagus. However, the variance in the EWT in normal esophagus with respect to the anatomical location, age and gender is not known. The purpose of the prospective study was to evaluate the differences in the total esophageal thickness in the normal esophagus at different anatomical locations, by age and gender.

Methods: EWT for 53 consecutive adult patients (Mean age 64 years, range 45-72, 37 females) was measured in distal (DE), mid (ME) and proximal (PE) esophagus by using radial EUS. The EWT was defined as the distance between the balloon-mucosal interphase to the outermost hyperechoic layer. The measurements for DE were taken 2 cm above the gastroesophageal (GE) junction, ME 8 cm above GE junction and PE as 2 cm below upper esophageal junction for each patient. The patients with any esophageal symptoms, esophagitis or esophageal motility abnormalities were excluded. The mean EWT among DE, ME and PE was compared using Wilcoxon signed ranks test. The age and gender correlation to EWT was evaluated using Pearson correlation test.

Results: The mean (standard deviation) EWT was 2.3 (0.6) for DE, 2.1 (0.5) for ME and 2.0 (0.4) for DE. Statistically significant differences were observed in mean EWT for DE compared to ME, ($P<0.001$) and PE ($p<0.001$). (Figure) No Difference was observed in the mean EWT between ME and PE (P=0.3). A weak positive correlation of EWT with age was observed for PE (r=0.33, p=0.01) and ME (r=0.29, p=0.04), but not for DE. No correlation between gender and EWT were obsereved.

Conclusion: The EWT varies among normal patients depending on the anatomical location and age. This normal variance should be taken into account while studying EWT in normal versus diseased esophagus like Barrett's esophagus and eosinophilic esophagitis



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USE OF CRACKER SWALLOW FOR DETECTION OF MOTILITY ABNORMALITY ON HIGH-RESOLUTION MANOMETRY

I. Nastaskin, MD,[1] J. Abedi, PhD,[2] C. L. Bowlus, MD,[1] J. C. Garcia, MD[1]. 1. Gastroenterology and Hepatology, University of California, Davis, Sacramento, CA; 2. School of Education, University of California, Davis, Sacramento, CA.

Purpose: Recent studies suggested usefulness of additional solid swallows to identify motility abnormality. The aim of this study is to assess the use of cracker swallows in addition to wet swallows for enhanced identification of motility abnormality.

Methods: Thirty six channel high-resolution manometry (HRM) testing was performed using 10 wet swallows (5cc of water each) and 10 cracker swallows (1/2 Ritz cracker each). The swallows were considered ineffective if the distal pressure was < 30 mmHg, and simultaneous if the onset velocity was >8 cm/s. Abnormal esophageal manometry was defined as the presence of ≥ 30% ineffective and/or ≥ 20% simultaneous contractions

Results: The data from 91 consequtive patients (59F, average age of 53) evaluated for dysphagia (47%), heartburn (68%), epigastric pain (32%), chest pain (34%), and cough (21%). Sensitivity of cracker swallows to detect dysmotility was 44% and specificity of 96% with likelihood ratio of 13, positive predictive value of 88% and negative predictive value of 74%. During wet

and cracker swallows patients with epigastric pain had significantly higher prevalence of abnormal motility for both wet (p = 0.008) and cracker (p = 0.0001) swallows.
Conclusion: Addition of cracker swallows has potential to identify abnormal motility not detected by wet swallows but further clinical significance needs to be determined. Epigastric pain is likely to have significant esophageal dysmotility.

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PATHOPHYSIOLOGY OF UPRIGHT VS. SUPINE GASTROESOPHAGEAL REFLUX: USE OF HIGH-RESOLUTION ESOPHAGEAL MANOMETRY, GASTRIC EMPTYING SCINTIGRAPHY, AND ESOPHAGEAL pH MONITORING
A. Fehring, MD,[1] Z. Ramzan, MD,[1] A. H. Maurer, MD,[2] J. Richter, MD,[1] R. Fisher, MD,[1] F. Friedenberg, MD,[1] H. P. Parkman, MD[1]. 1. Medicine, Temple University School of Medicine, Philadelphia, PA; 2. Radiology, Temple University School of Medicine, Philadelphia, PA.
Purpose: Gastroesophageal reflux is typically differentiated into upright and supine reflux; the underlying pathophysiologic alterations might be different for these two conditions. In particular, delayed gastric emptying may contribute to upright (post-prandial) reflux and low LES pressure might contribute to supine reflux. Aim: To investigate physiologic alterations contributing to upright vs supine gastroesophageal reflux by comparing results of high resolution manometry and gastric emptying (GE) scintigraphy in patients with upright versus supine reflux.
Methods: We reviewed results for all patients from 1/2006 through 12/2007 who underwent: (1) high-resolution manometry; (2) esophageal pH testing (off acid suppressive medications) and; (3) gastric emptying scintigraphy. Upright and supine reflux were defined as the % time pH <4.0; cutoffs are >8% of upright time or >3% of supine time, respectively. Using the E-sleeve, end expiratory (EE) pressure was defined as LES pressure, whereas end inspiratory (EI) pressure minus EE was defined as crural diaphragm pressure. Four hour gastric emptying was performed using Tc-99 EggBeaters®.
Results: 78 patients (11 M, 66 F) met study criteria (mean age 42; range 16 – 80y). By pH testing, 48 patients had no reflux whereas 30 patients met reflux criteria (10 upright reflux only, 8 supine reflux only, 12 combined upright and supine reflux). In 11 patients a hiatal hernia was identified; hiatal hernia size correlated inversely with both upright and supine LES pressures (r=-0.303; p=0.01 and r=-0.314; p=0.007, respectively) but not with reflux. LES pressures and crural diaphragm pressures (EI-EE) did not differ in any group (upright reflux, supine reflux and combined reflux) compared to patients without reflux (all p >0.05). Of the 48 patients without reflux, 17 (35.4%) had delayed GE and 31 had normal GE, whereas of the 30 patients with reflux, 11 (36.7%) had delayed GE and 19 had normal GE (p=0.9). Compared to patients without reflux, gastric emptying at 2hours was significantly delayed in patients with upright reflux (p=0.009) but not in patients with supine reflux or combined reflux.
Conclusion: In this series of symptomatic patients, upright gastroesophageal reflux was associated with delayed gastric emptying. Prokinetic agents may be useful as additive therapy for this patient subset. Hiatal hernia size correlated with LES pressure; however, LES pressure or presence of hiatal hernia was not associated with reflux.

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DIFFERENCES IN GERD PATIENTS EVALUATED BY PRIMARY CARE PHYSICIANS AND GASTROENTEROLOGISTS
W. D. Chey, MD,[1] B. Nojkov, MD,[1] R. Saad, MD,[1] S. Adlis, MS,[2] M. Shaw, MD[2]. 1. University of Michigan Medical Center, Ann Arbor, MI; 2. Park Nicollet Clinic, Minneapolis, MN.
Purpose: Most gastroenterologists (GIs) feel that the widespead availability of proton pump inhibitors (PPIs) and open access endoscopy have changed the type of patients referred to their practices for gastroesophageal reflux disease symptoms. We performed an analysis to better understand differences in characteristics of GERD patients seen by primary care physicians (PCPs) vs. GIs.
Methods: We performed a post-hoc analysis from a trial which evaluated the efficacy of PPI therapy in patients with heartburn. Pts with heartburn at least twice per week referred for EGD from PCPs or GIs completed validated surveys including: Digestive Health Symptom Index (DHSI – upper & lower GI symptoms, higher scores=worse symptoms), Reflux Disease Questionnaire (RDQ-severity and frequency of GERD symptoms, higher scores=worse symptoms), QOLRAD (disease-specific QoL, higher score=better QoL), SF-12 (generic QoL, higher score=better QoL) and BSI (assessment of psychological symptoms, higher score=more psychological distress). IBS was defined as >3 Manning criteria on DHSI and psychological distress as a BSI>63. Data from patients referred by PCPs and GIs were compared using standard statistical methods.
Results: One hundred-eleven GERD patients were enrolled (PCP=41, GI=70). Key findings from the questionnaires stratified by referring provider (PCP vs. GI) are provided in the table. Patients referred for EGD by GIs had significantly more severe GERD symptoms by RDQ (p=0.028) and pain by DHSI (p=0.042). GERD pts referred by GIs were also more likely to have co-morbid IBS (p=0.035), dysmotility symptoms (p=0.037), worse disease specific (p=0.004) & generic (p<0.015) QoL, and pschological distress (p=0.030).
Conclusion: GERD patients seen by GIs are indeed a more severely affected and complex population than those encountered in primary care. Patients seen by GIs are characterized by more severe GERD symptoms, a greater likelihood of functional co-morbidities, impairments in QoL, and co-morbid psychological distress. These inherent differences in patient populations have important implications for healthcare utilization and response to therapies directed at GERD symptoms.

	PCP	GI	P-value
RDQ GERD score	14.0	18.0	0.028
DHSI - Dysmotility	22.9	30.2	0.037
DHSI - Pain	33.1	41.0	0.042
Total QOLRAD score	4.28	3.55	0.004
SF-12 - Mental	51.0	45.1	0.014
SF-12 - Physical	49.0	42.6	0.002
BSI - Global severity	53.1	58.0	0.030

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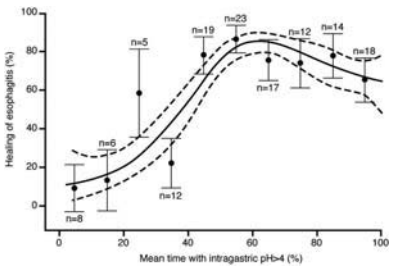
A MODEL OF HEALING OF LA GRADE C AND D EROSIVE ESOPHAGITIS: IS THERE A THRESHOLD PERCENT TIME PH>4 FOR MAXIMAL HEALING?
P. O. Katz, MD,[1] D. Levine, MD,[2] K. Röhss, PhD,[3] O. Junghard, PhD,[3] M. Åstrand, PhD,[3] T. Lind, MD[3]. 1. Albert Einstein Medical Center, Philadelphia, PA; 2. AstraZeneca, Wilmington, DE; 3. AstraZeneca R&D, Mölndal, Sweden.
Purpose: To characterize the relationship between percent time with intragastric pH>4 and patients achieving complete healing of erosive esophagitis (EE), and to determine if there is a threshold percent time pH>4 for maximal healing.
Methods: This is an exploratory analysis of data from a proof-of-concept study (ClinicalTrials.gov identifier: NCT00206180; AstraZeneca study code: D9612L00062) in adults with endoscopically verified Los Angeles (grade C or D) EE (Aliment Pharmacol Ther 2007;25:617-28). Patients were treated with 2 different doses of esomeprazole (10 or 40 mg once daily for 4 wks, chosen in random order) in an attempt to achieve a range of intragastric pH levels. All patients with evaluable EE healing and 24-h intragastric pH monitoring on day 5 were included in the final analysis. A curve was fitted to data using piecewise quadratic logistic regression. Point summaries using 10% increments of percent time pH>4 were computed for purposes of graphic illustration.
Results: Data were available from 134 patients. While overall the percent time pH>4 correlated with greater EE healing, the curve displayed a non-linear function (Figure). Maximum healing rates, defined as the mean percentage of patients completely healed in each pH group, were achieved at approximately 60% time pH>4. Acid suppression above this apparent threshold did not yield further increases in EE healing rates.
Conclusion: Healing of EE (LA grade C and D) at 4 wks appears to reach a threshold after which increased healing cannot be achieved despite an increase in number of hours of pH control. The apparent pH-healing threshold of pH>4 for 60% of the day may or may not be due to randomness and small sample sizes, and warrants further clinical study with a larger patient group.



Fitted curve (including 95% confidence region) of EE healing and observed mean EE healing rates in 10% intervals of time with intragastric pH>4. Error bars indicate standard error of the mean.
Disclosure - Katz: Consultant, Grant/Research Support - AstraZeneca All other authors: Employees - AstraZeneca
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DIFFERENCES IN ADULT VS. PEDIATRIC ONSET EOSINOPHILIC ESOPHAGITIS

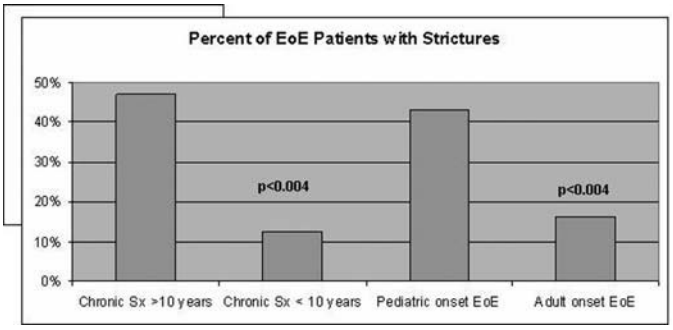
C. Krishnamurthy, MD,[3] K. Thomas, BS,[1] M. Go, MD,[2] J. C. Fang, MD,[1] K. Peterson, MD, MSci[1]. 1. Gastroenterology, University of Utah, Salt Lake City, UT; 2. Gastroenterology, VA, Salt Lake City, UT; 3. Internal Medicine, Intermountain Health Care, Murray, UT.

Purpose: Originally described in children, there are increasing reports of eosinophilic esophagitis (EoE) in adults. It is unclear if adult onset EoE differs from pediatric onset EoE or if both are the manifestations of the same pathophysiologic process. Few studies have investigated possible differences in clinical features of EoE between these two age groups. Aims: To examine the differences in clinical EoE manifestations based on age of onset and duration of symptoms.

Methods: Retrospective chart analysis was performed on all EoE patients at our institution within the last 24 months. Patients completed a validated allergy, reflux, dysphagia score and symptom duration questionnaires. Endoscopy with 2 sets of four quadrant biopsies were performed (along with dilatation if significant strictures were present (lumen <15mm)). Peripheral eosinophil count and IgE levels were also obtained. EoE was defined as >20 eosinophils per HPF on endoscopic biopsy plus symptoms of chest pain, dysphagia or food impaction. Chronic dysphagia was defined as symptom duration greater than 10 yrs. We defined pediatric onset EoE as symptom onset prior to age 18 yrs. Comparisons were made between pediatric and adult onset EoE for allergy history, IgE levels, peripheral eosinophila, and endoscopic findings, significant strictures, and symptom duration.

Results: 59 patients were identified with EoE. Average age was 40 yrs (std. dev. 13.7yr). 13/59 had (25.4%) pediatric onset EoE. Mean duration of symptoms was 9 years (range 2 months-50yrs). 16/59 patients (27.1%) had significant strictures. There was no significant difference in allergy history, IgE levels, peripheral eosinophilia and endoscopic findings between adult and pediatric onset EoE. Patients with either chronic symptoms or pediatric EoE had a greater probability of a significant stricture ($p < 0.004$ respectively).

Conclusion: We found no differences in adult onset vs. pediatric onset EoE with regards to allergy, IgE levels, peripheral eosinophilia and endoscopic findings. Eosinophilic esophagitis appears to be the same disease affecting persons at different ages. Adult patients with long duration of symptoms and/or pediatric onset EoE were more likely to have significant strictures. Early diagnosis and treatment of EoE is important and may potentially prevent stricturing disease.



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AN OPEN-LABEL, MULTICENTER STUDY OF RABEPRAZOLE SAFETY AND EFFICACY FOR GASTROESOPHAGEAL REFLUX DISEASE (GERD) IN ADOLESCENTS

Y. Lu, MD,[1] T. Gunasekaran, MD,[2] I. Haddad, MD,[3] S. Varughese, MS,[1] R. Kao, MS,[1] C. Thompson, MD,[4] G. Rossiter, MD[1]. 1. Eisai Global Clinical, Ridgefield Park, NJ; 2. Lutheran General Children's Hospital, Park Ridge, IL; 3. Northeastern Ohio University College of Medicine, Youngstown, OH; 4. Eisai Global Clinical, London, United Kingdom.

Purpose: Rabeprazole (RAB) therapy for GERD in adults is well established. Although pharmacokinetics of RAB was investigated in adolescents, this is the first report of the use of RAB in the treatment of GERD in this age group. This multicenter, open-label, US study assessed the safety and efficacy of RAB for treating GERD in adolescents.

Methods: Subjects aged 12–16 years with clinically diagnosed symptomatic GERD or suspected or endoscopically proven GERD were randomized to receive RAB 10 mg or 20 mg QD for 8 weeks, with a follow-up visit 2 weeks post drug discontinuation. Safety evaluations included vital signs, physical examinations, laboratory tests, and adverse events (AEs). Efficacy variables included change from baseline in GERD symptom frequency and severity, quality-of-life (QOL), and antacid use.

Results: The study enrolled 111 subjects (10 mg, n=54; 20 mg, n=57; mean age, 14 years). In the 10- and 20-mg dose groups, 31 (57.4%) and 35 (61.4%) subjects, respectively, reported AEs, most of which were mild to moderate. Eight subjects in each group (10 mg, 14.8%; 20 mg, 14.0%) experienced AEs possibly or probably related to RAB. One SAE (mood swings) was reported and considered not related to rabeprazole. AEs in ≥5% of subjects in either group were pharyngolaryngeal pain, headache, cough, upper respiratory tract infection, nasal congestion, nasopharyngitis, diarrhea, nausea, bronchitis, pharyngitis, abdominal pain upper, chest pain, otitis media, and sinusitis. No subject discontinued from the study due to AEs. No changes in laboratory values, vital signs and weight suggested a clinically relevant effect of RAB. Both RAB doses decreased the frequency and severity of daytime and nighttime GERD symptoms. Significant increases in QOL scores ($P<0.05$) were observed. No meaningful differences from baseline in antacid use were reported.

Conclusion: RAB was well tolerated in adolescent subjects, with a safety profile consistent with that in adults. RAB also effectively relieved GERD symptoms and improved QOL in this age group. This study was supported by Eisai Global Clinical, Ridgefield Park, NJ.

Disclosure - Thirumazhisai Gunasekaran, MD - Eisai consultant; Shanti Varughese, MS - Eisai employee; Richard Kao, MS - Eisai employee; Caroline Thompson, MD - Eisai employee; Guillermo Rossiter, MD - Eisai employee; Yufang Lu, MD - Eisai employee

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ABLATION OF SHORT SEGMENT BARRETT ESOPHAGUS (BE) USING BARRX DEVICE: PRELIMINARY RESULTS OF A PROSPECTIVE STUDY

Y. H. Shaib, MD, MPH, S. Abudayyah, MD, MPH, D. Y. Graham, MD. Gastroenterology, Baylor College of Medicine/ Michael E Debakey VA Medical Center, Houston, TX.

Purpose: To evaluate the safety and outcomes of patients with short segment BE after ablation with BARRX.

Methods: Patients with confirmed short segment (1-6 cm) BE identified in our database were invited to participate in this prospective study. Patients received ablative treatment using the BARRX ablation balloon. As part of our protocol patients had a follow up endoscopy at 5-8 weeks after treatment. We report the outcomes at the first follow up endoscopy. Endoscopic response (ER) was reported as any improvement in the size of BE after treatment that is notable on comparing pre and post treatment endoscopy pictures. Complete histological response (CHR) was reported as the absence of BE in any of the biopsies obtained (suspicious areas and normal looking mucosa at 1 cm intervals).

Results: So far 30 patients have been enrolled. Of those, 23 have completed the first visit f/u and are included in this analysis. Mean age was 60.8 years and most patients were males (95.6%) and White (87.0%). Sixteen patients (70%) had no dysplasia and the rest had low grade dysplasia (LGD) or were indeterminante for dysplasia. The mean length of the barretts segment was 3.2 cm (range: 1-6 cm). All patients had some ER with improvement noted on endoscopy after the first treatment. Seven patients (30.4%) had CHR. The mean length of the BE segment was not different between the group with CHR and the partial responders (2.3 vs. 3.6 cm, p=0.3). None of the patients with complete endoscopic response had intestinal metaplasia on biopsies. No significant adverse events were reported in any of the patients.

Conclusion: BARRX ablation is safe for the treatment of patients with short segment BE. Complete histological clearance of BE is possible from the first treatment session but most patients will require more than one session. Follow up studies are required to evaluate long term outcomes

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THE ACCURACY AND SAFETY OF ESOPHAGEAL CAPSULE ENDOSCOPY FOR THE DIAGNOSIS OF BARRETT'S ESOPHAGUS: A SYSTEMATIC REVIEW AND META-ANALYSIS

T. Wilkins, MD,[1] D. Raina, MD,[1] S. Chamberlain, MD,[1] M. Ebell, MD[2]. 1. Medical College of Georgia, Augusta, GA; 2. University of Georgia, Athens, GA.

Purpose: Esophageal capsule endoscopy is a technological advancement in the visualization of the esophagus and may have utility in screening patients for Barrett's esophagus (BE). The aim of this study was to systematically review the evidence relating to the diagnostic accuracy and safety of esophageal capsule endoscopy.

Methods: Relevant articles were identified by searching Medline through October 2007 and through manual searches of bibliographies of each citation. Our search identified 10 articles; 5 of these met inclusion criteria. Two authors independently abstracted data on study and patient characteristics. Data regarding study design and results were abstracted by two authors for each study who resolved discrepancies by consensus. Descriptive statistics and weighted means were performed for major outcomes. Heterogeneity was defined as $p > 0.05$ using a chi-squared test. Summary estimates are only reported when there was not significant heterogeneity.

Results: Four studies with a total of 355 patients provided usable data for the meta-analysis. One study with 109 patients used 4 frame per second (FPS) technology, two studies with 196 patients used 14 FPS technology, and one used both (25 patients each). The weighted mean age of participants was 54.7 years and 35% of patients were women. In general, the quality of the studies was poor. Study flaws included small sample size, lack of consistent or high quality reference standard, and spectrum bias, e.g. all referred to a specialty center. For all studies combined there was significant heterogeneity for the summary estimates of sensitivity, specificity, positive likelihood ratio (LR+) and negative likelihood ratio (LR-) for the diagnosis of BE. For the studies using the 14 FPS technology currently available to clinicians, the summary estimate (SE) of sensitivity was 77% (95% CI 65% to 86%). There was significant heterogeneity for the SE of specificity, with a range of 75% to 100%. Summary estimates for LR+ and LR- were 3.98 (95% CI 2.2 to 7.1) and 0.32 (95% CI 0.21 – 0.50) respectively. Area under the receiver operating characteristic curve for diagnosis of BE was 0.90 (SE 0.13) for all four studies (using both 4 and 14 FPS technology) and 0.84 (SE 0.04) using for studies using 14 FPS technology. The complication rate was 0.5% with two capsule retentions requiring intervention.

Conclusion: Esophageal capsule endoscopy has acceptable diagnostic accuracy for BE and appears safe; however, the rate of capsule retentions appears high and warrants further study. Patient preference and cost of this technology compared to upper endoscopy should be considered in any large-scale screening program for BE. Additional studies are needed to confirm our findings.

Disclosure - Dr. Wilkins - Consultant for Given Imaging

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LONG-TERM SAFETY OF TAK-390MR, A PPI WITH A NOVEL DUAL DELAYED RELEASE FORMULATION, IN GERD PATIENTS

A. Dabholkar, MD, P. Yu, PhD, M. Paris, MD. Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL.

Purpose: TAK-390MR, a novel modified release formulation of TAK-390 (an enantiomer of lansoprazole), produces a 2-peaked plasma drug concentration-time profile designed to extend the duration of acid suppression. TAK-390MR releases drug over a longer period than conventional delayed release PPIs and thereby requires higher daily doses. The purpose of this study was to assess the long-term safety of TAK-390MR using interim data from an ongoing randomized, open-label, extension study in nonerosive GERD patients.

Methods: Patients received TAK-390MR 60 mg (N=153) or 90 mg (N=160) orally once daily (QD) for 12 months (mo). Between-group comparisons were made using Fisher's exact test for adverse events (AEs), and 1-way ANOVA for mean changes of vital signs and laboratory val-

ues from baseline to mo 1, 3, 6, 9 & 12. Gastric biopsies performed at mo 12/Final Visit were tabulated by treatment and between-group comparisons were made using Fisher's exact test.
Results: Of 313 patients receiving study drug, 71% and 66% on TAK-390MR 60 and 90 mg experienced ≥1 AE. The most frequently reported treatment-emergent AE (TEAE) was upper respiratory infection (14% for each group); only 1 was considered to be related to study drug. Other frequently reported TEAEs in the 60- and 90-mg groups, respectively, were GI & abdominal pain (7%/13%); diarrhea (12%/8%); nausea & vomiting (8%/11%); headaches (7%/9%); musculoskeletal & connective tissue signs & symptoms (7%/4%); flatulence, bloating & distention (4%/7%). No statistically significant differences between treatment groups or dose-related trends were observed. 197 patients (105 on 60 mg/92 on 90 mg) completed ≥48 wks treatment; 12% discontinued due to an AE (most were GI related). The most common AE leading to premature discontinuation was diarrhea (3%). 19 patients (6%) reported serious TEAEs; 2 were considered possibly related to treatment (chest pain; auditory hallucination). 3 patients died of unrelated causes (asthma, leukemia, sepsis). As expected with PPI therapy, increases in mean fasting serum gastrin were seen at mo 3, 6, 9, and 12 and were not dose related. No clinically meaningful treatment differences were seen in labs, vital signs or gastric biopsy results. No reports of clinically concerning changes of adenocarcinoma or ECL-cell hyperplasia were observed on gastric biopsies.
Conclusion: TAK-390MR 60 and 90 mg QD were well tolerated for up to 12 mo. The safety profile was similar to that seen in trials with lansoprazole.
Disclosure - Aruna Dabholkar, Peter Yu and Maria Paris all are TAP employees, TAP Pharmaceutical Products Inc., Lake Forest, IL.

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RADIOFREQUENCY ABLATION OF BARRETT'S ESOPHAGUS MAY EXACERBATE EOSINOPHILIC ESOPHAGITIS

G. A. Ergun, MD,[1] A. O. Barroso, MD,[1] M. R. Schwartz, MD,[2] A. Ertan, MD[1]. 1. The Methodist Hospital, Houston, TX; 2. Baylor College of Medicine, Houston, TX.

Purpose: It is unknown not known if the co-existence of eosinophilic esophagitis (EoE) and Barrett's metaplasia or (± dysplasia) affects the safety or efficacy of endoscopic ablation therapy or the activity of EoE.
Methods: Two patients with dysplastic Barrett's underwent circumferential and focal endoscopic radiofrequency (RF) ablation. Patient 1 was treated for EoE (biopsies >80 eos/hpf) with PPIs, fluticasone, and elimination diet. Biopsies during treatment for EoE and prior to ablation demonstrated inactive significantly milder EoE (focally>20 eos/hpf). Patient 2 was treated with PPIs but was not treated for EoE as pre-ablation biopsies were not interpreted as EoE, although numerous focally increased intraepithelial eosinophils and reactive changes were noted.
Results: Patient 1, (male, age 49) who had low grade dysplasia (LGD) and focal high grade dysplasia (HGD) underwent RF ablation (Halo 360 followed by single application of Halo 90) to a 10 cm segment of BE. Post ablation, squamous epithelium was demonstrated throughout and biopsies showed marked infiltration of squamous epithelium with eosinophils (>80 eos/hpf). Patient 2 (male, age 60) had LGD and underwent RF ablation (Halo 360 followed by single application of Halo 90) to a 5 cm BE segment. Post ablation, squamous epithelium was demonstrated throughout the esophagus with biopsies showing marked eosinophilic infiltration (too numerous to count), significantly greater than in the two previous sets of biopsies. Neither patient complained of reflux symptoms or dysphagia following ablation.
Conclusion: Successful RF ablation was performed in 2 two patients with long segment dysplastic Barrett's. Both cases demonstrated marked eosinophilic infiltration in the neosquamous epithelium following ablation therapy. In one case, the patient had already been successfully treated for EoE. In the other, the patient did not have obvious preexisting EoE but perhaps subclinical or smoldering disease. While we speculate that RF injury is the insult that results in worsening of histology, this injury did not adversely affect the development of the neosquamous epithelium and did not result in clinical symptoms. It does raise questions as to what factors causing esophageal injury aggravate EoE. As the incidence of EoE continues the to rise, the clinical significance of this observation as it relates to endoscopic ablative techniques remains to be seen.

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BODY MASS-INDEX (BMI) IS ASSOCIATED WITH INCREASED REFLUX EPISODES BUT DOES NOT AFFECT LOWER ESOPHAGEAL SPHINCTER (LES) CHARACTERISTICS

L. F. Arevalo, MD, M. F. Vela, MD, MSCR, N. Sharma, MD, A. Agrawal, MD, J. Freeman, RN, D. Castell, MD. Gastroenterology & Hepatology, Medical University of South Carolina, Charleston, SC.

Purpose: There is a known association between obesity and GERD, thought to be due to increased intragastric pressure and spatial separation between the lower esophageal sphincter and crural diaphragm. Our aim was to investigate the relationship between BMI, LES characteristics, and frequency of reflux episodes.
Methods: All patients undergoing both esophageal manometry and 24-hour impedance-pH reflux monitoring in 2007 -2008 for whom BMI was available were included. We evaluated the association between BMI and the following variables: (a) Manometric lower esophageal sphincter (LES) characteristics: resting pressure, total length, intraabdominal length, (b) impedance-pH results: % time pH<4 (upright, recumbent, total), number of reflux episodes (acid, nonacid, total) in upright and recumbent position. Association was evaluated by Pearson correlation.
Results: 154 patients were included: 35% male, mean age 53.5 years, mean BMI = 30 (range: 18 – 55). 39% patients obese (BMI > 30), 34% overweight (BMI 25-29.9), 27% normal (BMI < 25). 74 % patients tested on acid suppressive therapy (rest off medication). Correlations between BMI and evaluated variables shown in the table. There was a significant but weak positive correlation between BMI and total number of reflux episodes (r= 0.163, p=0.04); BMI did not correlate with % time pH<4 (possibly because most patients were tested on acid suppressive medication). BMI did not correlate with LES resting pressure, total length, or intraabdominal length.
Conclusion: Our data shows a positive correlation between BMI and total number of reflux episodes (acid + nonacid). BMI does not correlate significantly with LES pressure or intraabdominal length, suggesting that the increased reflux may be TLESR mediated because basal LES conditions do not appear to be affected.

Correlation between BMI and LES characteristics	*r* value	*p* value
LES resting pressure	0.108	0.189
LES total length	-0.009	0.919
LES intra-abdominal length	0.012	0.883
Correlation between BMI and reflux episodes		
% time pH<4 - upright	0.115	0.161
% time pH<4 - recumbent	0.036	0.66
% time pH<4 - total	0.06	0.464
no. acid reflux episodes - upright	0.139	0.089
no. acid reflux episodes - recumbent	0.106	0.195
no. acid reflux episodes - total	0.152	0.065
no. non-acid reflux episodes - upright	0.056	0.493
no. non-acid reflux episodes - recumbent	-0.057	0.486
no. non-acid reflux episodes - total	0.042	0.606
total no.reflux episodes	0.163	0.045*

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TAK-390MR, A NOVEL DUAL DELAYED RELEASE FORMULATION OF A PPI, IS BIOEQUIVALENT WHEN ADMINISTERED AS GRANULES SPRINKLED OVER APPLESAUCE OR AS AN INTACT CAPSULE

R. Czerniak, PhD, M. Vakily, PhD, J. Wu, PhD. Research & Development, TAP Pharmaceutical Products Inc., Lake Forest, IL.

Purpose: Alternative oral delivery options are useful for patients who prefer or require administration flexibility. TAK-390MR is a Dual Delayed Release™ (DDR) formulation of TAK-390, an enantiomer of lansoprazole, designed to prolong the plasma concentration-time profile of TAK-390 following oral once-daily administration. We compared the bioavailability of TAK-390MR given as granules from an intact capsule sprinkled over applesauce vs an intact capsule.
Methods: In this phase 1, open-label, 2-way crossover study, 60 healthy subjects (18–55 years of age) were randomized to 2 sequence groups that determined the order in which they received a single oral dose of TAK-390MR 90 mg administered as granules from a capsule sprinkled over 1 tablespoon of applesauce or as an intact capsule with 240 mL of water after approximately a 10-hour fast. The dosing in each of the 2 study periods was separated by a ≥5 day washout interval. Blood samples were collected predose and up to 24 hours postdose in each period. Plasma concentrations were analyzed by a validated LC-MS/MS assay. Pharmacokinetic parameters were estimated using standard noncompartmental methods. Bioequivalence was assessed by point estimates and 90% CIs for the ratios of the central values for the C_{max}, AUC_t, and AUC_∞ of TAK-390 using ANOVA.
Results: A total of 50 subjects were included in the bioequivalence analysis. The mean concentration-vs-time profiles for the 2 regimens were nearly superimposable, with the characteristic 2 plasma peaks resulting from the DDR technology. The point estimates and corresponding 90% CIs for the ratios of the central values of the C_{max}, AUC_t, and AUC_∞ of TAK-390 following administration of TAK-390MR as granules sprinkled over applesauce vs as an intact capsule were within the bioequivalency range of 0.80–1.25. TAK-390MR was well tolerated in healthy subjects in this study by either mode of administration.
Conclusion: Bioequivalence was demonstrated when TAK-390MR was administered either as granules sprinkled over applesauce or as an intact capsule. This alternative mode of administration may benefit patients who prefer or require an alternate route of administration.

Bioavailability of TAK-390 After Administration of TAK-390MR 90 mg as Granules Sprinkled Over Applesauce Relative to an Intact Capsule

Parameter	Point Estimate	90% Confidence Interval
C_{max}	0.94	0.870-1.023
AUC_t	0.95	0.894-1.000
AUC_∞	0.94	0.890-0.995

Disclosure - Richard Czerniak, Majid Vakily and Jingtao Wu all are TAP employees, TAP Pharmaceutical Products Inc., Lake Forest, IL.

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ESOPHAGEAL FOOD BOLUS IMPACTION: EXPERIENCE FROM A SINGLE TERTIARY CARE CENTER

A. Malhotra, MD,[1] A. S. Naniwadekar,, MD,[2] L. Scott, MD[1]. 1. Gastroenterology and Hepatology, UTMB, Galveston, TX; 2. Internal Medicine, UTMB, Galveston, TX.

Purpose: Esophageal food bolus impaction is a common condition requiring emergent endoscopy. Esophageal mucosal biopsy at the time of the initial endoscopy is not done routinely. An increasing number of cases of eosinophilic esophagitis (EE) have been recognized in adults and in recent studies upto 50% of patients presenting with impaction are found to have (EE) on histopathological examination. We aimed to study the epidemiology and etiology of food bolus impaction in our population at a tertiary care university medical center in Texas.

Methods: All patients undergoing endoscopy for esophageal food bolus impaction at our Institution between the years 2005-2008 were identified from the EndoPro software (Pentax). Data on a total of 31 patients was collected through a detailed chart review

Results: The patients' median age was 60 (range: 24-84). Twenty patients (64.5%) were hypertensive and 8 (25.8%) had diabetes mellitus. The majority (77.4%) were Caucasian,12.9% Hispanic and 9.6% African American. One patient (3.2%) needed general anesthesia while the rest required moderate sedation. Twenty patients (68.5%) had severe dysphagia with inability to tolerate secretions. Thirty patients had meat bolus and only one had fish bone impaction. The most common site of impaction was the distal esophagus (19 patients-61.3%) while 7 (33.6%) had proximal and 5 (16.1%) had mid-esophagus impaction. Five patients (16.1%) needed the use of an overtube for removal. All disimpaction procedures were successful. No perforation was noted. Benign strictures (8 patients, 25.8%) and esophagitis from reflux (7 patients, 22.6%) were the most common diagnosis. The etiology was unclear in 13 patients (41%). Hiatal hernias were identified in 12 patients (38.7%). Three patients had severe mucosal injury while 8 (25.8%) had moderate injury and 20 (63%) had no or mild injury. Radiological imaging preceded the endoscopy in 23 (74.2%) patients. An initial biopsy was carried out in only 5 patients, one of whom turned out to have EE. A minority of only 3 patients turned up for a repeat EGD (at variable intervals) and one of them turned out to have EE on biopsy at that time

Conclusion: Earlier studies pointing out EE as an important cause of food bolus impaction in adult patients coupled with the dismal rate (9.6%) of patients turning up for a repeat EGD make a strong case for pursuing esophageal biopsies on initial endoscopy. This would improve our ability to identify and treat EE and possibly minimize the incidence of food bolus impaction in the future.

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ROLE OF ENDOSCOPIC ULTRASOUND (EUS) IN STAGING OF ESOPHAGEAL CANCER – A RETROSPECTIVE STUDY OF 200 PATIENTS

T. Meister, MD, P. Lenz, MD, H. S. Heinzow, MD, H. Ullerich, MD, W. Domschke, MD, PhD, D. Domagk, MD, PhD. Department of Medicine B, University of Muenster, Muenster, Germany.

Purpose: The treatment of Esophageal cancer is still a challenging task. Despite advances in surgical, actinotherapeutic and chemotherapeutic modalities this tumor has still one of the worst survival outcomes of all gastrointestinal (GI) tumors. Endoscopic Ultrasound (EUS) has revolutionized esophageal cancer staging. The aim of our retrospective study was to assess the accuracy of EUS of patients undergone surgical resection for esophageal cancer.

Methods: In our study we analyzed 200 patients with the diagnosis esophageal cancer made in the years 1992- 2006. 117 patients undergoing complete surgical resection could be included. Preoperative Endosonography was performed using a conventional or miniprobe EUS with mechanical probes. Accuracy of EUS for T and N stages was compared to pathohistological staging. Statistical analysis was applied for statistical significance.

Results: The mean age of the patients included in the study was 76.5 years (SD 18.5, range 29-94). 52% of the tumors were adenocarcinomas, 49% squamous cell carcinomas. The esophageal tumor distribution in the upper, middle and lower esophagus was 8%, 30% and 62%, respectively. Overall EUS staging accuracy was 50 % for T stage and 81% for N stage. The accuracy stage T1-2 vs. T3-4 was 58.3% and 92.3%. In tumor stage I 52.9% of the tumors were overstaged, in tumor stage II 64.5% of the tumors were overstaged. The lowest overstaging could be measured in tumor stage T3, with only 25.6%. Lymph node staging revealed following results: N-stage sensitivity 80.9%, specificity 29.6% with a positive predictive value of 72.9%.

Conclusion: Endosonography is established as a staging tool for esophageal cancer. Our data show that the accuracy of EUS is 58.3% for tumor stage 1-2 with consecutive tendency of overstaging. This might be improved in the future by new generation electronic EUS probes. Accuracy for tumor stages 3-4 has already gained an acceptable accuracy of more than 90%.

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THE ESOPHAGEAL INLET PATCH: MORE THAN AN INCIDENTAL FINDING?

S. R. Prakash, MD, D. S. Estores, MD, FACG, H. Worth Boyce, MD, MACG, K. Downes, MPH, M. Hatler, BS. Joy McCann Culverhouse Center for Esophageal and Swallowing Disorders, University of South Florida College of Medicine, Tampa, FL.

Purpose: The "Inlet Patch" (IP) is ectopic gastric mucosa located in the proximal esophagus. There are limited data regarding IP and its clinical significance. Many gastroenterologists are unaware of IP. Most find IP incidentally during endoscopy. However, this finding may have a significant clinical impact. The goal of our study is to evaluate the relationship between the IP and various conditions in the upper GI tract.

Methods: Data collected from 6,263 patients with and without IP seen at USF Center for Esophageal and Swallowing Disorders over 20 yrs were reviewed. IP was present in 104 patients. Chi-square and Fisher exact test were utilized to evaluate for an association between inlet patch, gender, race, and specified esophageal condition. The conditions include: squamous cell carcinoma, esophageal web, Barrett Esophagus (BE), NSAID exposure, pill-induced esophagitis, eosinophilic esophagitis, duodenal ulcer, gastric ulcer, reflux stricture, perforations, adenocarcinoma, neoplasm, dysplasia, respiratory symptoms, dysphagia, polyps, globus sensation, esophageal spasm, and achalasia.

Results: In descending order we found a statistical association between IP and the following: esophageal web; BE; strictures; adenocarcinoma; and dysplasia. We found no association between IP and the following: achalasia; esophageal spasm; globus sensation; dysphagia; respiratory symptoms; pharynx/larynx neoplasm; perforations; stricture; and gastric ulcer. We were unable to determine an association between IP and squamous cell carcinoma, NSAID exposure, pill-induced esophagitis, duodenal ulcer, and non-reflux strictures. Furthermore, a chi-square analysis revealed inlet patch to be more common and statistically significant in males (p=0.003) with no significant ethnic preference (p=0.398).

Conclusion: There appears to be a strong relationship between IP and conditions related to increased esophageal acid exposure. This phenomenon could be explained by the production of acid by metaplastic gastric epithelium. Based on our experiences, a slow, staged (1 cm/sec) mucosal examination and pullback of the endoscope and the addition of narrow band imaging allows improved visualization and detection of the IP.

Ethnicity	Patients with Inlet Patch	Total Patients	Percentage with Inlet Patch
Caucasian	91	4987	1.8
African American	2	232	0.86
Hispanic	1	176	0.57
Other	0	16	0

Gender	Patients with Inlet Patch	Total Patients	Percentage with Inlet Patch
Males	66	3047	2.1
Females	38	3196	1.2

Condition	Chi-square value	P-Value	Inlet Patch Risk
Esophageal Web	84.41	<0.001	14times
Barrett Esophagus	98.92	<0.001	6times
Stricture	21.88	<0.01	3times
Adenoocarcinoma	5.27	=0.02	2times
Dysplasia	73.79	<0.001	7times
Achalasia	1.65	0.198	No Association Detected

Inlet Patch and Esophageal Conditions, Ethnicity,and Gender

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CAN ACID CONTROL BE IMPROVED WITH A MODIFIED-RELEASE FORMULATION OF A PROTON PUMP INHIBITOR?

K. Röhss, PhD,[1] C. Wilder-Smith, MD,[2] M. Sagar, PhD,[1] S. Bokelund-Singh, MSc,[1] P. Nagy, MD,[1] D. Levine, MD,[3] T. Lind, MD[1]. 1. AstraZeneca R&D, Mölndal, Sweden; 2. Brain-Gut Research Group, Gastroenterology Group Practice, Berne, Switzerland; 3. AstraZeneca, Wilmington, DE.

Purpose: Modified-release (MR) formulations of proton pump inhibitors (PPIs) are being investigated in attempts to improve upon the well-documented clinical efficacy of conventional formulations of PPIs by further increasing acid control. This dose-finding study assessed the pharmacodynamics of a once-daily MR formulation of esomeprazole (ESO), compared with conventional capsule formulations given twice daily (bid).

Methods: *Helicobacter pylori* negative healthy adults were enrolled into this single-center, open, 5-way crossover study (AstraZeneca study code: D961CC00006). Subjects were randomized to standardized sequences of five 5-day ESO treatment periods (40mg MR, 60mg MR, 80mg MR [given in the morning], 20mg bid and 40mg bid) separated by washout periods of ≥13 days. 24-h intragastric pH monitoring was performed under standardized conditions on day 5 of each treatment period. Statistical analysis comprised a mixed model ANOVA with fixed factors for period, sequence and treatment and a random factor for subject within sequence.

Results: The per-protocol analysis of acid control included 39 subjects (20 males; mean age, 34y). The results are presented in the table below. Esomeprazole was well tolerated and the safety evaluation did not raise any safety concerns.

Conclusion: These results indicate that, among MR doses tested, 60mg MR appears to be optimal for daytime, nighttime, and 24-h acid control. With the same daily dose of ESO, MR technology provided less 24-h and nighttime pH control than bid dosing.

Mean percentage time with intragastric pH>4

	Esomeprazole				
	40mg MR	60mg MR	80mg MR	20mg bid	40mg bid
0-24h	66.4*	77.1†	79.0*†	72.3	85.5*‡$
0-14h (daytime)	81.8	87.9*†	91.2*†	78.9	90.5*
14-24h (nighttime)	44.6*	61.4†	61.6†	63.4	78.7*‡$

*** = significant difference vs 20mg bid; = significant difference vs 40mg MR; = significant difference vs 60mg MR; $ = significant difference vs 80mg MR**

Disclosure - Dr Wilder-Smith - Grant/Research Support: AstraZeneca All other authors - employees of AstraZeneca

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DOSE AND TIMING EFFECTS OF ESOMEPRAZOLE ADMINISTRATION ON 24-H INTRAGASTRIC pH CONTROL

K. Röhss, PhD,[1] C. Wilder-Smith, MD,[2] M. Sagar, PhD,[1] S. Bokelund-Singh, MSc,[1] P. Nagy, MD,[1] D. Levine, MD,[3] T. Lind, MD[1]. 1. AstraZeneca R&D, Mölndal, Sweden; 2. Brain-Gut Research Group, Gastroenterology Group Practice, Berne, Switzerland; 3. AstraZeneca, Wilmington, DE.

Purpose: In clinical practice, GERD symptoms may persist despite once-daily (qd), standard-dose proton pump inhibitor (PPI) treatment. This prompts consideration of divided-dose regimens, alternative timing, or doubling the dose (dosed qd or twice daily [bid]) to attempt to improve clinical efficacy. This pharmacodynamic study explored this issue by comparing acid control (time with intragastric pH>4) with various esomeprazole (ESO) dosing regimens.

Methods: *Helicobacter pylori* negative healthy adults were enrolled into an open, randomized, 7-way crossover study of 5-day oral treatment periods (with ≥13-day washout periods): ESO 20mg or 40mg qd 30min before breakfast (09:00h) or dinner (17:30h); ESO 40mg qd at bedtime (23:00h); and ESO 20mg or 40mg bid 30min before breakfast and dinner. 24-h pH profiles were evaluated under standardized conditions on day 5 of each treatment period. Statistical analysis

comprised a mixed model ANOVA with fixed factors for period, sequence and treatment, and a random factor for subject within sequence.
Results: The per-protocol analysis of acid control included 33 subjects (18 males; mean age, 30y) (Table). Overall, ESO 20mg or 40mg qd pre-breakfast was more effective than pre-dinner dosing for 24-h and daytime acid control. However, pre-dinner dosing provided greater nighttime acid control compared to the respective doses given pre-breakfast (not significant for the 20mg dose) . ESO 40mg qd at bedtime provided comparable 24-h and daytime acid control as pre-dinner dosing, but was less effective for nighttime acid control. Twice-daily dosing improved the 24-h acid-suppression effect.
Conclusion: Dose and timing of ESO can be tailored to attempt to provide acid control appropriate for the symptom pattern of individual patients. However, the clinical relevance of this empiric approach for the overall population of GERD patients is uncertain.

Percentage time with intragastric pH>4 with different dosing times

	ESO 20mg qd		ESO 40mg qd			ESO 20mg bid	ESO 40mg bid
	Breakfast	Dinner	Breakfast	Dinner	Bedtime		
24h	56.5*	46.3*†	68.8*	59.5*†	55.2*†	76.5	87.1*
0-14h (daytime)	68.5*	46.6*†	80.9	52.3*†	50.6*†	86.4	91.4
14-24h (nighttime)	39.8*	46.8*	51.4*	70.6†$	60.5†	62.8	81.0*

*** = significant difference vs 20mg bid; = significant difference vs breakfast; $ = significant difference vs bedtime**
Disclosure - Dr. Wilder-Smith - Grant/Research Support: AstraZeneca All other authors - Employees: AstraZeneca
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IS TWO-CHANNEL SYNCHRONIZED, MULTIPOINT GASTRIC ELECTRICAL PACING (MGP) ABLE TO CONTROL UPPER GI SYMPTOMS AND IMPROVE GASTRIC EMPTYING IN PATIENTS WITH SEVERE DIABETIC GASTROPARESIS?
2008 ACG Presidential Poster Award Recipient
I. Sarosiek, MD,[1] J. Forster, MD,[2] K. Roeser, BS,[1] R. McCallum, MD[1]. 1. Internal Medicine, Kansas University Medical Center, Kansas City, KS; 2. Surgery, Kansas University Medical Center, Kansas City, KS.
Purpose: To investigate the efficacy and safety of MGP in gastroparesis (GP) symptom control, clinical outcome and gastric emptying (GET) in diabetic gastroparetics (DMGP) after 6 weeks of active stimulation.
Methods: Twenty-two patients (11F, 11M), mean age 42 (range 27-60) with severe symptoms of DMGP and delayed GET were enrolled in double-blind, placebo controlled study, with 6 weeks of open-label, active stimulation being the first phase of the study. Mean duration of DM 18 (range 4-39) and mean duration of GP was 6 (range 1-16). While implanting Enterra device (internal stimulator which was not activated during MGP trial) 4 pairs of temporary pacing wires were placed on the serosa the of greater curvature of the stomach at 3 to 16 cm proximal to the pylorus. Two of these pairs (16 & 12 cm from the pylorus) were utilized for stimulation and other two (8 & 4 cm from the pylorus) were used for recording. Two-channel, synchronized MGP stimulation was implemented for approximately 6 weeks, prior to randomization of the patient into the blinded phase. Mean total symptom score (TSS) of severity and frequency of GI-GP symptoms, 4 h GET, weight, BMI, HbA1c, and days of hospitalization were obtained at baseline and after 6 weeks of active MGP pacing.
Results: Mean TSS of severity of upper GI symptoms decreased from 20 to 6.3 (p=0.01) and frequency was reduced from 22 to 7.5 (p=0.01) with maximum being 28 points. Mean weight 165 to 159 lbs., BMI 26 and HbA1c level of 8.3 remained stable. Gastric emptying (n=16) improved in 11 (68%) and normalized in 5 (25%). Mean GET at 2 h decreased from 71% at baseline to 58% (p=0.087) and 4 h retention changed from 45 to 25% (p=0.012) after stimulation, while the glucose level on day of GET was 161 mg% at baseline and 185 mg% at follow up visit. Mean number of days of hospitalization for two months before and after implant was reduced from 6 to 2 (p<0.01). Stimulation parameters utilized in this project were: two-channel phased pacing at 1:1 the intrinsic frequency (range 3 to 3.5), pulse width of 100 to 300 ms, amplitude of 0.5 to 2 mA with a phase lag of 8-10 seconds.
Conclusion: 1. 6 weeks of gastric electrical stimulation using two-channel high energy, low frequency can pace the stomach using an external device and significantly improves upper GI symptoms of GP as well as accelerates and even normalizes GET in diabetics with severe GP. 2. This advanced therapy for gastroparesis paces the stomach by using serosal electrodes while the Enterra device relies on neurostimulator parameters which do not change gastric motility.
Disclosure - Dr. McCallum-Consultant: GI Stimulation, Inc.
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EFFICACY OF A NITAZOXANIDE BASED REGIMEN FOR *HELICOBACTER PYLORI* (HP) ERADICATION
E. Campitelli, MD,[1] A. Paszkiewich, MD,[1] D. Ibarra, MD,[1] R. Ronchetti, MD,[1] N. Lago, MD,[1] R. Corti, MD,[2] E. Chaar, MD,[3] C. Di Risio, MD,[3] T. Barcia, MD,[4] H. Rubio, MD[4]. 1. Hospital Aeronáutico, Buenos Aires, Argentina; 2. Hospital Udaondo, Buenos Aires, Argentina; 3. Hospital Penna, Buenos Aires, Argentina; 4. CEED, Buenos Aires, Argentina.
Purpose: Clarithromycin and metronidazole are widely utilized as the basis of HP therapy. Unfortunately, increasing microbial resistance to these drugs is one of the most prevalent reasons for HP treatment failures. Nitazoxanide is a thiazolide antibiotic with demonstrated activity against protozoa and anaerobic bacteria including HP. Nitazoxanide exerts its clinical efficacy on HP by interfering with anaerobic energy metabolism at the PFOR enzyme. *In vitro* data indicates nitazoxanide and tizoxanide (an active metabolite) are highly active against HP, including metronidazole resistant strains. Other studies have demonstrated that nitazoxanide does not possess mutagenic activity, cause DNA fragmentation, or promote cross-resistance with metronidazole. This study evaluates the efficacy and safety of nitazoxanide in conjunction with lansoprazole and amoxicillin in a 7-day regimen for the eradication of HP in previously untreated patients.
Methods: An open label study to evaluate the safety and efficacy of a one-week triple drug regimen of nitazoxanide, lansoprazole and amoxicillin in adult patients with treatment naïve HP. All patients had Acute Superficial Gastritis (ASG) and active HP infection. The diagnosis of HP was confirmed by both ^{14}C-Urea Breath Test (^{14}C-UBT) and endoscopic biopsy. Overall 100 patients were enrolled in the study. Patients received nitazoxanide 500 mg BID, lansoprazole 30 mg BID and amoxicillin 1000 mg BID for 7 days. Proton pump inhibitors were discontinued post treatment and therapeutic efficacy was assessed by ^{14}C-UBT performed between the 6th and 8th week after the completion of therapy. Eradication was defined as a negative ^{14}C-UBT, and failure as a positive ^{14}C-UBT at the 6 to 8 week follow-up assessment. Evaluations for safety and tolerability of the regimen were made via interview and physical examination.
Results: One hundred patients diagnosed with HP infection and ASG were enrolled in the study (57 female, 43 male) with an average age of 53 years (range 20 to 65 years). Nine patients were excluded for protocol deviation (6 out of 9 patients excluded were ^{14}C-UBT negative at baseline). Eighty-two out of ninety-one evaluable patients (90.1%) were ^{14}C-UBT negative at the 6th to 8th week and were considered cures. Treatment compliance was good, and no major side effects were recorded.
Conclusion: A 7-day regimen of nitazoxanide, lansoprazole, and amoxicillin twice daily is effective for the eradication of HP infection in treatment naïve patients. Due to increasing resistance patterns observed with clarithromycin and metronidazole, nitazoxanide may offer a valuable alternative to these medications as a foundation for HP therapy.
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P402

EFFICACY AND SAFETY OF S-1-BASED CHEMOTHERAPY IN PATIENTS WITH ADVANCED GASTRIC ADENOCARCINOMA: A SINGLE INSTITUTE RETROSPECTIVE STUDY
M. Izumiya, Medical doctor, Bachelor of Arts, G. Sakai, Medical doctor, Y. Yamagishi, MD, PhD, M. Adachi, MD, PhD, H. Higuchi, MD, PhD, H. Takaishi, MD, PhD, T. Hibi, MD, PhD. Internal Medicine, Keio University, Tokyo, Japan.
Purpose: Recently, S-1, an oral fluoropyrimidine, has become the key drug for several malignancies in Japan. In 2007, the report from a randomized phase III study (SPIRITS trial) supports a significant benefit for combined S-1 plus cisplatin over S-1 alone in terms of both response rate (54%) and median survival among the Japanese patient, and the result of a global prospective randomized trial, the FLAGS, which randomly assigns patients to cisplatin plus either 5-FU or S-1 is expected to be announced in 2009. The purpose of this study is to evaluate the efficacy and toxicity of S-1 combination therapy for unresectable and metastatic gastric cancer.
Methods: 95 patients with advanced gastric adenocarcinoma with no prior chemotherapy were examined retrospactively. We analyzed the following; 1) Median survival time (MST) of the patients treated with systemic chemotherapy and that of the patient with BSC alone. 2) MST and the response rate (RR) for the first line therapies; S-1 alone, S-1 plus cisplatine, S-1 plus taxanes, and S-1 plus irinotecane, etc. 3) Safety and toxicity of above mentioned regimens. 4) The efficacy of the second-line chemotherapy.
Results: Between May 2002 and March 2008, 75 (78.9% of total patients with gastric malignancy) patients received chemotherapy and were eligible for safety and efficacy evaluation. Median age for patients with chemotherapy was 63.4 years old, while it was 76 for BSC group. MST for chemotherapy group was 687 days, while it was 269 days for those with BSC. Among the chemotherapy received groups, MST of patients with S-1 alone, S-1 plus cisplatin, S-1 plus Taxians, S-1 plus irinotecane were 327,923, 308, and 265 days, respectively and RR were 28.6% (4 / 7), 43.75 % (14 / 32), 40 % (4 / 10), 25% (1 / 4) for the each group . Most favorable second line therapy was irinotecane based regimens which was administered to patients failed with S-1 plus cisplatin regimen. Incidence of adverse events was 48 % and included granulocytopenia, malaise, elevation of creatinine. No serious adverse events were observed.
Conclusion: Chemotherapy with S-1 included regimen were well tolerated for patients with unresectable and metastatic gastric adenocarcinoma.

P403

EFFECT OF ENDOSCOPIC ULTRASOUND'S TECHNOLOGY IN DIAGNOSING VARIOUS T STAGES OF GASTRIC CARDIA CANCERS: A META-ANALYSIS AND SYSTEMATIC REVIEW

S. R. Puli, MD, J. BK Reddy, MD, M. L. Bechtold, MD, A. Choudhary, MD, M. R. Antillon, MD. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO.

Purpose: Prognosis and treatment of patients with gastric cardia (GC) cancers depends largely on the T staging of the tumor. The published data on affect of changes in endoscopic ultrasound's (EUS) technology over accuracy of T staging in GC cancer patients has been varied. The aim of this meta-analysis was to evaluate the affect of EUS technology in diagnosing various T stages of GC cancers.

Methods: Study Selection Criteria: Only EUS studies confirmed by surgery were selected. EUS criteria used for T staging were: T1- the tumor invades the lamina propria or submucosa but does not invade the muscularis propria, T2- the tumor invades but does not extend beyond the muscularis propria, T3- the tumor invades the perirectal tissues but does not invade adjacent organs, and T4- the tumor invades adjacent structures. Data collection & extraction: Articles were searched in Medline, Pubmed, Ovid journals, CINAHL, International pharmaceutical abstracts, old Medline, Medline nonindexed citations, and Cochrane controlled trial registry. Two reviewers independently searched and extracted data. The differences were resolved by mutual agreement. 2 X 2 tables were constructed with the data extracted from each study. Statistical Method: Meta-analysis for the accuracy of EUS was analyzed by calculating pooled estimates of sensitivity, specificity, likelihood ratios, and diagnostic odds ratio. EUS studies were grouped into three time periods to standardize the change in EUS technology and also to standardize the change in EUS criteria for tumor staging. These time periods were 1984 to 1994, 1995 to 2000, and 2001 to 2008. Pooling was conducted by both the Mantel-Haenszel method (fixed effects model) and by the DerSimonian Laird method (random effects model). The heterogeneity of studies was tested using Cochran's Q test based upon inverse variance weights.

Results: Initial search identified 2,340 reference articles. Of these, 239 relevant articles were selected and reviewed. 7 studies (N=442) which met the inclusion criteria were included in this analysis. Pooled accuracy data for T staging over last two decades is shown in table 1. The pooled estimated by fixed and random effect models were similar. The p for chi-squared heterogeneity for all the pooled accuracy estimates was > 0.10.

Conclusion: EUS has excellent specificity to accurately diagnose T staging in a patient with GC cancer. The sensitivity of EUS is higher for advanced disease than early disease. This sensitivity of EUS for early diseases did not improve over the past two decade. Further refinements in EUS criteria and technology are needed to improve the sensitivity to diagnose early disease.

Shows the affect of EUS technology to diagnose various T stages of GC cancers

	Year	No: of Studies	Pooled Sensitivity	Pooled Specificity	Pooled LR+	Pooled LR-	Pooled DOR
T1	1990 to 2000	3	91.5% (81.3 - 97.2)	97.5% (92.8 - 99.5)	26.2 (9.9 - 68.8)	0.11 (0.05 - 0.23)	251.6 (67.6 - 935.8)
	2001 to 2008	3	88.5% (77.8 - 95.3)	100% (98.2 - 100.0)	97.7 (19.8 - 481.4)	0.15 (0.06 - 0.35)	760.9 (127.2 - 4551.2)
T2	1990 to 2000	4	86.2% (74.6 - 93.9)	94.6% (89.6 - 97.6)	14.3 (7.1 - 28.9)	0.16 (0.08 - 0.30)	97.9 (32.9 - 290.4)
	2001 to 2008	3	57.4% (42.2 - 71.7)	92.6% (88.3 - 95.7)	7.1 (2.8 - 18.0)	0.49 (0.33 - 0.76)	16.9 (4.1 - 69.7)
T3	1990 to 2000	4	91.5% (82.5 - 96.8)	94.8% (89.5 - 97.9)	12.7 (6.6 - 24.4)	0.11 (0.06 - 0.22)	174.9 (55.1 - 555.3)
	2001 to 2008	3	81.4% (70.3 - 89.7)	88.7% (83.3 - 92.8)	5.5 (3.2 - 9.4)	0.26 (0.07 - 0.99)	46.2 (5.2 - 406.9)
T4	1990 to 2000	4	91.5% (81.3 - 97.2)	96.6% (92.2 - 98.9)	19.3 (9.1 - 41.1)	0.11 (0.05 - 0.23)	197.5 (59.5 - 655.1)
	2001 to 2008	3	100% (15.8 - 100.0)	99.5% (97.5 - 100.0)	71.7 (15.8 - 325.8)	0.25 (0.05 - 1.38)	337.9 (21.9 - 5215.7)

P404

UPPER GASTROINTESTINAL PATHOLOGY IN NON-CIRRHOTIC HEPATITIS C PATIENTS

R. Rahman, MD, MPH,[1] Y. Ostrinsky, MD,[2] S. Hadique, MD,[1] U. Sundaram, MD[2].
1. Department of Medicine, West Virginia University School of Medicine, Morgantown, WV;
2. Division of Digestive Diseases, West Virginia University School of Medicine, Morgantown, WV.

Purpose: Background: Treatment of Hepatitis C (HCV) frequently results in anemia. This not infrequently necessitates reduction or discontinuation of treatment. Other upper GI tract etiologies may contribute to worsening of this anemia. Thus, it is important to look for sources of potential blood loss in patients undergoing treatment of HCV. **Aim:** To examine the upper gastrointestinal tract pathology in non-cirrhotic HCV patients.

Methods: Non-cirrhotic patients who were diagnosed with HCV and had EGD in West Virginia University Hospitals from 2000 to 2007 were identified from electronic record system along with age and sex matched controls. Control group one (C1) was composed of patients without any liver diseases and control group two (C2) was composed of non-cirrhotic liver disease patients without HCV. Baseline hemoglobin (Hgb), hematocrit, pathology, *H. pylori* status and EGD findings were analyzed. A two-tail p-value of 0.05 or less was considered for statistical significance.

Results: A total of 58 non-cirrhotic HCV cases, that also had an EGD, were identified. Of these cases, 40 (69%) were male and 18 (31%) were female. The average age was 49 years. The most common indications for EGD in the HCV group were gastroesophageal reflux disease (40%), anemia (31%) and abdominal pain (22%). There was no statistical difference between the HCV group and 2 sets of controls for indications for an EGD. At base line, HCV group had significantly lower Hgb than C1 or C2 (12.14 vs. 13.4 vs. 13.5 gm/dl respectively, p-value < 0.001). Every patient in the HCV group had pathology on EGD, compared to 88% of C1 and 79% of C2 patients (p-values <0.05 and <0.001 respectively). The study group had significantly higher number of upper gastrointestinal pathology on EGD than C1 or C2 (122 vs. 69 vs. 82 respectively, p-value < 0.001). Eighty percent of the HCV cases had more than one finding on EGD as compared to 60% of C1 and 54% of C2 (p-values < 0.05). The distributions of EGD findings between cases vs. C1 and C2 were as follows: gastritis 48 vs. 31 vs. 27, p-value < 0.001; esophagitis 42 vs. 26 vs. 22, p-value < 0.001; duodenitis 27 vs. 14 vs. 11, p-value < 0.001. No statistical difference was observed on *H. pylori* status between the study and two control groups.

Conclusion: Non-cirrhotic HCV patients have significantly more upper gastrointestinal pathology than other non-cirrhotic liver disease patients or patients without any liver disease. This may contribute to worsening of anemia from HCV treatment. Thus, there might be a potential benefit to treating non-cirrhotic HCV patients with proton pump inhibitors before treatment for HCV.

P405

SYMPTOMS DURING GASTRIC EMPTYING SCINTIGRAPHY: CORRELATION OF SYMPTOMS WITH DELAYED GASTRIC EMPTYING

P. Sachdeva, MD,[1] Z. Ramzan, MD,[1] A. H. Maurer, MD,[2] R. Fisher, MD,[1] H. P. Parkman, MD[1].
1. Medicine, Temple University School of Medicine, Philadelphia, PA; 2. Radiology, Temple University School of Medicine, Philadelphia, PA.

Purpose: The relationship of symptoms to delayed gastric emptying has been difficult to determine. In most studies, symptoms have been based on patient recall. Recording symptoms during gastric emptying scintigraphy (GES) may be useful to probe the relationship of symptoms to gastric emptying. AIM: To determine if symptoms during daily life correlate with symptoms and gastric emptying results during GES.

Methods: 104 patients undergoing GES between January and April 2008 filled out the Patient Assessment of GI Symptoms Questionnaire (PAGI-SYM; which includes the Gastroparesis Cardinal Symptom Index [GCSI]) asking about symptoms during the 2 weeks prior to the test. During the 4 hour GES with EggBeaters meal (preprandially and at 0, 0.5, 1, 2, 3, 4 hours postprandially), subjects graded six dyspeptic symptoms (abdominal pain, bloating, stomach fullness, nausea, belching and abdominal burning) on a scale of 0 to 3. The sum of the six symptoms represents a Total Symptom Score (TSS) at each time point.

Results: 60 patients met the inclusion criteria (no gastric surgery, no medications affecting gastric emptying, completing the questionnaire); 30 patients had normal gastric emptying, 25 patients had increased gastric retention at 2 and/or 4 hours and 5 patients had rapid gastric emptying. All patients had an increase in symptoms during GES (Baseline TSS of 2.9, 1 hour TSS of 5.3; p<0.001) with a similar increase in patients with delayed and normal GE. There was a moderate correlation between the GCSI nausea/vomiting sub-scale score in the 2 weeks prior to the test and nausea during the test (0.5 hr: r=0.435; p=0.001; 1 hr: r=0.510; p<0.0001; 2 hr: r=0.554; p <0.0001: 4 hr: r=0.564; p<0.0001). The Post-Prandial Fullness and Bloating Sub-scales also showed similar results. In addition, the abdominal pain of the PAGI-SYM correlated with upper abdominal pain during the test (0.5 hrs: r=0.585; p<0.0001; 1 hr: r=0.482; p<0.0001; 2 hrs: r=0.384; p=0.004; 4 hr: r=0.488; p<0.0001). However, of all the symptoms recorded, the only association with gastric emptying data was seen between frequency of vomiting in the 2 weeks prior to the test and gastric retention at 0.5 (r=0.364; p=0.010) and 1 hrs (r=0.290; p=0.043), but not at 2 or 4 hours.

Conclusion: Symptoms in daily life as assessed with the PAGI-SYM correlated with symptoms during GES. There was a positive correlation between the frequency of vomiting in the 2 weeks prior to the test and gastric retention at 0.5 and 1 hrs but not with other symptoms recorded during the GES. Interestingly, although the later stages of gastric emptying (2 and 4 hours) are used to identify delayed gastric emptying, the early values of gastric emptying may be more helpful to associate symptoms to delayed gastric emptying.

P406

A SINGLE CENTER'S EXPERIENCE WITH EUS SURVEILLANCE OF GASTRIC GISTS

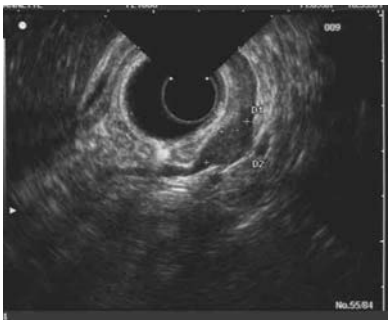
K. R. Canlas, MD, P. S. Jowell, MD, J. V. Obando, MD, D. Pavey, MD, M. S. Branch, MD, J. A. Evans, MD. Gastroenterology/Hepatology, Duke University, Durham, NC.

Purpose: To assess interval size change and management recommendations of gastric GISTs from index to surveillance EUS

Methods: A retrospective chart review of all EUS for presumed gastric GISTs was performed at Duke University Medical Center. Patients with at least one surveillance EUS performed during January 1, 2000 to November 1, 2007 were included. The following EUS findings were recorded: length of follow up, interval size change, use/yield of FNA, and number of exams. For each tumor, the width (x) and length (y) were used to calculate a cross sectional area [πxy (mm2)].

Results: Forty-five patients underwent at least one surveillance EUS for a presumed gastric GIST. The average time interval between index EUS and first surveillance was 16.53 months (+/- 12.97); range 1-59 months. Patients underwent an average of 2.44 (+/- 0.69) procedures within the 7 year interval. FNA was performed in 31.1% patients with a diagnostic yield of 50%: GIST (57.1%), leiomyoma (28.6%) and foveolar hyperplasia (14.3%). Surgical resection was recommended in 4 patients: increase in size on surveillance imaging (2), bleeding (1), referring surgeon's opinion (1). One patient elected for surgical excision. To date, two of the 5 patients have undergone resection. The presence of a GIST was confirmed by FNA in only on 1 of the surgically resected tumors. The tumor size on the surgical pathology specimens demonstrated similar measurements in comparison to the prior EUS measurements. The range in cross sectional area of the presumed GIST on index EUS was 220 mm2 - 1105 mm2. Twenty-five GISTS (55.6%) increased in size [average increase in size 59.8mm2 (30.9%)] after an average of 20.8 months between index and surveillance EUS. Stability in size was detected in 15.6% of patients and surveillance was discontinued.

Conclusion: In this small retrospective study, EUS was frequently utilized in the surveillance of presumed gastric GISTs. When performed, FNA had a poor diagnostic yield. Gastric GISTs are more likely to increase in size than remain stable through a surveillance interval. Continued surveillance of GISTs is recommended, however the optimal intervals remain unclear. Prospective studies are required and should be the focus of future investigation.



Gastric GIST

P407

REACTIVE GASTRITIS ASSOCIATED WITH INTRACELLULAR *OKADAELLA GASTROCOCCUS*: IMMUNOHISTOCHEMICAL AND ELECTRON MICROSCOPIC STUDIES

T. Okada, Dr,[1] K. Hori, Dr,[2] G. Adkins, Dr,[3] H. Miwa, Prof[4]. 1. Okada Medical Clinic, Spring Hill, QLD, Australia; 2. Endoscopic Center, Hyogo College of Medicine, Nishinomiya, Japan; 3. Sullivan Nicolaides Private Pathology, Taringa, QLD, Australia; 4. Internal Medicine, Hyogo College of Medicine, Nishinomiya, Japan.

Purpose: Reactive gastritis (RG) is known as chemical or reflux gastritis. It is the second commonest diagnosis made on gastric biopsy specimen in North America. Bile, urea, pancreatic secretions, alcohol, NSAIDs, and *Helicobacter pylori* (*Hp*) have been suggested as the cause of RG. However, some patients develop RG without these agents. *Okadaella gastrococcus* (*Og*) is an intracellular Gram-negative bacterium and is associated with various gastropathies. The aim of this study was to investigate if *Og* is associated with RG utilizing *Og* immunohistochemistry (IHC) and transmission electron microscopy (TEM).

Methods: The gastric biopsy specimens obtained at the time of esophago-gastro-duodenoscopy from 16 patients (M: F=3:13, age: 21-80 yrs) with the histological diagnosis of RG and free form NSAIDs, alcohol, smoking, and renal dysfunction were used. The formalin-fixed, paraffin-embedded specimens from 5 patients were examined with *Og* and *Hp* IHC. An avidin biotin peroxidase complex method with rabbit polyclonal antibodies against *Hp* (Dako) and *Og* were used. The specimens from 9 patients were examined under TEM.

Results: 9 (56.3%) patients were bile positive at the time of the endoscopy. 14 (87.5%) patients had gastric erosions. All specimens examined under TEM or *Og* IHC was found to be *Og* positive. *Og* was also found in the lamina propria including leukocyte, macrophage, vascular endothelial cells, and in the area of intestinal metaplasia. All patients were negative for *Hp*. No significant bile-associated mucosal damage was seen by TEM.

Conclusion: The presence of intracellular *Og* and gastric erosion in RG suggests the possible association. Further investigation is warranted to examine the present findings.

Disclosure - Prof. Miwa-Consultant: Takeda Pharmaceutical Co.,Ltd., Dainippon Sumitomo Pharma Co.,Ltd., AstraZeneca K.K., Eisai Co., Ltd., Astellas Pharma Inc.

P408

IS TOTAL GASTRECTOMY A GOOD OPTION FOR REFRACTORY GASTROPARESIS? ONE SITE EXPERIENCE

P. R. Saridena, MD,[1] R. A. Hejazi, MD,[2] I. Sarosiek, MD,[2] R. McCallum, MD[1]. 1. Bridgeport Hospital, Yale University, Bridgeport, CT; 2. Internal Medicine, Kansas University Medical Center, Kansas City, KS.

Purpose: Severe refractory gastroparesis (GP) is associated with disabling symptoms and frequent hospitalizations. Total gastrectomy (TG) is regarded as the last treatment option. The literature is focused on TG in settings of partial gastric resections and GP and not diabetics with an intact stomach. In the present analysis, we report our experience with TG offered to patients with severe GP who had failed standard treatment involving prokinetics, antiemetics, and even gastric neurostimulator (GES) with Enterra Therapy. The study attempts to define long-term benefits of TG in terms of its clinical outcome and status of quality of life (QOL).

Methods: More than 200 GP patients were implanted with GES over the last 10 years at our institution. A total of 9 (4%) of patients underwent TG as the last option to control their symptoms. Information from medical chart reviews, clinical visits, and telephone interviews were gathered to answer standardized basic questionnaires and VAS score (1-100%) was used to monitor changes in GI symptoms and QOL.

Results: There were 3 M, 6 F with mean age of 41 (26-9), 6 of them (65%) were diabetics (DM) and 3 were post-surgical (PS) GP. Average duration between GES and TG for DM was 2.5 years (range 1.0-3.5) and PS 1 year (0.5-2). Average follow-up (FU) post TG is 3.5 years (1-5 range). Systemic complications of DM resulted in decision to stop dialysis by two subjects, who subsequently died and one additional patient could not be interviewed (lost to FU). Hence, information from 6 subjects was available for evaluation. Feeding jejunostomy tubes (J-tubes) were placed at the time of TG, and 80% of them remained at FU evaluation. One DM patient lost 50 lbs after discontinuation of J-tube feedings. All others are stable with weight range of 125-130 lbs. They all are taking prokinetics/antiemetics and all required continuation of narcotics for generalized pain. All of them significantly reduced or eliminated completely the number of hospitalizations and ER visits. Their GP symptoms, specifically nausea and vomiting, improved on average 55% (range 40-80%) and all are nutritionally stable. They estimated 45-50% improvement with QOL and 100% of the interviewed patients did not regret the TG decision.

Conclusion: 1. 4% of our GES patients with continuing, uncontrolled GP symptoms required TG, including diabetics with intact stomachs. 2. This subgroup of GP patients was dominated by narcotic use as well as abdominal pain, and this continues after TG. 3. TG significantly improved their clinical outcome including symptom control and QOL as well and prevented frequent hospitalizations for vomiting. 4. Supplemental jejunal feedings remain a necessity in this group.

P409

A RETROSPECTIVE ANALYSIS OF THE MANAGEMENT OF DYSPEPSIA

S. Yoon, MD,[1] D. Greenwald, MD[2]. 1. Medicine, Montefiore Medical Center, Bronx, NY; 2. Gastroenterology, Montefiore Medical Center, Bronx, NY.

Purpose: Dyspepsia is a common complaint encountered in the outpatient clinic. Both the AGA and the ACG have published guidelines for the evaluation and management of dyspepsia. While these practice guidelines seek to streamline the evaluation and management of dyspepsia, actual clinical practice patterns are inconsistent. In this retrospective cohort study, we examine all patients with dyspepsia evaluated in the primary care setting within a calendar year with a special focus on those patients >55 yrs.

Methods: This is a retrospective cohort study of all adult patients seen in the primary care offices of a major metropolitan medical center during the calendar year 2006 with a primary or secondary ICD-9 diagnosis of dyspepsia. Data were obtained through electronic database searches as well as manual chart review.

Results: In 2006, a total of 239 patients with dyspepsia were evaluated. Of these, 100 patients were >55 yrs (42%). Among those patients >55 yrs, the average age was 67 yrs (range 56 to 97 yrs). There were more women compared to men (77% vs. 23%). 29% of dyspeptic patients also had a concomitant diagnosis of GERD. DM, hypertension, and hyperlipidemia were present in 31%, 71% and 41% of dyspeptic patients, respectively. 45% of dyspeptic patients underwent *H. pylori* serologic testing; 58% had a positive test. Anemia was present in 29% of women and 9% of men. Only 29% of patients were referred for EGD. When patients with GERD and NSAID use were excluded, 7 men and 22 women were identified; of these, 0/7 men (0%) and 5/22 women (23%) underwent EGD. PPIs were the acid suppressive therapy of choice; 74% of patients received at least one prescription for a PPI, H2RAs were used in 19% of patients. 42% of dyspeptic patients also were treated concomitantly with NSAIDs. Less commonly, oral steroids were prescribed in 3% of dyspeptic patients.

Conclusion: According to current published guidelines, any patient >55 yrs presenting with dyspepsia should undergo EGD. In our cohort, only 29% of patients were referred for EGD. More women than men were referred for EGD; the reason for this gender discrepancy remains to be elucidated. *H. pylori* test and treat was routinely utilized in this cohort of patients >55 yrs despite published guidelines that reserve this practice for patients <55 yrs without GERD or NSAID use. When the *H. pylori* test and treat strategy was employed, serologic testing was the sole diagnostic modality utilized. The clinical utility of best practice guidelines depends greatly on the health care provider's familiarity with those guidelines. A structured educational initiative directed toward primary care providers may improve adherence.

P410

INTRAGASTRIC ACID SUPPRESSING EFFECT OF PROTON PUMP INHIBITORS TWICE DAILY AT STEADY STATE IN HEALTHY VOLUNTEERS: EVIDENCE OF AN UNMET NEED?

Y. Yuan, MD, PhD, R. Hunt, MD, FRCPC, FACG, AGAF. Department of Medicine, McMaster University, Hamilton, ON, Canada.

Purpose: Proton pump inhibitors (PPIs) are the most effective medications for acid-related disorders but there are still some unmet needs with currently approved "delayed-release" (DR) PPIs. PPIs are commonly used twice daily (BID) when patients do not respond to standard, once-daily PPI or have nocturnal symptoms. However, little is known of the intragastric acid suppressing effect of PPIs BID especially in patients.

Methods: A comprehensive computer-aided literature search was conducted (PUBMED and MEDLINE up to Feb.2008) for published, English-language pharmacodynamic studies of intragastric acidity with standard doses of currently approved DR-PPIs used BID at steady state (5-8 days) in healthy volunteers, with intragastric pH obtained by pH-metry. Median pH, mean % pH <3, <4 in 24hr, daytime or night-time periods were collected and summarized. Since we did not aim to compare between individual PPIs only descriptive analysis was performed.

Results: In total, 16 studies with 31 arms (n= 6-30 per arm) met inclusion criteria providing data for 5 DR-PPIs (n= 439, some subjects counted more than once due to crossover design). Mean of median pH for 24 hr, day time and night-time periods, ranged from 4.68 to 6.40, 5.07 to 5.90, 4.63 to 6.04, respectively. Mean of mean % time pH <4 in 24 hr, day time and night-time periods ranged from 10.4 to 30.5, 7.0 to 23.7, 15.4 to 36.4, respectively (table). Mean of mean % time pH <3 for 24 hr, day time and night-time ranged from 5.2 to 18.8, 3.6 to 20.0, 5.0 to 27.5 respectively.

Conclusion: When standard dose DR-PPIs are given BID in healthy volunteers for 5-8 days, although 24 hr median pH attains ≥4.6, up to one third of the night-time may show increased intragastric acidity with 15-36% and 5-28% of the night-time having pH <4 and <3, respectively. Interestingly, esomeprazole 40mg BID in healthy volunteers still resulted in 15% of the night-time with intragastric pH <4. Thus, in those who reflux, this period of acidity is some 4 fold longer than the Johnson & DeMeester criterion for gastroesophageal acid reflux (distal esophageal pH <4.0 for more than 4.2% of the time). In patients who reflux and need PPI BID most will have pathological nocturnal reflux after midnight since the supine time is associated with more reflux events. Twice daily DR-PPIs may still not adequately control night time acidity in all patients.

Table: Mean % of time pH< 4 after standard dose PPIs BID at steady status (day 5-8) in healthy volunteers [mean (min-max) (arms, n)]

mean (min-max) (arms, n)	24 hr	Daytime	Night-time
Esomeprazole 40mg BID	15.2 (10.5-19.9) (2, 55)	19.0 (1, 25)	15.4 (14.6-16.3) (2, 55)
Esomeprazole 20mg BID	26.5 (26.0-27.0) (2, 38)	22.5 (15.0-30.0) (2, 38)	26.3 (20.8-31.9) (2, 38)
Rabeprazole 20mg BID	10.4 (4.5-16.2) (2, 23)	-	-
Lansoprazole 30mg BID	30.5 (25.0-36.0) (2, 22)	7.0 (1, 12)	35.1 (1, 12)
Omeprazole 20mg BID	19.1 (7.6-26.0) (3, 39)	23.7 (1, 16)	19.0 (8.9-28.3) (3, 38)
Pantoprazole 40mg BID	29.2 (1, 30)	-	36.4 (1, 30)

Disclosure - Dr. Hunt: Consulting or speaker's Bureau: AstraZeneca, Nycomed, Schering, Sidem/Steba Biotech; Research support: Nycomed, Schering, Sidem/Steba Biotech

P411

INTRAPYLORIC BOTULINUM TOXIN INJECTION FOR GASTROPARESIS: A META ANALYSIS

S. Chaudhry, MD, M. K. Ismail, MD. Gastroenterology, University of Tennessee, Memphis, TN.

Purpose: Gastroparesis is a significant problem affecting 10 to 15 million Americans. There have been various medical treatments available for gastroparesis with their limitations and inability to obliviate symptoms completely in majority of patients in long term. Intrapyloric injection of botulinum toxin has been proposed as an attractive treatment option in gastroparesis.

Methods: Electronic databases for medical literature (Cochrane Central Register of Controlled Trials, MEDLINE,CINAHL) related randomized controlled trials were searched from April 1960 up to April 2008. Two randomized controlled trials, with total of 55 patients, were identified. Review Manager (RevMan Version 5.0 Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2008) was used for statistical analysis.

Results: Pooled analysis for improvement in Gastroparesis Cardinal Symptom Index (GCSI) did not show any statistically significant improvement with intrapyloric botulinum toxin as compared to controls (relative risk [RR], 0.72; 95% confidence interval [CI], 0.15-1.27).Gastric emptying study (GES) could not be compared due to marked difference of method for measurement between two studies. However, none of the individual studies showed any statistical difference in GES with botulinum.

Conclusion: Intrapyloric injection of botulinum toxin does not improve GCSI score or gastric emptying study in pateints with gastroparesis.

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HEALING OF GASTRIC ULCERS ASSOCIATED WITH LOW-DOSE ASPIRIN USE IN PATIENTS CONTINUING TO TAKE LOW-DOSE ASPIRIN

J. L. Goldstein, MD,[1] L. J. Suchower, MA,[2] K. A. Brown, MD[2]. 1. University of Illinois at Chicago, Chicago, IL; 2. AstraZeneca LP, Wilmington, DE.

Purpose: Few published data exist on healing of gastric ulcers (GUs) associated with low-dose aspirin (LDA) use, despite the widespread use of LDA for prophylaxis of cardiovascular events. This exploratory, post hoc analysis evaluated the efficacy of esomeprazole and ranitidine for the healing of GUs associated with the use of LDA only (80–325 mg/d).

Methods: In 2 identically designed, double-blind, multicenter studies (SH-NEN-0005/-0006; *Am J Gastroenterol* 2005;100:2650-57; *Aliment Pharmacol Ther* 2007;26:1101-11), adult patients who screened negative for *Helicobacter pylori* infection, had confirmed GUs (diameter ≥5 mm but not >25 mm), and were receiving daily cyclooxygenase-2 (COX-2)–selective or nonselective nonsteroidal anti-inflammatory drugs (NSAIDs), including LDA only (80–325 mg/d), were randomized to receive oral esomeprazole 40 or 20 mg once daily or oral ranitidine 150 mg twice daily for 8 weeks. For both studies, patients continued to take their existing LDA/NSAID therapy for the study's duration. Patients underwent repeat endoscopy at week 8 to assess GU healing, the primary end point for both studies. For this post hoc analysis, data for both esomeprazole doses were combined, and the combined GU healing rates across studies were determined for the subset of patients taking LDA only. Week-8 GU healing rates in LDA-only patients were compared between the combined esomeprazole group and the ranitidine group.

Results: Of 809 patients in the combined intention-to-treat population, 88 patients were taking LDA only and were randomly distributed among the 3 treatment arms: esomeprazole 40 mg, n = 34; esomeprazole 20 mg, n = 34; and ranitidine 150 mg, n = 20. For the LDA-only group, the distribution of patients by daily LDA use was as follows: 80–81 mg, n = 23; 100–125 mg, n = 8; 160–162.5 mg, n = 7; 250 mg, n = 7; 325 mg, n = 43. At week 8, a statistically significant difference in GU healing rates was seen for esomeprazole versus ranitidine (Table).

Conclusion: In patients continuing to use LDA only, LDA-associated GUs were healed at a greater rate in patients treated with esomeprazole than ranitidine. These results are limited by the small sample size and the exploratory nature of this analysis. Given the widespread and increasing use of LDA, the trends reported in this analysis provide feasibility data to support further study.

Week-8 GU healing rates for patients continuing to use LDA only

LDA only	Once-daily esomeprazole groups (n = 68) [a]	Twice-daily ranitidine 150-mg group (n = 20)
GU healing rate, % (n)	94.1 (64)	75.0 (15)
95% CI, %	85.9-98.0	53.3-89.6
Δ in GU healing rate vs ranitidine, %	19.1	
P Value vs ranitidine	.026 [b]	

[a]Esomeprazole 20- and 40-mg dose groups combined. [b]Significantly different from ranitidine (Pearson's χ^2 exact test).

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THE INTERRELATIONSHIP BETWEEN GASTRIC pH AND THERAPEUTIC RESPONSE TO ESOMEPRAZOLE IN PATIENTS WITH UNINVESTIGATED DYSPEPSIA: ITS POTENTIAL PATHOGENETIC IMPLICATION

M. Majewski, MD, PhD,[2] I. Sarosiek, MD,[1] G. Wallner, MD, PhD,[2] J. Sarosiek, MD, PhD[1]. 1. Medicine/GI/Motility Center, KUMC, Kansas City, KS; 2. 2nd Department of General Surgery, Medical University of Lublin, Lublin, Poland.

Purpose: Management of dyspepsia remains a challenge both in research and clinical practice. Pharmacological therapy, targeting gastric acid suppression results in relief of symptoms in majority of patients complaining of epigastric pain/discomfort related to uninvestigated dyspepsia; however, the relationship between symptom relief and the degree of acid suppression has not been adequately explored. Therefore, the aims of the study were as follows: 1. To evaluate the impact of esomeprazole vs. placebo on gastric acid during 24h pH monitoring. 2. To asses the relationship between relief of dyspepsia symptoms and changes in gastric pH.

Methods: This randomized, double-blind trial was conducted on KUMC patients with uninvestigated dyspepsia, diagnosed acc. to Rome II criteria, with at least moderately severe symptoms of epigastric pain/discomfort. Patients with heartburn or regurgitation as their predominant symptoms, *H. pylori* (+) or aspirin-like drugs users were excluded. Patients (mean age of 44.2; 62.2% F) were randomized to placebo (N=35) or esomeprazole (N=38) 40 mg QD groups. Primary outcome measures were satisfactory relief of pain/discomfort symptoms, a 7-day daily diary preceding each visit, quality of life questionnaire, and global overall symptoms assessment. Gastric pH was monitored for 24h at baseline and after 4 and 8 weeks of therapy, using dual probe catheter and pH Monitoring System (Sandhill Sci.).

Results: Both responders (R) and non-responders (NR) exhibited similar baseline gastric acid secretion at distal (D) and proximal (P) probes: (pH >4.0 in min) 201min RD, 177min NRD, 641min RP, and 628min NRP, respectively. Administration of esomeprazole for 4 weeks resulted in profound inhibition of gastric acid secretion reflected by significant (P<0.01) increase in time pH>4.0 both among R and NR at D and P pH probe locations. During 2nd therapy interval R exhibited, however, higher degree of gastric acid inhibition, 361% (P<0.001) increase of time pH >4.0 over baseline value in D probe, whereas NR only 157% (P=0.12) increase. Higher degree of gastric acid inhibition, 162% (P<0.001) over baseline value, was also revealed in the P probe in R vs. only 97% increase in NR (P=0.22).

Conclusion: 1. Intragastric pH monitoring before and after therapy may help to address interrelationship between symptomatic relief of dyspepsia symptoms and gastric acid secretion inhibition and could potentially help to tailor individual therapy. 2. Esomeprazole, 40 QD, provides profound inhibition of gastric acid secretion as reflected in time pH>4.0 in patient with dyspepsia accompanied by significant relief of symptoms.

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USEFULNESS OF THE SMARTPILL® GI MONITORING SYSTEM TO ASSESS GASTRIC EMPTYING TIME IN SUBJECTS ON ACID SUPPRESSION

S. Maqbool, MD, H. P. Parkman, MD, F. Friedenberg, MD, MS (Epi). Gastroenterology, Temple University School of Medicine, Philadelphia, PA.

Purpose: The SmartPill GI Monitoring System® (SP) has been approved for the assessment of Gastric Emptying Time (GET). A pH rise to >4 indicates passage from the acidic stomach into the alkaline small bowel. Theoretically, detection of the rise in pH may be compromised in conditions where gastric pH is elevated such as atrophic gastritis and Proton Pump Inhibitor (PPI) therapy. Our purpose was to determine whether PPI use confounds the assessment of GET using the SP system.

Methods: After an overnight fast, 10 healthy subjects ingested an egg sandwich meal followed by the ingestion of the SP. Five (5) had been taking Esomeprazole 40 mg PO daily for 5 days prior to, and the day of, the study. Subjects simultaneously wore the SmartPill data receiver. The maximal, mean and minimal gastric pH along with duodenal bulb pH were recorded for individual patients and used for calculation.

Results: For the 5 subjects on esomeprazole the mean gastric pH was 3.70 ± 1.48. This was significantly higher than those off PPI (1.88 ± 0.27; P = 0.05). Post-prandial gastric maximal pH was also higher on drug (6.45 ± 0.46 vs. 5.94 ± 0.15; P = 0.047). However, in all 10 patients regardless of PPI status, GET of the capsule was easily detected. This is because the duodenal-gastric pH gradient was not significantly suppressed on PPI (4.22 ± 1.65 vs. 4.72 ± 0.40; P = 0.53). Subjects on PPI had an insignificant delay in GET (207 ± 72 vs. 181 ± 39 min; P = 0.49), increase in contractions per min (1.99 ± 0.39 vs. 1.81 ± 0.44; P = 0.51), and increase in the motility index (0.88 ± 1.07 vs. 0.87 ± 0.70; P = 0.98).

Conclusion: The SmartPill GI Monitoring System® is capable of determining gastric emptying time even in the setting of PPI therapy. Although the mean pH and maximal gastric pH were elevated, an easily recognized rise in pH was seen as the capsule enters the duodenum. This is because PPI's did not significantly suppress the duodenal-gastric pH gradient. The system may represent a viable alternative to nuclear medicine scintigraphy to measure gastric emptying even in patients taking proton pump inhibitors.

Disclosure - Dr Henry P Parkman- Product Advisory Board, SmartPill corporation

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SAME-DAY COMBINED EUS/ERCP TO INVESTIGATE BILIARY AND PANCREATIC DISORDERS: BETTER TOGETHER

2008 ACG Presidential Poster Award Recipient

S. Charbel, MD, J. Kimberly, MD, J. Conway, MD, MPH, J. Gilliam, MD, J. Baillie, MB, ChB, G. Mishra, MD, MS. Gastroenterology, Wake Forest University, Winston-Salem, NC.

Purpose: Background: Traditionally, EUS and ERCP have been performed as two separate procedures on separate days. There are limited reports on the use of EUS followed by ERCP during the same sedation. Aim: To review our two year experience of EUS followed by ERCP under general anesthesia for the evaluation of pancreatic and biliary disorders.

Methods: Patients with the following conditions were considered candidates for EUS/ERCP: idiopathic recurrent acute pancreatitis (IRAP), common bile duct (CBD) dilatation or stricture on cross sectional imaging, suspicion of pancreatic or biliary mass, suspicion of choledocholithiasis on imaging, suspicion of chronic pancreatitis. Data were collected on the following parameters: patient demographics, procedure indications, EUS and ERCP findings, status of ERCP after EUS findings (ERCP cancellations).

Results: Between 10/05 and 10/07, 194 consecutive patients underwent combined EUS and ERCP done under the same sedation (GA). Procedure indications and rate of ERCP cancellation are listed in the table. ERCP was canceled in 33/194 (17%) patients based on the EUS findings. In the subgroup of patients with IRAP at least one potential etiology of pancreatitis was identified in 31/44 pts (70%) using this combined approach. Gallbladder and CBD sludge or stones were found in 15/31 patients (48 %). Pancreas divisum was found in 6/31 patients (19%), Sphincter of Oddi dysfunction (SOD) in another 6/31 patients (19%) and pancreatic mass in 4/31 patients (13%). 8 pts had sphincter of Oddi manometry (SOM) to rule out SOD: 6/8 (75%) had elevated pressures. The mean duration of EUS was 19.8mins (SD ± 14.0).

Conclusion: In this cohort of patients, 17% of ERCPs were avoided based on the EUS findings, with likely cost savings and risk reduction. For patients with IRAP, combined EUS/ERCP identified a potential cause of pancreatitis over 70 % of the time. On average, EUS added only 20 minutes to the overall procedure time. Combination EUS/ERCP performed under the same sedation is a logistically feasible and efficient way to investigate pancreatic and biliary disorders.

Procedure Indications and rate of ERCP cancellation (n=194):

Indication	IRAP	CBD stricture or dilation	Pancreas or biliary mass	Choledocholithiasis	Chronic pancreatitis
Number of patients	44	75	47	10	18
Rate of canceled ERCPs	6 (13%)	10 (13%)	9 (19%)	3 (30%)	5 (27%)

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EUS-FNA AND ERCP AS A SINGLE TANDEM PROCEDURE; SAFETY AND OUTCOMES

Y. Kim, MD,[1] J. Vega, MD,[2] S. Mallery, MD,[2] R. Li, MD,[2] T. Kinney, MD,[2] K. Gupta, MD, MPH,[2] K. Safdar, MD,[2] M. Freeman, MD[2]. 1. Internal Medicine, Gacheon Gil Medical Center of Gacheon Medical School, Incheon, South Korea; 2. Internal Medicine, University of Minnesota, Hennepin County Medical Center, Minneapolis, MN.

Purpose: ERCP performed immediately after EUS-FNA is believed by some to have a risk of pneumatic dissection of the FNA tract, or to compromise success of ERCP. The aims of this study were to evaluate the safety and feasibility of immediate ERCP after EUS-FNA.

Methods: A prospective database was queried for patients having same-day EUS and ERCP over an 8 year period at a single center. Of 547 such tandem procedures only those undergoing EUS-FNA were included. All were performed for suspected mass or biliary obstruction. All but 2 were performed under the same anesthesia or sedation. FNA was interpreted on-site by staff cytopathologists. Choice of metallic or plastic stent was decided by consensus between EUS and ERCP endoscopists. Complications were defined by consensus criteria.

Results: ERCP was performed immediately after EUS-FNA in 118 pts, (mean age 67 [range 29-91]), 112 with general anesthesia and 6 MAC or GI nurse sedation. EUS-FNA was transduodenal (n=102), transgastric (n=3), both (n=1), transesophageal (n=1) or not reported (n=11). FNA was performed on pancreas (n=94), lymph nodes (n=7), bile duct (n=6), liver (n=8), gallbladder (n=2) and/or ampulla (n=1). Gauge of needles was 25 (n=115), 22 (n=5) and 19(n=2), or multiple (n=4). Mean # needle passes was 2.73 ± 1.27 (range 1-7). FNA final cytopathology was positive for malignancy in 95; atypical in 6; high grade dysplasia in 2; benign in 11, non-diagnostic in 4. There were no cases in which preliminary interpretation of malignancy was later changed to benign. Based on EUS and imaging findings alone in 103 patients with malignancy, 76 patients were judged potentially resectable or borderline (candidates for neoadjuvant therapy), 14 locally advanced, and 13 metastatic. At ERCP, 102/118 patients had native papilla without prior stent. Bile duct cannulation was performed with routine methods (papillotome or cannula with guidewire) in 117, and needle knife precut in 1, with pancreatic stent in 6; endoscopic sphincterotomy was performed in 96. Access was achieved in 117/118 (99%), the single failure drained by PTC. Stents placed were metallic in 70 (some for neoadjuvant therapy or poor surgical candidacy), plastic in 39, nasobiliary drain in 1 and no drainage necessary in 7. Complications occurred in 2/118 (1.7%); moderate post-ERCP pancreatitis in 1 and retroperitoneal air from needle knife precut in 1.

Conclusion: There were no complications directly as a result of tandem EUS-FNA and therapeutic ERCP. Overall complication rate was 1.7%, all attributable to ERCP, with successful ERCP in 99%. Tandem EUS/ERCP allowed diagnosis, staging and palliation usually with a metallic stent in a single procedure that otherwise often requires 3 procedures (ERCP, EUS, then ERCP with stent exchange).

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SERUM PEPSINOGEN LEVEL, ATROPHIC GASTRITIS AND THE RISK OF INCIDENT PANCREATIC CANCER – A LONG-TERM PROSPECTIVE STUDY

A. O. Laiyemo, MD, MPH,[1] F. Kamangar, MD, PhD,[2] P. M. Marcus, PhD,[3] P. R. Taylor, MD, ScD,[2] J. Virtamo, MD,[4] D. Albanes, MD,[2] R. Z. Stolzenberg-Solomon, PhD[2]. 1. Cancer Prevention Fellowship Program, National Cancer Institute, Bethesda, MD; 2. Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD; 3. Division of Cancer Prevention, National Cancer Institute, Bethesda, MD; 4. Department of Health Promotion and Chronic Disease Prevention, National Public Health Institute, Helsinki, Finland.

Purpose: Pancreatic cancer is a highly fatal disease without an established screening test. Studies have suggested possible etiologic similarities between gastric and pancreatic cancers, including an association between pancreatic cancer risk and gastric ulcers, sub-total gastrectomy for ulcer disease, and *Helicobacter pylori* seropositivity. Atrophic gastritis is a pre-malignant condition for gastric cancer and is characterized by low serum pepsinogen I level. Therefore, we hypothesized that low serum pepsinogen I level may be associated with an increased risk of incident pancreatic cancer and tested this hypothesis in a long-term prospective study.

Methods: The Alpha-Tocopherol, Beta-Carotene Cancer Prevention (ATBC) Study was a randomized, double-blinded, 2 x 2 factorial, placebo-controlled trial in Finland that evaluated whether supplementation with alpha-tocopherol and/or beta-carotene prevent cancers among male smokers. The analytic cohort in this study included 22,234 participants who had serum pepsinogen I level measured using serum samples collected at baseline (1985 - 1988) and during follow-up (3 years after enrollment). Of these, 2,190 (9.8%) had low serum pepsinogen I levels (<25 mcg/l) at baseline or follow-up and were invited for gastroscopy. Gastroscopy was completed in 1,344 (61.4%) of the invited subjects, of whom 1,219 (90.7%) were histologically confirmed to have atrophic gastritis. We used Cox proportional hazards regression to estimate the risk of incident pancreatic cancer.

Results: During a mean follow-up of 11.8 years (262,113 person-years), 223 incident pancreatic cancers were diagnosed. The incidence rates were 8.5, 9.0, and 9.6 per 10,000 person-years of follow-up for participants with normal serum pepsinogen I, low serum pepsinogen I, and histologically-confirmed atrophic gastritis, respectively. There was no association between low serum pepsinogen I level (HR=0.89; 95%CI: 0.52-1.52) or histologically-confirmed atrophic gastritis (HR=0.94; 95%CI: 0.50-1.80) with incident pancreatic cancer when compared to subjects with normal serum pepsinogen I levels in multivariate analyses.

Conclusion: Atrophic gastritis, confirmed histologically or by low serum pepsinogen I as its biomarker, was not associated with an increased risk of pancreatic cancers among Finnish men. These findings do not provide evidence for usefulness of serum pepsinogen I as a screening test for pancreatic cancer.

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TRAINEES' PERSPECTIVE – NEW DEVELOPMENT IN THE COMPARISON OF SIMULATORS FOR ERCP PRACTICE

J. Leung, MD, FRCP, FACP, FACG, FASGE,[1] B. S. Lim, MD,[2] W. Y. Luk, MD,[3] M. Li, MD,[3] R. Wilson, BVD,[1] F. W. Leung, MD[4]. 1. Gastroenterology, Sacramento VA Medical Center, Mather, CA; 2. Gastroenterology, UC Davis Medical Center, Sacramento, CA; 3. Minimal Access Surgery Training Center, Pamela Youde Nethersole Eastern Hospital, Hong Kong, China; 4. Research and Medical Services, Sepulveda ACC, VAGLAHCS, David Geffen UCLA School of Medicine, Los Angeles, CA.

Purpose: Background: There are insufficient comparative data to aid in the choice of ERCP simulator for trainee education. Objective: To compare trainees' evaluations after practice with 2 simulators - mechanical and computer (GI Mentor II) sanctioned by trainers.

Methods: Design: Pre and post practice surveys. Setting: Hands-on ERCP training workshop. Subjects: 7 GI trainees of varying ERCP experience (mean=20, range 5 -120). Interventions: Participants perform scope insertion, selective bile duct cannulation, guide-wire negotiation of a bile duct stricture, biliary papillotomy and insertion of single biliary stent. Main outcome measurements: Evaluations of each simulator by participants based on published criteria.

Results: Results: Data expressed as mean±SEM. Overall practice with the mechanical simulator resulted in significantly greater improvement in understanding (3.3±0.9 vs. 1.4±1.0), confidence (4.7±1.1 vs. 1.6±0.6) and credibility (7.3±2.8 vs. 1.3±1.9) scores ($p < 0.05$). GI trainees scored the mechanical simulator significantly higher in realism (48.1±3.4 vs. 34.0±3.4), usefulness as an instructional tool and applicability in training (49.0±2.2 vs. 34.1±1.9) ($p < 0.05$).

Conclusion: Conclusion: Trainees evaluated the mechanical simulator as superior to computer simulator for ERCP practice.

Comparison of trainees' pre- and post- practice scores

Score	Computer (N=7)			Mechanical (N=7)			p*
	Pre	Post	Change	Pre	Post	Change	
Understanding	12.9±1.0	14.3±0.6	1.4±1.0	12.9±1.0	16.1±0.9§	3.3±0.9	0.04
Confidence	10.7±1.1	12.3±1.3	1.6±0.6	10.7±1.1	15.4±1.5§	4.7±1.1	0.03
Credibility	25.4±2.7	26.7±2.6	1.3±1.9	27.0±3.2	34.3±2.1§	7.3±2.8	0.03

Data = mean±SEM.
*** Comparison in change in scores, paired t test. § Versus pre-practice scores, p<0.05 is significant, paired t test.**
Understanding and confidence scores measured on a five point scale (5=very, 1=none). The expectation questionnaire: 1. How logical (1=not logical; 10=logical)? 2. How confident simulator practice in improving ERCP skills (1=not confident; 10=confident)? 3. Confident in recommending simulator practice to colleagues (1=not confident; 10=confident)? 4. Willing to undergo simulator training (1=not willing; 10 = willing)? Credibility score is sum of four scores.

Evaluations of the simulators after practice

Catagories	Computer	Mechanical	p
Realism compared to human ERCP	34.0±3.4	48.1±3.4	0.02
Usefulness as an instructional tool & applicability	34.1±1.9	49.0±2.2	0.02

Data = mean±SEM. p<0.05 is significant, Wilcoxon signed-rank test. Trainees (N=7). Linear analogue scales to assess 1. Realism (1=very unrealistic, 10=very realistic) compared to human ERCP: anatomy, tissue pliability, papillary anatomy, visual realism; skills, cannulation, wire manipulation, papillotomy; and simulated fluoroscopy. 2. Instructional tool: assess practice results, e.g. papillotomy (1=difficult, 10=easy), ease of use (1=difficult, 10=very easy), practice new skills (1=easy, 10=difficult), preparing trainees to use real instrument (1=poor, 10=good), supplementing clinical training (1=not useful, 10=useful), incorporating into fellowship training (1=easy, 10=difficult).

Disclosure - Joseph Leung, MD is the inventor of the mechanical simulator. Mr. Robert Wilson is responsible for constructing and maintaining the mechanical simulator is not commercially available; it is used for research purposes. The hands-on ERCP practice workshops received educational support from Cook Asia and Olympus Medical Systems, Tokyo. Also supported in part by the Outcome Research Award of American College of Gastroenterology, the C.W. Law Research Fund and Veterans Affairs Medical Research Funds.

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DIDACTIC TEACHING AND PRACTICE PAPILLOTOMY CUTS FACILITATE TRAINEES' UNDERSTANDING OF THE ESSENCE OF A "PERFECT CUT"

J. Leung, MD FRCP, FACP, FACG, FASGE,[1] B. S. Lim, MD,[2] D. Yen, MD,[2] R. Wilson, BVD,[1] F. W. Leung, MD, FACG[3]. 1. Gastroenterology, Sacramento VA Medical Center, Mather, CA; 2. Gastroenterology, UC Davis Medical Center, Sacramento, CA; 3. Research and Medical Service, Sepulveda ACC, VAGLAHCS and David Geffen UCLA School of Medicine, Los Angeles, CA.

Purpose: Background: Based on expert consensus we published a papillotomy scoring scale (Aliment Pharmac Ther 2006;24:308-312) that can provide assessment of clinical papillotomy and practice papillotomy using an ERCP mechanical simulator. Hypothesis: Practice papillotomy using disposable papillae can improve trainees' papillotomy performance. Aim: To teach and evaluate trainee's basic papillotomy skills using an ERCP mechanical simulator and disposable papillae

Methods: Trainees attended workshops with didactic talks followed by hands-on practice of papillotomy using an ERCP mechanical simulator and disposable papillae. They performed a pre training papillotomy using a blank papilla. Didactic teaching included basic technique of papillotomy, the "perfect" axis for a biliary cut, control of papillotome and how to correct a deviated cut. Trainees then practiced papillotomy on two artificial papillae marked with the "perfect" biliary axis. An exit test involved performing a papillotomy on a second blank papilla. The papillotomy cuts were recorded, reviewed and scored based on the published papillotomy scoring scale (wire alignment and cut orientation: Good(3)=11–12 o'clock position, fair(2)=12–1 or 10–11, bad(1)<10 or >1, in addition to cut control (3=good, 2=fair, 1=poor). The scores for the first and last blank cuts were compared. Trainees also responded to pre and post training questionnaire on credibility of simulator papillotomy training and their understanding and confidence in performing biliary papillotomy.

Results: 28 trainees at 7 workshops completed practice papillotomy using the ERCP mechanical simulator. There was a significant improvement in papillotomy score [Median(25%-75% interquartile range)] from 7.0(6.0-8.0)(first) to 8.5(8.0-9.0)(last) [Wilcoxon signed-rank test, p<0.05]. There were also significant improvement in post practice understanding, confidence and credibility scores (see Table).

Conclusion: Didactic teaching and practice papillotomy cuts using the ERCP mechanical simulator and disposable papillae facilitate trainees' understanding of the essence of a "perfect cut" based on expert consensus.

Trainees' pre and post papillotomy practice understanding, confidence amd credibility scores

Cateogries	Maximum Score	Pre-practice (median (25-75%ile)	Post-practice (median (25-75%ile)	P value*
Understanding Score†	5	3.5 (3.0-4.0)	5.0 (4.0-5.0)	<0.0001
Confidence Score†	5	3.0 (2.0-4.0)	4.0 (4.0-4.8)	<0.0001
Credibility Score ‡	50	37.5 (34.5-40.5)	45.5 (43.8-49.0)	0.0001

N=28; N=22; *Wilcoxon signed-rank test

Disclosure - Joseph Leung, MD is the inventor of the mechanical simulator (patent pending). Mr. Robert Wilson is responsible for constructing and maintaining the mechanical simulator. The mechanical simulator is not commercially available; it is used for research purposes.

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META-ANALYSIS: SOMATOSTATIN OR ITS LONG ACTING ANALOGUE, OCTREOTIDE FOR PROPHYLAXIS AGAINST POST-ERCP PANCREATITIS

F. Omata, MD, MPH,[1] Y. Tokuda, MD, MPH,[2] O. Takahashi, MD, MPH,[2] S. Ohde, EdM,[2] J. L. Jacobs, MD,[2] Y. Fujita, MD,[1] K. Masuda, MD,[1] T. Fukui, MD, MPH[2]. 1. Gastroenterology Center, St Luke's International Hospital, Chuoku, Japan; 2. Center for Clinical Epidemiology, St Luke's Life Science Institute, Chuoku, Japan.

Purpose: Acute pancreatitis is a serious complication in some patients who undergo endoscopic retrograde cholangiopancreatography (ERCP). Previous reports of meta-analyses and randomized controlled trials have shown conflicting results of the preventive effectiveness of somatostatin or octreotide for this complication. This study was done to determine whether somatostatin or octreotide prevents post-ERCP pancreatitis and to examine the effectiveness of these drugs in certain patient subgroups.

Methods: MEDLINE (January 1966 to January 2008), EMBASE (January 1974 to January 2008), and Cochrane databases (January 1970 to January 2008) were searched. Search was restricted to English articles. Two authors performed the literature search following the QUOROM flow diagram while three authors independently extracted data.

Results: Fifteen studies (9 for Somatostatin, 6 for octreotide) including 3200 participants met the inclusion criteria. Trials varied in terms of drugs (somatostatin or octreotide), dosage and duration of drug use, procedures during ERCP (opacification of pancreatic duct, sphincterotomy), and the characteristics of participants. Qualities of studies vary in terms of allocation sequence, allocation concealment and intention-to-treat analysis. Analysis including both somatostatin and octreotide trials showed these drugs did not prevent post-ERCP pancreatitis (pooled relative risk [95%CI], 0.65 [0.40-1.03] in random effects model [Heterogeneity test, p=0.00, I2=64%]). Analysis including only somatostatin trials (n=9) showed significant preventive effectiveness (pooled relative risk [95%CI], 0.54 [0.29-0.99] in random effects model [Heterogeneity test, p=0.001, I2=68%]) while analysis including only octreotide trials (n=6) did not (pooled relative risk [95%CI], 0.87 [0.38-1.98] in random effects model [Heterogeneity test, p=0.03, I2=59%]). Pooled relative risks [95%CI] of each sub-group were: 0.47 [0.26-0.83] for patients who received somatostatin or octreotide and who underwent pancreatic duct opacification [Heterogeneity test, p=0.61, I2=0.0%], 0.3 [0.12-0.74] for somatostatin administered over 12 hrs [Heterogeneity test, p=0.84, I2=0.0%], and 0.32 [0.17-0.60] for high dose somatostatin [Heterogeneity test, p=0.97, I2=0.0%], using a fixed effects model. Funnel plots showed asymmetry in three meta-analyses, both somatostatin and octreotide, only somatostatin and only octreotide, which suggested significant publication bias.

Conclusion: Somatostatin may prevent post-ERCP pancreatitis, especially in case of administering it over 12 hrs or in high dose. Somatostatin or octreotide may also be effective in preventing post-ERCP pancreatitis in patients who undergo ERCP with pancreatic duct opacification.

P421

LONG-TERM FOLLOW-UP OF PATIENTS WITH DILATED COMMON BILE DUCT (CBD) AND NEGATIVE ENDOSCOPIC ULTRASONOGRAPHY (EUS)- A SINGLE-CENTER EXPERIENCE

J. C. Prazak, MD,[1] R. Sabbagh, MD,[2] G. Olds, MD[1]. 1. Gastroenterology, Henry Ford Hospital, Detroit, MI; 2. Internal Medicine, Henry Ford Hospital, Detroit, MI.

Purpose: The management of patients with incidental common bile duct (CBD) dilatation found on imaging studies poses a difficult medical dilemma. The initial evaluation of these patients often includes endoscopic ultrasonography (EUS) but the utility of performing this procedure and the long-term management of these patients remains unclear. The objective of this study was to report our long-term experience with patients referred to our institution for dilated CBD who had a subsequent negative EUS study.

Methods: Patients between 18 to 85 years of age referred to our center for EUS evaluation of dilated CBD incidentally found on imaging studies between March 2002 and September 2006 were studied. Patients were excluded if found to have any of the following: 1) total bilirubin >2 mg/dl; 2) pancreatic mass on imaging study (abdominal ultrasound, CT scan, or MRI); 3) a diagnosis of Primary Sclerosing Cholangitis; 4) CA 19-9 level > 1000 units/ml or 5) had a diagnosis of chronic pancreatitis. Patient demographics, EUS indication, initial and follow-up imaging study type, initial and follow-up liver enzymes including CA 19-9 levels, date of last clinical encounter (recent office visit or telephone call with questionnaire if former not available), and ERCP result (if study was performed) were analyzed. The primary endpoint was a diagnosis of biliary or pancreatic carcinoma on long-term follow-up after an initial negative EUS study.

Results: A total of 1626 EUS procedures performed at our institution were reviewed. 78 patients (87% female), mean age 62 years (range 24-83) who met inclusion criteria were enrolled. None of these patients had evidence of malignancy on initial EUS and none were diagnosed with pancreaticobiliary malignancy on initial evaluation. EUS showed a normal CBD in 29% (23/78) of patients, and a dilated CBD in 71% (55/78) of patients. Median follow-up after EUS was 2 years with a range of 0.4 to 5.65 years. Of the 78 patients included in the study, none had clinical or radiologic evidence of biliary or pancreatic malignancy on long-term follow-up. 19% (15/78) of patients underwent ERCP after a negative EUS study evidencing either stable ductal dilatation (93%) or normal CBD (7%).

Conclusion: A negative EUS study performed for the evaluation of a dilated CBD in the absence of jaundice, mass lesion or elevated CA 19-9 level is a reliable tool in ruling out pancreaticobiliary malignancy and predicts favorable long-term outcome.

P422

IMPACT OF ALCOHOL USE PATTERNS ON CLINICAL OUTCOMES IN PATIENTS WITH CHRONIC PANCREATITIS

B. S. Sandhu, MD, DM,[1] D. S. Svikis Pickens, PhD,[2] D. S. BouHaidar, MD,[1] A. Zfass, MD,[1] A. J. Sanyal, MD[1]. 1. Gastroenterology, Hepatology & Nutrition, Virginia Commonwealth University Medical Center, Richmond, VA; 2. Department of Psychology, Virginia Commonwealth University Medical Center, Richmond, VA.

Purpose: While it is well known that chronic pancreatitis (CP) is commonly caused by alcohol consumption, the relationship between amount and duration of alcohol consumption and development of CP is unclear. Moreover, there is no information on patterns of drinking in CP patients and how they relate to outcomes such as pain, development of exocrine failure and diabetes mellitus (DM). This study: (1) Characterized recent and lifetime alcohol use in subjects with CP; and (2) Assessed impact of alcohol use on CP outcomes (pain, exocrine failure, DM).

Methods: Participants were consecutive patients with CP who provided informed consent. Quantity and frequency of recent (past 90 days) drinking was measured with the Timeline Follow-Back Interview. In addition, drinking patterns for a typical week prior to most recent abstinence and for the period of heaviest alcohol use (lifetime) were recorded. Pain was characterized as type A (flares of pain with normal intervening periods) and type B (chronic continuous pain). Exocrine insufficiency was defined by presence of steatorrhea or fecal elastase < 200 mcg/gm. CP participant subgroups were compared using Students t-tests in SPSS. To-date 36 CP subjects (56% male; mean age 44.9 yrs; 50% African-American) have been enrolled.

Results: In a preliminary analysis, average drinks per day during a typical week prior to most recent abstinence and during a week of heaviest drinking were 10.2 and 10.9, respectively. Subjects with type A pain had higher drinking amounts and total drinks, but a trend toward fewer days suggesting more binge patterning (p=0.006) during heavier as well as typical drinking weeks, respectively (8.4 vs 6.6 drinks/day) (p=0.007). CP patients with DM (DM+) reported histories of heavier drinking than CP subjects without DM (DM-). DM+ patients also consumed more than twice as many drinks per day (18.4. vs 7.9, respectively); twice as many drinks on the days they drank (21.8 vs 11.8, respectively) and nearly 3 times as many total drinks per week (129 vs 56) (p=0.038) as DM- patients. Similarly patterns were seen for heaviest week of drinking (p=0.002). In contrast, comparisons of CP patients with and without exocrine failure found no group differences in patterns of alcohol consumption (recent or heaviest ever).

Conclusion: CP subjects who indulge in binge drinking are at greater risk for being DM+ and for having type A pain than non-binge drinking CP subjects.

P423

IN VIVO TRANSLATIONAL DRUG DEVELOPMENT MODEL IN PANCREATIC CANCER

S. Vinjamaram, MD,[1] J. Gibbs, MD,[3] T. Khoury, MD,[2] E. Repasky,[4] B. Hylander,[4] R. Iyer, MD[1]. 1. Medicine, Roswell Park Cancer Institute, Buffalo, NY; 2. Pathology, Roswell Park Cancer Institute, Buffalo, NY; 3. Surgery, Roswell Park Cancer Institute, Buffalo, NY; 4. Immunology, Roswell Park Cancer Institute, Buffalo, NY.

Purpose: Currently available preclinical models for drug testing are not optimal due to the high-passage commercially obtained cell lines and xenografts established from these lines. Cy-

totoxic agent activity against these xenografted neoplasms only modestly correlates with clinical acitivity. We aimed to determine if direct pancreatic tumor xenografting preserved their histologic grade and genotypic features despite serial passages, thereby allowing it to be used as a model for preclinical drug testing.
Methods: Surgical specimens from 15 consecutive pancreatic cancer patients (pts) who underwent pancreatectomy from 1996-2002 were xenografted and expanded in successive groups of nude mice to develop cohorts of tumor-bearing mice. Immunohistochemical (IHC) staining for E-cadherin (36B5), vimentin (Vim 3B4), fibronectin, and C-KIT was performed on formalin fixed paraffin embedded tissues. Percentages of stained cells (cytoplasmic for vimentin and CK and membranous for E-cadherin) were recorded. The histology of the xenografts was correlated through serial passages.
Results: Specimens from 15 pts were included. IHC staining: E-Cadherin 85%, Fibronectin 26%, C-KIT 73% maintained their staining through 2 passages, early and late. Vimentin did not stain any of the tumors, except in one surgical specimen, however the staining was lost in the serial passages. 61% of the tumors maintained their histological grade through passages and 30% tumors had histological grade different from the surgical specimen, but maintained the same grade in the early and late passages. 2 specimens were not available for histological grade evaluation.
Conclusion: Nearly all of the xenografted tumors maintain the same histological grade through passages. Majority maintains the same grade as their parent tumors. Staining for E-cadherin and C-KIT remains more consistent through passages than for fibronectin. Further studies in larger numbers may validate this model for preclinical drug testing.

P424

CURRENT SMOKING IS AN INDEPENDENT PREDICTOR OF CHRONIC PANCREATITIS

R. Law, DO, T. Stevens, MD, M. A. Parsi, MD, G. Zuccaro, MD. Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Smoking has been shown to accelerate the progression of existing chronic pancreatitis (CP). It is not fully understood whether smoking causes CP because of potential confounding by alcohol. The aim of this study was to determine the association of smoking with CP adjusting for alcohol and other clinical variables.
Methods: Patients referred with abdominal pain and suspected CP underwent a combined endoscopic ultrasound (EUS) and secretin endoscopic pancreatic function test (PFT). CP was diagnosed when both EUS (≥4 criteria) and PFT (peak bicarbonate concentration <80 mEq/L) were abnormal or if EUS revealed calcifications. Logistic regression was used to determine the association (odds ratio=OR) of current smoking with CP while adjusting for other risk factors. Predictor variables with p>0.15 from the univariable analysis were included in the multivariable model.
Results: 200 consecutive patients were included; 55(28%) had CP. Of the 55 patients with CP, 19 (35%) were neither heavy drinkers nor current smokers, 20 (36%) were heavy drinkers *and* current smokers, 10 (18%) were current smokers *but not* heavy drinkers, and 6 (11%) were heavy drinkers *but not* current smokers. Current smoking was a significant independent predictor of CP (OR 2.3, 95%CI 1.1, 5.0). Other significant predictors included male gender, history of heavy alcohol use, and history of acute pancreatitis. No significant interactions were found between smoking and the other variables (including alcohol).
Conclusion: Current smokers are more than twice as likely as non-smokers to have CP adjusting for age, gender, alcohol consumption, and history of acute pancreatitis.

Variable	Stratum	N(%)	Univariable analysis		Multivariable analysis	
			Crude OR (95% CI)	p value	Adjusted OR (95% CI)	p value
Male gender	Yes	75(38)	4.1 (2.1,7.9)	<0.001	2.9 (1.4,6.1)	0.004
	No	125(63)				
Age category	<30	34(17)	1.2 (1.0,1.5)	0.110	1.0 (1.0,1.1)	0.075
	30-39	43(22)				
	40-49	47(24)				
	50-59	43(22)				
	≥60	33(17)				
BMI category	<24	39(20)	0.8 (0.6,1.1)	0.171	Not included	Not included
	24-26	44(22)				
	27-31	35(18)				
	≥32	48(24)				
African American race	Yes	15 (8)	1.0 (0.2,3.1)	0.941	Not included	Not included
	No	185(92)				
Heavy alcohol	Yes	49(25)	4.8 (3.4,9.5)	<0.001	3.3 (1.4,7.7)	0.005
	No	151(75)				
Current smoker	Yes	71(36)	3.0 (1.6,5.8)	<0.001	2.3 (1.1,5.0)	0.036
	No	129(64)				
Acute pancreatitis	Yes	63(32)	3.3 (1.7,6.2)	<0.001	3.6 (1.7,7.6)	<0.001
	No	137(78)				

BMI=body mass index, OR=odds ratio, CI=confidence interval

P425

SMOKING MAY INCREASE THE RISK OF PANCREATIC CANCER PRECURSOR LESIONS IN FAMILIAL AT-RISK INDIVIDUALS

E. Ludwig, MD, S. H. Olson, PhD, J. A. Simon, MA, S. Bayuga, MA, R. C. Kurtz, MD. Memorial Sloan-Kettering Cancer Center, New York, NY.

Purpose: Pancreatic adenocarcinoma (PC) is a lethal disease. Patients (pts) have a median survival of 4-6 months. There has been no significant improvement in survival over the last 20 years. Strategies for prevention of PC have included the identification of risk factors of which family history, smoking and obesity are most important. We question if similar risk factors are involved in the development of PC precursor lesions in familial at-risk individuals. This analysis investigates smoking, family history, and usual adult weight and the risk of PC precursor lesions in participants in a familial pancreatic cancer (FPC) registry and screening program.
Methods: . In 2002, we began a registry for FPC pts and relatives and a screening program for PC precursor lesions such as IPMNs in familial at-risk individuals. At-risk well relatives are screened with initial MRCP or CT scans with EUS done if imaging reveals a pancreatic abnormality. Participants fill out a detailed family history questionnaire and are personally interviewed about PC risk factors. Detailed information on lifetime smoking habits is obtained.
Results: Of 255 consented relatives, 113 (82 women, mean age 53.5; 31 men, mean age 51.5) completed one or more imaging studies. 10 pts (8.9%) were found to have significant pancreatic lesions. 6 pts had surgery (3 with IPMNs, 1 with PanIN, 1 with islet cell tumor, and 1 with PC). All 10 were women, compared to 82/113 (70%) of all the relatives screened (exact p=0.06). The age range of those with significant findings was 46 to 86. Those with significant findings were older than those without (mean age 62.4+12.0 vs 52.0+10.7, p<0.01). Of the 113 participants who were screened, 65 never smoked, 41 smoked but quit, and 7 were current smokers. 7 out of 10 (70%) with positive findings had a history of smoking compared to 41/103 (40%) of those with negative findings (exact p=0.09). Years since quitting smoking and exposure to environmental tobacco smoke did not differ substantially in the two groups. The number of relatives with pancreatic cancer was similar in the two groups, as was BMI.
Conclusion: Our program and others have suggested that IPMN may be a common PC precursor lesion in FPC pts. Our analysis suggests that smoking may be associated with PC precursor lesions in a familial at-risk population in addition to its well known association with PC. This further emphasizes that smoking cessation is an important preventative strategy in at-risk FPC relatives that could lead to risk reduction of pancreatic cancer precursor lesions and PC.

P426

THE RELATIONSHIP BETWEEN AUTOIMMUNE PANCREATITIS AND IGG4-RELATED SYSTEMIC DISORDER IN JAPANESE PATIENTS : SPECIAL NOTICE OF MIKULICZ'S DISEASE

I. Miki, associate professor,[1] H. Kustumi, associate professor,[2] Y. Matsumoto, Dr,[2] A. Masuda, assistant professor,[1] S. Mizuno, professor,[1] T. Azuma, professor[2]. 1. Medical Pharmaceutics, Kobe Pharmaceutical University, Kobe, Japan; 2. Gastroenterology, Kobe University Graduate School of Medicine, Kobe, Japan.

Purpose: Autoimmune pancreatitis (AIP) is relatively rare but increasing as spread of its concept among digestive clinicians, and this disease is recently recognized as part of systemic immunoglobulin G4 (IgG4)-related disorder. Mikulicz's disease (MD), characterized by lacrimal and salivary gland swelling, is also gaining acceptance as an IgG4-related disease. In order to clarify the prevalence and distribution of extrapancratic diseases including MD, we investigated the course of diagnosis with AIP in Kobe University Hospital.
Methods: From 2005, patients with swelling of the lachrymal grand or the salivary gland were advised to visit department of gastoroenterology after denial to malignancies. After pancreatic swelling was detected by abdominal US, patients performed multiple modalities including CT, MRCP and ERP. FDG-PET was considered in difficult cases to deny malignancy. The diagnosis of AIP was made according to clinicopathological criteria proposed by Japan Pancreatic Society in 2002. The course of diagnosis, chief complaints and extrapancratic lesions were analyzed in patients with AIP.
Results: AIP was found in 14 patients during study period (mean age; 61.8± 13.8, male: female = 11: 3). Firstly visiting department was ophthalmology: 2 (lacrimal gland swelling), otolaryngology: 1 (salivary gland swelling), clinical immunology: 1 (suspicion of autoimmune disease), gastroenterological surgery: 2 (suspicion of pancreatic cancer), gastroenterology: 5 (obstructive jaundice and/or abdominal pain, and hyperamylasemia), and others: 2 patients (accidentally detected hyperamylasemia with no sympton). Twenty extrapancratic findings were detected in 11 patients; Mikulicz's disease (n=7), lymph node swelling (n=4), retroperitoneal fibrosis (n=2), thyroid swelling (n=1), sclerosing cholangitis (n=4), abdominal aneurism (n=1), and nephritic syndrome (n=1). These findings were detected at variable period (before, at and after the diagnosis of AIP). Those with extrapancreatic disease showed the tendency toward a high serum IgG and IgG4 levels compared to those without. FDG-PET could contribute not only to the detection of extrapancreatic lesions but to the evaluation of disease activity after steroid therapy.
Conclusion: AIP was associated with a high incidence of variable extrapancreatic findings. PET may be a useful tool to detect other lesions and to follow up the patients with AIP. A special notice is that half of the patients with AIP had Mikulicz's disease, which suggested the importance of collaboration with ophthalmology and otolaryngology in detection of AIP.

P427

ASSESSING MALNUTRITION RISK IN OUTPATIENTS WITH PANCREAS EXOCRINE INSUFFICIENCY (PEI)

A. Tignor, MD, D. Conwell, MD, MS, K. Repas, BS, B. Wu, MD, MPH, P. A. Banks, MD. Gastroenterology, Hepatology and Endoscopy, Harvard Medical School, Brigham and Women's Hospital, Boston, MA.

Purpose: Malnutrition screening data in pancreas exocrine insufficiency(PEI)is lacking. Current international practice guidelines suggest a Malnutrition Universal Screening Tool (MUST) to assess outpatients.*(Clin Nutr 2003; 22(4): 415-421)* This tool primarily focuses on weight loss over a 3-6 month period. No comparisons have been made with more widely used and validated nutritional screening tools such as the Mini Nutritional Assessment (MNA) in pts with PEI. In addition to weight loss, this screening instrument includes psychosocial factors that are commonly seen in PEI that may also contribute to malnutrition. **Aims**: Utilization of both MUST and MNA malnutrition screening tools: 1)To determine the prevalence of malnutrition risk in pts with PEI and 2) compare malnutrition risk in pts with PEI versus controls

Methods: A pilot study was performed in two groups of outpatients seen in the Division of Gastroenterology to determine malnutrition risk. Group 1: Pts referred for screening colonoscopy (controls)and Group 2: Pts referred for management of pancreas exocrine insufficiency (PEI). All study participants underwent outpatient malnutrition screening with the MUST and MNA assessment tools. We defined PEI as any of the following: reported oily bowel movements, laboratory confirmed steatorrhea, abnormal fecal elastase-1 (< 200 ug/g), and/or diarrhea response to pancreas enzyme supplementation in pt with advanced pancreatic disease. Advanced pancreatic disease was confirmed by radiology, pathology and/or endoscopic imaging. Statistical analysis(*OpenEpi v2.2.1, alpha < 0.05*): 1) prevalence of malnutrition risk in PEI pts 2) comparison of malnutrition risk scores between healthy subjects and pts with PEI.

Results: A total of 20 subjects (6 controls, 14 PEI),45 % male, median age 52 y, were screened for malnutrition with the MUST and MNA instruments. There was no difference in median age or gender distribution between the controls and PEI groups. The overall prevalence (%, [95% CI]) of malnutrition risk in PEI as assessed by the MNA and MUST were 64.3 [37.6,85.5] and 21.4 [5.7, 47.9] respectively. There was a statistically significant difference in malnutrition risk assessment when PEI pts were compared to controls with the MNA (*Fisher's Exact,p=0.00212*) but not the MUST (*Fisher's Exact,p=0.6386*) screening tool.

Conclusion: 1. Pancreas exocrine insufficiency patients are at increased risk for malnutrition 2. Current screening guidelines using a universal screening tool may fail to identify risk in PEI 3. A disease-specific malnutrition screening instrument including psychosocial factors may be more appropriate for pancreas disease

P428

EVALUATION OF POST-CHOLECYSTECTOMY COMMON BILE DUCT (CBD) DILATATION: AN AGE MATCHED STUDY

S. Chawla, MD,[1] W. E. Trick, MD,[1] S. Gilkey, MD,[2] B. Attar, MD, PhD[3]. 1. Medicine, Cook County Hospital- John H Stroger Jr Hospital of Cook County, Chicago, IL; 2. Radiology, Cook County Hospital- John H Stroger Jr Hospital of Cook County, Chicago, IL; 3. Gastroenterology, Cook County Hospital- John H Stroger Jr Hospital of Cook County, Chicago, IL.

Purpose: The CBD diameter is factored into clinicians' decisions regarding referral for further evaluation of intra-ductal pathology (e.g., Endoscopic Retrograde Cholangiopancreatography [ERCP]). Prior studies regarding post cholecystectomy CBD dilatation, have yielded disparate results leading to conflicting conclusions in gastroenterology and radiology textbooks. Inconsistent interpretations may result from methodologic limitations in prior studies, e.g., selection bias or failure to adjust for confounding by age. In this study, we compared CBD diameters between patients with and without a prior cholecystectomy. Secondarily we compared proximal and distal CBD measurements.

Methods: We identified post-cholecystectomy patients by electronically searching radiographic reports of contrast-enhanced chest CT scans. These patients were pair-matched to no-cholecystectomy patients based on age, sex, and inpatient vs outpatient status. The CBD was measured at two locations: proximally (i.e., just distal to the porta hepatis) and distally (i.e., in the head of the pancreas). We dichotomized CBD measurements as normal or dilated (i.e., ≥6 millimeters [mm]). We compared continuous measurements using the paired t-test, and dichotomous values using McNemar's test for paired observations.

Results: Among 40 matched pairs, the mean CBD diameter was wider for post-cholecystectomy patients at both proximal and distal sites (Table 1). The difference was preserved across the age range for our sample (Figure 1). Post-cholecystectomy patients were more likely to have a CBD diameter >6 mm at both proximal or distal sites (Table 1). Proximal were larger than distal measurements for post-cholecystectomy (difference=1.1; 95% CI, 0.8 to 1.5 mm [P<0.001]) and no-cholecystectomy (difference=0.8; 95% CI, 0.3 to 1.2 [P<0.001]) patients.

Conclusion: Compared to no-cholecystectomy patients, post-cholecystectomy patients had a significantly increased CBD diameter, usually resulting in a diameter exceeding a commonly used cutpoint for normal. Clinicians should consider this when deciding whether to pursue additional costly or invasive diagnostic evaluations for post-cholecystectomy patients.

Table 1: Comparison of CBD diameter between post-cholecystectomy and no-cholecystectomy patients.

	Cholecystectomy status		
	Post	No	
CBD diameter (mm),N=40	Mean	Mean	p–value
Proximal	7.0	5.4	<0.001
Distal	5.9	4.6	<0.001
Dichotomized at ≥ 6mm,N=40	n (%)	n (%)	p–value
Proximal	32(80)	11(28)	<0.001
Distal	22(58)	7(20)	0.003

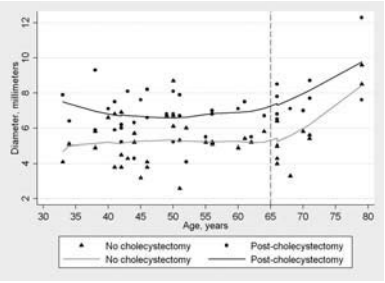

Figure 1. Lowess curve displaying the CBD diameter by age and cholecystectomy status.

P429

PRIOR ENDOSCOPIC SPHINCTEROTOMY CAN AFFECT THE INTERPRETATION OF SECRETIN-STIMULATED MAGNETIC RESONANCE CHOLANGIOPANCREATOGRAPHY (S-MRCP)

A. Chopra, MD,[1] S. Alkaade, MD,[1] N. C. Balci, MD,[2] F. Burton, MD[1]. 1. Gastroenterology and Hepatology, Saint Louis University, St. Louis, MO; 2. Radiology, Saint Louis University, St. Louis, MO.

Purpose: Lack of pancreatic duct compliance and decreased duodenal filling on secretin-stimulated magnetic resonance cholangiopancreatography (S-MRCP) has been noted in patients with chronic pancreatitis. As to whether or not endoscopic sphincterotomy (ES) can affect pancreatic duct compliance and duodenal filling on diagnostic S-MRCP is unknown. The purpose of this study was to determine if pancreatic duct compliance and duodenal filling on S-MRCP in patients without evidence of chronic pancreatitis was different in those with and without ES.

Methods: A retrospective review of patients who were referred to our pancreatico-biliary clinic from 12/06-12/07 was performed. Those patients who had no evidence of chronic pancreatitis (normal fecal elastase 1 levels and normal MRI or CT imaging and/or normal endoscopic pancreatic function tests) and who underwent S-MRCP were studied. S-MRCP findings were analyzed, specifically noting change in pancreatic duct diameter size from baseline to max dilation after secretin administration (0.2 mcg/kg IV dose of human secretin), the time to achieve max dilation, and the grade of duodenal filling at peak diameter. A single observer measured and recorded all measurements, and the mean for pancreatic duct diameter change, time to peak change, and duodenal filling were calculated.

Results: Of the 34 patients studied, 12 had ES and 22 had intact sphincters of Oddi. In the sphincterotomy group, there was a mean change of 0.17mm (range 0.01-0.35), while in the non-sphincterotomy group, the mean change was 0.91 mm (range 0.31-1.97) after secretin administration. The difference was significant with a P<0.005. Though there was a trend towards a longer time to maximal pancreatic duct dilation and lower duodenal filling at peak pancreatic duct diameter in those patients with an intact native sphincter of Oddi, these results were not statistically significant. In addition, there was no difference in those patients who had only a biliary sphincterotomy compared to those with both biliary and pancreatic sphincterotomies.

Conclusion: Endoscopic sphincterotomy significantly decreases pancreatic duct dilation in response to secretin on S-MRCP. However, further studies are required to determine the effect of sphincterotomy on the amount of duodenal filling and the rate at which duodenal filling occurs. As S-MRCP is quickly becoming an increasingly utilized non-invasive method for documenting chronic pancreatitis, one must be aware of the absence of a functional pancreatic sphincter (s/p sphincterotomy) when reading S-MRCP, to avoid misinterpretation of pancreatic duct compliance.

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P430

EFFECT OF PANCREATIC DUCT STENT DIAMETER ON RATE OF HOSPITALIZATION IN CHRONIC PANCREATITIS

B. Sauer, MD, MS,[1] M. J. Gurka, PhD,[2] K. Ellen, RN,[1] V. M. Shami, MD,[1] M. Kahaleh, MD[1]. 1. Digestive Health, University of Virginia, Charlottesville, VA; 2. Department of Public Health Sciences, Division of Biostatistics and Epidemiology, University of Virginia, Charlottesville, VA.

Purpose: Chronic pancreatitis is often associated with abdominal pain. In patients with pancreatic duct (PD) dilation, endoscopic therapy with PD stenting has been shown to be effective at reducing pain. Few studies have compared response to different PD stent diameters. In this study, we retrospectively analyzed the effect of pancreatic duct stent diameter on hospitalization for abdominal pain in chronic pancreatitis.

Methods: An existing database was queried to identify individuals who received PD stenting for chronic pancreatitis. A chart review was performed to identify the number of hospitalizations for abdominal pain and follow-up time for each individual. Each patient was placed into one of two groups based on the pancreatic duct stent diameter used: 1) ≤ 8.5 French diameter stents, and 2) 10 French diameter stents. The main outcome was number of hospitalizations adjusting for varying follow-up time and controlling for age, gender, and etiology of pancreatitis using a negative binomial model.

Results: One hundred sixty-three patients (107 men) underwent PD stent placement for chronic pancreatitis from October 1995 to September 2007. The mean age was 52 years with a mean follow-up time of three years. One hundred twenty-nine (79%) received predominantly PD stents ≤ 8.5 French and 34 (21%) received predominantly PD stents 10 French in diameter. There was no statistically significant difference in population characteristics between the ≤ 8.5 French and 10 French groups. Using a negative binomial model, the 10 French group had a statistically significant (p = 0.003) lower rate of hospitalization (Table 1).

Conclusion: Patients who receive larger diameter PD stents are likely to have fewer hospitalizations. Prospective studies are needed to compare outcomes related to differences in pancreatic duct stent diameter in chronic pancreatitis.

Table 1: Rate of Hospitalization

Model Covariate	Incidence Density Ratio (IDR) Estimate*	p value	95% Confidence Interval for the IDR
≤ 8.5 French (vs. 10 French)	2.98	0.003	(1.45, 6.12)
Male (vs. Female)	1.71	NS	(0.83, 3.52)
Alcohol Etiology (vs. Other)	0.77	NS	(0.38, 1.55)
One Year Increase in Age	0.99	NS	(0.97, 1.01)
Increase of One PD Stent	1.06	NS	(0.96, 1.16)
Year of Stent Placement (1995-2000 vs. 2001-2007)	0.75	NS	(0.37, 1.53)

*** With follow-up time being equal, IDR provides the ratio of the incidence of hospitalization between the levels of the covariate. As an example, those who received ≤ 8.5 French have 2.98 times more hospitalizations over the same period of time than those who received a 10 French pancreatic duct stent.**

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THE YIELD OF REPEAT CHOLANGIOGRAM WITH BALLOON SWEEP AT THE TIME OF BILIARY STENT REMOVAL FOR POST-CHOLECYSTECTOMY BILE LEAK

M. Ansstas, MD, S. Shah, MD, S. Alkade, MD, R. N. Keswani, MD, B. Abdeen, MD, S. S. Jonnalagadda, MD, S. A. Edmundowicz, MD, R. R. Azar, MD. Internal Medicine, Division of Gastroenterology, Washington University in St Louis, St Louis, MO.

Purpose: The endoscopic management of bile leaks after cholecystectomy (CCY) is well established and involves placement of bile duct stents with or without biliary sphincterotomy. The utility, however, of routine performance of an Endoscopic Retrograde Cholangiogram (ERC) with a bile duct sweep at the time of stent removal has not been clearly established. Our study aim is to describe findings on ERC at stent removal in order to determine if upper endoscopy alone would suffice.

Methods: We queried our electronic endoscopic database for those patients between January 2003 and April 2008 with post-CCY bile leak, who had both an initial ERC with biliary stent placement and follow-up ERC at stent removal. The interval between the two procedures was at a minimum of 4 weeks.

Results: A total of 94 patients (71 women, 76%) were identified. The patients' ages ranged from 19 to 87 years. The interval of time between CCY and ERC was 8.7 days (mean; range 1 to 41). The interval of time between the two ERCs was 7 weeks (mean; range 4 to 24). At the time of the initial cholangiogram, the source of the bile leak was identified in 83 patients (89.3%) from the following locations: Cystic duct (52 pts; 55%), right hepatic system (22 pts; 23%), left hepatic system (3 pts; 3.1%), and main bile duct (3 pts; 3.1%). The exact source of the bile leak could not be clearly identified in the remaining 11 patients (11.7%). A biliary sphincterotomy was performed in 72 patients (76.5%). A balloon sweep was performed in 51 patients (54%). All patients had a biliary stent placed. On the follow-up ERC, 20 patients were found to have stones or sludge. 12 of these patients (60%) had not had a preceding balloon sweep. There was no association between a previous balloon sweep and presence of stones or sludge on the follow-up ERC (Chi square, p=0.149). Elevated liver enzymes (AST, ALT, alkaline phosphatase) on presentation was also not significantly associated with presence of stones or sludge on follow-up ERC (p=0.562). Three patients had a persistent bile leak and required additional stent placement. Of the twenty patients who had a follow-up ERC at four weeks after the initial ERC, only one patient (5%) had a persistent bile leak.

Conclusion: Patients with post-CCY bile leaks can be successfully treated with stenting and sphincterotomy. A significant number of patients (95%) were successfully treated with a short 4 week duration of stenting. We were not able to predict those patients who had stones or sludge on follow-up ERC based on performance of balloon sweep at initial ERC procedure or presence of elevated liver enzymes. The data suggests continuation of routine performance of follow-up ERC at the time of stent removal in patients with post-CCY bile leaks.

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ALCOHOLIC ACUTE PANCREATITIS OR IDIOPATHIC PANCREATITIS: AN UNCLEAR DISTINCTION

N. L. Badalov, MD,[1] I. M. Wall, DO,[1] J. Braha, DO,[1] S. Tenner, MS,[1] R. Baradarian, MD,[1] S. William, MD, FACG,[2] S. Tenner, MD, MPH, FACG[1]. 1. Gastroenterology, Maimonides Medical Center, Brooklyn, NY; 2. Gastroenterology, George Washington University Hospital, Washington, DC.

Purpose: Unlike gallstones, acute intake of alcohol is believed not to be a cause of acute pancreatitis. Based on the current accepted mechanism in which alcohol causes acute pancreatitis, chronic intake daily of over 50 grams per day over many years is expected to cause chronic damage, protein plugs, fibrosis, and/or ductal changes prior to any attack of acute pancreatitis. While many patients with acute pancreatitis attributed to alcohol have evidence of chronic pancreatitis at admission, such as exocrine insufficiency, ductal changes in the pancreas and/or calcifications, the diagnosis is often made in patients with no evidence of chronic disease. In these patients, with alcoholic acute pancreatitis, the diagnosis is made based on the absence of gallstones, a normal triglyceride level and a strong history of alcohol intake despite an otherwise normal appearing pancreas.

Methods: In order to better establish whether patients with acute pancreatitis attributed to alcohol, in the absence of imaging evidence of chronic disease, are indeed due to alcohol, we performed the following study. A consecutive series of patients seen in 1998 for acute pancreatitis were studied.

Results: During the study period, 165 patients were admitted with acute pancreatitis. Of these, 58 were diagnosed as having alcohol as the etiology. 38/58 patients were found to have no evidence of chronic pancreatic disease on imaging, CT and/or MRI. Nine of these 38 patients were identified on follow-up, mean 9.6 years. Of these nine patients with acute pancreatitis attributed to alcohol based on history almost 10 years prior, 7/9 had no further episodes of acute pancreatitis. 5/9 patients described themselves as abstinent from alcohol use. 4/5 continued using alcohol in moderation 3/5, or heavily 1/5. Imaging had been performed within the past year in 6/9. There was no evidence of chronic pancreatitis in any of these patients defined by ductal abnormalities and/or calcifications. 3/9 of these patients had evidence of gallstones on imaging. None of the patients had any evidence of pancreatic exocrine insufficiency.

Conclusion: Although there was limited follow-up, this study suggests that many patients, perhaps most patients with alcoholic acute pancreatitis may have another etiology such as gallstones.Despite a history of alcohol consumption, it remains unclear whether alcohol causes acute pancreatitis in the absence of evidence of chronic pancreatic disease at admission.

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NAFAMOSTAT FOR THE PROPHYLAXIS OF POST-ERCP PANCREATIC DAMAGE COMPARING WITH GABEXATE AND RISK FACTOR ANALYSIS: A CASE CONTROL STUDY

J. Chang, MD, I. Lee, MD, C. Lim, MD, K. Nam, MD, M. Choi, MD, I. Chung, MD. Internal Medicine, The Catholic University of Korea, Seoul, South Korea.

Purpose: Endoscopic retrograde cholangiopancreatography (ERCP) is associated with elevated levels of pancreatic enzymes and pancreatitis. Gabexate and nafamostat, a protease inhibitor, has been used to prevent pancreatic damage related to ERCP. In vitro, nafamostat Inhibit the pancreatic protease activities 10–100 times more potently than gabexate.

Methods: We compared 600 mg gabexate with 50 mg nafamostat in the point of prevention of post-ERCP pancreatic damage. A total of 732 patients had undergone ERCP in 2005 and 2007 at our center; 535 were excluded from the final analysis for various reasons such as pancreatic disease, previous hepatobiliary or gastric operation, ampulla of Vater disease, and previous manipulation of amuplla. The remaining 197 patients–114 in the gabexate group and 83 in the nafamostat group–were analyzed. Acute pancreatitis was considered to be present if serum amylase was three times greater than the upper limits of normal in association with the onset of pancreatic pain.

Results: The mean age was 64.1 years (±15); 48.7% of the patients were women. The groups were similar with regard to patients' demographics including distribution of indications. In details of procedures, pancreatic duct injection and stenting were performed more in gabexate group than nafamostat group (P = 0.005 and 0.028, respectively). The overall incidence of hyperamylasemia/acute pancreatitis was 44.7/9.1%: 38.6/13.3% in the nafamostat group and 49.1/6.1% in the gabexate group. The frequency was similar in both groups. Post-ERCP serum amylase values were not different between 2 groups through 36 hours of observation and at each 6, 18 and 36 hours after the procedure. Preventive nafamostat or gabexate use, pancreatic duct injection, cannulation time, and stenting were the factors with P < 0.1 in univariate analysis, and then these factors were analyzed by logistic regression. Three factors related post-ERCP pancreatitis were the independent risk factors by multivariate analysis: preventive nafamostat vs. gabexate (P = 0.014, OR 3.815), pancreatic duct injection (P = 0.004, OR 5.267), and stenting (P = 0.028, OR 3.220). In subgroup analysis, gabexate made less post-ERCP pancreatitis than nafamostat in the group of age less than 60 years-old and ERCP performed by experienced endoscopist. Four patients treated with gabexate and three given nafamostat had adverse events such as nausea, diarrhea, and itching, all of which resolved.

Conclusion: Prophylactic treatment with nafamostat to reduce pancreatic damage related to ERCP was effective in similar degree to gabexate, as reflected by reductions in the extent and the frequency of elevated enzyme levels and in the frequency of acute pancreatitis.

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QUALITY OF LIFE ISSUES IN CHRONIC PANCREATITIS

P. Manchikalapati, MD,[1] J. Savageau, PhD,[2] W. Wassef, MD[1]. 1. Gastroenterology, University of Massachusetts, Worcester, MA; 2. Family Medicine and Community Health, University of Massachusetts, Worcester, MA.

Purpose: Identify crucial issues that may impact the quality of life in chronic pancreatitis patients to help design a tool specific for this group of patients.

Methods: Inclusion criteria (one of the following criteria): pancreatic calcification on CT scan, > 4/9 criteria for pancreatic injury on EUS, or positive secretin stimulation test. Exclusion criteria: Age < 18 or > 65, the presence of severe co-morbidities and non-English speaking. Patients who met the inclusion/ exclusion criteria were invited to participate in a focus group or interview sessions, based on personal preference. Both types of sessions were conducted by a group coordinator who facilitated the discussion. All interactions were audio-taped and subsequently transcribed. Demographic data were compared using t-tests for continuous variables and Chi-Squares for categorical variables. Session content was analyzed using the scissor-and-sort technique and then separated into distinct domains based on themes which will be used to develop items for a quality of life tool.

Results: 40 patients, who met our inclusion/exclusion criteria, were invited to participate in the study. 11/40 of these patients agreed to participate: 4 in group session 1, 5 in group session 2, and 2 in personal interviews. Demographic comparisons between patients who accepted and those who refused to participate in the study were comparable. As expected, most crucial items were within the realm of one of the major domains that impact quality of life: physical function, emotional function, social function, role function and general health function (table 1). However, of note was that some items of concern for these patients were in new domains that were not previously associated with this group of patients: economic function, spiritual function, and miscellaneous group (table 2).

Conclusion: This group of patients is representative of patients with chronic pancreatitis, based on demographic comparisons since no selection bias was noted. Furthermore, based on saturation assessment, this number seemed to be sufficient to identify all key issues that may impact patients with chronic pancreatitis. Based on our assessment, any quality of life tool to be used for the evaluation of patients with chronic pancreatitis should include all 8 of these domains. Although this study is helpful to identify key issues that may impact patients with chronic pancreatitis, it is by no means sufficient. Once the tool has been developed, it will need to be evaluated for content validity and psychometrics.

ANALYSIS OF SESSIONS/THEMES

DOMAIN	QUOTES	FREQUENCY
PHYSICAL FUNCTION	MANY HOSPITAL ADMISSIONS	3
	WATCH WHAT YOU EAT	3
	DIARRHEA	2
	CAN'T SLEEP	2
	MANY PAIN PILLS	2
	WEIGH LOSS	2
	CAN'T EAT	1
	FEEDING TUBE	1
	HEARTBURN	1
	CONSITPATION	1
	MANY SURGICAL PROCEDURES	1
EMOTIONAL FUNCTION	UPSET NUMBER OF PILLS	7
	STRESSFUL	6
	DEPRESSION	3
	FRUSTRATION ABOUT EATING AND THE PAIN	3
	ALWAYS TAKE MEDS WITH YOU	1
	HANDICAPPED PROFESSOR	1
	EMBARRASSMENT	1
	UPSET ABOUT THE CONDITION	1
	ANGRY	1
	FEAR	1
	LOSING DIGNITY DUE TO DIARRHEA	1
	SUICIDAL	1
SOCIAL FUNCTION	NO LONG RANGE PLANS WITH FAMILY	4
	NO SOCIAL LIFE	4
	TAKE MEDS WHEN SHOPING, PLANS	3
	INTERRUPTED	2
	NO DRIVING	1
	CAN'T DRINK OR BE WITH FRIENDS	1
	FRIENDS HAVE CHANGED	
ROLE FUNCTION	CAN'T BE WITH MY KIDS	7
	FAMILY IS AFFECTED	4
	KIDS ARE SCARED	2
	SPOUSE AFFECTED BY MY PAIN	2
	POOR SELF-CARE	2
	GROCERY SHOPING IS BAD, CAN'T EAT THE FOOD	1
	HURTS TO DO HOUSEWORK	1
GENERAL HEALTH FUNCTION	AFFECTS OTHER MEDICAL PROBLMS	6
	PAIN WEARS ME DOWN	3
	DIZZINESS	1

UNEXPECTED DOMAINS

DOMAIN	QUOTES	FREQUENCY
ECONOMIC ROLE	LACK OF EMPLOYMENT DUE TO ABSENTEEISM/LACK OF HIRING/RETIRE EARLY	10
	COST OF MEDS	5
	HOSPITAL BILLS/DOCTOR BILLS	3
	HEALTHY FOODS COST MORE	2
	IMPACT ON MORTGAGE AND CHILD SUPPORT	1
	NO HANDICAP BENEFITS	1
SPIRITUAL ROLE	IT MAKES ME GRATEFUL FOR RELIGIONI DOUBT MY FAITH	1
	CAN'T GO TO CHURCH, HEARTS TOO MUCH	1
		1
MISCELLANEOUS	I'VE BEEN DRY AND SOBER FOR 3 YEARS BUT PEOPLE KEEP ASKING IF I AM DRINKING	5

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ABNORMAL BILIARY SCINTIGRAPHY SHOULD NOT BE AN INDICATION FOR CHOLECYSTECTOMY

C. W. Randall, MD,[1] C. M. Taboada, MD,[1] G. S. Gossen, MD,[1] R. D. Havranek, MD,[2] J. Munoz, MD,[1] F. Zurita, MD,[2] D. L. Stump, MD,[2] C. Fincke, MD,[2] R. Adame, MD,[3] J. Alvarado, MD[3]. 1. Research, Gastroenterology Research of San Antonio, San Antonio, TX; 2. Research, Gastroenterology Clinic of San Antonio, San Antonio, TX; 3. Medicine, University of Texas Health Science Center, San Antonio, TX.

Purpose: In the evaluation of patients with right upper quadrant (RUQ) pain it is commonplace in the community to utilize nuclear medicine imaging of the gallbladder. Often patients have cholecystectomy when abnormal gall bladder ejections are seen. In this paper we did a prospective investigation of patients referred to our center after receiving a cholecystectomy for RUQ pain.

Methods: From 1996 through 2006 we received referrals of 100 patients for tertiary consultation who had undergone cholecystectomy for RUQ pain at community hospitals. All had preoperative evaluations that included a liver profile, sonogram and nuclear imaging (HIDA or DISIDA) scans. Each patient had persistent pain unchanged in quality from their preoperative state.

Results: All 100 patients had a persistent history of RUQ pain following surgery (range 3-48 months; mean 12 months). The ultrasound exams and liver profiles on these patients were all within acceptable ranges of normal. The nuclear exams all demonstrated some degree of impaired gallbladder ejection fraction. 80 patients had persistent pain post-operatively. 15 patients had transient relief (range 1-11 weeks) but the pain returned. 5 patients had incomplete relief but were unsatisfied with the results. During our evaluation we found that all 100 patients satisfied criteria for IBS or NUD (based on Rome I, II or III Criteria; depending on the year the patient was evaluated). 85% improved with modulation of the enteric nervous system.

Conclusion: 1. Cholecystectomy for treatment of chronic RUQ pain based solely on abnormal nuclear medicine studies should be avoided. 2. The best diagnostic test for RUQ pain is a careful history using standard functional bowel criteria (i.e. Rome Criteria) followed by necessary laboratory, radiological or endoscopic examinations. 3. A trial of therapy for functional disorders and/or visceral hypersensitivity should be the first line of therapy following a normal evaluation.

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INFLUENCE OF CHRONIC ETHANOL CONSUMPTION ON EXTRA-PANCREATIC SECRETORY FUNCTION IN RAT

Y. Urita, MD, PhD,[1] T. Watanabe, MD, PhD,[1] T. Imai, MD,[2] T. Maeda, MD,[1] Y. Sasaki, MD,[1] S. Ishihara, MD,[1] K. Hike, MD,[1] M. Sanaka, MD, PhD,[1] H. Nakajima, MD, PhD,[1] M. Sugimoto, MD, PhD[1]. 1. Department of General Medicine, Toho University, Tokyo, Japan; 2. Department of Environmental and Occupational Health, Toho University, Tokyo, Japan.

Purpose: The usefulness of the typical direct methods involving duodenal intubation, such as the secretin and secretin–cholecystokinin tests, in the diagnosis of exocrine pancreatic dysfunction is widely accepted. However, these diagnostic tests tend to be avoided because of their technical complexity and the burden on patients. Recently, A simple breath test was developed for assessment of exocrine pancreatic function employing 13C-dipeptide [ie, benzoyl-L-tyrosyl-[1-13C]alanine (Bz-Tyr-Ala)]. Although alcohol abuse causes pancreatic damage in humans, this has been unclear in rats. The aim of the study is to evaluate the effect of ethanol exposure beginning at an early age on extra-pancreatic secretory function in rats.

Methods: Twelve female rats of the F344 strain aged 12 months were used. Seven rats were fed on a commercial mash food with 16% ethanol solution (Japanese Sake) as drinking-fluid since at 29 days of age (ethanol group). They drank a 16% ethanol solution with net ethanol 9.7g/kg body weight on average. The remaining five rats were fed on a nutrient-matched isocaloric diet with water as drinking-fluid (control group). After 24-hr fasting, rats are orally administrated 1cc of water containing sodium 13C-dipeptide (5 mg/kg) and housed in an animal chamber. The expired air in the chamber is collected in a breath-sampling bag using a tube and aspiration pump. The 13CO2 concentration is measured using an infrared spectrometer at 10-min interval for 120 min and expressed as delta per mil.

Results: The breath 13CO2 level increased and peaked at 20 min in both two groups. In general, 13CO2 excretion peaked rapidly and also decreased sooner in ethanol rats than in control rats. The mean value of the maximal 13CO2 excretion is 34.7 per mil in ethanol rats, greater than in control rats (31.4 per mil), but the difference did not reach the statistically significance (Figure).

Conclusion: Chronic ethanol feeding beginning at an early age does not affect extra-pancreatic secretory function in rats.

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INCREASED RISK OF ACUTE PANCREATITIS OBSERVED IN PATIENTS WITH TYPE 2 DIABETES

G. Bloomgren, MD, MBA,[1] R. Patterson, PhD,[1] D. Braun, MD, PhD,[2] R. A. Noel, DrPH, MSPH[2]. 1. Global Safety, Amylin Pharmaceuticals, San Diego, CA; 2. Global Safety, Eli Lilly, Indianapolis, IN.

Purpose: A recent review of the literature documented a considerable increase in pancreatitis incidence in Western Countries. Because many clinical factors frequently associated with diabetes are also risk factors for pancreatitis, it seems likely that the risk of acute pancreatitis in patients with type 2 diabetes would be higher than that of the general population. Objective: To investigate whether adults with type 2 diabetes are at higher risk of acute pancreatitis than adults without diabetes.

Methods: This was a retrospective claims database analysis using eligibility, pharmacy and medical claims data from a large US health plan affiliated with i3 Innovus between 1 January 1999 and 31 December 2005. Subjects in the type 2 diabetes cohort had a diagnosis code on a medical claim for type 2 diabetes and a prescription claim for an antidiabetic agent. Subjects in the non-type 2 diabetes cohort had no evidence of diabetes as defined above. Cohorts were matched 1:1 on gender and age categories with 337,067 subjects in each group. The ICD 9 code for acute pancreatitis was used to identify cases. Patients were required to be enrolled in the database for at least 12 months prior to the event of acute pancreatitis with no evidence of pancreatitis during that period.

Results: There was a 2.83-fold (95% CI 2.61, 3.06) greater exposure adjusted incidence of acute pancreatitis in patients with type 2 diabetes compared to the cohort without type 2 diabetes.

Conclusion: The increasing prevalence of type 2 diabetes and associated risk factors have the potential to increase the incidence of acute pancreatitis in the population. Further studies are needed to confirm this association and ascertain the causal pathways. Clinicians should be aware that compared to the general population, patients with type 2 diabetes may be at higher risk for developing acute pancreatitis.

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YIELD OF DOUBLE BALLOON ENTEROSCOPY (DBE) AT A TERTIARY CARE HOSPITAL

R. Abbass, MD, H. Charbel, MD, N. Gupta, MD, K. Bull-Henry, MD. Georgetown University Hospital, Arlington, VA.

Purpose: DBE has opened a new frontier in the diagnosis and treatment of small bowel pathology. Studies have revealed technical difficulties that may be encountered with this procedure, in particular difficult terminal ileal (TI) intubation. This study is aimed at assessing the utility, yield, and safety of DBE in a large U.S. referral center.

Methods: This was a retrospective study of all DBEs performed at our endoscopy center between 11/2006 and 1/2008 by one experienced endoscopist with assistance from gastroenterology fellows. All procedures were performed using the Fujinon EN-450T5 double balloon enteroscope (Fujinon Inc, Saitama City, Japan). Data on patient characteristics (prior abdominal surgery), indication, route, depth of insertion (beyond the pylorus/ileocecal valve), time of procedure, CO2 use, findings, interventions, and complications was collected.

Results: A total of 76 DBEs (51 per oral and 25 per anal) were performed on 53 patients. The most common indication for oral and anal DBE was obscure bleeding (41% oral, 44% anal). Abnormalities were found in 57% of DBEs resulting in change in patient management in 36% of cases. Average depth of insertion was 229 cm on oral route and 85 cm on anal route. Average time of procedure was 71 min on oral route and 78 min on anal route. Unlike prior studies, history of abdominal surgery did not impact the depth of insertion or time of procedure. The depth of insertion and time with and without surgery for oral DBE was 246 cm vs. 212 cm and 73 min vs. 70 min, respectively ($p > 0.05$). Technical improvement, measured by depth of insertion and time of procedure, was seen after 15 oral and 10 anal DBEs. This improvement occurred while maintaining the same diagnostic yield. Interestingly, we noted a trend toward increased DBE TI intubation rate (91% vs. 79%) when an immediate pre procedure colonoscopy was performed. There were no complications recorded in our series.

Conclusion: DBE remains a challenging yet promising procedure to unlock the pathology of the small bowel. An increased proficiency as measured by depth of insertion and time of procedure was noted after the performance of 15 per oral DBEs or 10 per anal DBEs. This may represent the learning curve for an experienced endoscopist. Abnormalities were found in a majority of patients undergoing DBE with a resultant change of management in a large proportion of those patients.

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PROSPECTIVE COMPARISON OF CAPSULE ENDOSCOPY AND DUAL-PHASE CT ENTEROGRAPHY IN THE EVALUATION OF OBSCURE GASTROINTESTINAL BLEEDING

J. R. Agrawal, MD, MPH,[1] A. Travis, MD, MSc,[1] K. Mortele, MD,[2] S. Silverman, MD,[2] S. Reddy, MD, MPH,[1] J. R. Saltzman, MD[1]. 1. Gastroenterology, Brigham and Women's Hospital, Boston, MA; 2. Radiology, Brigham and Women's Hospital, Boston, MA.

Purpose: To compare the diagnostic yield of capsule endoscopy (CE) and dual-phase CT Enterography (CT) in patients with obscure gastrointestinal bleeding (OGIB).

Methods: In this single-center, prospective study of patients referred for capsule endoscopy, we included patients diagnosed with either occult OGIB (anemia with no overt bleeding) or overt OGIB (hematochezia, melena or hematemesis). All patients had a prior non-diagnostic EGD and colonoscopy. All patients underwent an initial CE. The CE was read as "probable" if an actively bleeding lesion or lesion with high probability of bleeding was seen, "possible" if a lesion with the potential to bleed was seen, and "negative" if there was no suspicious lesion. Patients with definitive findings were offered therapeutic endoscopy. Patients with a "possible" or "negative" CE were offered CT.

Results: 42 patients underwent CE (57% with occult GI bleeding and 43% with overt bleeding). Five patients (12%) had a probable source identified (three small bowel angioectasias, two bleeding gastric lesions) and underwent therapeutic procedures. Thirteen patients (31%) had a "possible" source of bleeding and 24 (57%) had negative capsule findings. Of the 37 without a definitive source, 19 underwent CT (11 excluded due to renal insufficiency, two due to IV contrast allergy, two due to resolution of anemia and two refused further work-up). On CT, four patients (21%) had probable findings, two patients (11%) had relevant extraintestinal findings, and the remaining 13 patients (68%) had negative exams. One of the "probable" CTs was later found to be a false positive, showing hyperenhancement of the descending colon that was not confirmed on repeat colonoscopy. CT diagnosed one bleeding Meckel's diverticulum, one bleeding ulcer, and one tumor metastatic to the small bowel causing bleeding, all of which were not seen on capsule and also not identified on other imaging studies (Meckel's scan and angiography). The two patients with extra-intestinal findings were found to have previously undiagnosed cirrhosis with portal hypertension, which was likely contributing to the anemia, though a specific bleeding source was not identified. Overall, of the 19 patients who underwent CT, the CT was diagnostic for a definitive GI bleeding source in 3/7 (43%) of patients with overt bleeding and in none of the 12 patients with occult bleeding.

Conclusion: In this prospective study, we confirm that capsule endoscopy is a good initial test for patients with obscure gastrointestinal bleeding. Dual-phase CT enterography is useful for identifying a bleeding source in patients with overt obscure gastrointestinal bleeding and a non-diagnostic capsule endoscopy.

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SINGLE BALLOON ENTEROSCOPY IN COMPARISON TO CAPSULE ENDOSCOPY IN THE DIAGNOSIS AND MANAGEMENT OF SMALL BOWEL DISEASE

M. Al Mohajer, MD, U. Navaneethan, MD, J. B. Palascak, MD, A. Gelrud, MD, MMSc. Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH.

Purpose: Capsule endoscopy (CE) used in small bowel imaging is limited by inability to make a tissue diagnosis and lack of therapeutic interventions. Single balloon Enteroscopy (SBE) is a new technique available for the diagnosis and management of small bowel disease. The aim of this study is to evaluate the role of SBE in comparison to capsule endoscopy (CE) in the diagnosis and management of small bowel disease.

Methods: Patients who underwent SBE between March 2007 and April 2008 were included in the study. Retrospective chart review was performed to determine patient demographics, medical history, exam findings, prior diagnostic tests, therapy, and outcomes

Results: A total of 30 SBE procedures were performed on 26 patients (18 women, 8 men; mean age 60.5 + 20 years) including 28 oral and two rectal approaches. Intubation of the distal jejunum was achieved in all SBE per oral. Both examinations per rectum were successful with intubation of the small bowel of at least 80cm. All patients had been previously evaluated with at least one standard upper and lower endoscopy which failed to reveal a causative abnormality. Capsule endoscopy (CE) had been performed prior to SBE in all 26 patients (100%). 22 of the 30 SBE (73.3%) were performed for evaluation of obscure gastrointestinal bleeding/ iron deficiency anemia (OGIB), three (10%) for possible small bowel stricture, two (6.7%) for suspected Crohn's disease (CD), two (6.7%) for radiation enteritis and one (3.3%) for possible jejunal tumor seen on CE. A source of bleeding was found and successfully treated during 16 out of 22 procedures (72.7%) with OGIB. SBE findings included Angioectasia (n=13), jejunal polyps (n=3), non specific duodenitis (n=1), NSAID induced jejunal ulcer (n=1) and radiation enteritis (n=1). (Table 1) SBE did not identify any lesion in eleven procedures. (36.7%) SBE correlated with CE findings in 16 out of 30 procedures (53.3%), while SBE altered the diagnosis in 2 procedures (6.7%). SBE resulted in a therapeutic intervention in 14 out of 30 procedures (46.7%). No complications occurred.

Conclusion: Our experience with the SBE system demonstrates that the device is simple to use and safely examine the deeper parts of the small intestine. SBE can significantly impact the diagnosis of patients with small bowel diseases in comparison to CE and provide opportunities for therapeutic intervention.

Findings on SBE in 30 procedures

Findings on SBE	Number (%)
Angioectasia	13 (43.3)
Small bowel polyps	3 (10)
Non specific duodenitis	1 (3.3)
Radiation enteritis	1 (3.3)
NSAID induced jejunal ulcer	1 (3.3)
Normal	11 (36.7)

SBE-Single balloon enteroscopy
NSAID-Non steroidal antiinflammatory drugs

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RISK FACTORS ASSOCIATED WITH SMALL INTESTINAL BACTERIAL OVERGROWTH (SIBO) AFTER ROUX-EN-Y GASTRIC BYPASS SURGERY

B. Bal, MD,[1] H. N. Shah, MD,[1] F. C. Finelli, MD, JD,[3] J. R. Kirkpatrick, MD,[3] T. R. Koch, MD[2]. *1. Medicine, Washington Hospital Center, Washington, DC; 2. Georgetown University School of Medicine, Washington, DC; 3. Surgery, Washington Hospital Center, Washington, DC.*

Purpose: We have reported that, using glucose-hydrogen breath testing as the "gold standard", elevated serum folate has a sensitivity of 90% in screening for small intestinal bacterial overgrowth (SIBO); using elevated serum folate as a surrogate marker, the prevalence of SIBO in patients after Roux-en-Y gastric bypass (RYGB) surgery is 63%. We have published our findings demonstrating that RYGB patients with micronutrient deficiencies require treatment of SIBO in order to complete micronutient repletion. Risk factors for development of SIBO in patients after RYGB surgery are unclear; we hypothesize that SIBO in RYGB patients is related to the use of drugs that alter gut motility.

Methods: This is a retrospective chart review of 206 patients who underwent RYGB surgery at our institution from 1999-2007. All patients at our institution are required to take a daily multivitamin after RYGB surgery. Of these patients, 115 patients had serum folate levels obtained and were therefore included. Baseline patient demographics (age, sex, and body mass index or BMI) were recorded. A serum folate level above the upper limit of normal (14 ng/dL) was considered to be elevated. Medication lists for these patients after RYGB surgery were carefully reviewed; the extended use of drugs that alter gut motility was recorded. Short-term narcotic use in the immediate post-operative period was not included.

Results: This study includes 97 female and 18 male patients with an average age of 46 years (range: 21 to 68) and a mean BMI of 53 kg/m2 (range: 40 to 100) at surgery. Sub-group analysis of 90 patients identifies 58 with chronic narcotic use and 51 have elevated serum folate levels; in a control group of 32 patients who receive no motility altering drug, only 10 patients have elevated serum folate levels (Chi-squared 2x2: p<.0001). Among the 25 remaining patients, 13 are receiving an anti-depressant medication (all 13 have elevated serum folate levels), 9 receive a proton pump inhibitor (8 have elevated serum folate levels), and 3 receive a calcium channel antagonist (2 have elevated serum folate levels).

Conclusion: Numerous animal models and human studies have shown that narcotic induced altered gut motility leads to SIBO. The statistically significant relationship between chronic narcotic use and elevated serum folate levels supports our hypothesis that SIBO in RYGB patients is related to the use of drugs that alter gut motility. Since we have shown that RYGB patients with micronutrient deficiencies require treatment of SIBO in order to complete micronutient repletion, identification of factors associated with SIBO is quite important. Futher work is required to determine whether these medications adversely affect the treatment of SIBO in RYGB patients.

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HYPOALBUMINEMIA AFTER ROUX-EN-Y GASTRIC BYPASS SURGERY IS NOT RELATED TO SMALL INTESTINAL BACTERIAL OVERGROWTH

B. Bal, MD,[1] H. N. Shah, MD,[1] F. C. Finelli, MD, JD,[2] J. R. Kirkpatrick, MD,[2] T. R. Koch, MD[3]. *1. Medicine, Washington Hospital Center, Washington, DC; 2. Surgery, Washington Hospital Center, Washington, DC; 3. Georgetown University School of Medicine, Washington, DC.*

Purpose: Hypoalbuminemia can result in adverse clinical outcomes. A recent report suggested that treatment of small intestinal bacterial overgrowth (SIBO) improves hypoalbuminemia that develops after gastric bypass surgery (Obes Surg 2008; 18(1): 139). We have reported that by using glucose-hydrogen breath testing (GHBT) as the "gold standard", elevated serum folate has a sensitivity of 90% in screening for SIBO. We hypothesize that macronutrient malabsorption induced by SIBO induces hypoalbuminemia and, as a corollary, treatment of SIBO reverses low albumin levels.

Methods: This is a retrospective chart review of 206 patients who underwent Roux-en-Y gastric bypass (RYGB) surgery at our institution from 1999-2007. Of these patients, 115 had serum folate and serum albumin levels obtained, and thus were included in this study. Baseline patient demographics (age, sex, and body mass index or BMI) were recorded. A serum folate level above the upper limit (14 ng/dL) was considered to be elevated and an indirect measure of SIBO. A serum albumin level below the lower limit (3.5 mg/dl) was considered to be low. There were 42 patients in whom SIBO was confirmed by GHBT, and these patients were treated with oral antibiotics. The average of three serum albumin values before a HBT was performed were recorded as "pre-treatment"; the average of 3 serum albumin values obtained directly after antibiotic treatment for SIBO were recorded as "post-treatment".

Results: There were 97 female and 18 male patients with a mean age of 46 years (range: 21 to 68) and a mean BMI at surgery of 53 kg/m2 (range: 40 to 100). In these 115 patients, 68 had elevated serum folate and 36 of these had low serum albumin; 56 patients had normal serum folate and 28 of these had low serum albumin level (Chi-squared 2x2: p=0.8). In examination of serum folate levels compared to serum albumin levels, the correlation coefficient was –0.4 (not significant). In 42 patients in whom SIBO was confirmed by an abnormal GHBT, 14 patients (33%) had low serum albumin levels; 42% of these patients achieved normal serum albumin levels after receiving antibiotic treatment for SIBO.

Conclusion: Hypoalbuminemia after RYGB is common and was identified in 56% of the RYGB patients. This study did not support our hypothesis that SIBO induces hypoalbuminemia, and so other mechanisms must be important in development of hypoalbuminemia. However, in 42% of patients in whom SIBO was confirmed by an abnormal GHBT, antibiotic therapy reversed hypoalbuminemia. Further studies are required to determine whether treatment of SIBO can significantly improve nutritional outcomes in RYGB patients.

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CAN ENDOSCOPIC VISUALIZATION PREDICT HISTOLOGICAL CHANGES AND EARLY REJECTION OF SMALL INTESTINE GRAFTS?

I. I. El Hajj, MD, MPH,[1] T. Wu, MD, PhD,[2] K. Abu-Elmagd, MD,[3] S. J. O'Keefe, MD, MSc[1]. *1. Gastroenterology, University of Pittsburgh, Pittsburgh, PA; 2. Transplantation Pathology, University of Pittsburgh, Pittsburgh, PA; 3. Transplant Surgery, University of Pittsburgh, Pittsburgh, PA.*

Purpose: Improvements in tolerogenic immunosuppressive therapy have resulted in major improvements in small bowel transplantation (SBTx) survival during the past decade, such that survival parallels that for liver transplant recipients: >90% for the first year. Although rejection may be more frequent with SBTx because of the immunogenic character of the intestine, it is easier to detect early acute cellular rejection (ACR) due to endoscopy, and if detected early, ACR is rapidly reversible with steroid bolus therapy. In the 1st yr following SBTx, a short segment of ileum is interconnected between the colon, ileal graft and abdominal wall that makes graft access easy. The objective of this study was to compare visual findings to histology from chimney biopsies in asymptomatic and to more invasive ileal and jejunal biopsies in symptomatic patients.

Methods: We analyzed the single experience of an experienced endoscopist over 12 months. 590 surveillance graft ileoscopies and biopsies were performed in 67 stable asymptomatic patients (Table 1), and 40 combined ileoscopies and enteroscopies in 19 symptomatic patients. The surveillance microscopic findings were divided into 3 subcategories: mucosal architecture (normal vs. abnormal: e.g. distortion, ulceration, regeneration, granulation, atrophy), lamina propria inflammation (normal vs. abnormal: e.g. edema, congestion, hemorrhage, inflammatory infiltrate), and crypt apoptosis (normal < 0-4 apoptotic bodies/10 HPF, abnormal ≥5).

Results: In surveillance, the positive predictive value of visualization for normal histology was 83.5% for mucosal architecture, 34.3% for lamina propria, and 94.5% for apoptosis score. The predictive value of visualization for abnormal histology was 77.5% for mucosal architecture, 93.8% for lamina propria, and 33.8% for apoptosis score. The correlation between visualization and the microscopic findings was significant overall for the 3 variables (Pearson Chi-Square; p<0.01). In symptomatic patients, ACR was detected in 24/40 endoscopies although the mucosa looked normal in 14. In 30 pts where chimney and ileal biopsies were taken, ACR was detected in 21, with 16 showing ACR in both sites and 4 ACR in the chimney alone. In 10 patients jejunal biopsies were taken in addition to chimney showing the same rate of ACR in both sites. This suggests a sensitivity of 94% for chimney biopsy detection of graft ACR.

Conclusion: Although endoscopic visualization identifies most patients with abnormal histology, early features of ACR may be missed, making biopsy mandatory, even in high risk coagulopathic patients. The high sensitivity of chimney biopsy in detecting ACR endorses the priority of early, less invasive, chimney biopsy in the surveillance of SBTx patients.

Surveillance endoscopies

Visual		Microscopy					
Normal	Abnormal	Normal			Abnormal		
		Mucosa	LP	Apoptosis	Mucosa	LP	Apoptosis
510	-	426	175	482	84	335	28
-	80	18	5	53	62	75	27

LP:lamina propria

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BEVACIZUMAB AS A MEANS OF TREATING ANEMIA AND ACTIVE BLEEDING SECONDARY TO VASCULAR ECTASIA, A CASE SERIES

C. Jackson, MD,[1] C. Q. Cabansag, MD,[1] A. Kawayeh, MD[2]. *1. Gastroenterology, Loma Linda VA Healthcare System, Loma Linda, CA; 2. Internal Medicine, Loma Linda University Medical Center, Loma Linda, CA.*

Purpose: Studies using enteroscopy have revealed that vascular ectasias are the leading cause of occult hemmorhage from the small intestine. Single lesions may be treated endoscopically with argon plasma coagulation, YAG laser or surgical resection. However, multiple vascular ectasias are often observed. These lesions typically reappear after localized therapy which causes the treatment of these lesions to be therapeutic challenge. Since vascular ectasias are known to form as a result of unregulated angiogenesis, inhibition of aberrant vascular formation with anti-angiogenic therapy in limited experience has shown to be successful. This is the first case series where bevacizumab (Avastin, Genentech Inc.,San Francisco), a recombinant antibody directed against vascular endothelial growth factor (VEGF) used for treatment of adenocarcinoma of the colon, was given to three patients as a means of therapy.

Methods: Three patients with evidence of recurrent, symptomatic anemia requiring multiple transfusions and hospitalizations underwent capsule endoscopy which revealed multiple vascular ectasias. All three patients had undergone multiple upper and lower endoscopies. It was determined that further endoscopy would not be helpful and systemic anti-angiogenic therapy would be more beneficial. After the capsule endoscopies were performed, all three patients were counseled on therapy and selected to receive bevacizumab.

Results: The three patient that were treated(all men; age range 64-87 yrs) had suffered from recurrent bleeding related to multiple vascular ectasias over a period of 1-3 years. The treatment with bevacizumab was well tolerated. Only one of the patients complained of abdominal pain which resolved. Among the three patients, a total of 26 units of blood were transfused prior to bevacizumab therapy, and the mean hemoglobin value was 9.4 g/dl. Five months after bevacizumab therapy, none of the patients received transfusion therapy. The mean hemoglobin was 13.2g/dl.

Conclusion: All three patients were noted to have symptomatic anemias due to the presence of vascular ectasis not amenable to endoscopic therapy. After therapy with bevacizumab, there were no transfusions or hospitalizations. This is the first case series demonstrating that bevacizumab may be useful in the treatment of vascular ectasias.

Patient No.	Mean Hgb (g/dl) 5 months prior to therapy	No. of transfusions 5 months prior to therapy	No. of transfusions 5 months after therapy	Mean Hgb (g/dl) 5 months after therapy
1	8.7	1.8	0	11.7
2	9.0	7	0	13.0
3	9.4	19	0	15.0

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GASTRIC HETEROTOPIA IN THE DUODENUM: ENDOSCOPIC AND HISTOPATHOLOGIC ASSOCIATIONS

R. S. Kinsey, MD, R. M. Genta, MD. Caris Diagnostics, Irving, TX.

Purpose: To characterize the endoscopic appearance and the clinical and histopathologic associations of gastric heterotopia (GH) in the duodenal mucosa. GH is an island of oxyntic glands lined by gastric epithelium lodged within the mucosa of the duodenum. Traditionally believed to appear endoscopically as elevated lesions, GHs have unknown clinical significance and are poorly characterized.

Methods: We analyzed electronic data from Caris Diagnostics, a specialized gastrointestinal pathology group receiving specimens from endoscopy centers in 40 states. The database includes demographic and clinical information, a summary of the endoscopic findings, the site of origin, and the histopathologic report for each specimen. To identify the records for eligible duodenal biopsies, we extracted data from all cases with a sign-out date within the 12-month period from 4/01/07 to 3/31/08, and stored them in a Microsoft Access database. Statistical calculations were performed using SigmaStat 3.5 (Systat Software, Inc., Point Richmond, California); chi-square test, Student's t-test and Mann-Whitney Rank Sum Test were used as appropriate. A p value < 0.05 was considered significant.

Results: There were 246,254 patient encounters with a total of 29,296 duodenal biopsies. GH was diagnosed in 527 biopsies (1.8%). For this analysis we selected the 20,646 unique patients (13,433 women or 65.0%) who had both gastric and duodenal biopsies available. Of these, 467 patients had GH: their median age was 59 years (range 16 to 92) and 246 (52.7%) were men. Thus men had a2-fold risk of having GH (O.R. = 2.11, 95% CI 1.76 – 2.54). The endoscopic impression of a duodenal polyp or nodule was reported in only 30 patients (6.4%) and duodenitis in 55 patients (11.8%); in the remaining endoscopic reports there was no mention of a specific lesion and specimens were submitted as "duodenal biopsy." Histologically, only one of the 467 patients also had a flattened duodenal mucosa suggestive of celiac sprue; 3 subjects had concurrent duodenal intraepithelial lymphocytosis; and 9 patients had peptic duodenitis. The overall prevalence of *H. pylori* infection in the patient population was 12.0%: however, only 2.6% of GH patients *H. pylori* gastritis (p<0.001); even fewer (9 patients or 1.9%) had gastric ulcer or erosions. In no case was *H. pylori* reported to infect the heterotopic gastric mucosa.

Conclusion: The overwhelming majority of GHs are not submitted for pathologic examination with the endoscopic impression of a polyp or nodule, although it would seem likely that a lesion worth biopsying is usually seen. GH is twice as common in men as in women, is associated with a healthier-than-expected duodenum and stomach, and is not infected with *H. pylori.*

Disclosure - Both authors (RS Kinsey and RM Genta) are employees of Caris Diagnostics, the Pathology Laboratory where the work was conducted.

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LARAZOTIDE ACETATE (AT-1001) PREVENTS IMMUNOLOGIC CHANGES INDUCED BY GLUTEN CHALLENGE IN PATIENTS WITH CELIAC DISEASE

D. A. Leffler, MD,[1] M. Pescovitz, MD,[2] F. Leon, MD, PhD,[3] B. Paterson, MD,[3] J. Jiang, PhD,[3] A. Di Marino, MD,[4] J. A. Murray, MD,[5] C. P. Kelly, MD[1]. 1. Celiac Center, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA; 2. Division of Transplant Surgery, Indiana University Medical Center, Indianapolis, IN; 3. Clinical R&D, Alba Therapeutics, Baltimore, MD; 4. Department of Gastroenterology, Thomas Jefferson University Hospital, Philadelphia, PA; 5. Division of Gastroenterology, Mayo Clinic, Rochester, MN.

Purpose: To evaluate the effects of an experimental inhibitor of intestinal permeability (IP) and mucosal barrier dysfunction, larazotide acetate, on the systemic immunologic changes induced by gluten challenge in celiac disease.

Methods: Eighty-six patients with biopsy-proven celiac disease and with negative anti-tissue transglutaminase (anti-tTG) while on a gluten free diet were randomized to 1 of 7 treatment regimens: larazotide acetate (0.25, 1, 4 or 8 mg, three times a day) or placebo with or without gluten challenge (2.4 g/day) for 14 days. The immunologic parameters analyzed included anti-tTG titers, serum cytokine levels and peripheral blood lymphoid cell subsets.

Results: Larazotide acetate showed signs of efficacy in preventing increased intestinal permeability (IP) induced by gluten exposure and was well tolerated. In post-hoc analyses, gluten challenge induced elevation of anti-tTG titers (NS) and a reduction in circulating CD19+ CD3- B cells (p=0.03), consistent with an activation of the humoral immune system in response to gluten, and an extravasation of activated B cells to lymph nodes and tissue. Gluten challenge also induced an increase in circulating CD3+ CD4+ CD25+ icFOXP3+ lymphocytes (p=0.03), subset possibly containing Regulatory T cells, consistent with a compensatory mechanism to the immune activation induced by gluten. Larazotide acetate treated patients did not have any change in these parameters and behaved similar to subjects not exposed to gluten, who received corn starch as placebo.

Conclusion: In post-hoc analyses, larazotide acetate prevents immunologic changes induced by gluten challenge in patients with Celiac Disease in association with the beneficial effects observed on IP. Normalization in IP may reduce antigen exposure and inhibit the immune pathogenesis of Celiac Disease.

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CELIAC DISEASE IS ASSOCIATED WITH RESTLESS LEGS SYNDROME

L. B. Weinstock, MD,[1] A. S. Walters, MD,[2] S. P. Duntley, MD,[3] G. E. Mullin, MD[4]. 1. Gastroenterology, Specialists in Gastroenterology, St. Louis, MO; 2. NJ Neuroscience Institute at JFK Medical Center, Seton Hall University School of Graduate Medical Education, Edison, NJ; 3. Neurology, Washington University School of Medicine, St. Louis, MO; 4. Gastroenterology, Johns Hopkins Medical Institute, Baltimore, MD.

Purpose: Celiac disease (CD) occurs in 1% of the population, often has a delayed diagnosis, and can be associated with neuromuscular disorders. Restless legs syndrome (RLS) is a CNS disorder that is either idiopathic or secondary to a number of diseases. RLS is the strong urge to move the legs often with discomfort, occurs in 10% of the population, and causes poor sleep. The aim of this study was to determine if CD was associated with RLS since both are associated with iron deficiency.

Methods: 85 CD pts (F-69, M-16; 50.2 ±17.9 yrs) were interviewed over a 6-mo period: 34 pts were prospectively interviewed in GI clinic; 51 pts accrued from a 5-yr computer search were interviewed by phone. All pts presented with GI symptoms and/or anemia, had diagnostic evidence of CD, and had improvement on a gluten free diet (GFD). Four international criteria were required to be positive for RLS: 1) urge to move legs often with discomfort, 2) worse at rest, 3) worsening at night, and 4) relief with activity. Incidence (having RLS at any point in time) and prevalence (having RLS at time of survey), clinical characteristics, RLS risk factors, and potential response to a GFD were queried. RLS severity was determined by a prospective assessment of the international RLS (IRLS) scale (range 0-40) in those currently affected and by a retrospective recall of an average week with RLS for pts with inactive RLS. Spouses (F-11, M-52; 52.9 ±15.6) were used as controls: 73% RLS(+) pts and 75% RLS(-) pts were married.

Results: RLS incidence was 35.3% (30/85). RLS prevalence was 24.7% (21/85; CI 15.3-34.1%) vs. 9.5% (6/63; CI 2.1-16.9%) of spouses (p=0.02; odds ratio = 3.1). In 93.1% of pts, RLS started during or after onset of GI symptoms. Pts had previously undiagnosed/untreated RLS for 6.4 ±9.5 (range 0.5-40) yrs. RLS(+) pts had CD diagnosed for 6.3 ±10.3 yrs with GI symptoms for 13.6 ±16.5 yrs prior to diagnosis. These times were not statistically different from RLS(-) pts. The mean IRLS scale was 15.7 ±7.2 (range 8-33). After initiating a GFD, RLS improved in 50% of pts with a 78.1% mean peak improvement after 5.7 mo. Current iron deficiency was reported in 42.1% of RLS(+) pts with active RLS vs. 5.6% of the RLS(-) pts (p<0.001). Secondary RLS disorders, RLS in first-degree relatives, anemia, and a past history of iron deficiency did not differ between CD groups.

Conclusion: RLS occurs frequently in CD and often is a significant clinical problem. RLS improved in 50% of the pts after starting a GFD and this may be related to improved iron absorption. Additional factors could play a role in the pathogenesis of RLS in CD. Screening for CD in RLS pts is important since this commonly overlooked silent disease may be an underlying factor for some cases of idiopathic RLS.

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RIFAXIMIN IMPROVES RESTLESS LEGS SYNDROME ASSOCIATED WITH SMALL INTESTINAL BACTERIAL OVERGROWTH

L. B. Weinstock, MD. Specialist in Gastroenterology, St. Louis, MO.

Purpose: Recently, a potential association between small intestinal bacterial overgrowth (SIBO) and restless legs syndrome (RLS) has been recognized. RLS is a CNS disorder that is either idiopathic or secondary to a number of diseases. RLS is characterized by a strong urge to move the legs, often with discomfort, affects 10% of the population, and causes poor sleep and a reduced quality of life. This prospective, open-label study evaluated the effect of rifaximin, a nonabsorbed antibiotic, on the severity of RLS symptoms in patients (pts) with idiopathic RLS and indirect evidence of SIBO.

Methods: Pts with idiopathic RLS and an abnormal lactulose breath test (LBT) received rifaximin 400 mg t.i.d. for 10 days followed by 400 mg q.o.d. for 20 days. A repeat LBT was performed on day 11. All 4 international criteria were required to confirm RLS: 1) urge to move legs often with discomfort, 2) worse at rest, 3) worsening at night, and 4) relief with activity. On days 0, 11, 20 and 30, the international RLS (IRLS) symptom scale (range 0-40) was used to measure RLS severity and a Likert scale was used to assess abdominal pain and bloating. On days 11, 20, and 30, a global assessment of RLS, abdominal pain, and bloating improvement was queried. If pts failed to respond to rifaximin treatment, additional combination antibiotics were administered.

Results: Six of 21 RLS pts screened had a normal LBT were excluded. 1 pt needed *H. pylori* therapy was excluded. The 14 remaining pts (8F, 6M, age 54.3 ±16.5 yrs [mean ± 1 SD]) had idiopathic RLS for 6.8 ± 7.5 yrs. Baseline LBT results were: abnormal levels of hydrogen (8), methane (4), and both (2). Mean baseline IRLS scale was 23.1 ± 6.2. Twelve pts had gastrointestinal disorders: irritable bowel syndrome (IBS) (7), functional pain and bloating (3), Crohn's disease (1), and celiac disease (1). The latter was initially diagnosed as having IBS. After rifaximin treatment, 9 pts were identified as RLS clinical responders (markedly, moderately or slightly improved) and 5 as nonresponders (unchanged or slightly, moderately, or markedly worse) based on their global change. Mean percent IRLS scale improvement in responders was 65.6 ± 25.7, range 31-100%. Mean percent IRLS scale improvement in nonresponders was (-)5.7 ± 29.5, range (-)55-20.7%. Abdominal pain and bloating scores improved in all pts. Two nonresponders treated with additional combination antibiotics experienced a decrease in RLS symptoms. One nonresponder, with celiac disease, had improvement in RLS symptoms only after starting a gluten-free diet.

Conclusion: Rifaximin treatment of SIBO appears to reduce the severity of RLS symptoms. A double-blind study of rifaximin treatment of RLS is ongoing.

Disclosure - Dr. Weinstock, Salix, Speakers Bureau

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A COMPARISON OF DIAGNOSTIC YIELD AND DEGREE OF AGREEMENT BETWEEN CAPSULE ENDOSCOPY AND DOUBLE BALLOON ENTEROSCOPY IN EVALUATING SMALL INTESTINAL DISORDERS

A. Ali, MD, M. Satchi, MD, E. Rosen, MD, D. Vadada, MD, G. B. Haber, MD, FACG. Division of Gastroenterology/Hepatology and Center of Advanced Therapeutic Endoscopy, Lenox Hill Hospital, New York, NY.

Purpose: The aim of our study is to compare the diagnostic yield and degree of agreement between Capsule Endoscopy (CE) and Double Balloon Enteroscopy (DBE) in evaluating small bowel disorders.

Methods: Following IRB approval, we undertook a retrospective chart review of 119 consecutive patients who underwent both CE and DBE from January 2005 to August 2006. The indications for DBE were obscure overt GI bleeding (42%), obscure occult GI bleeding (37%), suspected mass (10%), mucosal changes (10%) and retained capsule (1%).The degree of agreement between CE and DBE was assessed using Cohen's kappa statistics.

Results: 55 (46%) males and 64 (54%) females underwent both DBE and CE. The mean age was 62 ± 19.8 years (range 17-100 years). CE was abnormal in 74 (62%) patients compared to DBE which revealed abnormalities in 80 (67%) patients. For agreement between the two tests, there was a trend towards significance (kappa value=0.28,p=.06). Among 45 patients with negative CE, DBE revealed small bowel pathology in 24 (53.3%) patients whereas in 37 patients with negative DBE, CE suspected a small bowel pathology in 18(48%) patients. DBE revealed small intestinal diverticuli in 7 patients (5.9%) whereas CE failed to show them. Discussion: Our study confirms that CE and DBE supplement each other in studying small bowel disorders, in particular obscure GI bleeding. Although CE and DBE have comparable overall diagnostic yield, DBE detects more small bowel diverticuli and normal variants. While CE appears to have higher diagnostic yield in detecting ulcers, masses and active bleeding, it may be falsely positive in some of these patients where DBE clarifies the diagnosis by accurately identifying the normal variants. DBE also demonstrates the underlying pathology in patients with active bleeding on CE.

Conclusion: The overall diagnostic yield of DBE is comparable with CE in detecting small bowel pathology. There is a trend towards significance for agreement between CE and DBE and a higher sample size will likely achieve the statistical significance.

	Angioectasia	Ulcer	Mass	Active Bleeding	Mucosal change*	Negative	Small Bowel Diverticuli	Normal variant†
CE	25(21%)	10(8.4%)	13(11%)	17(14.3%)	9(7.6%)	45(38%)	0	0
DBE‡	31(26%)	3(2.5%)	7(6%)	6(5%)	17(14.3%)	37(31%)	7(6%)	8(6.7%)
DBE findings in CE -ve pts (n=45)	4(9%)	1(2.2%)	1(2.2%)	3(7%)	7(16%)	19(42%)	5 (11%)	3(7%)
CE findings in DBE - ve pts (n=37)	5(13%)	4(11%)	4(11%)	1(2%)	4(11%)	19(52%)	0	0
DBE findings in pts with suspected mass on CE(n=13)	0	0	3(23%)	0	2(15.4%)	4(10.8%)	0	3(23%)
DBE findings in pts with active bleeding onCE(n=17)	11(35.5%)	0	1(6%)	2(12%)	1(6%)	1(6%)	1(6%)	0

***Mucosal change includes nodularity, erythema and edema.**
Normal variants include lipoma, dilated lacteals and prominent folds
In one patient DBE revealed hemorrhoids and 2 patients it ended early due to technical difficulty or patient intolerance.

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SMALL BOWEL ARTERIOVENOUS MALFORMATIONS FOUND IN CAPSULE ENDOSCOPY FINDINGS

D. Chavalitdhamrong, MD,[1] O. Goltzer, -,[2] J. Sul, MD,[1] R. Jutabha, MD[1]. 1. David Geffen School of Medicine at University of California, Los Angeles, CA; 2. Capsule Endoscopy Services, Los Angeles, CA.

Purpose: Arteriovenous Malformations (AVMs) are known to be common in gastrointestinal tract. However, the prevalence of small bowel AVMs is not well known since thorough small bowel evaluation usually does not be done especially in asymptomatic individuals. The objective of this study was to report the small bowel capsule endoscopy (SBCE) findings and complication rate in a large series of patients.

Methods: From February 2004 to June 2008, a total of 451 SBCE procedures were performed on patients with either an unknown source of gastrointestinal bleeding or with suspected small bowel disease/tumor.

Results: Eleven (2.4%) of 451 SBCE cases did not pass into the small intestine for the duration of the imaging time and were therefore excluded from this study. Four hundred and forty capsule endoscopy videos were reviewed. SBCE reached the colon in 371 cases, ileum in 56 cases, jejunum in 11 cases, and duodenum in 2 cases. Mean age±SD for all patients was 59.14±19.0 (range 7-96 years). The mean±SD age in patients where AVMs were visualized was 60.88±18.59 which was significantly greater than the mean age in non-AVM cases (56.40±19.46) (p=0.02). Small bowel AVMs were found in 269 cases (61.1 %). Fifty-four small bowel AVMs cases were incidentally found in suspected small bowel disease/tumor cases. Furthermore, four out of these fifty four cases were bleeding AVMs. In six cases, concomitant AVMs were found in the stomach. In one case, a concomitant AVM was found in the colon and in two cases concomitant AVMs were found in both the stomach and colon. There were multiple AVMs (≥ 2 lesions) in 122 cases and large AVMs (>5 mm.) in 19 cases. Of all the AVM cases, we identified 35 (13 %) which were actively bleeding. The majority of the bleeding AVMs were either small (22) or medium (7) and only 6 (17.1%) cases of bleeding AVMs were large. No capsule impaction, or other complications occurred in this case series.

Conclusion: From these data, AVMs are common findings especially in the small bowel of the older population. The bleeding AVMs were not associated with larger lesions. SBCE was a safe and non-invasive technique to evaluate the small bowel mucosa in patients with suspected AVMs as a source of gastrointestinal bleeding.

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CHRONIC SUPERFICIAL ENTERITIS: A NOVEL FORM OF INFLAMMATORY BOWEL DISEASE

D. Finkelberg, MD,[1] J. Wong, MD,[2] K. Bhattacharya, MD,[1] D. Cave, MD, PhD[1]. 1. Gastroenterology, UMass Medical Center, Worcester, MA; 2. Department of Surgery, UMass Medical Center, Worcester, MA.

Purpose: Chronic non specific stenosing ulceration [CNSU] and chronic multi-focal ulcerative stenosing enteritis [CMUSE] have been reported in the Far East and Europe but not in the USA. The conditions are distinct from Crohn's disease [CD] in that the inflammatory process is not transmural or granulomatous. The etiology of these conditions is unknown.

Methods: We report a series of 8 patients seen in 2007/8 that we believe have CNSU or CMUSE or a closely related condition. These patients were referred for evaluation of the source of obscure gastrointestinal bleeding and severe iron deficiency anemia requiring iron infusions or transfusion.

Results: Two of 8 patients were female. The mean age of onset of symptoms was 62.5 years, range 53 – 69 and had been present for months to many years. None had diarrhea or significant weight loss. Four had abdominal pain. The mean hematocrit on presentation was 32.8 %, mean serum albumin was 3.3 gm/dl. The mean ESR was 26 mm/hr, range 7-48 mm/hr. EGD and colonoscopy were negative in all patients, except in one who had a single ulceration in terminal ileum. Video capsule endoscopy showed patchy superficial ulcers in the ileum in all patients along with stenoses. Double balloon enteroscopy was not diagnostic in 4 of 4 patients. The terminal ileum was spared in 6/8 patients. Three patients had normal CT enterography and 2 patients were found to have small bowel thickening on CT abdomen and pelvis. One patient had a normal small bowel series. Two patients underwent resections of the involved areas of small bowel showing superficial ulcerations with nonspecific inflammation in 2 patients. None had transmural inflammation. We consider these patients to have enteritis distinct from CD, since the patients had a late age of onset, an absence of typical symptoms of CD. The ulcerations seen on VCE were unusual in that they were superficial, varying in size from small to large and without surrounding erythema or edema. Aphthoid ulcers were not seen. The histopathology when available was non-specific, n=3 and non-transmural n=2. Two patients had exposure to NSAIDS but the ulcers were not typical of NSAID diaphragm disease.

Conclusion: In conclusion we report finding a novel enteritis for the first time in the USA in 9 patients that is similar to CNSU or CMUSE. For simplicity we refer to the condition as chronic superficial enteritis.

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ASSOCIATION OF CELIAC DISEASE, ABDOMINAL PAIN AND INTUSSUSCEPTION IN ADULTS

T. A. Gonda, MD,[1] S. Khan, MD,[2] J. Chen, MD,[2] S. K. Lewis, MD,[2] M. Rubin, MD,[2] P. H. Green, MD[2]. 1. Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY; 2. Celiac Disease Center, Columbia University Medical Center, New York, NY.

Purpose: Intussusception is a rare condition in adults and is traditionally associated with the presence of a lead point, most frequently caused by malignancy. However, more frequent use of cross sectional imaging has resulted in an increase in the detection of intussusception (0.2% of all cross sectional imaging studies) and the majority of these were non-lead point. While most of non-lead point intussusception is described as idiopathic, an association with celiac disease has been demonstrated in case reports. The extent and significance of this association is however unclear. We therefore conducted a review of our celiac disease database in order to assess this association.

Methods: An anonymized prospectively maintained database of 880 patients with biopsy proven celiac disease was reviewed to select all patients who had undergone abdominal imaging: CT, MRI, ultrasound, small bowel series, video capsule endoscopy (VCE). From this group we identified those who were found to have intussusception.

Results: The cohort consisted of 14 patients (1.6%), age 47+/-17.5 years; 50 % female. Intussusceptions were detected by CT in 10, by VCE in 3 and by SBFT in 2 patients. The reason for evaluation was abdominal pain in 78% (11/14), whereas in the remainder (3/14) intussusceptions were incidentally found. Intussusception was the initial manifestation of celiac disease in 57% (8/14). Two patients were found to have lead-point intussusceptions and both of these patients had small bowel adenocarcinoma. 10/14 patients had severe villous atrophy and all had antibodies seen in celiac disease. Among patients with established celiac disease, intussusceptions were detected early in the course of the disease (within 3 years of diagnosis). Follow-up was available for 11 patients at a mean of 2.1 years. Of the 9 patients who adhered strictly to a gluten free diet (GFD) 6 had resolution of the abdominal pain and had no recurrence of intussusception.

Conclusion: Intussusceptions appear to be more common in patients with celiac disease than in the general population (1.6% vs 0.2%). Intusssuception may be the initial presentation of unsuspected celiac disease. It is most often associated with abdominal pain though may be incidental, suggesting that this may occur frequently in celiac disease. Adenocarcinoma, however needs to be excluded in these patients. The majority of patients have no further pain, nor intussusception after adherence to a GFD.

P453

A RETROSPECTIVE ANALYSIS OF THE SAFETY OF OUTPATIENT PERCUTANEOUS LIVER BIOPSY IN PATIENTS WITH VON WILLEBRAND DISEASE

2008 ACG Presidential Poster Award Recipient

P. Basu, MD,[1] K. Rayapudi, MD,[2] J. Esteves, MD,[2] R. Brown, MD, MPH[3]. 1. Department of Gastroenterology and Hepatology, New York Hospital-Queens, New York, NY; 2. Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY; 3. Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY.

Purpose: Liver biopsy remains the gold standard for the diagnosis of chronic liver diseases. Outpatient percutaneous biopsy is generally safe with a mortality rate of 0.17% and hospitalization rate for bleeding of 3%. Von Willebrand Disease (VWD) is the most common inherited hematological disorder with a prevalence of 1-3% globally. There are 3 major types of VWD - type 1 (low levels of VW factor), type 2 (several qualitative abnormalities of VWF) and type 3 (extremely reduced or undetectable levels of VWF with low concentration of factor VIII). Type 1 is the mildest and most common form of VWD, while type 3 is the most serious, but very rare. Whether VWD increases the risk of bleeding in invasive procedures is not known. The purpose of this review is to determine the safety of outpatient percutaneous liver biopsies in patients with VWD.

Methods: 120 patients who underwent outpatient percutaneous liver biopsies from 1997 to 2007 were included in the study. Demographics, PT/INR, platelet count, VW factor antigen, VW factor ristocetin cofactor, Factor VIII activity, and VW factor multimers were collected. Patients had not received salicylates, NSAIDs or anticoagulants for at least 5 days prior to biopsy. Exclusions included prior known coagulation diathesis, familial bleeding history, arteriovenous malformations, collagen vascular diseases and congestive heart failure.

Results: Of the 120 patients biopsied, 66 (55%) had hepatitis C, 24 (20%) hepatitis B, 10 (8.3%) alcoholic hepatitis, 20 (16%) other diagnoses. Overall, 30 (25%) had minor local bleeding that resolved with pressure and 53 (48%) had biopsy site ecchymosis after 24 hours. Twelve (10%) patients were diagnosed with VW factor deficiency, of these 5 (41%), 7 (56%), and 0 had type 1, 2 and 3 respectively. No VWD patients had major bleeding that required transfusion, hospitalization or surgery but 9 (75%) had minor local bleeding and all had ecchymoses, which resolved spontaneously within a week.

Conclusion: Patients with VWD types 1 and 2 without prior bleeding diathesis can undergo percutaneous liver biopsy without major bleeding. Minor bleeding may occur at a slightly higher rate. VWD type 1 and type 2 does not appear to be a contraindication to percutaneous liver biopsy. The safety of percutaneous biopsy in VWD type 3 patients is unknown. We concur with the AGA guideline that outpatient percutaneous liver biopsy is safe and non-threatening in the setting of concomitant minor inherited bleeding diathesis without prior history of excessive bleeding. Routine screening for undiagnosed VW syndrome is not recommended.

P454

A PILOT STUDY UTILIZING NITAZOXANIDE FOR HEPATIC ENCEPHALOPATHY IN CHRONIC LIVER FAILURE

P. Basu, MD,[1] K. Rayapudi, MD,[1] J. Esteves, MD,[1] R. Brown, MD, MPH[2]. 1. Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY; 2. Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, NY.

Purpose: Hepatic encephalopathy (HE) is an alarming sign of liver failure (LF) and warrants liver transplantation. Subclinical hepatic encephalopathy (SHE) is seen in 30% of patients with chronic LF (CLF). Oral disaccharides and antibiotics are standard therapy. The longer duration of therapy with antibiotics is associated with side-events leading to treatment cessation. Nitazoxanide (NTZ) is a thiazolide antibiotic with excellent safety profile that targets anaerobes in the intestinal tract. We postulated NTZ as an agent for initial therapy of HE.

Methods: 20 patients with cirrhosis were enrolled. Fulminant LF, HIV, MELD> 24, sepsis, recent GI bleed, TIPS or surgical shunts and narcotic use were excluded. All underwent Trail testing, Object Recognition Test (ORT) and Modified Encephalopathy Scale (MES) (mental status, sleep, confusion and comprehension). All were treated with oral lactulose 30 ml and NTZ 500 mg twice daily for 14 days. MES and ORT were repeated weekly.

Results: Population statistics: mean age 55, 85% male, mean MELD - 15.6. Disease etiology: alcoholic cirrhosis (9), hepatitis C (9), autoimmune hepatitis (1) and primary biliary cirrhosis (1). 16/20 patients had decompensated disease with grade II encephalopathy and 4/20 patients had SHE. In total, 19/20 patients completed the study, one died following urgent transplant. Patient performance on MES and ORT improved in 79%(15/19) and 63%(12/19) respectively on NTZ.

Conclusion: NTZ was well tolerated and clinically effective for HE. The relative contribution of NTZ and lactulose to the efficacy are unclear. A randomized, placebo-controlled clinical trial is needed to validate the use of NTZ.

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P455

PREVALENCE AND CHARACTERISATION OF ABNORMAL ALANINE AMINOTRANSFERASE IN CHRONIC HEPATITIS C PATIENTS WITH HCV-RNA NEGATIVE DURING PEGYLATED-INTERFERON AND RIBAVIRIN THERAPY

M. R. Basso, MD,[2] E. G. Giannini, MD, PhD,[1] S. Blanchi, MD,[2] V. Savarino, MD,[1] A. Picciotto, MD[2]. 1. Dipartimento di Medicina Interna, Cattedra di Gastroenterologia, Genova, Italy; 2. Dipartimento di Medicina Interna, Centro per le Diagnosi e Terapia delle Epatiti, Genova, Italy.

Purpose: The presence of abnormal alanine aminotransferase (ALT) in patients with chronic hepatitis C who become HCV-RNA during pegylated interferon (PEG-IFN) and ribavirin anti-viral therapy is a described phenomenon, although its prevalence and meaning has not been characterised in a systematic fashion.

Methods: We aimed at characterising the prevalence and clinical correlates of abnormal ALT in a large cohort of chronic hepatitis C patients undergoing anti-viral therapy. We evaluated 244 consecutive chronic hepatitis C patients who underwent either PEG-IFNα2a or α2b and weight-based ribavirin antiviral therapy. This study focused on patients who showed negative HCV-RNA and abnormal ALT during treatment. Programmed assessment of serum HCV-RNA and ALT were performed at week 2, week 4, week 12, and at the end of treatment. Patients were categorised as either sustained virological responders (SVR) or relapsers (RR) according to HCV-RNA results at 24-week follow-up.

Results: Overall, SVR was obtained in 141 patients (58% of the study population: 83/151 treated with PEG-IFNα2b, 58/93 treated with PEG-IFNα2a) and 32 patients were RR. Fifty-seven patients showed undetectable serum HCV-RNA and abnormal ALT in at least one programmed evaluation, with no significantly different distribution between SVRs and RRs (47 versus 10, p=0.987). The 141 SVRs were further subdivided according to the presence of abnormal (Group 1, n=47) or normal ALT (Group 2, n=94) during treatment. As far as age, gender, body mass index, ALT levels before treatment, HCV genotype and viraemia at baseline, and type of PEG-IFN used were concerned there was no statistically significant difference between Group 1 and Group 2. In Group 1, 79% of patients showed a constant decrease of ALT values as compared to baseline at all the programmed evaluations, while 13% showed an increase in ALT values, and 9% showed a fluctuating pattern. At 24-week follow-up, 44 Group 1 patients had normal ALT (94%), while 3 patients (6%) still had abnormal ALT. In this latter group of patients, one had gained weight while the remaining patients had started drinking more than 30 grams alcohol/day.

Conclusion: Increase in ALT levels during PEG-IFN and ribavirin treatment in patients who are HCV-RNA negative is a fairly frequent phenomenon. Increased ALT levels are not associated with a greater risk of post-treatment virological relapse, and there are no clinical or virological pre-treatment characteristics that may help identify this phenomenon, nor it is associated with the type of PEG-IFN used. Increase in ALT levels disappears at follow-up in almost the totality of patients, while in patients with persistently altered ALT levels there is a clear explanation for persistent abnormality.

P456

STATINS ARE ASSOCIATED WITH MILDER DEGREES OF FIBROSIS IN PATIENTS WITH CHRONIC HEPATITIS C

E. Bou Assaf, MD,[1] M. Sanon, MD,[1] N. Rajack, MD,[1] S. Kirtich, NP,[2] G. Bahtiyar, MD,[3] S. I. McFarlane, MD, MPH,[3] A. Aytaman, MD[2]. 1. Division of Gastroenterology, State University of New York, Downstate, Brooklyn, NY; 2. Division of Gastroenterology, VA New York Harbor Healthcare Center Brooklyn Campus, Brooklyn, NY; 3. Division of Endocrinology, Diabetes and Hypertension, State University of New York, Downstate, Brooklyn, NY.

Purpose: Statins are known to have pleiotropic effects above and beyond lipid lowering including anti-inflammatory, and insulin sensitizing effects. Recently they are also found to have antiviral effects against hepatitis C. The effect of statins on liver fibrosis in hepatitis C patients has not been previously assessed. We evaluated the association of statin use with stage of liver fibrosis in patients with chronic hepatitis C infection utilizing a database created to look at interactions of hepatitis C and diabetes mellitus.

Methods: In a nested cohort study from the cross sectional analysis of 5266 US veterans followed at the NY metropolitan area that was designed to examine the association of Hep C and diabetes, we identified patients with HCV who underwent liver biopsies between 2000 to 2007 and had been on statins for at least 1 year. In our database 332 patients had biopsies of whom 276 (83%) had complete data. All liver biopsies were read by 3 pathologists and reviewed with one hepatopathologist as per routine protocol. Modified Ishak score was used for the degree of fibrosis (0-4).

Results: Of the 276 patients with hepatitis C and liver biopsies mean age (years) = 52.6 ±0.35 (±SEM), BMI = 29.4 ±1.3 Kg/m2. 40.8% of the patients were white, 42.1% black, and 13.8% Hispanic. 22 patients (8%) were on statins. Of those patients who are on statins a significantly higher proportion had stage 0 to 2 fibrosis (81.8%) as opposed to (61.0%) of non-statins users, P= 0.04. In a logistic regression model, after adjusting for age and BMI, the odds of having mild liver fibrosis (stage 0-2) in statin users was 3.4 (1.11-10.9) 95% CI, P=0.032.

Conclusion: In patients with chronic hepatitis C, the use of statins was associated with a milder degree of fibrosis on liver biopsy. Further studies are needed to confirm our findings and provide mechanistic insights into the effects of statins on liver fibrosis in the hepatitis C population.

P457

HEPATITIS A AND B VACCINATION OF PATIENTS WITH HEPATITIS C IN INTERNAL MEDICINE RESIDENCY CLINICS: PRACTICE ASSESSMENT AND INTERVENTION

V. Buntic, Medical Doctor,[1] R. Mangla, Medical Doctor,[1] K. Syad, Medical Doctor,[2] S. Atlas, Medical Doctor,[2] J. Fine, Medical Doctor,[1] D. Meighan, Medical Doctor,[1] W. Hale, Medical Doctor[1]. 1. Gastroenterology and Hepatology, Norwalk Hospital, Norwalk, CT; 2. Gastroenterology and Hepatology, Hospital of St. Raphael, New Haven, CT.

Purpose: The primary aims of this study were to evaluate and improve adherence of medical residents to guideline recommendations by the Advisory Committee on Immunization Practices of CDC, AASLD and NIH for administration of hepatitis A and B vaccines to patients with hepatitis C.

Methods: This investigation consisted of a retrospective review with a prospective intervention arm performed at two university affiliated teaching hospital internal medicine residency clinics. Patients with ICD-9 code for hepatitis C (70.51) for the time period of January 2001 to June 2006 were identified. Demographic and clinical data including reasons for non-vaccination were abstracted from clinical charts and electronic medical records. Patients were excluded from vaccination if they were seropositive for hepatitis A and B. In a prospective phase, contact of patients with hepatitis C not vaccinated for hepatitis A and B was attempted by both mail and telephone to encourage them to return for free vaccinations.

Results: A total of 230 patients were found to be hepatitis C antibody positive over 5 years in the two residency clinics. Vaccination practices were equivalent at both clinics: 80.8% and 82.9% of patients were not vaccinated for hepatitis A and 75.0% and 87.4% of patients were not vaccinated against hepatitis B. No reason for non-vaccination was recorded for 62% and 73% patients in the 2 clinics for hepatitis A and B. Hepatitis vaccination was mentioned in another 20% of cases but was not performed. Multivariate analysis of patient characteristics associated with vaccination identified only white ethnicity as a significant risk factor (OR 0.33, CI 0.12-0.91). Attempts to contact 186 patients non-vaccinated were made: 30% of patients were reached, 11% made appointments for vaccination clinic but only 7% attended.

Conclusion: Adherence to hepatitis A and B vaccination guidelines in patients with hepatitis C followed in residency clinics was very low. The major reason for non-vaccination appeared to be that the option was not discussed with or offered to patients. Patients not vaccinated are difficult to reach and recall for vaccination. A significant opportunity exists to improve hepatitis vaccination practices in residency clinics serving high risk patients.

P458

EXCESSIVE GESTATIONAL WEIGHT GAIN IN CHRONIC LIVER DISEASE IS ASSOCIATED WITH ADVANCED FIBROSIS

L. Hua, MD, I. R. Schreibman, MD, M. Taheri, MD, T. R. Riley, MD. Division of Gastroenterology and Hepatology, Hershey Medical Center, PennState, Hershey, PA.

Purpose: Background: Chronic liver disease is an increasing problem as non-alcoholic fatty liver disease (NAFLD) has a prevalence of 3%- 24% in the general population. NAFLD is strongly associated with obesity. No published studies have investigated the association of NAFLD, other chronic liver diseases and gestational weight gain. Excessive weight gain during pregnancy from the literature is 25 pounds or greater. Aim: To examine: 1) the gestational weight gain in NAFLD subjects compared to other liver disease controls; 2) relationship between the severity of fibrosis and degree of weight gain during pregnancy.

Methods: Using Weight and lifestyle inventory (WALI) gestational weight gain was divided into 2 groups: NAFLD and other liver diseases with diagnosis and stage liver biopsy proven. Net gestational weight gain (NGWG) was calculated in each patient by adding the weight gain minus loss for each pregnancy together. The average gestational weight gain (AGWG) for each patient was calculated by the mean of the weight gained of each pregnancy. Comparisons of NGWG between groups were made by the student t-test. AGWG (≥ 24 pounds and < 24 pounds) were compared with stage of fibrosis of liver (I/II and III/IV) and analyzed by two-by-two table (Fisher Exact).

Results: There were 16 NAFLD patients and 12 other liver disease patients with a history of pregnancy. The mean NGWG was 23.56 ± 24.53 pounds in the NAFLD group and 9.25 ± 10.89 pounds in the other liver disease group (p =0.049). NAFLD patients did not have a higher AGWG then the other liver disease patients. Of total 26 pregnant patients (NAFLD + others), 15 patients had AGWG ≥ 24 pounds with 7 (47%) at fibrosis stage III or IV, whereas 11 patients with AGWG < 24 pounds had only 1 (9%) at stage III or IV fibrosis (p=0.045).

Conclusion: Discussion: NAFLD is associated with increased gestational weight gain as defined by the accumulated NGWG through all pregnancies. In all forms of liver disease, more advanced stages of fibrosis are associated with high AGWG but not with NGWG. These findings suggest that excessive gestational weight gain in the setting of chronic liver disease is a serious concern, because it may predispose these patients to an increased risk of progression of fibrosis. Recommendations of gestational weight gain control in patients with NAFLD and other liver diseases are of vital importance and need to be a part of prenatal counseling.

P459

TRANSARTERIAL CHEMOEMBOLIZATION (TACE) IN PATIENTS WITH HEPATOCELLULAR CARCINOMA – A USEFUL TOOL ?

T. Meister, MD, H. S. Heinzow, MD, P. Lenz, MD, H. Ullerich, MD, W. Domschke, MD, PhD, D. Domagk, MD, PhD. Department of Medicine B, University of Muenster, Muenster, Germany.

Purpose: Hepatocellular carcinoma (HCC) is the most common liver tumor in patients with liver cirrhosis. The outcome of untreated patients with HCC is poor with a median survival rate of only 8 to 10 months. The treatment of Hepatocellular carcinoma is still a challenging task. In advanced stage tumors Transarterial chemoembolisation (TACE) is a possible therapeutic option. TACE is a well established method for treating patients with HCC either as a palliative therapy or as bridging concept for liver transplantation (LTX).

Methods: In the present study we retrospectively analyzed 65 patients with histologically proven HCC who underwent TACE as palliative (mean age 68 +- 8 years) or bridging therapy (mean age 58 +- 7years) (p< 0.001) in the years 2000-2008. 40 patients (37 male, 3 female) had TACE for palliative treatment due to ineligibility for transplantation. 25 patients (22 male, 2 female) received TACE for bridging before liver transplantation. 10 patients (9 male, 1 female, mean age 54+-10 years) had LTX without prior TACE therapy. The chemotherapeutic agent used for TACE was doxorubicine/cisplatin/lipiodol. The overall survival times since HCC diagnosis according to Kaplan-Meier was measured.

Results: In 25 patients TACE was performed as bridging therapy before LTX. The Okuda Stage was the following: stage I 54%, stage II 42%, stage III 4%. In the bridging-group only 54 % fulfilled the Milan criteria while 46% exceeded the Milan criteria.Patients with Okuda stage I had 1,7+-0.98, stage II 2.25+-1.9 and stage III 1 TACE sessions before LTX. In stage I LTX was performed 157 days after the beginning of TACE therapy, in stage II LTX was performed after 206 days (p=0.48). The tumor recurrence rate in patients who fulfilled the Milan criteria was 7,1% compared with 10 % who did not fulfill the Milan criteria. The median survival time in the group who received TACE as a bridging therapy was 52 months. The one-year-survival rate was 84%. The mean survival time in the group of LTX without prior TACE was clearly greater than 75 months with a one-year-survival rate of 75% (p=0.52). In the palliative group the median survival time was only 14 months with a significantly lower one-year survival rate of 52% (p<0.01).

Conclusion: Our data show that TACE therapy prior to liver transplantation does not offer a significant advantage towards overall survival. In the group of patients who received TACE as a palliative therapy the median survival time with 14 months was clearly longer compared to recently published data of untreated patients. We conclude that TACE therapy is useful palliative therapeutic option for HCC patients not eligible for LTX.

P460

IS SERUM ALANINE AMINOTRANSFERASE (ALT) ELEVATION IN OBESE CHILDREN AND ADOLESCENTS JUST NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD)?

D. Preud'Homme, MD, L. Higginbottom, BS, L. Phelps, BSN, J. V. Blair-Elortegui, MD. Pediatrics, University of South Alabama, Mobile, AL.

Purpose: Unexplained ALT elevation is present in up to 23% of obese children. ALT elevation in insulin-resistant obese patients is used as a surrogate for diagnosis of NAFLD. Serum ALT level is considered abnormal by some above 40 U/L or above the upper limit of normal in the reference laboratory. The prevalence of other liver disease such as autoimmune hepatitis(AIH)is not known in this population. We hypothesize that serum ALT elevation in obese children and adolescent warrants comprehensive evaluation for liver disease other than NAFLD.

Methods: Retrospective chart review of all patients referred for evaluation and management of obesity. Clinical data (BMI, age, gender) are recorded. Serum ALT level available from a screening comprehensive metabolic profile was recorded using a cut off of 48 U/L (our laboratory's upper limit of normal).

Results: A total of 506 charts were available for review, 92 (18%) patients did not complete the laboratory evaluations, 42 (8%) patients had a serum ALT drawn at outside laboratories and therefore were excluded because of differing reference ranges. The remaining 372 (74%) patients had a serum ALT level recorded, 84 (23%) greater than 48 U/L. In this population of elevated serum ALT, 37 (43%) are female and 42 (50%) are White. The mean BMI (±sd) is 39 ±11 kilos/m2. The mean age (±sd) is 14 ±4 years old. Four (5%) patients have liver disease other than NAFLD. One patient (an African-American adolescent female) has mild α1 antitrypsin deficiency (PiMZ). Three (4%) patients (2 African-American adolescent females and 1 adolescent White male) have Smooth Muscle antibody positive and Anti-Nuclear antibody positive compatible with Autoimmune Hepatitis Type 1. Two of the patients with AIH had ALT greater than 1.5 times upper limit of normal, but one did not. If a threshold of serum ALT level greater than 40 U/L is used, then the prevalence of patients with abnormal ALT is 158 (42%), with no differences in demographics or BMI.

Conclusion: In our population of obese children and adolescents, the prevalence of ALT elevation above laboratory cut off (> 48 U/L) was comparable to a previous study. A threshold of 40 U/L would indicate a higher, previously unreported, prevalence of 42%. Autoimmune hepatitis prevalence was high (4%). Therefore, we suggest that in obese children and adolescents where the prevalence of abnormal serum ALT is high,values of serum ALT above the upper limit of laboratory reference warrant a comprehensive evaluation for liver disease as it cannot be assumed to represent only NAFLD.

P461

COMPONENTS OF METABOLIC SYNDROME AND TYPE 2 DIABETES ARE ASSOCIATED WITH ADVANCED LIVER DISEASE

N. Rafiq, MD,[1] R. Gupta, MD,[2] R. Aquino, BS candidate,[2] J. B. Kallman, MS,[2] M. Garone, BS candidate,[2] C. Quigley, BS candidate,[2] A. Murthy, MD,[2] S. Ahmad, MD,[2] S. Kumar, MD,[2] Z. M. Younossi, MD, MPH[1]. 1. Center for Liver Disease, Inova Fairfax Hospital, Falls Church, VA; 2. Outcomes Research Program, Inova Health System, Falls Church, VA.

Purpose: Components of metabolic syndrome (MS) such as obesity and type 2 diabetes (DM) are becoming increasingly prevalent in the United States. These conditions not only can cause a primary form of liver disease (non-alcoholic fatty liver disease, NAFLD), they can also enhance progression of other types of chronic liver diseases (CLD). The aim of this study was to assess the impact of a number of clinico-demographic and laboratory factors on the outcomes of patients with CLD.

Methods: Patients with hepatitis B (HBV), hepatitis C (HCV), NAFLD, or other chronic liver disease (autoimmune and alcohol related liver disease, hereditary hemochromatosis etc.) were included. Clinical, demographic, laboratory and histologic data were available. Univariate and multivariate analysis with logistic regression were performed to compare diagnostic groups.

Results: Five hundred ninety-four patients with CLD (193 HBV, 229 HCV, 113 NAFLD, 59 Other) were included. Demographic data for the entire cohort were as follows: 46.4% female, 51.6% Caucasian, 21% cirrhosis and age 51.4±11.3. In this analysis, age was associated with cirrhosis in all diagnostic groups (HBV p=.0030, HCV p=.0043, NAFLD p=.0495, Other p=.0362). Male patients with viral hepatitis (VH: HCV and HBV) were more likely to have cirrhosis than female patients with VH (p=.0185 and .0074, respectively). In addition, HBV patients with hypertension or hyperlipidemia were more likely to be cirrhotic (p=.0370 and .0416, respectively). Patients with NAFLD and diabetes were more likely to have cirrhosis (p=.0015). Logistic regression demonstrated that elevated AST (p=.0587), ALT (p=.0390), and Total Bilirubin (p=.0280) as well as presence of DM (p=.0046) were independent predictors of cirrhosis in NAFLD. Additionally, in HBV patients, the presence of DM, hypertension or hyperlipidemia were all significant predictors of cirrhosis (p=.0491, .0081, .0141; respectively).

Conclusion: Patients with CLD and DM or other components of MS are at an increased risk for cirrhosis. Optimal management of components of MS in patients with CLD may have a positive impact on the progression of liver disease.

P462

THE DEMOGRAPHIC FEATURES OF THE PREVALENCE OF NON- ALCOHOLIC STEATOHEPATITIS (NASH) IN A COHORT OF ADULT SRI LANKANS, INVESTIGATED FOR SUSPECTED CHRONIC LIVER DISEASE IN A MEDICAL UNIT – DATA FORM A TERTIARY CARE CENTER

R. L. Satarasinghe, MD, MACG, R. Jayawardana, MBBS, U. Wickramasingha, MBBS, A. Riyaaz, MBBS. Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka.

Purpose: To study the prevalence of NASH and related matters in adult Sri Lankans, who had undergone consented liver biopsies during the process of investigation for suspected chronic liver pathology since in Sri Lanka this condition is picked up on routine medical screening of asymptomatic patients and its clinical implications and long term sequele are not well studied in the general population.

Methods: The clinical notes of 224 patients admitted to the principal author's unit at Sri Jayewardenepura General Hospital Kotte, Sri Lanka for liver biopsies, for elucidation of suspected liver disease from 17.4.2002 to 31.7.2007 were retrospectively analyzed, to compile data with respect to the above.

Results: 122 biopsies out of 224 (54.4%) had evidence of non alcoholic fatty liver disease (NAFLD). The latter comprised 80.5%of steatosis, 15.4% of NASH and 4.1% NASH with cirrhosis. Sex distribution for NASH was male 13: female 6 (~2:1). Age distribution 22-55 years with a population mean age of 42.7±5.13SD yrs. The same for males and females were 41.6±15.3SD and 45.0±10.0SD respectively. Associated diabetes mellitus, hyperlipidaemia, and hypertension in subgroups of steatosis, NASH, NASH with cirrhosis were as follows, steatosis – 61.5%, 72.2%, 68.4% ; steatohepatitis 30.7%, 22.2%, 26.3%, NASH with cirrhosis 8.8%, 5.6%, 5.5% respectively. Mean ages and body mass index (BMI) for the above subgroups were as follows. Steatosis 36.3±13.5yrs, 22.7±2.4, NASH 42.7±5.1yrs, 25.6±2.2, NASH with cirrhosis 47.3±7.5, 24.8±2.2 respectively. SGPT and SGOT had means of 78.8±33.3SD IUL/L, (range 35-152) and 65.5± 46.1SD IUL/L (range 21-215) for NASH group. Social status and dietary habits had no influence while all were lacking adequate amounts of exercise.

Conclusion: Prevalence of NASH in adult Sri Lankans parallel what is found elsewhere. A cluster of metabolic syndrome was seen amongst NASH patients. Males had a higher BMI with early presentation. Higher BMI values were seen during the disease progression from steatosis to NASH thus highlighting a point of active intervention by modifying lifestyle. Progression of NASH to cirrhosis in this cohort at a relatively younger age was an alarming feature.

P463

COMPARISON OF DEMOGRAPHICS AND LABORATORY PARAMETERS OF A COHORT OF ADULT SRI LANKAN ALCOHOLIC AND NON ALCOHOLIC CIRRHOTICS WHO HAD UNDERGONE BANDING LIGATION OF OESOPHAGEAL VARICES

R. L. Satarasinghe, MD, MACG,[1] R. Jayawardana, MBBS,[1] U. Wickramasingha, MBBS,[1] A. Riyaaz, MBBS,[1] A. Perera[2]. 1. Department of Medicine, Sri Jayewardenepura General Hospital & Post graduate Training Center, Nugegoda, Sri Lanka; 2. Department of Endoscopy, Sri Jayewardenepura General Hospital & Post graduate Training Center, Nugegoda, Sri Lanka.

Purpose: To study the clinical features and laboratory parameters of alcoholic and non alcoholic cirrhotics who have had either primary or secondary prophylactic banding ligation of oesophageal varices admitted to a medical unit of a tertiary care hospital as prevalence of oesophageal varices and their aetiology remain largely unknown in the Southeast Asian region and there were no comparative studies.

Methods: Case notes of one hundred patients satisfying above criteria, admitted to the principal author's unit at Sri Jayewardenepura General Hospital-Kotte, Sri Lanka, were retrospectively reviewed.

Results: Alcoholics had male: female sex ratio of 70:3 with a mean age of 54.7±9.9 SD yrs. 38 and 35 had secondary and primary prophylactic banding respectively with an average of 4-9 banding sessions. The above characteristics for non alcoholics were 14:13, 62.9±16.5SD yrs, 13 and 14 respectively with an average of 2-4 banding sessions. Mean values of Hb, platelets, SGPT, SGOT and albumin amongst alcoholics were 10.1±2.2SD g/dl, 121250±61976SD mm-3, 50.2±88.9SD U/L, 96.8±137.2SD U/L, 2.8±0.6SD g/dl. The above indices for non alcoholics were 11.0±2.5SD g/dl, 137407±82118SD mm-3, 45.4±25.2SD U/L, 63.9±37.1SD U/L, 3.1±0.6SD g/dl respectively. The comparative mean values for alcoholics and non alcoholics who had primary prophylactic banding for varices were as follows. Alcoholics Hb, 10.3±2.0SD g/dl, platelet 126428±62872SD mm-3, SGOT 103.8±183SD U/L, 59.6±127.2SD U/L, albumin 2.7±0.6SD g/dl. Non alcoholic group, 10.8±2.6SD g/dl, 15892± 96791SD mm-3, 56.7±31.2SD U/L, 37.9± 16.9SD U/L, 2.9± 0.5SD g/dl respectively. Both groups were followed up to 1-5 years. Among those who have undergone primary variceal banding, alcoholics were having a significant hypoalbuminemia when compared with the non alcoholics (p=0.001). Those who underwent secondary banding ligation had effective control of variceal banding, without recurrences and had no complications during the follow up period.

Conclusion: Non alcoholic group showed less male preponderance (~1:1) compared to alcoholics probably due to cultural habits. Variceal development and progression is probably late in non alcoholic group. Anaemia, derangement of transaminases and hypoalbuminemia were relatively less in the non alcoholic group but the relationships were statistically insignificant as predictors of aetiology. Alcoholic group had a comparatively statistically significant anemia (p <0.05 and >0.01) indicative of multifactorial origin apart from variceal bleeding. Nevertheless hypoalbuminemia was more severe in alcoholics compared to non alcoholics even before they bled from varices indicative of a severe hepatocellular functional compromise.

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51CR-EDTA PERMEABILITY TEST IN ASCITIC CIRRHOTIC PATIENTS WITH AND WITHOUT HISTORY OF SPONTANEOUS BACTERIAL PERITONITIS

E. Scarpellini, MD,[1] G. Merra, MD,[1] A. Dal Lago, MD,[1] V. Valenza, MD,[2] A. Gasbarrini, MD,[1] G. Ghirlanda, MD[1]. 1. Department of Internal Medicine, Institute of Medical Pathology, Catholic University of Sacred Heart, Agostino Gemelli General Hospital, Rome, Italy; 2. Department of Nuclear Medicine, Catholic University of Sacred Heart, Agostino Gemelli General Hospital, Rome, Italy.

Purpose: Impaired intestinal permeability (IP) may be implicated in spontaneous bacterial peritonitis (SBP) pathogenesis in cirrhotics. Urine 51Cr-EDTA is a standardized test for evaluating IP. Since 51Cr-EDTA has a small molecular weight it can be found in peritoneal spillage in ascitcs. Aim of the study was to assess IP in cirrhotics.

Methods: 48 consecutive cirrhotic pts (16 for each Child class) were enrolled; 20 pts had ascites, 10 of those had also a history of previous SBP. We also enrolled 48 healthy subjects. In healthy subjects 51Cr-EDTA was < 3 % . After an overnight fast, pts were given to drink 2,96 MBq of 51Cr-EDTA in 10 ml of water; two 3-ml samples both of 24/hours urine and ascites were measured by a gamma counter. Urine sample results were expressed as a percentage of administered dose and considered indicative of altered IP when 51Cr-EDTA was ≥ 3%. The presence of 51Cr-EDTA in the ascites was also evaluated.

Results: 22 out of the 48 pts had an altered IP as described by 51Cr-EDTA urine test vs 2 out of 48 controls (46% vs 4% p< 0.05). IP impairment followed progressing Child status: Child A 4/16; Child B 6/16; Child C 12/16. 12 out of 20 ascitic pts vs 10 out of 28 non-ascitic pts had an impaired IP (60% vs 36% p< 0.05). 8 out of 10 pts with ascites and SBP history had an impaired IP vs 6 out of the 12 ascitics without SBP history (80 % vs 50 %; p< 0.05). 51Cr-EDTA was present in ascites samples from all ascitic pts with history of SBP vs 2 out of the 12 pts with ascites without SBP history (100% vs 22 %; p< 0.05).

Conclusion: a consistent number of cirrhotics have an altered IP. IP derangement was associated with more severe disease status (ascites and history of SBP). The presence of 51Cr-EDTA in ascites in all pts with an history of SBP suggests an altered permeability of the splancnic vessels and/or peritoneal membranes. Further studies are needed to assess a 51Cr-EDTA urine and ascites cut-off where SBP profilatic therapy could be indicated.

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THE IMPACT OF FILGRASTIM AND EPOTEIN USE ON SUSTAINED VIRAL RESPONSE (SVR) RATES IN HEPATITIS C PATIENTS TREATED WITH PEG-INTERFERON AND RIBAVARIN

W. Ahmad, MD, D. Hughes, ARNP, M. Dunnam, Pharm D, Q. Khan, MBBS, J. Fazili, MD. Digestive Diseases, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

Purpose: Treatment for hepatitis C has undergone many new developments in recent years. A combination of pegylated (PEG) interferon alpha and ribavarin is the current regimen of choice. Epotein and Filgrastim have been used to manage side effects of HCV therapy in order to maintain the dose of Peg- Interferon and Ribavarin. The aim of our study was to determine the impact of Epotein and Filgrastim on sustained viral response (SVR) rate of hepatitis C patients treated with Peg-Interferon and Ribavarin combination.

Methods: A retrospective cohort study involving hepatitis C patients treated at VA Medical Center, Oklahoma City was done. We routinely started using Epotein and Filgrastim in patients with HCV according to a protocol in September, 2004. 100 patients who were treated before September 2004 were compared with 57 patients, who were treated after September, 2004. SVR was compared for two groups and for each genotype between both treatment groups. Two tailed Fisher's exact test was used for statistical analysis of SVR. p value <0.05 was considered to be significant.

Results: 40/57 patients in post September group had SVR as compared to 48/100 patients in the pre September group (70% vs. 48%, p= 0.007). For genotype 1, SVR was achieved in 19 patients out of 30 in the post September group and 24 patients out of 66 in the pre September group (63.3% vs. 36.3%, p= 0.01). 10 out of 14 patients with genotype 2 had SVR in the post September group as compared to 18 out of 24 in the pre September group (71.4% vs. 75%, p= 0.68). For genotype 3, SVR was attained in 11 out of 13 patients in the post September group as compared to 6 out of 12 in the pre September group (84.6% vs. 50% p= 0.09). Only 7/100 patients in the pre September group had received Epotein, Filgrastin or a combination of both. In the post September group 30 patients out of 57 received Epotein, Filgrastin or combination of two.

Conclusion: SVR in hepatitis C patients treated with Peg-Interferon/Ribavarin was higher after the routine use of growth factors had been started in September 2004. SVR was better in all patients who were treated with growth factors after September 2004, though it reached statistical significance only in patients with genotype 1. This effect could be related to the maintenance of proper dose of Peg-Interferon and Ribavarin or to some direct effect of these growth factors on the virus. Randomized controlled trials will be needed to determine the broad range of effects of these growth factors on anti-HCV therapy.

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WHAT IS THE PREVALENCE OF CELIAC DISEASE AMONG US PATIENTS WITH AUTOIMMUNE HEPATITIS?

R. A. Burbridge, MD, J. W. Gentile, ANP, A. D. Smith, MB, ChB. Medicine, Duke University Medical Center, Durham, NC.

Purpose: Autoimmune hepatitis (AIH) is an insidious disorder of unknown etiology, characterized by elevated serum aminotransferase and immunoglobulin G concentrations, circulating autoantibodies, lymphoplasmacytic portal and interface hepatitis and responsiveness to prednisone. Most affected European and North American AIH patients possess either the DR3 or DR4 haplotype. The hallmarks of celiac disease (CD) are gluten intolerance, and the presence of either the DR3 and/or DQ2 haplotypes. The estimated prevalence of CD in the general US population is 1:100, whereas the prevalence of CD in European subjects with AIH has been estimated at between 1:16 and 1:36 in two separate studies. Therefore, we proposed to determine the prevalence of CD among patients with AIH in the US.

Methods: We studied patients aged ≥ 18 years with a diagnosis of AIH conforming to International Autoimmune Hepatitis Group criteria, presenting at a single US center between September 2003 and May 2008. Patients' sera were tested for IgA endomysial antibody (EMA) by indirect immunofluorescence; their serum IgA concentration was measured concomitantly. Patients with selective IgA deficiency (SIgAD) were tested for serum IgG gliadin antibody (AGA) by enzyme immunoassay.

Results: The sample comprised 153 patients of whom 22 were male (14.4%), with a median age of 50 years (range 18-81). The ethnic distribution was: 115 (75.2%) Caucasian, 33 (21.6%) African American non-Hispanic, two (1.3%) native American, two (1.3%) Asian, and one (0.6%) Caucasian Hispanic. One patient had a positive EMA result (duodenal mucosal biopsies were consistent with CD). One man had selective IgA deficiency, but his AGA IgG titer was normal (5.1 units: normal 0-25). Five women underwent endoscopic duodenal mucosal biopsy despite negative EMA results (four had iron deficiency anemia, the other loose stools and weight loss). One patient demonstrated histological findings consistent with CD, whereas the other four demonstrated normal histology.

Conclusion: Although the prevalence of CD in these US patients with AIH (1:76 [1.3%]) is considerably less than reported among European AIH patients, it is slightly greater than in the general US population. This suggests the possibility of increased risk for CD among US patients with AIH, and therefore appropriate serologic screening. Conversely, the study sample may have been underpowered, thereby resulting in findings which suggest a difference that does not truly exist. In either case, it appears that EMA may not be the most appropriate screening test for CD in AIH patients: only one of the two patients identified with CD in this group yielded a positive antibody result.

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AFRICAN-AMERICAN PATIENTS WITH CHRONIC HEPATITIS C RESPOND SIMILARLY TO PEG-IFN ALPHA 2A AND RIBAVIRIN AS COMPARED TO PEG-IFN ALPHA 2B AND RIBAVIRIN

A. A. Khan, MD, M. G. Mutchnick, MD, M. N. Ehrinpreis, MD, F. A. Siddiqui, MD. Gastroenterology, Wayne State University, Detroit, MI.

Purpose: BACKGROUND/AIM: To determine the sustained viral response (SVR) in African-American (AA) patients with chronic hepatitis C (CHC) treated with pegylated interferon (PEG-IFN) and ribavirin (RIBA) and to assess if the SVR in AA treated with 180μg PEG-IFN α2a plus RIBA differs from those treated with weight-based PEG-IFN α2b and RIBA.

Methods: METHODS: This retrospective analysis consists of 172 consecutive treatment naïve AA patients with measurable HCV RNA by PCR who were treated between March 2001 and February 2006. Genotype 2 or 3 patients were treated for 24 weeks and genotype 1 or 4 patients for 48 weeks. Treatment was stopped in those with less than 2 log drop in HCV RNA at week 12; treatment was continued in those with more than 2 log drop or with undetectable HCV RNA (early virologic response, EVR). The primary end point was an SVR. BMI, age, gender, inflammation grade, fibrosis stage, genotype, baseline and 12 week HCV RNA levels and HBcAb positivity were analyzed variables

Results: RESULTS: 172 patients were treated, 115 with PEG-IFN α2b plus RIBA and 57 with PEG-IFN α2a plus RIBA. More patients with genotype 1 (n=139) were treated than genotype 2 and 3 (n=24) or genotype 4 (n=7).There was no significant difference in SVR between the two treatment groups for genotype-1 (30% and 28% respectively, p>0.05) or genotype 2 and 3 patients (65% and 71% respectively). Bivariate analysis indicated that age, gender, BMI, baseline HCV RNA, inflammation grade, genotype and HbcAb positivity did not influence SVR, while multiple logistic regression analysis showed that EVR and fibrosis stage were significant predictors of SVR (p<0.0001 and p<0.01, respectively). Drop-out rates due to side effects (e.g., neutropenia, anemia, thrombocytopenia, severe depression) were 10% and 11% respectively and non-compliance rates (11% and 18% respectively) were similar in both treatment groups

Conclusion: . CONCLUSION: African-American patients treated for CHC with PEG-IFN α2a plus RIBA or PEG-IFN α2b plus RIBA had similar SVR rates. EVR and stage of fibrosis are significant predictors of SVR.

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LOW LDL INDEPENDENT OF INSULIN RESISTANCE IS A BETTER PREDICTOR OF EARLY VIROLOGIC RESPONSE (EVR) RATES IN GENOTYPE 1 CHRONIC HEPATITIS C (CHC)

L. Lee, MD, J. Nachnani, MD, R. Taylor, MD, O. Smith, MD, W. K. Clarkston, MD, L. Alba, MD. UMKC, Kansas City, MO.

Purpose: Hepatitis C virus (HCV) interacts with low density lipoprotein (LDL) receptors and has also been postulated to cause insulin resistance. Previous studies have suggested that lipids as well as insulin resistance may play a role in regulating HCV clearance. Genotype 1 is the most common genotype in the United States and has been associated with the lowest response rates to treatment among all genotypes. The aim of our study was to evaluate the association of lipids and insulin resistance with early viral response rates in patients with CHC genotype 1 patients.

Methods: From September 2003 until December 2007, we reviewed the records of all patients with CHC genotype 1 who were started on treatment with weight adjusted pegylated interferon and ribavirin. Demographic, serological and laboratory data were collected. Insulin resistance was defined as a triglyceride (TG)/high density lipoprotein (HDL) ratio > 3. Early virologic response (EVR) was defined as log10 HCV RNA level reduction of at least 2.0 logs or HCV RNA negativity by week 12.

Results: There were 87 genotype 1 patients started on combination treatment during this time period and had early viral response rates available. Of the 87 patients, 44(51%) were females and 48(55%) were Caucasians. The mean age, BMI, ALT, TG and LDL was 47.6 ± 6.7 years, 29.9 ± 7.3 kg/m2, 82 ± 67 U/L, 144 ± 96 mg/dl and 107 ± 39 mg/dl respectively. Of the 87 patients, 56(64%) of the patients achieved an EVR and 52% of the patients had insulin resistance. On univariate analysis, EVR was significantly associated with African American Race (p=0.0003), raised AST/ALT ratio (p=0.02), raised bilirubin (p=0.03) and raised ferritin (p=0.004) levels while insulin resistance, triglycerides and HDL was not. On multivariate analysis using logistic regression controlling for insulin resistance (p value of model 0.02, Area under curve 0.86), low LDL was the only independent factor (OR=1.05, p=0.03) significantly associated with EVR.

Conclusion: Insulin resistance is widespread and present in up to 52% of CHC genotype 1 patients. Low LDL after controlling for insulin resistance is an independent predictor of early viral response (EVR) rates in genotype 1 chronic Hepatitis C (CHC).

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RISK OF HEPATOCELLULAR CARCINOMA (HCC) IN HEPATITIS C PATIENTS WITHOUT CIRRHOSIS

M. Madhoun, MD, J. Fazili, MD, T. Bader, MD, D. N. Roberts, MD. Digestive Diseases/ Internal Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

Purpose: Chronic infection with hepatitis C virus (HCV) is regarded as a risk factor for hepatocellular carcinoma (HCC). Current guidelines recommend screening patients with HCV for HCC only if there is evidence of cirrhosis. HCC occurring in "non-cirrhotic" HCV-infected patients has been reported; but the exact prevalence or incidence has not been described before.

Methods: We conducted a systematic review of literature; Ovid® was used to search the literature from 1990 to Sept 1, 2007. Articles containing "HCC" Keywords [hepatocellular carcinoma, hepatoma, liver cancer] were combined with the word "cirrhosis" or "fibrosis" and with "absence" keyword [non-cirrhotic, absence, without]. 200 articles were selected and then screened if they satisfied the following three criteria: [1] cited "non-cirrhotic HCC". [2] The total number of non-cirrhotic HCC/ total number of HCC was reported. [3] The total number of HCV (+) non-cirrhotic HCC/total number of non-cirrhotic HCC was reported. Review articles, articles in a language other than English, articles in relation to the effect of hepatitis C treatment or the effect of genotype in the development of HCC, "non-cirrhotic" HCC articles related to different etiologies or articles that describing the combined effect of hepatitis B and C in the development of HCC were all excluded. Data regarding histology, demographics, methods for the diagnosis of cirrhosis, HCV testing, alcohol intake and markers used to test for hepatitis B were all collected if available.

Results: 36 articles were included; 7 case reports, 19 articles related to the epidemiology of non-cirrhotic HCC, and 10 articles related to the surgical outcome of hepatic resection in non-cirrhotic HCC. The estimated prevalence of non-cirrhotic HCC was between 10%-49%, it was higher among the surgical studies than the epidemiological studies (31.4% vs.22.4%). The prevalence of hepatitis C among patients with non-cirrhotic HCC was found to vary between 0%-51%. Reports from Japan contained the highest estimated prevalence of HCV (46.35%) followed by Italy (32.8%) and Pakistan (32.5%). Data was very limited to draw any conclusions regarding risk factors that might predispose this group of patients to develop HCC.

Conclusion: HCC can occur in hepatitis C patients without cirrhosis but the true incidence and prevalence is simply not known. Attention should be made for better description of such a group of patients in future studies. Further studies are required to determine if screening for HCC in chronic hepatitis C patients without cirrhosis should be endorsed, preferably prospective studies with a cost effectiveness measurement.

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PREDICTORS OF POST-TRANSPLANT SURVIVAL IN PATIENTS WITH AND WITHOUT HEPATITIS B

P. A. Myer, MD, A. L. Samuelson, MD, M. E. Morgan, MD, M. Lee, MD, A. Kamal, MD, A. Ahmed, MD. Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA.

Purpose: Predictors of overall survival after liver transplant may be different for patients with hepatitis B versus other causes for transplant.

Methods: We retrospectively reviewed all adult liver transplants performed at Stanford University Medical Center between February 1996 and July 2006. Predictors of survival were examined using Cox proportional hazard regression.

Results: We identified 492 patients who had undergone liver transplant. Those who died prior to discharge (n=48), had a combined liver/kidney transplant (n=28), or had acute liver failure (n=17) were excluded from further analysis. Of the remaining 407 patients, hepatitis B was present in 68 patients. Demographic data are shown in Table 1. After a mean follow-up of 4.5 years, there was a non-statistically significant trend towards greater survival in the hepatitis B group, likely due to a lower BMI (Log-rank statistic = 2.3, p =0.13). Among the non-hepatitis B group, the presence of diabetes mellitus appeared to be a strong predictor of poor outcome (HR = 5.1, p <0.0001). Among the hepatitis B group, the presence of HCC appeared to be the best predictor of poor outcome, although due to the small number of patients in this group, the effect did not reach statistical significance (HR = 4.6, p = 0.06).

Conclusion: Predictors of overall survival after liver transplant may different for patients with hepatitis B versus other causes for transplant. The presence of HCC in hepatitis B patients was associated with decreased overall survival when compared to all other causes for liver transplantation. Having diabetes was associated with poorer survival in patients transplanted for non Hepatitis B causes.

Table 1: Demographic Data

HBV Status	n	Age (yr)	BMI (kg/m2)*	MELD (mean)	HCC present*	DM present*	Overall Survival
HBV negative	342	50.6	27.9	19.5	22%	19.5%	83%
HBV positive	68	51.5	23.6	18.2	46%	6.3%	90%

*** p <0.05**

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THE RISK FACTORS FOR MORTALITY IN PATIENTS WITH HEPATITIS B VIRUS INFECTION AND HEPATOCELLULAR CARCINOMA FOLLOWING LIVER TRANSPLANTATION

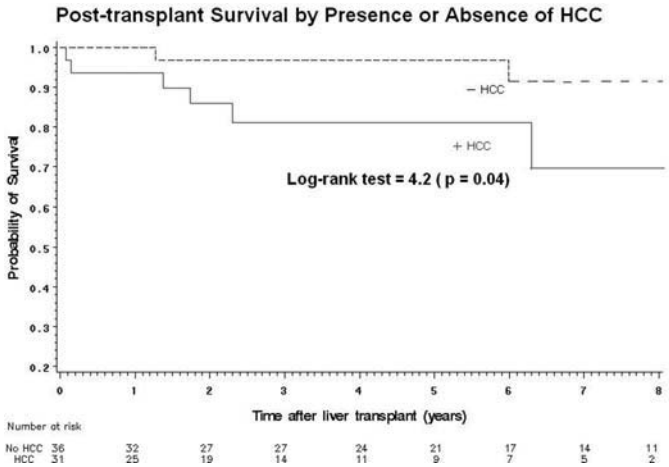
P. A. Myer, MD, A. Samuelson, MD, M. E. Morgan, MD, M. Lee, MD, A. Kamal, MD, A. Ahmed, MD. Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA.

Purpose: Conflicting data exist regarding the impact of hepatocellular carcinoma (HCC) on survival following liver transplantation (LT). Previous hort-term studies have failed to demonstrate any correlation between HCC and survival. We studied risk factors for mortality in patients who underwent LT for chronic hepatitis B virus infection (HBV), either with or without HCC.

Methods: We retrospectively reviewed all HBV-related liver transplants at our institution between February 1996 and July 2006. Patients with HBV and no evidence of HCC (non-HCC group) were compared to patients with HBV plus HCC (HCC group). The predictors of survival were examined using Cox proportional hazard regression.

Results: We reviewed data from 67 patients who underwent LT for HBV alone (non-HCC group) and 31 patients with HBV plus HCC (HCC group). Post-transplant survival at 1-year, 3-years and 5-years was 94%, 65%, and 56% in the HCC group compared with 100%, 90%, and 88% in the non-HCC group. Median follow-up was 4.9 years. Mean survival for HCC patients was significantly shorter than in non-HCC patients (p = 0.04). Pre-transplant, of the 31 HCC patients: 10 had hepatic resection, 24 had at least one chemoembolization, and 11 had multiple chemoembolizations; 10 had both chemoembolization and hepatic resection. 8 HCC patients did not meet Milan criteria. Post-transplant, 7 patients had recurrent HCC. A total of 7 patients with HCC died by the end of follow-up: 4 died post-operatively and 3 died of metastatic HCC recurrence.

Conclusion: Hepatitis B patients with HCC have shorter survival than patients without HCC when followed 5 years post-transplant. Our findings may be explained by a high pre-transplant tumor burden, as indicated by the size and number of lesions.



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CHARACTERIZATION OF THE FIRST EPISODE OF DECOMPENSATION OF LIVER CIRRHOSIS WITH RUPTURE OF ESOPHAGEAL VARICES AND PROGNOSTIC FACTORS

C. Noronha Ferreira, MBBS,[1] T. Rodrigues, Bachelor in Mathematics,[2] H. Cortez-Pinto, MD, PhD,[1] F. Serejo, MD, PhD,[1] F. Ramalho, MD, PhD,[1] A. Pinto, Bachelor in Mathematics,[2] E. Monteiro, MD, PhD[1]. 1. Serviço de Gastrenterologia e Hepatologia, Hospital de Santa Maria, Lisboa, Portugal; 2. Laboratório de Biomatemática, Faculdade de Medicina de Lisboa, lisboa, Portugal.

Purpose: The objective of the study was to identify clinical and laboratory indicators of higher mortality at hospital admission and at 1 and 3 years, in patients presenting with the first episode of decompensation of liver cirrhosis with rupture of esophageal varices.

Methods: The records of 85 consecutive patients admitted with upper gastrointestinal bleeding from ruptured oesophageal varices as the first episode of decompensation of liver cirrhosis were analyzed. After discharge, patients were followed up till death or study closure date on 31th August 2007. Exploratory analysis, Mann Whitney, Chi Square and Fisher`s Exact tests were applied. Significance level: 5% (SPSS version 15).

Results: The average age of the patients was 56 ± 13.74 years with a predominance of male sex – 84.7% (72). The aetiologies of liver cirrhosis were: alcohol – 63.5 % (54), alcohol + viral - 14.1% (12), viral – 9.4% (8), non alcoholic and non viral – 12.9% (11). Severe alcoholic hepatitis (Maddrey`s discriminant function > 32) was present in 20.5% (17/83). Distribution according to Child Pugh Class: A – 31.6% (25/79), B – 31.6% (25/79), C 36.7% (29/79). The average MELD score was 15 ± 7. The prevalence of community acquired infection was 12.8% (10). The incidence of nosocomial infection was 10.5% (8). Average period of follow up was 33.7 ± 30.1 months. The mortality rate at first hospital admission for decompensated liver cirrhosis was 12.9% (11/85), at one year 23.9 % (16/67) and at 3 years 35.3% (18/51). Patients who died at first hospital admission had significantly higher MELD score, Child Pugh score, and serum creatinine (p < 0,001; p = 0,002; p= 0,013) and significantly lower total cholesterol (p= 0,009). Patients who died at one and three years had significantly higher MELD score (p = 0,002; p < 0,001), Child Pugh score (p=0,001; p < 0,001), and significantly lower total cholesterol (p = 0,001; p = 0,002). Mortality at first hospital admission at 1 and 3 years was significantly higher in patients in Child Pugh class C (p = 0,001; p = 0.001; p < 0.001) and in patients with MELD score ≥ 15 (p = 0,001; p= 0,006; p < 0.001). Mortality at 1 year and 3 years was also significantly higher in patients with total cholesterol < 100mg/dL (p = 0.01; p = 0,013). At 1 year and 3 years, mortality was significantly associated with Child Pugh class C (p =0.001; p < 0.001).

Conclusion: Patients with presenting with rupture of oesophageal varices with MELD score ≥ 15 and those belonging to Child Pugh class C have significantly higher mortality at hospital admission and at 1 and 3 years. In these patients, total serum cholesterol <100mg/dL is significantly associated with higher mortality at 1 and 3 years.

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CHARACTERIZATION AND DETERMINATION OF PROGNOSTIC FACTORS AT THE FIRST EPISODE OF DECOMPENSATION OF LIVER CIRRHOSIS WITH ASCITIS

C. Noronha Ferreira, MBBS,[1] T. Rodrigues, Bachelor in Mathematics,[2] H. Cortez-Pinto, MD, PhD,[1] F. Serejo, MD, PhD,[1] F. Ramalho, MD, PhD,[1] A. Pinto, Bachelor in Mathematics,[2] E. Monteiro, MD, PhD[1]. 1. Serviço de Gastrenterologia e Hepatologia, Hospital de Santa Maria, Lisboa, Portugal; 2. Laboratório de Biomatemática, Faculdade de Medicina de Lisboa, Lisboa, Portugal.

Purpose: We aimed at identifying clinical and laboratory indicators of higher mortality at hospital admission and at 1 and 3 years in patients admitted with the first episode of decompensation of liver cirrhosis with ascitis

Methods: The records of 131 consecutive patients admitted with ascitis as the first episode of decompensation of liver cirrhosis were analyzed. Patients were followed up till death or study closure date on 31th August 2007. Exploratory Analysis, Mann Whitney, Chi square and Fisher`s Exact tests were applied. Significance level: 5% (SPSS version 15).

Results: The average age was 58.4± 13.5years with a predominance of male sex – 79.4% (104). Average duration of follow up - 20.7 ± 28.82 months. Etiology of liver cirrhosis: alcohol – 65 % (85), alcohol + viral -15.3% (20), viral – 15.3% (20), non alcoholic and non viral – 4.6% (6). Severe alcoholic hepatitis (Maddrey`s discriminant function > 32) was present in 12.5% (16/128) patients. Distribution according to Child Pugh Class: A – 2.4% (3/124), B – 45.2% (56/124), C 52.4% (65/124). The average MELD score was 15.7 ± 5.9. The prevalence of community acquired infection was 29.3% (36/123) with the following subgroups: Spontaneous bacterial peritonitis (SBP) – 16; Urinary tract infection (UTI) – 11, pneumonia - 4, sepsis – 3, soft tissue infection – 2. The incidence of nosocomial infection was 14.6% (18/123) with the following subgroups: UTI - 9, SBP – 3, sepsis - 3, pneumonia - 2, soft tissue infection - 1. The mortality at first hospital admission for decompensated liver cirrhosis was 10.7% (14/117). We did not find any factors significantly associated with mortality at first hospital admission. The mortality at one year was 42.7% (41/96), and that at 3 years 62.5% (50/80). Patients who died at 1 year and 3 years were significantly older (p= 0.03; p = 0.006), and had higher MELD scores (p = 0.012; p = 0.005). Mortality at 1 year was significantly higher in patients aged ≥ 50 years (p = 0.011), MELD score ≥ 15 (p = 0.03) and with > 2 hospital re-admissions (p = 0.015). Mortality at 3 years was significantly higher in patients aged ≥ 50 years (p =0,012). There was no significant association between the sex, aetiology of liver cirrhosis, serum cholesterol, creatinine, sodium levels and presence of infections with the higher mortality.

Conclusion: Nearly all the patients who presented with ascitis had advanced liver cirrhosis (Child Pugh B and C). Patients with this form of decompensation of liver cirrhosis have an elevated mortality (65%) at 3 years. Higher age and MELD score ≥ 15 were significantly associated with mortality at 1 and 3 years.

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NONALCOHOLIC FATTY LIVER DISEASE IS ASSOCIATED WITH INSULIN RESISTANCE AND METABOLIC SYNDROME IN MAJORITY OF INDIAN PATIENTS

K. K. Thumburu, MSc,[1] R. K. Dhiman, MD, DM,[1] A. Duseja, MD, DM,[1] Y. K. Chawla, MD, DM,[1] A. Das, MD,[2] A. Bhansali, MD, DM,[3] N. Kalra, MD,[4] K. K. Kohli, MSc, PhD[5]. 1. Hepatology, Postgraduate Institute of Medical Education and Research, Chandigarh, India; 2. Histopathology,, Chandigarh, India; 3. Endocrinology,, Chandigarh, India; 4. Radiodiagnosis,, Chandigarh, India; 5. Biochemistry,, Chandigarh, India.

Purpose: Nonalcoholic fatty liver disease (NAFLD) is associated with insulin resistance (IR) and metabolic syndrome (MS). The present study aims to evaluate the frequency of IR and MS and predictors of IR in these patients.

Methods: A total of 348 subjects were enrolled; 71 NAFLD patients with persistently normal transaminases (group-1) [mean age (95% CI), 43.49 years (41.43-45.56); 32 men] and 146 NAFLD patients with persistently raised transaminases (group-2) [mean age (95% CI), 41.29 years (39.41-43.16); 100 men] were enrolled. Sixty-four patients with chronic viral hepatitis (CVH) (group-3) [mean age (95% CI), 38.92 years (35.97-41.88); 56 men] and 61 healthy subjects (group-4) [mean age (95% CI), 39.75 years (37.35-42.40); 46 men] were also investigated. Anthropometric and biochemical abnormalities, IR [homeostasis model assessment of IR (HOMA-IR) >1.53] and MS were studied in all subjects.

Results: IR was present in 44 (61.9%) patients in group-1, 106 (72.6) in group-2 and in 37 (57.8) in group-3. Forty (56.3%) patients in group-1, 68 (46.6%) in group-2 and 09 (14.0%) in group-3 fulfilled minimum criteria for MS. The number of metabolic components of MS significantly correlated with HOMA-IR both in patients with NAFLD (r=0.312; P<0.0001) and in CVH patients (r=0.495; P<0.0001). Among the patients with NAFLD, frequency of IR or MS increased progressively from nonobese, nondiabetic subgroup of patients (54.6%) to obese and nondiabetic (86.5%) to nonobese and diabetic (94.7%) to obese and diabetic (100%) ($\chi 2$ for trend, P<0.0001). The frequency of IR and MS also depended on BMI (IR: lean (39.1%), overweight (57.4%), obese (78.1%) and morbidly obese (83.7%), $\chi 2$ for trend, P <0.0001; MS: lean (17.4%), overweight (40.7%), obese (56.3%) and morbidly obese (65.1%), $\chi 2$ for trend, P=0.001). NAFLD and CVH patients had significantly higher BMI (95% CI, kg/m2) [group-1 26.12 (25.15-27.09), group-2 (27.23(26.63-27.83), group-3 24.71(23.72-25.70) and healthy controls 22.32 (21.96-22.67); P<0.0001] and central obesity (95% CI, cm) [group-1 90.67 (88.13-93.21), group-2 94.56 (93.06-96.06), group-3 89.08 (86.56-91.59) and healthy controls 82.78 (81.61-83.94); P<0.0001] compared to controls. Multivariate logistic regression identified 3 independent factors of IR: BMI, centrally obesity and serum triglycerides levels.

Conclusion: IR and MS are common in patients with NAFLD indicating an etiologic association. More than half of the patients with CVH also had IR but frequency of MS is very low. BMI, central obesity and serum triglycerides levels independently predicted IR.

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NATURAL HISTORY AND OUTCOME OF MONOTHERAPY OF CHRONIC HEPATITIS B: MULTICENTER STUDY IN THAILAND

S. Treeprasertsuk, MD, MSc,[1] V. Mahachai, MD,[1] T. Tanwandee, MD,[2] T. Piratchvisuth, MD,[3] C. Pramoolsinsap, MD,[4] A. Jutaputti, MD,[5] K. Pornpininworakij, MD,[6] L. Ingsrisawang, PhD,[7] T. Keentupthai, MSc,[8] A. Jamjaeng, MSc[8]. 1. Medicine, Chulalongkorn University, Rama 4 rd., Thailand; 2. Medicine, Siriraj Hospital, Mahidol University, Bangkok-noi, Thailand; 3. Medicine, Prince Songklanakarind University, Muang, Thailand; 4. Medicine, Ramathibodi Hospital, Mahidol University, Rajthevee, Thailand; 5. Medicine, King Pramongkrutklao Hospital, Rajthevee, Thailand; 6. Tropical Medicine, Hospital for Tropical Disease, Mahidol University, Rajavithee, Thailand; 7. Statistics, Kasetsart University, Vibhavadee, Thailand; 8. Data management, Clinical Research Collaborative Network (CRCN), Thailand, Pakkred, Thailand.

Purpose: Chronic hepatitis B (CHB) has a long-term disease burden from its complications. Data on natural history and outcome of treatment of CHB patients in Thailand remain inconclusive. This was a 3 yr long-term follow up study aiming to look at the natural history and outcome of therapy in Thai patients treated with nucleoside analogues (NAs) monotherapy or Interferon (IFN) monotherapy.

Methods: CHB patients was enrolled from 6 hospitals (2002 to 2005). They had no clinical evidence of cirrhosis. Patients with HBsAg and alanine aminotransferase (ALT) levels > 1.5 times of normal for at least 6 months were enrolled. Clinical data and laboratory tests during follow up period at least 1 time/year were recorded. Treatment included NAs including 3TC, Lamivudine or Adefovir Dipivoxil and Interferon (IFN), either IFN-alpha or PEG-IFN-alpha. Treatment response was defined as ALT normalization and HBV-DNA level <10,000 copies/ml and/or HBeAg seroconversion at the end of follow up.

Results: 567 patients with mean age of 46.8 +11.9 yrs were included. Ratio of HBeAg positive and HBeAg negative was 1: 1. Risk factors including IVDU, blood transfusion and /or tattoo were not identified in most cases (74.2%). Only 18.3% of CHB had a history of HBV infection in their immediate family and 5.5% had a history of receiving blood components. Most of the patients (82%) were diagnosed while asymptomatic at routine checkups and 10.5% were diagnosed by blood testing as part of blood donation. Only 7.5% of patients were symptomatic complaining of fatigue, tender hepatomegaly or jaundice. Sixty-one percent received NAs while 19.9% received IFN and the remaining 19.0% received no specific medication. For the HBeAg positive patients, HBeAg seroconversion and undetectable HBV-DNA were achieved in 32.8% and 50.5%, respectively in NAs gr.(on therapy) but these were achieved in 24.3% and 21.4%, respectively in IFN gr.(off treatment). For the HBeAg negative gr, undetectable levels of HBV-DNA occurred in 68.8% in the NAs gr. but these occurred 37.5% in the IFN group. HBsAg loss was not found in NAs gr. but only 2.8% HBsAg loss found in IFN gr. HBV-DNA became reappeared in IFN and NAs groups after stopping therapy in 26.6% and 24.3 %, respectively. Minor adverse events of therapy were found in 9%.Five percent of patients progressed to cirrhosis Child A and one death found in NAs gr.from other cause unrelated to liver disease.

Conclusion: A treatment response of Thai CHB patients from multicenter study showed the results similar to previous studies. However, higher durability of treatment with lower rate of reappearance of HBV-DNA was observed in Thai CHB patients.

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Poster Withdrawn

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DEMOGRAPHIC VARIABLES IN CRYOGLOBULINAEMIC EXPRESSION IN HEPATITIC C INFECTION

R. Anaparthy, MD, J. R. Petersen, PhD, H. L. Weiss, PhD, N. Snyder, MD. UTMB, Galveston, TX.

Purpose: It is well documented that Hepatitis C virus is associated with cyroglobulinaemia. Despite the wide variation of cyroglobulinaemic expression in these patients, the demographic characteristics predisposing to cryoglobulinaemia in association with Hepatitis C are not very well understood. Although prior studies have looked at geographical differences, race as a predisposing factor for cryoglobulinaemic expression has not been well characterized. Aim: The main aim of our study is to determine if there is a racial difference in the expression of cyroglobulins in Hepatitis C infected patients. We also looked if the expression of cyroglobulinaemia was associated with Hepatitis B co-infection.

Methods: With IRB approval we reviewed the charts of a cohort of 393 who presented from January 2006 to April 2008 with symptoms suggestive of cyroglobulinaemia. Of these, Hepatitis C infection was confirmed in 293 patients by serum HCV RNA measurement. Cryoglobulin and HBV co-infection status in these patients was also assessed.

Results: Presence of cryoglobulins was found in 47 (16%) of patients studied. The mean age in this group was 50.9 years. Absence of cryoglobulins was found in 246 (84%) of patients. The mean age in this group was 51.67 years. Univariate analysis showed no association with either gender or Hepatitis B co-infection. However, analysis of race revealed a significant difference with a trend towards decreased number of African Americans being cryoglobulin positive when compared to Caucasians (8.1% Vs 17.8%, p= 0.04, OR 0.41, 95% CI 0.17 to 0.99) or Hispanics (8.1% Vs 23.6%, p=0.01, OR 0.29, 95% CI 0.11 to 0.77) Table

Conclusion: Caucasians and Hispanics have an increased predilection for cryoglobulinaemic expression in association with Hepatitis C infection while the predilection for cyroglobulinaemia appears to be decreased in African-Americans. In contrast co-infection with Hepatitis B is not associated with cyroglobulinaemia response in Hepatitis C patients. The geographic differences in prevalence of HCV–related cryoglobulinaemia seen in previous studies could be in part explained by the racial differences of the various populations studied.

Variable	Cryoglobulins(+) n(%)	Cryoglobulins (-) n(%)	P value
Ethnicity			0.04(overall)
Caucasian(C)	27(17.8)	125(82.2)	0.04(C vs AA)
African-american(AA)	7(8.1)	70(91.9)	0.01(AA Vs H)
Hispanic(H)	13(23.6)	42(76.4)	0.34(H Vs C)
Gender			0.41
Female	9(12.9)	61(87.1)	
Male	38(17.0)	185(83.0)	
HBV co-infection			0.25
Present	8(22.2)	28(77.8)	
Absent	36(14.8)	208(85.2)	
unknown	3	10	

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THYROID DYSFUNCTION IN GENOTYPE 3 CHRONIC HEPATITIS C PATIENTS TREATED WITH INTERFERON & RIBAVIRIN

I. U. Haque, MBBS, FCPS,[1] S. Zafar, MBBS, FCPS,[1] G. U. Tayyab, MBBS, FCPS, MRCP,[2] G. M. Khan, MBBS, MD,[1] N. U. Chaudry, MBBS, MRCP[1]. 1. Department of Gastroenterology and Hepatology, Lahore Medical & Dental College, Lahore, Pakistan; 2. Department of Medicine, Lahore General Hospital, Lahore, Pakistan.

Purpose: IFN & RIBA therapy for CHC infection has been associated with thyroid dysfunction. Aim of our study was to determine pattern of thyroid Dysfunction only in Genotype 3 Patients and to assess risk factors and reversibility of thyroid disorders induced by IFN therapy.

Methods: Patients with CHC, either biopsy proven and/or tested positive for HCV RNA by PCR and having only genotype 3(n=200),(M=101,F=99) were treated with IFN alpha 2b 3MIU TIW (n=150) or PEG IFN alpha2a 180Mcg (n=50) along with weight based RIBA were included.TSH, free T3 and T4, Thyroid peroxidase antibodies, Thyroglobulin antibodies and Thyroid Stimulating Immunoglobulins were measured at 0, 3, 6, 9 and then at 12 months of treatment.Thyroid dysfunction was defined as TSH level below or above the normal range (0.2–4.5MIU/L). Frequency was compared using chi square test with Yate's correction or Fischer exact test. A multiple logistic regression model was used in the statistical analysis of various factors for the development of thyroid dysfunction. Variables which were used included age, gender, type of IFN used, presence or absence of thyroid auto antibodies before starting therapy, impact of RVR and SVR. Type of thyroid disease and its outcome were assessed during and after therapy.

Results: Thyroid dysfunction developed in 21 (10.5%)(M=8,F=13) of 200 patients. Hypothyroidism was seen in 17 and hyperthyroidism in 4 patients. Dysfunction occurred in 15 (10%) of 150 patients who received standard IFN as compared with 6 (12%) of 50 patients who received Peg IFN (P =1.0). Pretreatment autoantibodies were seen in 15 of 21 patients who later on developed thyroid dysfunction while they were seen only in 10 of remaining 179 who didn't develop thyroid disease.(p>0.05) Amongst 200 patients who completed all 6 months of HCV treatment, overall SVR was achieved in 162(81%) patients. While out of 21 patients who developed thyroid dysfunction SVR was seen in 16 of 21(76%) as compared to 179 patients who didn't have thyroid dysfunction SVR was present in 145(81%) (P = 0.96). By multivariate

analysis female gender and pre-treatment autoantibodies presence were independent predictors of developing thyroid dysfunction (P < 0.01) while age, type of IFN, RVR and SVR were not. These patients were followed for six months after cessation of IFN therapy. Out of 21 patients 19 became euthyroid during six months post IFN therapy, while only two patients had to continue taking therapy after this time period.Both were from Peg IFN group and suffered from Hypothyroidism.
Conclusion: Female gender and pretreatment auto-antibodies detection are associated with thyroid dysfunction while type of IFN, age, RVR and SVR have no impact on thyroid disease development in CHC.

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PROTECTIVE NUTRAGENOMIC EFFECT OF A PHYTOCOMPOUND ON OXIDATIVE STRESS AND DNA FRAGMENTATION AGAINST PARACETAMOL-INDUCED LIVER DAMAGE

F. Marotta, MD, PhD,[1] H. Yadav, PhD,[2] U. Gumaste, PhD,[3] P. Signorelli, MD,[4] E. Minelli, MD,[1] P. Marandola, MD[4]. 1. WHO-cnt for Biotech & Nat Med, University of Milano, Milano, Italy; 2. NIDDK, NIH, Bethesda, MD; 3. Agharkar Research Institute, Pune, India; 4. GAIA Foundation, Milano, Italy.

Purpose: Although paracetamol is a widely used analgesic/antipyretic agent regarded as generally safe when used at therapeutic levels, its related hepatotoxicity is the leading cause of drug-induced liver failure in the western countries and an acute or cumulative overdose can cause severe liver injury with the potential to progress to liver failure. The hepatoprotective potential DTS (Denshi-to-Chiusei, Kyotsu Jigyo, Tokyo, Japan) was evaluated against paracetamol-induced liver injury in Sprague-Dawley rat, in comparison with silymarin, the standard hepatoprotective drug.
Methods: Adult Sprague-Dawley rats were divided into 5 groups comprising 8 animals in each group. Group A was maintained as the control. Group B (acute model) received paracetamol suspension (1.5 g/kg bw) once a day orally for 7 d. Group C received paracetamol (1.5 g/kg bw) followed by DTS (150 mg/kg) once a day orally for 7 d. Group D (sub-toxic model) given paracetamol (150mg/kg bw) onc day orally for 7 days and group E, same dosage of paracetamol plus DTS (150mg/kg). At sacrifice it was checked (liver and plasma), AST, ALT, ATPase, thiols, redox balance and DNA fragmentation.
Results: We observed a reduction in liver antioxidants, such as glutathione (GSH), superoxide dismutase (SOD), glutathione peroxidase (GPx), and catalase (CAT) and in serum total protein, and an increase in serum alkaline phosphatase (ALP), serum aspertate aminotranferase (AST), serum alanine aminotranferase (ALT), bilirubin and liver thiobarbituric acid reactive substances (TBARS) due to liver injury in the paracetamol-administered rats (2 g/kg). On the contrary, increased activities of liver GSH, SOD, GPx, CAT and serum total protein level, and decrease in the contents of serum ALP, AST, ALT, bilirubin and liver TBARS were observed in rats administered with different doses of DTS (100, 200 and 300 mg/kg), which are similar to the activities of hepatoprotective drug silymarin (150 mg/kg). Animals pretreated with DTS showed a marked decline in the severity of DNA fragmentation, of liver tissue ATPase, protein thiol assay and glutathione as compared with the group treated with paracetamol alone (DTS better than sylimarin, p<0.05).
Conclusion: The mode of action of DTS as evidenced by the above parameters may suggest that DTS, on the one hand, prevents the formation of the reactive oxygen groups, or scavenges these groups, thereby preventing the damage on the hepatic cells, and, on the other hand, modulates the genes responsible for synthesis of antioxidant enzymes in liver tissue and decreases and glutathione derangement thus providing marked DNA protection.

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SERUM GGT PREDICTS VIROLOGICAL RESPONSE TO PEGYLATED-INTERFERON AND RIBAVIRIN THERAPY IN PATIENTS WITH CHRONIC HEPATITIS C

X. Zhao, MD,[1] S. Tenner, MD, MPH,[1] J. Li, MD,[1] M. Bernstein, MD[2]. 1. Gastroenterology, Maimonides Medical Center, Brooklyn, NY; 2. Gastroenterology, Coney Island Hospital, Brooklyn, NY.

Purpose: Currently, the ability of clinicians to predict response to pegylated-interferon and ribavirin therapy in chronic hepatitis C (CHC) is based on measurements of viral load, early virological response (EVR) and rapid virological response (RVR). However, a recent study of non-responding patients suggests that serum GGT may also predict response in patients treated with pegylated-interferon and ribavirin. The aim of our study was to assess the association of baseline GGT level and sustained virological response (SVR) in treatment-naïve patients with CHC.
Methods: We conducted a retrospective chart review that included all patients with CHC who were treated with pegylated-interferon and ribavirin from 2004 to 2006. Patients were excluded if they were not naive to interferon-based therapy, were non-compliant, or lost to follow-up. Demographic data, including age, gender, body weight, comorbidities, baseline HCV RNA levels, and baseline ALT, AST, GGT, and platelet level were obtained. SVR was confirmed by an undetectable HCV RNA at week 24 of treatment. Univariate and multivariate regression analyses were performed to assess the association of the baseline enzyme levels with treatment response.
Results: Eighty-three patients were included in the study, mean age 47.2 ± 9.4 years old, 57 (59%) were female. There were 38 pts (45.8%) with genotype 1 infection and 36 pts (43.4%) with genotype 2 or 3 infection. The mean baseline HCV RNA level was 5.5 ± 0.8 log IU/mL. The mean baseline ALT, AST, and GGT levels were 84.01 ± 50.1 IU/dL, 61.79 ± 40.62 IU/dL, and 92.57 ± 166.49 IU/dL respectively. Thirty-eight pts achieved SVR (45.8%). In multivariate analysis, age (odds ratio [OR] 0.94; 95% CI 0.89-0.98; p=0.01) and elevated baseline GGT levels (> 1x ULN, 55 IU/dL) were negatively associated with SVR (OR 0.12; 95% CI 0.04-0.20; p<0.001), while gender, baseline ALT/AST levels, and baseline HCV RNA levels did not show significant association with SVR. In subgroup analysis, the negative association of elevated GGT and SVR was only observed in patients with genotype 1 infection (OR 0.07; 95% CI 0.01-0.50; p=0.008), but not with genotype 2 or 3 infection.
Conclusion: In our study, age and elevated baseline GGT levels (>1x ULN) are negatively associated with SVR in treatment-naïve patients with CHC. Normal baseline GGT levels, in adjunct to RVR and EVR, may be used to predict treatment response in pts with CHC genotype 1 infection. Further study is needed to explain the underlying pathophysiology and confirm these findings.

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PHYSICIANS MORE FREQUENTLY TEST FOR HIV IN PATIENTS WITH CHRONIC HEPATITIS C WHO HAVE A HISTORY OF INTRAVENOUS DRUG USE

R. Ali, MD, J. Agrawal, BS, M. Borum, MD, EdD, MPH. Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC.

Purpose: Coinfection with chronic hepatitis C (HCV) and HIV causes significant morbidity and mortality in the United States. It has been speculated that patients with chronic HCV are inconsistently tested for HIV. This study evaluated whether the risk for HCV acquisition influenced physicians' testing for HIV.
Methods: The medical records of consecutive chronic HCV patients, referred to an urban university gastroenterology practice during a 9-month period, were reviewed. There were no exclusion criteria. HCV status, presence of HIV serologic testing, documentation of risk factors for chronic HCV, gender, and race were obtained. The database was created using Microsoft Excel. Information was de-identified to ensure anonymity. Statistical analysis was performed using Fisher's exact test with statistical significance set at p<0.05. The university institutional review board approved the study.
Results: The medical records of 118 (61 females, 57 males) consecutive chronic hepatitis C patients were reviewed. 57 of the 118 patients (48.3%) had intravenous drug use as a risk factor for HCV acquisition. 61 of the 118 patients (51.7%) had risk factors other than intravenous drug use for HCV acquisition. 37 of the 57 patients (64.9%) with a history of intravenous drug use and 22 of the 61 patients (36.1%) without a history of intravenous drug use were tested for HIV. A statistically significant difference (p=0.0490) was found in the rate at which HCV patients with a history of intravenous drug use were tested for HIV compared to those who did not have a history of intravenous drug use. In patients with documented intravenous drug use, 24 of the 57 (42.1%) were female and 33 of the 57 (57.9%) were male. There was no statistically significant difference (p=0.4232) in the rate at which males and females with HCV and a history of intravenous drug use were tested for HIV. In the 57 patients with documented intravenous drug use, 49 (86%) were African-American while 8 (14%) were of another race. There was no statistically significant difference (p=0.4509) in the rate at which African-Americans and patients of another race with HCV and a history of intravenous drug use were tested for HIV.
Conclusion: Coinfection with chronic HCV and HIV causes significant morbidity and mortality. This study demonstrated that patients with chronic HCV are more likely to be tested for HIV if intravenous drug use was their risk factor for HCV acquisition. This finding may represent a physician bias when screening for HIV in patients with HCV. All patients with chronic HCV, regardless of identified risk factors, should be tested for HIV. Increased efforts are needed to encourage physicians to test for HIV in patients with chronic HCV.

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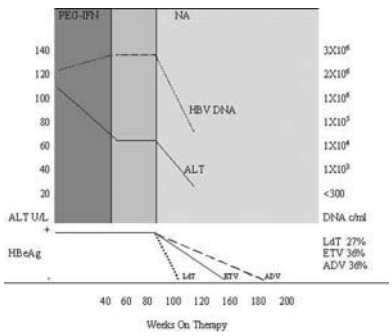
TREATMENT OUTCOMES OF ENTECAVIR, ADEFOVIR AND TELBIVUDINE IN HBEAG POSITIVE CHRONIC HEPATITIS B PATIENTS WHO FAILED PRIOR PEGYLATED INTERFERON THERAPY

K. R. Bhamidimarri, MD, MPH (Biostatistics), C. Pan, MD, FACG. Gastroenterology, Elmhurst Hospital Center, Mt.Sinai Services, Elmhurst, NY.

Purpose: Treatment of HBeAg positive chronic hepatitis B (HBeAg+ CHB) with pegylated interferon (PEG-IFN) for 1 year achieved HBeAg seroconversion and/or HBV DNA < 5 log10 c/ml in about a third of treated cases. The role of NAs such as Entecavir (ETV), Adefovir (ADV) or Telbivudine (LdT) in treating these PEG-IFN non responders to achieve viral suppression, HBeAg loss/ seroconversion remains unclear. To assess the treatment outcomes of ADV, ETV and LdT in HBeAg+ CHB who failed previous PEG-IFN therapy.
Methods: The medical records of 57 HBeAg+ CHB patients in a single center who received PEG-IFN therapy (mean 43 weeks), were reviewed retrospectively. 30 patients (15 on Peg-IFN alfa 2a, 15 on Peg-IFN alfa 2b) did not achieve HBeAg loss/seroconversion or had residual HBV DNA> 5 log10 c/ml after 6months (mean 35weeks) of observation post PEG-IFN therapy. They were subsequently treated with ADV, ETV or LdT for mean 70 wks (27-179) during 2003 to 2008 and their treatment outcomes were analyzed.
Results: All the 30 patients are HBeAg+CHB mono-infected Asians, mean age 38 (27-73), 23 males. Prior to treatment with NAs, their clinical features are the following: all HBeAg+, genotype b or c, mean HBV DNA 2.8 x 8 log10 c/ml, mean ALT of 62 IU/L. ADV, ETV or LdT treatment was administered in 36%, 33%, 30% of the cohort respectively. None had viral breakthrough during treatment. Among 30 patients, 11 (36.6%) achieved HBeAg loss and had subsequent seroconversion in mean 69 weeks follow up, 13 (43%) achieved DNA<160 c/ml in mean 32 wks, 24 patients (80%) had normalization of ALT in mean 22 wks. The HBeAg loss/ seroconversion rates with ADV, ETV and LdT over the mean treatment of 92, 78 and 18 weeks were 36%, 36% and 27% respectively.
Conclusion: The treatment response rates to ADV, ETV or LdT in HBeAg+ CHB who failed a full course of PEG-IFN therapy are similar compared to NA monotherapy in the naïve HBV patients. PEG-IFN non responders treated with LdT achieved HBeAg loss/seroconversion in a shorter duration than the other NAs. Randomized controlled trials in the future would aid to confirm the above findings.



Treatment Outcomes with NAs in IFN Failure

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DESIGNING AND EVALUATION OF TAQMAN CHEMISTRY FOR QUANTIFICATION OF HUMAN HEPATITIS B VIRUS

C. M. Habibullah, MD, A. Habib, MD, M. Chandra, PhD, Y. Naresh, MSc. Gastroenterology and Hepatology, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad, India.

Purpose: A number of common mutations have been described in HBV strains and recombinant genomes have been reported. These include variability within the basic core promoter, precore/core and the pre-S1 gene, which shows great heterogeneity. Designing primer and probe sets to detect and quantify all HBV variants by real-time PCR is challenging at best. HBV viral load was the strongest predictor of progression to cirrhosis and directly related to necroinflammation and progression of fibrosis.

Methods: A total of 250 samples consisting of HBV positive (n=100); HBV, HCV and HIV negative (n=100); HCV positive (n=25) and HIV positive (n=25) were collected from out patient unit, Centre for Liver research and diagnostics. Complete Human HBV DNA sequences (n=944) were selected from the National centre for biotechnology information (NCBI) nucleotide database, Primers and probes were designed and synthesized from core, surface and x region. Real-time based quantification was done using standard kit and in-house generated standards and RT-PCR protocols.

Results: The standard calibration curve was generated by using the Smart Cycler II software and serial dilution 102 to 108. The calibration curve was linear in a range from 102 to108 copies/ml, with R2 value of 0.999. Reproducibility as measured by dual testing of triplicates of serum samples was acceptable, with coefficients of variation at 6.5%, 7.5% and 10.5%. Our results showed that amplification performance was good in case of primer and probe set designed from x region. We constructed a plasmid with x region using p-GEMT easy vector for being used as a control for deriving standard curve. Out of 100 negative samples screened by ELISA and standard RT-PCR kit, one sample was detected as positive with the in-house developed RT-PCR assay, the positivity of the sample was confirmed by sequencing the amplified product, NCBI accession EU684022. To avoid the possibility of contamination, this sample was simultaneously processed twice using both standard and in-house assays. Out of four oligo sets designed for HBV detection by RT-PCR, X gene set showed highest specificity and sensitivity (98%) followed by surface (74%) and core (70%).

Conclusion: This assay is reproducible showing limited inter and intra assay variability and good amplification efficacy in different HBV genotypes and serotypes. We demonstrate that the results of our assay correlated well with the standard kit for HBV viral load monitor. In this study we eliminated the drug inducible mutation and variable regions for selecting the conserved portion of viral genome for effective oligo designing and evaluated the same.

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SAFETY AND EFFICACY OF HEPATIC PROGENITOR CELL TRANSPLANTATION THROUGH HEPATIC ARTERY FOR THE TREATMENT OF CHRONIC LIVER FAILURE

C. M. Habibullah, MD DM,[1] A. A. Khan, PhD,[1] P. Nyamath, PhD,[1] M. v. Shaik, MSc,[1] R. A. Prasad, MSc,[1] R. H. Prakash, MBBS,[1] V. Jampala, MD,[1] B. Patel, MBBS,[1] G. Pande, PhD,[2] A. Habeeb, MD[1]. 1. Gastroenterology and Hepatology, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad, India; 2. Molecular Biology, CCMB, Hyderabad, India.

Purpose: Orthotopic liver transplantation (OLT) is the ultimate treatment for end-stage liver failure and for numerous liver based inborn errors of metabolism. However, several limitations such as shortage of organ donors, high cost and several complications /risks of OLT. Liver cell transplantation (LCT) is emerging as successful treatment. Stem cells from different sources are eligible for liver cell therapy according to their hepatic potential, for instance mesenchymal stem cells (MSCs), hematopoietic stem cells (HSCs) and adult liver stem/ progenitor cells. However, the current research on the hepatic fate of the stem cells is still facing difficulties to demonstrate the acquisition of a functional hepatocyte, both in vitro and in vivo . In experimental studies heaptic progenitors from human fetal is shown promising results in the engraftment and proliferation. Recently Hisaya azuma et.al demonstrated the transplantation of serial human hepatic progenitors completely repopulated the whole liver. In this study we are reporting transplantation of hepatic progenitors in 5 patients with cirrhosis of liver (Child Pugh B, C) with 6 months follow-up.

Methods: This clinical study was approved by Institutional Ethics Committee . Informed consent was taken from patient for carrying out the study. Briefly, liver cells were isolated by two step collagenase digestion method, from the aborted fetus of 14-20 weeks gestation. Total liver cells were subjected to magnetic activated cell sorting (MACS) with CD326 antibody directly labeled to microbeads (MACS, Miltenyi Biotec) and collected hepatic progenitor cells. Cell viability and cell activity were assessed by trypan blue dye exclusion method and MTT assay respectively and reported 90% of viability with higher cellular activity. Cells were infused by trans femoral catheterization technique, Hepatic artery was selectively cannulated with 8F guage catheter. 0.1X108 fetal liver progenitor cells in 10 -12ml of DNS solution were infused at the rate of 1ml/per minute to achieve reconstitution of the liver with transplanted cells.

Results: All the procedures were performed safely without any post infusion complications. Follow up results after 6 months showed oveall improvement in geneal condition. All the patients showed improvement in serum albumin, bilirubin, ALT after first month of cell infusion. Ultrasonography findings showed decrease in ascitis.

Conclusion: This study demonstrates the efficacy of hepatic progenitor cell in management of cirrhosis liver. As the procedure is very simple, infusion of hepatic progenitors can be repeated to improve the liver functions.

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CHARACTERIZATION OF HEPATIC PROGENITORS FROM HUMAN FETAL LIVER DURING SECOND TRIMESTER

C. M. Habibullah, MD DM,[1] A. A. Khan, PhD,[1] S. Rao, MSc,[1] G. Pande, PhD,[2] P. Nyamath, PhD[1]. 1. Gastroenterology and Hepatology, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad, India; 2. Molecular Biology, CCMB, Hyderabad, India.

Purpose: Our aim was to enrich Hepatic progenitors using epithelial cell adhesion molecule (EpCAM) as a marker from human fetal liver and investigate the expression of markers for hepatic progenitor cells and human leukocyte antigen (HLA).

Methods: EpCAM +ve cells were isolated using magnetic cell sorting (MACS) from human fetuses (n=10) at 14-20 weeks gestation. Expression of markers for hepatic progenitors such as albumin, Alpha-feto-protein (AFP), CD 29(integrin beta 1), CD49f (integrin alpha6) and CD 90 (Thy 1) was studied by using flowcytometry, immunocytochemistry and RT-PCR; HLA Class I (A, B, C) and class II (DR) expression was studied by flowcytometry only

Results: Our results show that human fetal EpCAM+ve cells express hepatic progenitors, moderate levels of HLA Class I and no Class HLA II markers.

Conclusion: Our study suggest that these EpCAM +ve cells can be used as hepatic progenitors for cell transplantation with a minimum risk of alloreactivity and these cells may serve as an alternative for hepatic cell therapy in liver disorders

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ARE ALL PREPARATIONS FOR COLONOSCOPY THE SAME?

K. Vaizman, MD, K. Iswara, MD, I. Mayer, MD, N. L. Badalov, MD, S. Tenner, MD, MPH. Internal Medicine/ Gastroenterology, Maimonides Medical Center, Brooklyn, NY.

Purpose: Colorectal Cancer remains one of the most common causes of preventable cancer death in the United States. Despite the availability of colonoscopy which can prevent colon cancer, almost half of patients eligible for colonoscopy do not undergo this potentially life-saving procedure. Barriers to patients participating in colonoscopy include the preparation to cleanse the colon. Currently, there are almost a dozen preparations on the market. There are many reasons that physicians and patients choose which preparation to undergo prior to colonoscopy, including cost, insurance coverage, marketing, and perceptions of taste, ease, and complications. Some preparations are thought to cause more nausea, vomiting, abdominal cramping than others. There is also a perception by many clinicians that certain preparations do not cleanse the bowel as well as other preparations. In order to evaluate the most commonly used preparations on the market, the following study was performed.

Methods: A series of consecutive patients who underwent colonoscopy were asked to undergo a survey after completing the preparation and prior to colonoscopy. Patients were asked to comment on compliance, symptoms and the ease of the preparation on a Likert scale (0-10). Following the procedure, physicians were asked to comment on the degree of preparation for optical colonoscopy on a similar Likert scale (1-5). Preparations were provided by physicians performing the procedure. Due to issues regarding cost and insurance coverage, the type of preparation prescribed were at the discretion of the physician.

Results: Six-hundred forty seven consecutive patients were enrolled in the study, 346 female, 301 male. Preparations used included Fleet phosphosoda (FP), HalfLytle (HL), Trilyte (TL), Osmoprep (OP), and Moviprep (MP). Preparations were completed in 616/647 (95%) of patients. Vomiting was seen in 50/647 (77%) of patients. Severe abdominal cramping was seen in 120/647 (18.5%) of patients. The mean rating of the preparation for the patients was 6.4 + 2.6, for physicians 4.6 + 0.8. Using ANOVA, there were no significant differences among the preparations regarding symptoms, such as vomiting, severe abdominal cramping, and compliance ($p > 0.05$). In addition, there were no significant differences in rating of the preparations by patients and clinicians performing the procedure.

Conclusion: We conclude, that despite marketing pressure, patient and physician perception, there are no significant differences among the current available preparations for bowel cleansing prior to colonoscopy.

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SUCCESSFUL UTILIZATION OF A PROLONGED COURSE OF NITAZOXANIDE FOR THE TREATMENT OF MULTI-RECURRENT *CLOSTRIDIUM DIFFICILE* INFECTION

B. Yangco, MD, MPH. Infectious Disease Research Institute, Inc., Tampa, FL.

Purpose: *Clostridium difficile* infection (CDI) is a significant problem which is increasing in incidence and severity in hospitalized patients. Although reported *Clostridium difficile in vitro* resistance to metronidazole (MTZ) and vancomycin (VAN) is relatively nonexistent, currently observed clinical outcomes with these drugs have been less than desirable. Recent studies (*Clin Infect Dis* 2005;40:1586-90, *Clin Infect Dis* 2006;43:421-7) suggest thirty percent or more of patients treated with MTZ will fail therapy with potentially worse results in severe CDI. Furthermore, data indicates patients with one documented treatment failure have a 33-60% chance for multiple failures (*Drugs* 2007;67:487-502). While VAN may be the drug of choice for severe CDI and taper dosing has been utilized for multi-recurrent CDI, its frequent and prolonged use could potentially increase the incidence of VAN resistance among aerobic Gram-positive organisms like *Enterococcus* sp.. Another antibiotic, rifaximin (RIF), has also been utilized as chaser therapy after VAN. However, unlike VAN and nitazoxanide (NTZ) *Clostridium difficile* resistance to RIF has been reported, and has developed while on chaser therapy. Therefore, alternative antibiotic therapies for CDI are needed. NTZ has been proven to be an effective agent for the treatment of CDI as initial therapy and in patients who have failed MTZ (*J Antimicrob Chemother* 2007;59:705-10, *DDW* 2008: Presentation W1272), however data is limited in terms of prolonged dosing for multi-recurrent CDI. This case series details the successful utilization of a prolonged course of NTZ for the treatment of multi-recurrent CDI.

Methods: Five patients with multi-recurrent CDI were treated with a prolonged course (14-56 days, mean treatment duration 31 days) of oral NTZ 500 mg twice daily. CDI was determined by positive stools for CD toxins A or B and clinical manifestations consistent with the disease. Previous CDI therapies consisted of 2-4 antibiotic regimens over the previous 1-4 months. Three patients had their disease graded as severe using the criteria proposed by Zar et al. (*Clin Infect Dis* 2007;45:302-7). The remaining patients had what could be classified as moderate to severe disease.

Results: At the end of NTZ therapy all patients were cured e.g. negative stools for CD toxins and asymptomatic for CDI. No recurrence of CDI was observed 60 days after therapy. No clinically significant adverse reactions attributable to NTZ were identified.

Conclusion: A prolonged course of nitazoxanide appears to be a safe and effective therapy for the treatment of multi-recurrent CDI. A larger prospective clinical trial may further validate this finding.

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DIVERTICULAR BLEEDING IN AFRICAN-AMERICAN AND HISPANIC PATIENTS: NATURAL HISTORY AND RISK FACTORS FOR RECURRENCE

A. J. Akhtar, MD. Medicine-Gastroenterology, Charles Drew University of Medicine and Science, Los Angeles, CA.

Purpose: To determine the natural history and risk factors for recurrence of diverticular bleeding in African-American and Hispanic patients.

Methods: Records of patients hospitalized for acute lower gastrointestinal bleeding were reviewed retrospectively over a 10-year period, and those with final diagnosis other than diverticular bleeding were excluded. Information about admission, readmission, procedures studies, and outcome was obtained. Risk factors for subsequent hospitalization for rebleeding were evaluated and data analyzed.

Results: A cohort of 236 patients hospitalized for the first episodes of diverticular bleeding were identified, mean follow-up period was 8 years. During this time 130 patients (55%) had 289 subsequent hospitalizations for rebleeding. Of 130 patients with recurrence of diverticular bleeding, 91(70%) had one or more future admissions for bleeding. Of the original cohort of 236 patients, 47 patients (20%) underwent colonic resection. Overall there were 40 deaths (17%). Age > 65 years was associated with increased risk of rebleeding (relative risk 2.24, 95% confidence interval 1.28-3.91). Older elderly had higher rebleeding and mortality rates (age >65 years; p<0.01, age> 80 years; p< 0.001). Other factors associated with increased risk of hospitalization for rebleeding were the presence of comorbidity, in particular hypertension and /or cirrhosis (relative risk 1.87, 95% confidence interval 1.23-2.78) and NSAIDs and / or coumadin use (relative risk 1.77, 95% confidence interval 1.13-3.08). There was no significant difference in risk of rebleeding between African-American and Hispanic patients. Gender, hemoglobin concentration and amount of blood transfusion did not have an elevated risk of hospitalization for recurrent diverticular bleeding (relative risk 0.21, 95% confidence interval 0.03-1.54).

Conclusion: Our study suggests that African-American and Hispanic patients hospitalized for diverticular bleeding had a 55% risk of readmission for rebleeding within 5 years of their index bleed and 70% percent of those had one or more future admissions for bleeding. Age > 65 years, hypertension, cirrhosis, NSAIDs and coumadin use were associated with increased risk of rebleeding but ethnicity, gender, hemoglobin concentration and amount of blood transfusion were not associated increased risk of rebleeding.

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ISCHEMIC COLITIS AND LOWER GASTROINTESTINAL BLEEDING IN AFRICAN-AMERICAN AND HISPANIC PATIENTS

A. J. Akhtar, MD. Gastroenterology, Charles Drew University of Medicine and Science, Los Angeles, CA.

Purpose: Ischemic colitis (IC) usually occurs in older patients and is considered to be an infrequent cause of lower gastrointestinal bleeding (LGIB). Few data exist on the incidence and natural history of IC in African-American and Hispanic patients. As our inner-city community hospital serves predominantly these two ethnic groups this study was conducted to determine the etiology and natural history of IC in this population.

Methods: A 10-year retrospective study was undertaken. Medical records of patients with the diagnosis of LGIB were reviewed and 77 patients, 46 African American (26 females) and 31 Hispanic (11 females), median age 69 years (range 21-101 years) with the diagnosis of IC were identified. Abstracted data included: admission and readmission clinical information, comorbid conditions, medications, procedures, laboratory results, radiological studies, surgery, pathology and autopsy reports when available. Median follow-up period was 6.5 years (range 2-9 years).

Results: Forty-six patients (60%) had one or more co-morbid conditions (hypertension, congestive heart failure diabetes mellitus, ischemic heart disease, cirrhosis, and most common presentation of IC was LGIB (65%) or bloody diarrhea (30%). Probable cause of IC in 9 younger patients (24-44 years) was cocaine use in 6 patients and sickle cell disease in 3 patients. Diagnosis was made by clinical presentation, endoscopic and radiological studies in 60 patients and by surgery in 17 patients. Fifty-eight patients (75%) were treated medically and 19 patients underwent surgery (25%). Post-surgical mortality was 45%. Of the medically treated patients 40 (69%) survived initial episode of IC, 19 of these patients had recurrent episodes of IC over 5-year period. Overall mortality in medically treated group was 18%. Mortality was higher in patients older than 75 years (p<0.001). Medically treated patients predominantly presented as LGIB (p<0.05) whereas, surgically treated patients presented as acute abdomen with peritoneal signs (p<0.05).

Conclusion: IC is associated with significant morbidity and mortality in African-American and Hispanic patients. Cocaine abuse and sickle cell disease can cause IC even in younger patients. A high index of suspicion for IC and low threshold for diagnostic work-up and prompt treatment of associated conditions may improve clinical outcome.

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DYSMOTILITY OF THE CECUM IN PATIENTS WITH SEVERE SLOW-TRANSIT CONSTIPATION: CHARACTERISTIC RADIOLOGIC AND MOTILITY PATTERNS AND CLINICAL RELEVANCE

W. Y. Chey, MD, C. M. Hoellrich, Student, V. D. Chang, MD, K. L. Fulton, RN, D. A. Corcoran, RN, S. V. Lee, Student, K. Y. Lee, MD. Rochester Institute for Digestive Diseases & Sciences, Rochester, NY.

Purpose: Purpose: Female patients with severe slow-colon transit constipation are often afflicted with distressful abdominal discomfort and pain, urinary frequency and urgency, stress urinary incontinence, and pelvic discomfort and dyspareunia. Many of these patients exhibit a radiologically abnormal cecum. We defined radiological characteristic of cecum, investigated cecal motility abnormality and assessed clinical significance.

Methods: Colon transit time was determined with radio-opaque pellets. To examine cecal silhouette on erect position, patients ingested a cooked ground beef patty (170 grams) with liquid barium (300 ml). Cecum size was estimated, using radiographs of ceca. Cecal emptying was estimated by daily fluoroscopy. Both ileal and cecal motility was recorded, using SmartPill(SP) capsule. The time of SP reaching cecum was determined fluoroscopically, by counting contraction number/min and by luminal pH recording. Motility was analyzed for contraction number/min and motility index (MI)/unit time. The clinical courses of patients after laparoscopic colectomy were evaluated.

Results: Thirty-one subjects were studied, including 21 colon inertia patients with mean colon transit time (±SE) of 225(±18) hrs and 10 with normal colon transit time, <72 hrs. Fifteen (Group 1) of 21 had a markedly enlarged, descended (ptotic) cecum reaching right pelvic rim and it was posteriorly bent, whereas ceca in 10 subjects with normal colon transit (Group 3) were found near right iliac crest. Six remaining colon inertia patients (Group 2) showed a moderately ptotic cecum. Mean estimated cecal volume, 349±35 cm^3 of Group1 was significantly greater than that, 66±6 cm^3 of 10 controls (P<0.001). Cecal emptying of barium-mixed feces was delayed as long as 10 days with a mean±SE of 4.0±0.6 days in Group 1, whereas in Group 2 and 3, the emptying time was 1-2 day (P<0.001). In cecum, mean contraction number of all 3 groups, 2.99±0.11/hr, was significantly lower than that, 5.83±0.16/hr, of ileum (P<0.001). Mean cecal MI was also significantly lower than that of ileum (P<0.05), (Table). More significantly, mean cecal MI of Group 1 was markedly lower than that of Group 2 and 3 (Table). Within all 13 patients of Group 1, laparoscopic colectomy relieved both severe constipation associated with abdominal discomfort or pain and pelvic symptoms.

Conclusion: A motility abnormality of the cecum was found in female patients with severe slow-colon transit constipation. Cecal hypomotility is associated with fecal stasis, causing cecal enlargement which descends to reach the pelvic floor. A markedly ptotic cecum affects bladder function; urinary urgency and stress incontinence, and can cause dyspyreunia.

Motility Index/hr:	Group 1	Group 2	Group 3
Ileum	22.20 ± 4.36	24.10 ± 6.29	23.70 ± 3.97
Cecum	3.35 ± 0.45*●	9.67 ± 2.15*	13.50 ± 2.31*

***P<0.05 (vs Ileum)**
●P<0.05 (vs Group 2, 3)

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RE-EVALUATION OF DIAGNOSIS OF 'BENIGN' COLON POLYP

P. Kanth, MBBS,[1] L. Wilkinson, BS,[2] J. Levin, MD,[3] M. Sanders, MD,[2] T. V. Rajan, MD[2]. 1. Internal Medicine, University of Connecticut Health Center, Farmington, CT; 2. Pathology, University of Connecticut Health Center, Farmington, CT; 3. Gastroenterology, University of Connecticut Health Center, Farmington, CT.

Purpose: In about 80% of cases, colon cancer develops from alterations of the APC(adenoma-carcinoma sequence)pathway. An 'alternative pathway' involving variants of hyperplastic polyps(serrated polyps),MSI and BRAF mutation may account for 20%.The 'serrated polyp classification' divides polyps into various histological subtypes.Emerging evidence suggest that certain subtypes may have neoplastic potential. Our purpose was to re-evaluate the histological diagnosis in patients previously diagnosed as'hyperplastic polyp' and 'adenoma'.

Methods: We randomly selected histology slides of 45 pts with the diagnosis of 'Hyperplastic polyp' and 49 pts with the diagnosis of 'Adenoma' at the John Dempsey hospital(year 2002-03).All slides were re-classified based on following new classification. 1)Hyperplastic polyp a)Microvesicular serrated polyp (MVSP) b)Goblet cell serrated polyp (GCSP) c)Mucin poor serrated polyp (MPSP) 2)Sessile serrated adenoma (SSA) 3)Traditional serrated adenoma/serrated adenoma (TSA) 4)Conventional adenoma (tubular,villous,TV)

Results: 'Hyperplastic polyp' were reclassified with the GCSP(least deviated from classic hyperplastic definition)to those TSA which have some adenomatous change(table).Importantly,a high 61% were MVSP which may harbor BRAF mutation and have,as a class, malignant potential.

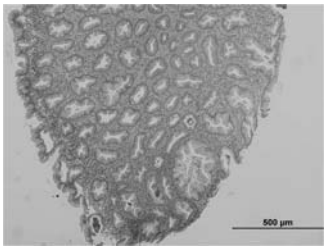
Conclusion: Using histologic criteria for serrated polyps,91% lesions(combining MVSP and TSA) are currently recognized as lesions with possible malignant potential. Historically, patients with 'hyperplastic 'polyps were not recommended for increased colon surveillance but 'reclassification' of previous histologic diagnosis may warrant shorter follow up intervals.Larger prospective clinical trials are needed to ascertain the prognosis and outcome of described histology.

Hyperplastic group

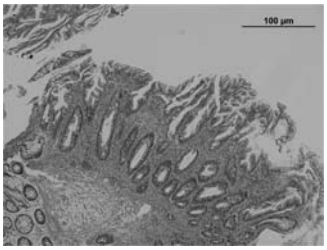
Total	MVSP	GCSP	Mixed	TSA
45	29	2	2	12

Adenoma group

Serrated (7)		Non-serrated/conventional adenoma (42)		
TSA(2)	Dysplasia throughout(5)	Surface dysplasia with goblet cell in center (26)	Dysplasia throughout(11)	Minimal dysplasia(5)



Microvesicular serrated polyp (MVSP)



Traditional serrated adenoma (TSA)

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FECAL INCONTINENCE: INSIGHTS FROM EVALUATION IN A GI MOTILITY LABORATORY

K. Makipour, MD, Z. Ramzan, MD, R. Fisher, MD, H. P. Parkman, MD. Medicine, Temple University School of Medicine, Philadelphia, PA.

Purpose: Fecal incontinence (FI) has been receiving increased attention from health care providers. Better characterization of patients is needed to improve understanding and treatment. Differentiation of patients based on frequency and severity of fecal incontinence includes major incontinence (MajorI) representing frequent (at least one episode per week) occurrence of urge or passive incontinence and minor incontinence (minorI) representing occasional leakage. Some patients with fecal incontinence may also have concomitant constipation and urinary incontinence. Aim: To characterize fecal incontinence (FI) using both symptoms and motility testing.

Methods: Patients referred to the Temple University GI Motility Laboratory for anorectal manometry between January to May 2008 filled out a questionnaire using validated questions and underwent anorectal manometry (ARM), anal electromyography (EMG), and balloon expulsion testing (BET).

Results: Thirty-nine patients with FI were evaluated; fifteen patients had MajorI and twenty-four had minorI. Patients with MajorI reported 34±12 stools per week compared to only 7±2 for patients with minorI (p=0.01). Constipation was present in 5/15 (33%) MajorI patients but in 18/23 (78%) minorI patients (p=0.01). MajorI patients described their stool as 5.1±0.6 on the Bristol stool form scale compared to 3.4±0.5 for minor I (p=0.05). Urinary incontinence was present among 9/15 (60%) MajorI patients and 6/24 (38%) minorI patients (p=0.20). Of the 39 patients with FI, physiologic abnormalities included low resting anal sphincter pressure (12 patients), low volitional contractile response of the external anal sphincter (16 patients), elevated threshold for first sensation (18 patients), paradoxical EMG response while bearing down (17 patients), and prolonged balloon expulsion (16 patients). Compared to patients with minorI, patients with MajorI tended to have lower resting basal anal pressure (63±9 vs 68±4 mmHg; p=0.59) and volitional contractile response (57±15 vs 73±11 mmHg; p=0.39), but higher threshold for first sensation (29±3 vs 25±2 ml; p=0.10), desire to defecate (129±33 vs 87±8 ml; p=0.41), and maximum tolerable volume (167±20 vs 142±15 ml; p=0.32). Evidence for dyssynergic defecation was present among 5/15 (33%) patients with MajorI and 11/24 (46%) patients with minorI (p=0.52).

Conclusion: Patients with major incontinence reported more frequent bowel movements and looser stools than those with minor incontinence. Interestingly, patients with minor incontinence also frequently reported constipation. Careful symptom evaluation in patients with fecal incontinence complements anal manometry in characterizing patients with fecal incontinence.

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***CLOSTRIDIUM DIFFICILE* INFECTION WAS NOT DETECTED IN PATIENTS WHO RECEIVED RIFAXIMIN FOR HEPATIC ENCEPHALOPATHY IN COMMUNITY AND UNIVERSITY PRACTICES**

G. Neff, MD,[1] V. Zacharias, MD,[1] M. Jones, MD,[2] M. Jonas, MD,[3] R. Ravinuthala, MD,[3] D. Novick, MD,[4] T. E. Kaiser, MD,[1] N. Kemmer, MD[1]. 1. University of Cincinnati College of Medicine, Cincinnati, OH; 2. Tri-State Gastroenterology Associates, Dayton, OH; 3. Great Cincinnati Gastroenterology Associates, Cincinnati, OH; 4. Digestive Specialists, inc, Dayton, OH.

Purpose: Clostridium difficile infection has been associated with several types of antibiotics, including fluoroquinolones. The incidence of C difficile infection related to the nonabsorbed antibiotic rifaximin is unknown. Rifaximin is approved for the treatment of travelers' diarrhea caused by noninvasive strains of Escherichia coli and is being investigated for the treatment of hepatic encephalopathy (HE). This retrospective study evaluated the incidence of C difficile infection in patients with cirrhosis who received rifaximin for treatment of HE in community and university gastroenterology practices.

Methods: Medical charts for all patients diagnosed with cirrhosis who received oral rifaximin for the treatment of HE between January 2004 and May 2008 were reviewed; patients had been treated at 1 university practice and 3 community practices. Patients who developed diarrhea (>6 bowel movements/d) during treatment with rifaximin were included in the analyses. Stool samples had been analyzed by cytotoxin assay testing to determine if diarrheal symptoms (ie, markedly increased stool frequency and decreased stool viscosity) were due to C difficile infection.

Results: Analyses included 212 patients with cirrhosis who received rifaximin for the treatment of HE. The mean dose of rifaximin was 1055 mg/d (range, 600-1600 mg/d) for a mean duration of 250 days (range, 180-385 d). Of the 212 patients who received rifaximin, 155 were treated in a university practice and 57 were treated in community practices; 97% of patients had been diagnosed with grade 2 or 3 HE. Eighteen patients (8%) developed diarrhea during rifaximin treatment; 13 were male and 5 were female (mean age, 52 y). Twelve of the 18 patients (67%) who developed diarrhea had received treatment in the university setting and the remaining 6 (33%) had received treatment in community practices. Stool cytotoxin test results were negative for C difficile in all 18 of these patients. Diarrheal symptoms resolved in all cases with standard therapy administered after stool analyses had excluded infection.

Conclusion: These findings suggest that long-term treatment with rifaximin was not associated with the development of C difficile infection in patients with cirrhosis who received rifaximin for treatment of HE. Therefore, rifaximin does not appear to increase risk of C difficile infection. Further investigations of the incidence of C difficile infection in patients who receive rifaximin are warranted.

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EFFECT OF ENDOSCOPIC ULTRASOUND'S TECHNOLOGY IN DIAGNOSING VARIOUS T STAGES OF RECTAL CANCERS: A META-ANALYSIS AND SYSTEMATIC REVIEW

S. R. Puli, MD, J. BK Reddy, MD, M. L. Bechtold, MD, A. Choudhary, MD, F. Rashid, MD, M. R. Antillon, MD. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO.

Purpose: Prognosis and treatment of patients with rectal cancers depends largely on the T staging of the tumor. The published data on affect of changes in endoscopic ultrasound's (EUS) technology over accuracy of T staging in rectal cancer patients has been varied. The aim of this meta-analysis was to evaluate the affect of EUS technology over accuracy in T staging of rectal cancers.

Methods: Study Selection Criteria: Only EUS studies confirmed by surgery were selected. EUS criteria used for T staging were: T1- the tumor invades the lamina propria or submucosa but does not invade the muscularis propria, T2- the tumor invades but does not extend beyond the muscularis propria, T3- the tumor invades the perirectal tissues but does not invade adjacent organs, and T4- the tumor invades adjacent structures. Only studies from which a 2 X 2 table could be constructed for true positive, false negative, false positive, and true negative values were included. Data collection & extraction: Articles were searched in Medline, Pubmed, Ovid journals, CINAHL, International pharmaceutical abstracts, old Medline, Medline nonindexed citations, and Cochrane controlled trials registry. Two reviewers independently searched and extracted data. The differences were resolved by mutual agreement. Statistical Method: Meta-analysis for the accuracy of EUS was analyzed by calculating pooled estimates of sensitivity, specificity, likelihood ratios, and diagnostic odds ratio. EUS studies were grouped into three time periods to standardize the change in EUS technology and also to standardize the change in EUS criteria for tumor staging. These time periods were 1984 to 1994, 1995 to 2000, and 2001 to 2008. Pooling was conducted by both the Mantel-Haenszel method (fixed effects model) and by the DerSimonian Laird method (random effects model). The heterogeneity of studies was tested using Cochran's Q test based upon inverse variance weights.

Results: Initial search identified 3,730 reference articles. Of these, 379 relevant articles were selected and reviewed. 42 studies (N=5038) which met the inclusion criteria were included in this analysis. Pooled accuracy data for T staging over last two decades is shown in table 1. The pooled estimated by fixed and random effect models were similar. The p for chi-squared heterogeneity for all the pooled accuracy estimates was > 0.10.

Conclusion: EUS has excellent specificity to accurately diagnose T staging in a patient with rectal cancers. The sensitivity of EUS is higher for advanced disease than early disease. This sensitivity of EUS for early diseases did not improve over the past two decade. Further refinements in EUS criteria and technology are needed to improve the sensitivity to diagnose early disease.

Table 1: Shows the affect of EUS technology to diagnose various T stages of rectal cancers

	Year	No: of Studies	Pooled Sensitivity	Pooled Specificity	Pooled Positive Likelihood Ratio	Pooled Negative Likelihood Ratio	Pooled Diagnostic Odds Ratio
T1	1984 to 1994	12	96.4% (92.3 - 98.7)	98.1% (96.6 - 99.1)	33.1 (9.6 - 114.2)	0.13 (0.07 - 0.21)	309.7(116.1 - 826.4)
	1995 to 2000	14	91.4% (87.7 - 94.3)	99.3% (98.5 - 99.7)	57.6 (8.9 - 371.2)	0.12 (0.08 - 0.25)	443.0 (102.7 - 1910.7)
	2001 to 2008	13	79.6% (74.6 - 84.0)	98.0% (97.3 - 98.5)	46.0 (18.2 - 116.2)	0.23 (0.17 - 0.36)	276.6 (78.1 - 979.4)
T2	1984 to 1994	14	93.8% (90.0 - 96.5)	96.1% (94.2 - 97.5)	20.2 (8.9 - 45.9)	0.14 (0.09 - 0.21)	197.3 (97.5 - 399.3)
	1995 to 2000	14	77.9% (71.9 - 83.2)	95.6% (94.2 - 96.8)	16.1 (7.4 - 34.9)	0.23 (0.15 - 0.35)	98.6 (40.5 - 240.2)
	2001 to 2008	13	75.3% (71.4 - 79.0)	95.5% (94.4 - 96.4)	14.8 (11.8 - 18.5)	0.29 (0.19 - 0.43)	60.9 (43.6 - 85.2)
T3	1984 to 1994	14	96.3% (94.0 - 97.9)	90.4% (87.2 - 93.1)	7.8 (4.8 - 12.8)	0.07 (0.03 - 0.12)	206.9 (101.9 - 419.7)
	1995 to 2000	14	96.3% (94.3 - 97.8)	92.2% (90.1 - 94.0)	10.9 (5.7 - 20.7)	0.07 (0.03 - 0.16)	198.9 (68.5 - 577.9)
	2001 to 2008	13	96.5% (94.9 - 97.7)	89.9% (88.2 - 91.4)	8.8 (6.0 - 12.9)	0.05 (0.03 - 0.08)	220.9 (90.3 - 540.6)
T4	1984 to 1994	13	96.6% (92.1 - 98.9)	98.0% (96.6 - 99.0)	34.6 (10.2 - 116.9)	0.15 (0.08 - 0.25)	306.5 (113.4 - 828.3)
	1995 to 2000	11	93.8% (86.0 - 97.9)	97.5% (96.2 - 98.5)	28.2 (8.8 - 90.8)	0.17 (0.09 - 0.35)	263.1 (45.5 - 1520.5)
	2001 to 2008	10	95.1% (87.8 - 98.6)	98.6% (98.0 - 99.1)	61.7 (23.9 - 158.7)	0.11 (0.03 - 0.42)	877.8 (285.5 - 2698.8)

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PREVALENCE AND SITE DISTRIBUTION OF ADENOMATOUS POLYPS ON SCREENING COLONOSCOPY IN THE AVERAGE-RISK LEBANESE POPULATION: IMPACT OF THE MEDITERRANEAN DIET?

A. Sharara, MD, K. Maasri, MD, J. Hashash, MD, A. Soweid, MD, F. Mourad, MD, F. Mourad, MD, K. Barada, MD. Internal Medicine - Divison of Gastroenterology, American University of Beirut, Beirut, Lebanon.

Purpose: Colorectal cancer (CRC) is the 2nd most common malignancy in Western societies and the 2nd leading cause of cancer-related death. Most CRC develop from preexisting adenomas. The prevalence of advanced neoplasia (defined as a polyp 1cm, presence of villous histology, high grade dysplasia or cancer) ranges from 3-10% in multiple large studies that included some individuals with positive family history of CRC. This study aims to investigate the prevalence of adenomas and advanced neoplasia in the average-risk Lebanese population and to examine possible associated dietary and clinical risk factors for colon polyps.

Methods: Consecutive asymptomatic Lebanese patients undergoing screening colonoscopy were included. Exclusion criteria included a family history of CRC or of large colon polyps. Only patients with a good or excellent bowel preparation were included. Videoscopic and digital image documentation of polyps and cecal landmarks were recorded along with the colonoscopic withdrawal time not counting polypectomy time. Information about lifestyle, dietary habits, long-term use of aspirin, NSAIDs, calcium, and hormone replacement therapy in females was collected. Polyp size, number, and location were charted on a colon sketch for each patient and the histopathology confirmed by a pathologist.

Results: To date, 365 average-risk individuals (169 males and 196 females, mean age = 61.74±8.9 for M and 61.21±8.5 for F) underwent screening colonoscopy. Cecal intubation rate was 99% and all preparations were scored as good or excellent. Hyperplastic polyps were identified in 44 cases (12.1%). One or more adenomatous polyp(s) were detected in 129 overall patients (35.3%) with a significantly higher prevalence in males (47.3% vs. 25%, p <0.05). The anatomic distribution of adenomas was distal to splenic flexure in 29.6%, proximal in 32.8%, and in both segments in 37.6% of cases. Advanced neoplasia was noted in 21 patients (5.8%) (16M and 5F) including 3 patients who had cancer (0.8%). Mean colonoscopic withdrawal time was 13.7±3.4 minutes. There was no correlation between presumed risk factors and presence of adenomatous polyps in general in the current study cohort.

Conclusion: The prevalence of colonic adenomas and advanced neoplasia in the average-risk Lebanese population matches that reported in North American and European studies on screening colonoscopies. This study confirms the higher risk associated with male gender noted in larger trials. The role of putative risk factors such as obesity, smoking, and red meat consumption, as well as a possible protective effect of a Mediterranean diet, rich in fiber and low in saturated fats, requires further investigation in larger cohorts.

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MULTIPLE SETONS AS TREATMENT OF COMPLEX OR HIGH FISTULA IN ANO

S. Varshney, MD, FRCS, V. Singh, MS, R. Varshney, MS, D. Purohit, MS, A. Sewkani, MS, S. Sharma, MS. GI Surgery, Bhopal Memorial Hospital and Research Centre, Bhopal, India.

Purpose: Low Anal fistula is treated by either fistulotomy or fistulectomy. However the treatment of high and complex fistula is difficult and not well defined. The patient usually undergoes tailor made procedure from fistulectomy, Seton insertion, Colonic diversion, Mucosal advancement flap procedure to the newer modalities like fibrin glue or fistula plug. Each procedure has some merits and demerits. We describe the use of Multiple Prolene Setons in cases of high or complex fistula.

Methods: From January 2001 to December 2007, 20 consecutive patients with high or complex anal fistulae were treated using Multiple Prolene Setons (MPS). All patients had three setons inserted through each fistulous tract under GA or spinal anaesthesia. One seton was loosely tied to work as cutting seton while remaining two were left loose to work as drainage setons. These setons were further tightened sequentially weeks later. After about 6-8 weeks from insertion of seton, fistulectomy was performed when high /complex fistula were converted to simple fistula.

Results: Total twenty (n=20) patients had MPS treatment. The median age of the patients was 41 (range: 18-70). Of the twenty (n= 20 patients), fourteen (n=14) patients had primary high fistula while six (n= 6) had recurrent fistula. All fourteen (n=14) patients with primary high fistula had complete healing of the fistulous tract in 8-12 weeks. Of 6 patients with recurrent fistula, four healed completely in 12 weeks. Two patients had recurrence and were successfully treated again by MPS alone in one while other required diversion colostomy with insertion of MPS. No patient developed faecal incontinence. Almost all patients were satisfied with this treatment. Follow up of the patient was 100% with follow up period of 24-156 weeks.

Conclusion: The Multiple Prolene Seton (MPS) method is safe, cheap and effective in the treatment of high and complex type of fistula in ano. Seton cuts not only from above down but also from lateral to medial, thus converting high fistula to simple fistula. It does not cause fecal incontinence, has good cure rate and most patients were satisfied with the treatment.

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PREVALENCE AND UTILITY OF INFLAMMATORY BOWEL DISEASE (IBD) MARKERS IN COLON ISCHEMIA (CI)

O. C. Aroniadis, MD, P. Feuerstadt, MD, L. J. Brandt, MD, MACG. Gastroenterology, Montefiore Medical Center, Bronx, NY.

Purpose: CI is a frequently encountered form of colitis that is most often self-limited with symptomatic improvement in 1-3 weeks and complete epithelial healing within 3-6 months. It is not currently possible to predict at presentation which patients will develop chronic symptoms and irreversible disease. Some have postulated that one or more bouts of ischemia might foster the development of chronic colitis via an autoimmune process, but this hypothesis has not been amenable to study because of the lack of appropriate markers. The development of IBD immune markers, [anti-Saccharomyces cerevisiae (ASCA) IgA & IgG, anti-outermembrane porin-C IgA (Anti-OmpC), Anti-CBir1, and perinuclear anti-neutrophil cytoplasmic antibodies (pANCA)], however, now has allowed this hypothesis to be re-evaluated. The primary goal of this study was to determine the prevalence of these immune markers in patients with recurrent or chronic CI.

Methods: All patients with biopsy-proven and/or colonoscopically-diagnosed recurrent or chronic CI seen between 2001-2007 in a faculty-practice at the Montefiore Medical Center were identified. Patients with known hypercoagulable disease, IBD, infectious colitis or a reasonable explanation for developing recurrent or chronic CI were excluded. Serum samples were sent to Prometheus Laboratories (San Diego, CA) where ASCA IgA & IgG, Anti-OmpC, Anti-CBir1, pANCA were quantified.

Results: 66% of the 18-patient cohort was seropositive for at least one immune marker, including 85.7% of the 7-patient chronic CI group and 54.5% of the 11-patient recurrent CI group ($p<0.05$). 85.7% of patients with chronic CI and none of those with recurrent CI were pANCA seropositive ($p<0.01$). ASCA positivity was seen in 18.1% and 14.3% of the recurrent and chronic CI groups respectively. Anti-OmpC was detected in 18.1% and 42.9% of the recurrent and chronic CI groups respectively, while Anti-CBir1 was detected in 40.0% and 42.0% of these respective groups. Most patients (94.4%) displayed segmental colitis that was confined to the left colon and spared the rectum.

Conclusion: CI often mimics Crohn's disease in appearance, leading to misdiagnosis. Although the pattern of IBD-marker seropositivity in our patients with recurrent/chronic CI infrequently mimicked the pattern most typical pattern of Crohn's disease, the fact that there was any such seropositivity could lead to further diagnostic uncertainty. At the least, seropositivity in recurrent/chronic CI illustrates the non-specific nature of these markers. Whether IBD-marker seropositivity can be used to identify patients at increased risk to develop recurrent or chronic ischemic colitis after an acute presentation of CI or to develop Crohn's disease as a consequence of CI remains to be shown.

P500

PREVALENCE OF ADENOMAS AND COLORECTAL CANCER IN 50-75 YEAR OLD INDIVIDUALS AT AVERAGE RISK FOR COLORECTAL CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

S. J. Heitman, MD, MSc,[1] P. E. Ronksley, BSc,[2] R. J. Hilsden, MD, PhD,[1] B. J. Manns, MD, MSc,[1] A. Rostom, MD, MSc,[1] J. Skuce, BA,[3] A. Morrison, BA,[3] B. R. Hemmelgarn, MD, PhD[1].
1. Medicine, University of Calgary, Calgary, AB, Canada; 2. Community Health Sciences, University of Calgary, Calgary, AB, Canada; 3. Canadian Agency for Drugs and Technologies in Health, Ottawa, ON, Canada.

Purpose: There is variability in the reported prevalence of adenomas and colorectal cancer (CRC) in the literature. As such, we conducted a systematic review and meta-analysis of observational cohort studies to determine: 1) the overall prevalence of adenomas and CRC and 2) the prevalence of non-advanced and advanced adenomas among average risk North Americans. We also sought to explore clinical and methodological factors that may account for the variability in the reported prevalence estimates.

Methods: Articles were obtained by searching MEDLINE (1950 to present) and EMBASE (1980 to present). Searches were supplemented by scanning conference proceedings and the table of contents of major gastroenterology and radiology journals. The bibliographies of included articles were also scanned. Two individuals independently screened all identified citations and abstracts were retained if they reported adenoma and CRC prevalence rates based on original data. A total of 334 potentially relevant articles were selected for full-text review and 14 were ultimately deemed eligible for data extraction and analysis. Pooled prevalence estimates were estimated using fixed and random effects models, and meta-regression was used to assess the association between clinical and methodological factors and the reported prevalence rates.

Results: The reporting of pathology was not uniform across studies. The overall prevalence of adenomas was 32.4% (10 studies; n=6,047) using a random effects model and 0.5% for CRC (10 studies; n=50,614) using a fixed effects model. The prevalence of non-advanced adenomas was 17.3% (5 studies; n=5,519) using a fixed effects model and 6.1% for advanced adenomas (9 studies; n=21,213) using a random effects model. Heterogeneity was observed in the pooled prevalence rates for overall adenomas and advanced adenomas. This was explained by sample size and a predominance of male subjects for overall adenomas and age for advanced adenomas. None of the study quality indicators were found to be significant in our meta-regression.

Conclusion: Further efforts should be made to optimize CRC screening uptake given the relatively high prevalence of adenomas and CRC among average risk individuals. The pooled adenoma and CRC prevalence rates from this study should be used as quality indicators for CRC screening programs, and as points of reference for studies aimed at reducing the incidence of CRC.

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P501

COMPARISON OF QUALITY OF COLONOSCOPY BOWEL PREPARATION AMONG IN-PATIENTS, OUT-PATIENTS WITH STANDARD BOWEL PREPARATION AND OUT-PATIENTS WHO HAD REINFORCEMENT OF INSTRUCTIONS BY NURSES

B. V. John, MD, MPH, M. R. Sanaka, MD, V. Konjeti, MD, R. Lopez, MS. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH.

Purpose: The aim of the study was to compare the quality of bowel preparation among in-patients, out-patients who underwent standard preparation and out-patients who had standard preparation along with reinforcement of instructions on bowel preparation by nurses prior to colonoscopy.

Methods: Medical records and colonoscopy reports of patients who underwent a colonoscopy during April-May 2008, at a large tertiary care medical center, as in-patients (group-1) out-patients (group-2) and as out-patients in an affiliated satellite endoscopy center (group-3) were reviewed. Patients in all 3 Groups received standard bowel preparation whereas in group 3, patients additionally received nurse education on bowel preparation via a phone call one day prior to scheduled colonoscopy. Standard bowel preparation included either one gallon of PEG electrolyte solution (PEG-EL), oral Fleets-phospho soda (Fleets) or half a gallon of PEG-EL along with Bisacodyl (Halflytely). The quality of bowel preparation was graded by endoscopists according to a prespecified criteria, as excellent, good, fair or poor. The primary end point was selected as the percentage of patients with fair or poor bowel preparation, since visualization is compromized in these two categories.

Results: There were a total of 136, 91 and 108 patients in the three groups respectively. Patient demographics such as age, gender and BMI were similar in all three groups. There were significantly higher number of patients who underwent screening colonoscopies in groups 2 and 3 and Fleets was more commonly used in these patients. In group 1, indication for colonoscopy was more likely to be GI bleeding, abdominal pain and diarrhea, and PEG-EL was the most commonly used agent. The primary end point (fair or poor preparation) was seen in 50% in group 1, 36% in group 2 and 13% in group 3 ($p<0.001$). Colonoscopy completion rates were 73%, 84% and 97% respectively ($p<0.001$). On multivariable logistic regression analysis, out-patients who received nurse education on bowel preparation were 68% less likely to have a poor/fair preparation compared with out-patients with standard preparation, while there was no statistically significant difference between in-patients and out-patients with standard preparation (see table).

Conclusion: Reinforcement of instructions on bowel preparation by nurses via phone call one day prior to colonoscopy significantly improves quality of bowel preparation among out-patients. Similar interventions should be considered by other centers to improve quality of colonoscopy. While in-patients had significantly higher rates of poor/ fair bowel preparation by uni-variate analysis compared to out-patients, there was no significant difference when adjusted for other confounders.

Fair/Poor Colonoscopy Preparation: Multivariable logistic regression analysis

Factor	OR (95% CI)	P-value
Outpatients with nurse intervention vs. Outpatients with standard preparation	0.32 (0.14, 0.71)	0.005
Inpatients vs. out-patients with standard preparation.	1.08 (0.58, 2.0)	0.82
Gender Male vs. female	1.5 (0.90, 2.5)	0.12
Use of Narcotics	2.0 (1.1, 3.5)	0.016
h/o Inflammatory Bowel Disease	2.7 (1.09, 6.7)	0.032
Fleets vs. PEG+Bisacodyl	1.3 (0.47, 3.7)	0.59
PEG vs. PEG+Bisacodyl	3.2 (1.5, 6.5)	0.002

P502

CLINICAL CHARACTERISTICS OF PRIMARY EPIPLOIC APPENDAGITIS

S. Kim, MD, J. Cheun, MD, Y. Kim, MD, T. Lee, MD, E. Lim, MD, Y. Choi, MD, Y. Kang, MD. Division of Gastroenterology, Departments of Internal Medicine, Konyang University College of Medicine, Metropolitan City Daejon, South Korea.

Purpose: Primary epiploic appendagitis(PEA) is an uncommon cause of abdominal pain. PEA is rarely considered in the differential diagnosis of intra-abdominal disease and frequently misdiagnosed.

Methods: We were retrospectively reviewed the clinical records and CT images of 13 consecutive patients of PEA from August 2005 to April 2008.

Results: Their were 6 men and 7 women with a mean age of 51 years. The chief complaint was sudden abdominal pain. 10 cases were left lower, 1 case was right lower and 2 cases were left middle quadrant abdominal pain. Except leukocytosis in one patient, remnant patients were no leukocytosis. CT scan showed hyperattenuated ring with adjacent fat stranding connected to the serosal surface of the adjacent colon. The location of PAE was descending colon(9 cases), sigmoid colon(2 cases), sigmoid-descending colon junction(1 case) and ascending colon(1 case). The symptoms were disappeared within one week with or without antibiotics treatment. 4 patients were CT scan follow-up and all recovered.

Conclusion: PEA is a uncommon cause of abdominal pain that can be misdiagnosed as either appendicitis or diverticulitis. It can be diagnosed easily by CT scan or ultrasonography and self-limiting disease which can be treated with supportive care without antibiotics.

P503

INFLUENCE OF SITE OF PRIMARY ON POSTOPERATIVE OUTCOMES FOR PATIENTS WITH METASTATIC COLORECTAL CANCER UNDERGOING SURGERY

L. Lian, MD, R. Kiran, MD, I. Lavery, MD. Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Location of the primary in patients with stage IV colorectal cancer may influence the decision as to whether resection of the primary is appropriate. We evaluate whether location of the primary influences the presentation and 30 day postoperative outcomes for stage IV colorectal cancer patients undergoing surgery.

Methods: All patients with stage IV cancer of the colon and rectum were identified from a prospectively maintained colorectal cancer database. Clinical characteristics and outcomes for patients undergoing surgery of the cancer primary at various locations were compared in a pairwise manner.

Results: 929 patients underwent surgery from 1986 to 2007. Details of patients are in table. Right colon cancers were more likely to metastasize to liver than left colon ($p=0.03$) while rectal cancers were less likely to metastasize to the peritoneal cavity. Carcinoembryonic antigen level was similar between tumor sites ($p=0.12$). Thirty-day postoperative complications including cardiovascular, DVT, pulmonary embolism, wound infection and dehiscence, obstruction, fistula, intra-abdominal abscess, urinary infection, reoperation and readmission were similar after surgery for the various sites. Respiratory complications were higher for left colon cancer than other sites and anastomotic leak higher for rectal cancer patients when compared with sigmoid cancer. Thirty day postoperative mortality was significantly higher after surgery for left colon cancer. On Kaplan-Meier analysis, curative surgery was associated with lower rate of mortality than palliative procedures at five years (72.2% versus 90.5%, $p<0.001$) and the differences were also significant for cancers in the right and sigmoid colon, and rectum.

Conclusion: The characteristics and management of metastatic colorectal cancers varied between sites, which leads to different outcomes. Short-term complications should be a consideration for the decision to proceed with surgery.

Comparison of characteristics between sites of primary

variables		Right colon(n=254)	Transverse colon(n=35)	Left colon(n=49)	Sigmoid colon(n=217)	Rectum(n=374)
Age (years)(1)		64.1±12.9	64.8±14.9	61.3±14.3	63.1±12	61.1±12.7
Gender (Male)(1)		137(53.9%)	19(54.3%)	33(67.3%)	122(56.2%)	249(65.4%)
ASA (2)	1	22(9.1%)	4(11.4%)	6(13%)	23(11.1%)	76(21.1%)
	2	96(39.7%)	11(31.4%)	18(39.1%)	102(49%)	142(39.4%)
	3	109(45.0%)	16(45.7%)	21(45.7%)	76(36.5%)	125(34.7%)
	4	15(6.2%)	4(11.4%)	1(2.2%)	7(3.4%)	17(4.7%)
30-day Complications	Hemorrhage	2 (0.8%)	2 (5.7%)	2 (4.1%)	1 (0.5%)	13 (3.5%)
	Cardiovascular	12 (4.7%)	1 (2.9%)	2 (4.1%)	8 (3.7%)	16 (4.3%)
	DVT	9 (3.5%)	0	1 (2%)	3 (1.4%)	6 (1.6%)
	Respiratory (3)	13 (5.1%)	4 (11.4%)	9 (18.4%)	6 (2.8%)	12 (3.2%)
	Pulmonary Embolism	0	1(2.9%)	1(2%)	0	6(1.6%)
	Wound infection	6(2.4%)	3(8.6%)	3(6.1%)	9(4.1%)	13(3.5%)
	Wound dehiscence	1(0.39%)	0	0	2(0.92%)	1(0.27%)
	Obstruction	6(2.4%)	0	0	2(0.92%)	6(1.6%)
	Intraabdominal Abscess	6(2.4%)	0	1(2%)	5(2.3%)	8(2.1%)
	Urinary infection	6(2.4%)	1(2.9%)	0	1(0.5%)	2(0.5%)
	Anastomotic leak (4)	3(1.3%)	2(6.1%)	1(2.2%)	2(1%)	17(5.2%)
	Readmission	9(3.5%)	2(5.7%)	0	5(2.3%)	9(2.4%)
	Reoperation	2(0.8%)	0	0	3(1.4%)	5(1.3%)
Surgery	Resection	245 (96.5%)	32 (91.4%)	42 (85.7%)	200 (92.2%)	333 (89%)
	Bypass	6 (2.4%)	3 (8.6%)	6 (12.2%)	12(5.5%)	32 (8.5%)
	Stoma	8 (3.1%)	5 (14.3%)	6 (12.2%)	36 (16.6%)	140 (37.4%)
	Laparotomy only	1	0	1	0	2
Treatment Purpose	Curative	31(12.2%)	4 (11.4%)	3(6%)	28(12.9%)	77(21.6%)
	Palliative	223(87.8%)	31(88.6%)	46(94%)	189(87.1%)	297(79.4%)
30 day mortality (3)		18 (7.1%)	2 (5.7%)	8 (16.3%)	9 (4.1%)	10 (2.7%)
Size of primary tumor (cm)		5.6±2.2	5.1±2.4	5.4±2.4	4.7±2.1	4.7±2.3

1:P<0.05: Rectum vs. Right Colon;
2:P<0.05: Rectum vs. Right and Sigmoid Colon;
3:P<0.05: Left Colon vs. others;
4:P<0.05: Rectum vs. Sigmoid Colon;

P504

EFFECT OF GASTRIC ACID SUPPRESSION ON RECURRENCE OF *CLOSTRIDIUM DIFFICILE*-ASSOCIATED DISEASE

K. Maganty, MD, J. P. Ahluwalia, MD. Gastroenterology/Medicine, Southern Illinois University School of Medicine, Springfield, IL.

Purpose: Use of acid suppressants (proton pump inhibitors and H2 receptor antagonists) has been associated with increased incidence of Clostridium difficile-associated disease (CDAD). We hypothesized that gastric acid suppression may also be associated with increased recurrence of CDAD. The objective of the study was to evaluate the effect of acid suppression on the risk of recurrence in patients with CDAD.

Methods: Study design: Retrospective observational study of patients admitted to a hospital with CDAD. Inclusion criteria: Age more than 18 years; CDAD diagnosed using either the ELISA-based toxin assay or pseudomembranes noted on endoscopy with histological confirmation or both. Two groups of patients were identified - cases and controls. Cases were patients on acid suppressants for any reason and controls were patients not taking any acid suppressant. CDAD was categorized as mild-moderate or severe based on the absence or presence of 2 or more of the following criteria: WBC > 15,000, albumin < 2 g/dL, ICU admission for CDAD, pseudomembranes noted on endoscopy and bowel wall thickening on CT scan. Exclusion criteria: Asymptomatic carriers, testing done on outpatient basis or at outlying hospitals, and incomplete medical records. Primary outcome: Recurrence rate (two or more episodes) of CDAD. Statistical analysis: Chi-square analysis.

Results: A total of 558 were reviewed and 262 met study criteria. The mean age of the patient population was 68 years (SD + 16) with more females (153/262, 58.4%) than males (109/262, 41.6%). Most of the patients were Caucasians (249/262, 95%). Cases (199/262, 76%) and Controls (63/262, 24%) were matched based on the severity of illness. There was no difference in the recurrence rate of CDAD between mild-moderate cases (16/161, 10%) versus controls (7/55, 12.7%) (p=0.61). Although the recurrence of CDAD in severe cases (12/38, 31.5%) was higher than those in the corresponding controls (1/8, 12.5%), this difference was not statistically significant (p=0.4). However, using univariate analysis, age (67.2+15.7 with single infection and 73.8+16 with multiple recurrences) and severity were found to be independently associated with CDAD recurrence (p=0.039 and 0.003, respectively).

Conclusion: Acid suppressants did not seem to increase the risk of CDAD recurrence in our study. Age and severity of disease were found to be important risk factors for recurrence of CDAD. Larger prospective controlled trials should be undertaken to evaluate the risk of acid suppression on CDAD recurrence.

P505

FAMILY HISTORY AND APPROPRIATE REFERRAL FOR COLORECTAL CANCER SCREENING: A SURVEY OF TRENDS IN AN OPEN ACCESS ENDOSCOPY CENTER

S. Moole, MD, T. J. McGarrity, MD, M. Baker, PhD, T. Yasin, MD, S. D. Rampertab, MD. Division of Gastroenterology, Hershey Medical Center, Hershey, PA.

Purpose: Colorectal cancer (CRC) is the 2nd leading cause of cancer-related deaths in the US. Screening is known to decrease incidence and mortality of CRC. Open access endoscopy (OAE) is advocated as a strategy to increase screening numbers, but introduces the potential for missing high-risk patients due to the lack of a complete family history. Approximately 25% of patients with CRC have a family history of CRC or adenomas. Hereditary Non-Polyposis Colorectal Cancer (HNPCC) is the most frequent cause of hereditary CRC. A detailed family history is essential to allow for risk stratification, syndrome recognition and implementation of appropriate screening intervals in familial CRC. In this study, we assessed the rate of recognition of high-risk patients and determined the timeliness of referrals for colonoscopy as well as genetics counseling in an OAE center at a university hospital setting.

Methods: A detailed family history questionnaire was administered to all patients presenting for colonoscopy at an OAE center from May 07 to Feb 08. A total of 288 patients agreed to complete the questionnaire. Each patient's personal and family history was evaluated using the Amsterdam I, II and Revised Bethesda criteria. In addition, the desire of patients to be contacted by the genetics counselor if determined to be at increased risk for HNPCC was evaluated. Rate of recognition of high-risk patients by referring physicians and appropriate timing of referrals for colonoscopy and genetic counseling were then assessed.

Results: A total of 1.04% (3/288) of this population met the Amsterdam (I or II or both) criteria for HNPCC and 13.19% (38/288) met Revised Bethesda Criteria. Another 18.4% (53/288) had some high risk features, but failed to meet the criteria by a narrow margin. In about 22% (12/53) of this high risk population, there was a delay in recognition of their heightened risk and subsequent referral for the initial screening colonoscopy. Of the 3 people who met the Amsterdam II criteria, all were informed of their increased risk for CRC but none were referred to a genetics counselor. Interestingly, 29.8% of patients did not wish to be contacted by the genetics counselor if they were determined to be at increased risk for CRC.

Conclusion: Although family history is obtained by referring providers prior to the patient presenting at the OAE center, a significant number of high-risk patients remain unidentified. We propose that a family history form be completed at the time that patients present to the OAE center to uncover high-risk individuals who would benefit from earlier and more aggressive screening.

P506

COLON TUMOR BIOMARKERS-MALDI IMAGING OF TISSUE MICROARRAY

P. H. Pevsner, MD,[1] J. Melamed, MD,[2] T. Remsen, BA,[1] S. Duddempudi, MD,[4] F. Francois, MD,[3] M. Momeni, MD,[4] N. Sandar, MD,[4] P. Kessler, PhD,[1] A. Stern, MD, PhD,[1] S. Anand, MD[4].
1. Department of Pharmacology, New York University School of Medicine, New York, NY;
2. Department of Pathology, New York University School of Medicine, New York, NY;
3. Department of Medicine, New York University School of Medicine, New York, NY;
4. Department of Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY.

Purpose: Imaging MALDI(IMS) demonstrated the same colon tumor proteins, gi|119592539 hCG1787564[Homo sapiens] Mass: 57590 and gi|119592490 hCG2040674[Homo sapiens] Mass: 108178, in consecutive patients. The proteins were present in the tumors and normal satellite tissue. The presence of these proteins in the tumor and normal tissue raised several questions. Is this evidence of metastatic disease or spread of tumor into normal satellite tissue? Are these proteins biomarkers of field cancerization or a field defect, e.g., age-related hypermethylation in normal colonic mucosa? Does the use of histopathology alone, underestimate the extent of potential malignant disease? We hypothesized that histopathology, in combination with IMS, may identify metaplastic disease beyond the recognized tumor. To test this hypothesis we examined tissue microarrays of multiple colon tumors.

Methods: Tissue microarrays were constructed from colon carcinomas blocks. The tumor microarray from each patient included three components: the tumor, surrounding satellite tissue, and normal control tissue. Contiguous histologic sections were obtained for IMS,3, histology,1, and protein extraction,1. The paraffin was removed and the paraformaldeyde induced protein cross-links reversed by heating the sections to 90° C for 15 minutes. The histologic sections were stained with hematoxylin and eosin. The respective MALDI matrices: sinapic acid, alpha cyano 4-hydroxy cinnamic acid, and 2, 5-dihydroxybenzoic acids were applied by sublimation to the 3 IMS sections. MALDI images and protein masses were obtained on a Shimadzu Axima TOF2 mass spectrometer. The third section was used for high pressure protein extraction with a Pressure BioSciences Barocycler. The extract was separated with nanoflow Liquid Chromatograph Mass Spectrometry (LCMS) and split into two aliquots. One aliquot was trypsinized, and processed for bottom-up protein identification with a nanoflow LCMS, Hitachi NanoFrontier. The second intact protein aliquot was processed directly for top-down protein identification with LCMS.

Results: The high pressure extraction provided novel results. The protein yield was increased. New and larger numbers of proteins were extracted. The trypsin digest time was decreased from 12 hours to 45 minutes, and less trypsin was required for the digest. Tissue microarray IMS displayed the loci of proteins in tumor, tumor satellite tissue, and normal tissue, and allowed separation of the tumors into groups distinguished by the unique proteins from each group. The extraction experiments confirmed the proteins identified on IMS.

Conclusion: Tissue MALDI can separate colon tumors by protein profiles and identify those tumors with concordant proteins in tumor satellite tissue.

P507

ARE PATIENTS WITH CIRRHOSIS AT INCREASED RISK FOR COLORECTAL NEOPLASIA?

D. Shah, MD, V. Karasek, MD, R. D. Gerkin, MD, E. Tharalson, ANP, F. C. Ramirez, MD, FACG, N. Gilani, MD, FACG. GI, Carl. T. Hayden VAMC, Phoenix, AZ.

Purpose: Background: Certain factors (alcohol, smoking and obesity) appear to increase the risk for colorectal neoplasia. Data on the prevalence of colonic neoplasia in patients with cirrhosis are limited. Aim: To evaluate the prevalence of colonic neoplasia in patients with liver cirrhosis.

Methods: Retrospective review of patients with cirrhosis that had undergone first colonoscopy at our institution between 1998 and March 2008. For each cirrhotic patient, a healthy age-matched individual with the same indication, undergoing colonoscopy on the same day or to the closest date served as controls. Exclusion criteria: Poor prep or incomplete exam. Parameters including age, gender, BMI, laboratory data, alcohol and tobacco history, etiology of liver disease, Childs score/class, presence/absence of hepatocellular carcinoma, and total number of polyps with their location, size and histology were recorded. Data are presented as means and standard deviations or as percentages, as appropriate. Independent t tests and chi square tests were used for continuous and categorical data, respectively. A two-tailed $p < .05$ was considered significant.

Results: 306 patients (153 each with cirrhosis and controls were analyzed. The results of the study are illustrated in Tables 1 and 2.

Conclusion: Patients with cirrhosis have more polyps per patient than those in a non-cirrhotic control group. However, patients with cirrhosis do not have more adenomas or advanced neoplastic polyps. Patients whose cirrhosis is due to ethanol use have more adenomas than those with other etiologies.

Characteristics of patients with and without adenomatous polyps

Mean age (SD)	57.6(6.7)	57.1(7.1)
Males %	97.9	93.4
Ethanol use %	67.4	59.8
Smoking %	58.2	51.2
BMI		
<25 %	19.0	25.1
25-29.99 %	34.7	26.1
>30 %	46.3	48.8
For cirrhosis group only:		
Ethanol vs. other etiology %	38.9	27.0*
Child class		
A %	61.1	58.6
B %	31.5	33.3
C %	7.4	8.1
Reason for colonoscopy (Screening vs. other) %	31.6	37.6

* **p < .05**

Total study patients undergoing colonoscopy (N =306)

	Cirrhosis group (n=153)	Control group (n=153)
Mean age: yrs (±SD)	57.2 (6.9)	57.3 (7.1)
Total polyps	205	92
Mean Polyps/pt (±SD)	2.92 (2.78)	1.51 (0.74)
Size: number (%)		
≥ 10 mm	23 (11.2)	8 (8.7)
6-9 mm	59 (28.8)	25 (27.2)
1-5 mm	123 (60.0)	59 (64.1)
Histology: number (%)		
hyperplastic	84 (41)	32 (34.8)
tubular adenoma/tubulovillous	104 (50.7)	47(51)
Dysplastic	1 (0.5)	1 (1.1)
Cancer	0.0	2 (2.1)
Other non-neoplastic pathology	16 (7.8)	10 (10.9)
Location (%)		
R	32.4	38.0
L	67.6	62.0
Advanced Neoplasia: number (%)	22 (11.8)	5 (5.9)

****p<.001**

P508

NITAZOXANIDE TO TREAT COMMUNITY ACQUIRED *CLOSTRIDIUM DIFFICILE*-ASSOCIATED DISEASE

W. P. Stuppy, MD. Private Practice, Los Angeles, CA.

Purpose: *Clostridium difficile*-associated disease (CDAD) is a significant problem which is increasing in incidence and severity in hospitalized patients. Concern has started to focus on outpatients as well with community acquired (CA)-CDAD. The ACG treatment guidelines for CDAD (*AJG* 1997;92:739-50) recommend metronidazole (MTZ) as initial therapy for most patients with CDAD, however recent studies document failure rates up to 50% with MTZ (*CID* 2005;40:1586-90, *CID* 2006;43:421-7). In the past, the only other antibiotic available to clinicians was vancomycin (VAN), the only FDA indicated antibiotic for CDAD. VAN remains a very effective agent for CDAD, but concerns of cost, frequent dosing (QID), and the potential to promote VAN resistant *Enterococcus* has left clinicians to look for different therapies. A new thiazolide antibiotic, nitazoxanide (NTZ), has demonstrated efficacy for CDAD in trials versus MTZ and VAN, as well as in patients who have failed MTZ (*JAC* 2007;59:705-10, *DDW* 2008: Presentation W1272). Like VAN, NTZ is highly active against CD, concentrates in the GI tract and has no known *in vitro* resistance. The purpose of this study is to evaluate the effectiveness of NTZ in patients with CA-CDAD.

Methods: Outpatients reporting to the clinic with diarrhea and clinical features consistent with CDAD and a positive stool test for CD toxins A or B (Diagnos-Techs, Inc., Kent, WA) were eligible for evaluation. CA-CDAD was defined as eligible patients with no known previous hospitalizations 3 months prior to presentation. All patients were treated with NTZ 1000 mg BID for 14 days and encouraged to take a probiotic. Follow-up evaluations including a repeat stool toxin test was made 1-4 weeks after the cessation of therapy to assess clinical efficacy.

Results: Overall, 58 patients met the inclusion criteria, 22 males, 36 females, mean age 44 years (range 8-77). At the follow-up evaluation (mean 10 days, range 7-30) 53 (91%) patients were considered a clinical cure. Of the five treatment failures, four patients and their significant others (SO) were retested for CD stool toxins. In all four cases the SO also had a positive stool toxin assay. These patients and their SO were retreated with a second course of NTZ 1000 mg BID for 14 days. Upon retreatment each patient and SO was considered a clinical cure. No clinically significant adverse reactions to NTZ were identified.

Conclusion: NTZ is a safe and effective treatment for CA-CDAD. Clinicians should consider testing significant others as a potential CD carrier when patients fail therapy. Further epidemiologic evaluations and clinical studies with NTZ are needed to determine the incidence and severity of CA-CDAD, the relevance of significant contacts, and the efficacy of NTZ in this population.

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SCREENING COLONOSCOPY FOR COLORECTAL NEOPLASIA IN PATIENTS WITH SPORADIC FUNDIC GLAND POLYPS OF STOMACH

B. Kim, MD, PhD. Internal Medicine, The Catholic University of Korea, Incheon, South Korea.

Purpose: Sporadic fundic gland polyp (SFGP) of stomach is known to be associated with increased risk of colorectal adenoma/adenocarcinoma (CRA). However, previous data were not analyzed with age and sex due to limited number of the patients. The aim of this study is to investigate a possible relationship between SFGP and CRA according to different age and sex group.

Methods: Patients who were confirmed SFGP pathologically and underwent colonoscopy six months within gastroscopy were reviewed retrospectively in Our Lady of Mercy Hospital, The Catholic University of Korea between July, 2001 and August, 2007. Control group included patients who underwent both gastroscopy and colonoscopy for general health examination without SFGP during same period in the same hospital.

Results: SFGP was found in 278 patients and 134 patients were underwent colonoscopy six months within gastroscopy. Control group included 2060 patients. CRA was found in 10.4% (14/134) of SFGP patients and 16.8% (347/2060) of control group. However, 61.5% (8/13) of SFGP male patients 50 and over 50 years old were turned out to have CRA compared to 33.5% (158/471) of control group ($p<0.01$).

Conclusion: Screening colonoscopy for CRA in patients with SFGP of stomach should be performed in male patients 50 and over 50 years old.

Incidence of colonic adenoma/carcinoma in sporadic fundic gland polyp and in control group

	Sporadic fundic gland polyp group	Control group
Number	134	2060
Mean age (year)	48.6 (±13.3)	47.7 (±10.6)
M:F	24:110	1229:831
Colonic adenoma/carcinoma		
<50 years old	4.2% (3/71)	10.8% (132/1218)
M:F	9.1% (1/11):3.3% (2/60)	12.8% (97/758):7.6%(35/460)
≥50 years old	17.5% (11/63)	25.5% (215/842)
M:F	61.5% (8/13):6% (3/50)	33.5% (158/471):15.4% (57/371)

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EVALUATION OF RISK FACTORS OF *CLOSTRIDIUM DIFFICILE* ASSOCIATED DIARRHEA (CDAD) IN MEDICINE AND SURGICAL INPATIENTS

M. Matta, MD,[1] S. Novak, MD,[1] H. Neemat, MD,[1] M. Lesser, PhD,[3] R. Hussain, MPH, MBA,[2] B. Edwards, MD,[1] Y. Dlugacz, PHD,[2] G. P. Wolf-Klein, MD[1]. 1. Long Island Jewish Medical Center, New Hyde Park, NY; 2. Krasnoff Institute, Great Neck, NY; 3. Feinstein Institute, Manhasset, NY.

Purpose: Clostridium difficile Associated Diarrhea (CDAD) is a leading cause of nosocomial diarrhea, creating a major economic burden in Health Care. At a major teaching tertiary care center, a preliminary epidemiological survey revealed a striking discrepancy in the distribution of nosocomial CDAD in Medicine (73.8%) and Surgery (8%). Thus, we proposed to compare the distribution of the risk factors for CDAD in Medicine and Surgical Services.

Methods: A retrospective random sampling review of 94 Medicine and 76 Surgery charts of patients discharged between March 2004-July 2006 was conducted. We studied the distribution of various risk factors for CDAD in Medicine and Surgery patients: age, length of stay (LOS), admission source(community vs.skilled nursing facilities-SNF), readmission to hospital within 90 days, discharge disposition, prior history of CDAD, albumin level, use of antibiotics and Proton Pump Inhibitors (PPIs), immunosuppression, chemotherapy and hemodialysis.

Results: Patients admitted to Medicine were significantly older than in Surgery (mean age:79.7 v.75.1, p<.001), though their LOS were similar (6.5 days v.5.1, p=0.178). There was a remarkable difference between admission sources, with SNF transfers accounting for 15.7% of medical admissions versus only 1.3% of surgical (p=.001). Similarly, 29.2% of Medicine patients were discharged to SNF compared to 9.2% of surgical patients (p=.001). Readmissions within 90 days accounted for 31.5% of Medicine patients, compared with 11.1% of Surgical patients (p=.002). Serum albumin levels were lower in Medicine (3.7g/dl) than in Surgery (3.9 g/dl, p=.045). Almost half (44.7%) of Medical patients were prescribed PPIs, compared to 37.1% of surgical patients (p=.022). Finally, antibiotics were prescribed to 47.9% of medical and 60% of surgical patients, most of whom receiving single dose prophylaxis (p<.001). Prior history of CDAD, immunosuppresion, chemotherapy and hemodialysis were not significant risk factors in either group.

Conclusion: These results support age, low serum albumin and use of PPIs as known risk factors for CDAD. In addition, this study outlines socio-demographic risk factors, namely the role of SNF for both admission and discharge sites, as strong predictors of CDAD.

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MORTALITY DIFFERENCE AMONG INNER CITY MINORITY NEW YORKERS PRESENTING WITH COLO-RECTAL CANCER

T. K. Narang, MD,[1] T. Atwal, MD,[1] Y. Gu, MD,[1] D. Paul, MD,[3] S. Azeez, MD,[2] B. Kanna, MD, MPH[1]. 1. Medicine, Lincoln Medical and Mental Health Center, affiliated with Weill Medical College of Cornell University, New York, NY; 2. Gastro-enterology, Lincoln Medical and Mental Health Center, affiliated with Weill Medical College of Cornell University, New York, NY; 3. Hematology-Oncology, Lincoln Medical and Mental Health Center, affiliated with Weill Medical College of Cornell University, New York, NY.

Purpose: Significant disparities associated with Colorectal Cancer (CRC) mortality are encountered among African Americans. We studied differences in patient characteristics and mortality among minority inner city New Yorkers with CRC.

Methods: In a retrospective study from 2002 to 2007 on CRC patients, data on demographics, clinical features and outcomes were collected. All deaths and early deaths (within 6 months of diagnosis) were recorded. We compared baseline features of African Americans and Hispanics to study predictors of mortality. Non-parametric statistical methods and stepwise multiple logistic regression analysis were utilized to study the independent effects of the variables on mortality. Odds ratios (OR) and 95% Confidence intervals (CI) are reported. P value of < 0.05 was considered significant.

Results: The characteristics of the 210 study patients were: Hispanics 155(73%); African American 55(27%); Women 112(53%); Mean age at diagnosis 65 years; Un-insured 49(23%); History of smoking 151(72%); Family history of CRC 5(2%); Colonoscopy, screening 48(23%) & diagnostic 154(74%), follow-up colonoscopy 8(4%). CRC was diagnosed by colonoscopy in 165(79%) & by surgery in 45(21%) cases. 117(55%) had early stage disease (stage 0-2) & 72(34%) had right colonic lesions. 49 of 210 patients died, of which 25(11.9 %) were early deaths. While older age increased mortality,(OR 1.05; 95%CI 1.01-1.08, p < 0.05), Hispanic ethnicity (OR 0.17; 95%CI 0.08-0.37, p < 0.0001), screening colonoscopy (OR 0.14; 95%CI 0.03-0.64, p < 0.05) and carcinoma in-situ (OR 0.25; 95%CI 0.07-0.86, p < 0.05) were independently associated with lower mortality. Hispanics had lower mortality than African Americans (15.5 % versus 45.5%; OR 0.22; 95% CI 0.11- 0.44), p < 0.0001). There was no difference in demographics, clinical features, treatment and early death among study groups (p = NS).

Conclusion: First to compare inner city minority New Yorkers, our study shows higher mortality among African Americans compared to Hispanics after initial presentation with CRC. This finding concurs with national cancer data showing increased overall death rates from CRC in African Americans. There were no differences in demographic data, insurance, screening colonoscopy, cancer stage at diagnosis, treatment and early deaths related to severity of disease burden on presentation, between study groups. The high mortality despite similar clinical features may be attributable to highly aggressive tumor behavior among African Americans that has been recently reported in literature. We believe African Americans require aggressive therapeutic strategies in addition to early detection to reduce CRC disease burden. Large randomized studies are required to substantiate our study findings.

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SHOULD DIAGNOSTIC COLONOSCOPY BE INDICATED FOR PATIENTS WITH CONSTIPATION?

E. C. Obusez, BS, M1,[1] R. Lopez, MS,[2] C. Burke, MD,[2] B. Shen, MD[2]. 1. Cleveland Clinic Lerner College of Medicine, Cleveland Clinic Foundation, Cleveland, OH; 2. Digestive Diseases Center, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Constipation affects approximately 25% of the population in the United States. It is not clear whether chronic constipation is associated with an increased risk for colon cancer (Roberts MC, AJG 2003;98:857; Watanabe T, Eur J Cancer 2004;40:2109; Chan AO Gut, 207;56:451-2). Whether constipation is indicated for a routine diagnostic colonoscopy is controversial (ASGE Guideline, GIE 2005 2005;62:199).

Methods: This case-control study involved consecutive patients who underwent diagnostic colonoscopy for constipation at Digestive Disease Institute. The control group consisted of consecutive patients with an average risk for colon cancer who underwent routine screening colonoscopy. Demographic, clinical, endoscopic, and histologic data were collected. Both univariable and multivariable analyses were performed.

Results: 458 patients (341 females, 74.5%) in the study group and 981 patients (419 females, 42.7%) in the control group were studied, with the mean age of 56.7 ±14.0 and 61.3 ± 9.6 years, respectively. 22 patients (4.8%) in the study group had prior colonoscopy. Polyps were detected via colonoscopy in 27 patients (5.9%) in the study group and 341 patients (34.8%) in the control group (P < 0.001), and adenoma on histology was present in 17 patients (3.7%) in the study group and 195 patients (19.9%) in the control group (P< 0.001). The risk factors associated with adenoma or cancer are listed in Table. History of smoking was associated with colon adenoma in the univariable analysis, but the association was not significant in the multivariable analysis. Other incidental findings on colonoscopy in the study group included diverticulosis in 138 (30.3%), hemorrhoids in 104 (22.7%), and inflammatory bowel disease in 1 (0.2%).

Conclusion: This case-control study showed that patients undergoing diagnostic colonscopy for constipation had a lower prevalence of colon adenoma, as compared with patients undergoing routine screening colonoscopy. Therefore, these patients had no more than average risk for colon adenoma and only routine screening colonoscopy is indicated.

Constipation and Presence of Adenoma or Cancer: A Multivariable Logistic Regression Analysis

Factor	Odds Ratio (95% CI)	P-Value
Constipation	0.2 (0.11, 0.35)	<0.0001
Age (5 year increase)	1.2 (1.1, 1.3)	<0.0001
Male Gender	1.9 (1.4, 2.7)	<0.0001
Family history of polyps or colorectal cancer	0.87 (0.19, 3.9)	0.85

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PREDICTORS OF RECURRENT *CLOSTRIDIUM DIFFICILE*-ASSOCIATED DIARRHEA AT ROCHESTER GENERAL HOSPITAL

J. Shaw, MD, S. Tumangday, MD, P. Polashenski, MD. Internal Medicine, Rochester General Hospital, Rochester, NY.

Purpose: Various but inconsistent risk factors have been reported for those with recurrent Clostridium difficile-associated diarrhea (RCDAD). We conducted a study to identify risk factors associated with RCDAD at our Community hospital.

Methods: All in-hospital patients with Clostridium difficile (CD) positive testing by Enzyme Immunosorbent Assay (Premier/Meridian) during the period January 1, 2006 to December 31, 2006 were eligible for the study. Those with a single episode of CDAD were compared to those who had at least 1 recurrent episode over the next 12 months. Demographic, clinical and laboratory data were obtained from electronic records and statistically anaiysed. A p value of <0.05 was considered significant.

Results: A total of 201 patients had an initial CDAD episode, of whom 40 (20%) experienced a recurrence during the subsequent 12 months. Risk factors for recurrence were nursing home/facility residence (p=0.043) and an elevated platelet count of >300,000 (p=0.027). Colitis manifested by the presence of stool leukocytes was more common in the RCDAD group (p=0.023) Stool cultures demonstrating other organisms than CD were associated with increased RCDAD (p=0.013). There was a trend towards more recurrence if CDAD was acquired during the last 2 quarters of the year (p= 0.079). Other laboratory data such as levels of white blood cell count, serum creatinine, and serum albumin were not predictive of recurrence. Among co-morbid conditions, there was a trend towards recurrence among those who had gastroesophageal reflux disease (p=0.089) and hematologic disorders (p=0.082). Outpatient use of antibiotics (p=0.02) and nonsteroidal agents (p=0.03) were more common among those who had single episode of CDAD. In-patient medication utilization, including number and type of antibiotic, was not associated with increased recurrence.

Conclusion: Our study identified five factors associated with increased risk factors for RCDAD including: nursing home/facility residence, elevated platelet count, presence of fecal leukocytes, stool culture, positivity for organisms other than CD and combined outpatient use of proton pump-inhibitors (PPI) and antibiotics. An increased platelet count as a marker of increased RCDAD risk was an interesting finding in our study. To our knowledge, this has not been described as a known predictor for recurrence. Although its mechanism remains unclear, thrombocytosis greater than 300,000 may signify a brisk inflammatory response with possibly a similar mechanism not unlike that seen with leukocytosis.

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GLUCAGONOMA PRESENTING AS ISOLATED CHRONIC DIARRHEA IN AN IRRITABLE BOWEL SYNDROME PATIENT

S. M. DeNucci, MD, O. N. Hyder, MD, D. Quirk, MD, MPH. Internal Medicine, Warren Alpert Medical School of Brown University, Providence, RI.

Purpose: A glucagonoma, a glucagon secreting tumor of the pancreas, can be a devastating diagnosis resulting in metastasis and thromboemoblism. Typical presentation includes dermatitis, diabetes and weight loss. Prior GI diagnosis and non-specific symptoms may delay identification and treatment. To alert clinicians to its spectrum and potential for misdiagnosis, we report a case of glucagonoma presenting as isolated diarrhea in a patient with irritable bowel syndrome (IBS) and diverticulosis. Case Report: A 50 y.o. Male with known IBS, diverticulosis and remote parathyroidectomy presents with alternating diarrhea and constipation for several months. Physical exam: Unremarkable. Chem-7, CBC, LFT, Amylase, Lipase, INR: within normal limits (wnl). Infectious stool workup: negative. Colonoscopy: Diverticular disease in the left colon, no masses, no polyps. Initial CT scan: normal pancreas, known diverticulosis. History of likely hyperparathyroidism raised concern of islet cell tumor. Octreotide scan was scheduled but patient did not follow through. Patient returns one year later with worsened symptoms. Repeat CT scan: 10mm hypodensity of pancreatic tail. Octreotide Scan: increased uptake in pancreatic tail. CEA 19-9, Gastrin, Chromogranin A, pancreatic polypeptide, somatostatin, VIP, 5HIAA: wnl. Insulin = 28 uIU/mL. Glucagon = 76 pg/mL. Endoscopic US: 1.1 x 1.5 cm round, isoechoic pancreatic tail mass. Patient underwent distal pancreatectomy and splenectomy. Surgical pathology revealed a well-differentiated pancreatic neuroendocrine tumor, positive for glucagon by immunohistochemistry. Discussion: Glucagonoma is a functional pancreatic endocrine tumor (PET) of low incidence, commonly associated with a triad of migratory necrolytic dermatitis, glucose intolerance, and weight loss. Nonspecific symptoms such as anemia, diarrhea, and thromboembolism may also occur. Consistent with other functional PET, symptoms are secondary to hormone-excess, and rarely caused by anatomical effects of the tumor itself, i.e. abdominal pain. Typical work-up is positive for increased plasma glucagon levels and corresponding CT findings, most often in the pancreatic tail. Surgical resection is curative; however disease is frequently metastatic at presentation. Our patient lacked typical features of presentation and only complained of chronic diarrhea. Gastrointestinal complaints in patients with known IBS are often attributed to their pre-existing diagnosis. Especially in patients with IBS and prior endocrine disease, rare but fatal causes of chronic diarrhea, such as glucagonoma, must not be excluded.

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A NEW MODALITY FOR DIAGNOSING RUMINATION SYNDROME: 24-HOUR ESOPHAGEAL PH-IMPEDANCE

W. A. Mikulski, DO,[2] T. Fergus, LPN,[1] J. D. Long, MD[1]. 1. Internal Medicine, Wake Forest University, Winston-Salem, NC; 2. Internal Medicine, Drexel University, Philadelphia, PA.

Purpose: Rumination syndrome is the effortless regurgitation of recently ingested food which is not preceded by retching. The diagnosis of rumination syndrome is challenging and is based on Rome III criteria which rely on symptoms alone. Objective confirmation of the findings has been shown using antroduodenal manometry or esophageal manometry-impedance, but the sensitivities and availability in clinical practice of these modalities are lacking. We report a case of a patient with rumination syndrome documented by Rome III criteria and confirmed by findings on esophageal pH-impedance (IMP) monitoring.

Methods: A 23 year old female was referred with complaints of worsening regurgitation for 6 years. The patient indicated that regurgitated material comes up after nearly every meal without retching or nausea and that episodes began immediately after or sometimes during a meal. She denied heartburn, dysphagia, or vomiting and reported minimal weight loss. She had no improvement with several proton pump inhibitors (PPI) or with metoclopramide. An upper endoscopy, upper GI series, and gastric emptying study were all unremarkable. Esophageal manometry revealed a low LES pressure but was negative for a primary motility disorder. The patient was considered to have "refractory" gastroesophageal reflux disease (GERD) and so an ambulatory pH-IMP study was performed.

Results: The study performed off PPIs showed normal esophageal acid exposure(EAE) with a distal total time pH < 4.0 of 0.4% (NL < 4.2%) and a composite score of 3.2 (NL < 14.7). However, the total number of reflux episodes was elevated at 118 (NL < 73), with 79 (67%) occurring within 60 minutes of a meal. The patient reported 70 episodes of regurgitation with a symptom index of 99 % (69/70), 40 occurred with non-acid reflux(NAR) and 29 with acid reflux(AR). The study was then manually analyzed and both reflux and symptom episodes were assigned to four time periods: Early (0-30 min) or late (31-60 min) Postprandial (PP), other Upright, and Supine. This nicely showed a predominance of symptomatic NAR in the early PP period with transition to AR in the late PP and non-meal periods (see Table).

Conclusion: The 24-hour pH-IMP study performed off PPI therapy on a patient with suspected rumination syndrome showed normal EAE but frequent episodes of symptomatic NAR in the early PP period, which gradually became acidic as food is cleared from the stomach by regurgitation or via gastric emptying. This pattern of reflux is characteristic for rumination and is distinct from the pattern expected in GERD. Documentation of this pattern is possible with impedance monitoring which allows detection of NAR. We believe that pH-IMP testing off PPIs can be used to confirm the diagnosis of rumination syndrome.

Parameter	Postprandial reflux epi. (0-30 min)	Postprandial reflux epi. (31-60 min)	Other Upright episodes	Supine reflux episodes	Total reflux episodes
Acid Reflux	13 (25%)	19 (70%)	29 (91%)	5 (71%)	66
Nonacid Reflux	39 (75%)	8 (30%)	3 (9%)	2 (29%)	52
Total Reflux	52	27	32	7	118
Acid + Symptom	10 (22%)	10 (67%)	9 (100%)	0	29
Nonacid + Symptom	35 (78%)	5 (33%)	0	0	40
Total symptoms	45	15	9	0	69

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ASYMPTOMATIC INCIDENTAL COLON ADENOMA ASSOCIATED WITH SCHISTOSOMA MANSONI

N. C. Nagaria, MD, A. Kansagra, MBBS, S. K. Ahlawat, MD. Gastroenterology, UMDNJ-NJMS, Newark, NJ.

Purpose: INTRODUCTION:Gastrointestinal involvement in schistosomiasis is well known; however, colon polyps associated with schistosoma are reported occasionally. To the best of our knowledge, colon adenoma associated with S. mansoni has not been reported.

Methods: CASE:A 64-year-old female was referred for colorectal cancer screening. She was asymptomatic and had a normal physical exam. However, her last laboratory test nearly 3 years ago had shown Hb level of 14.0 g/dl, and white blood cell count of 7300/mm3 with 8% eosinophils, which was not worked up. On colonoscopy, an 8mm pedunculated polyp with a long stalk was seen in the ascending colon,along with a 1 cm sessile polyp in the sigmoid colon. Both polyps were removed by electrosurgical snare polypectomy technique. Histopathological examination revealed a tubular adenoma in which two discrete ova with chronic inflammation could be seen in the lamina propria. High power demonstrated the ova were oval in shape, one showing the characteristic lateral spine of Schistosoma mansoni, and both contained viable miracidia. Further history revealed the patient had lived in Liberia for most of her life where she had bathed and drank water from a lake. She was treated with praziquantel [20mg/kg]. She continues to remain symptom free and her immigrated family members were recommended surveillance.

Results: DISCUSSION:Majority of Schistosoma mansoni remains an endemic in parts of Brazil, Venezuela, and Caribbean. During their life cycle, the larvae penetrate the skin, migrate to the lungs through venous circulation and mature into adult worms in the liver. They migrate to the mesenteric vessels of bowel or bladder where the female worms lay eggs. Eggs retained in the intestinal wall cause an inflammatory response leading to hyperplasia, ulceration, microabscess, and granuloma formation. Clinically they may present as colicky abdominal pain, change in bowel habits, or occult gastrointestinal bleeding. Only one report of colorectal polyposis associated with S. mansoni was found in the literature. The relationship between colorectal cancer and schistosomiasis is controversial. Some studies suggest an increased risk of colorectal cancer in patients with schistosoma egg induced polyps particularly those with atypical hyperplasia. The data on long-term outcome with and without praziquental treatment doesn't exist. We treated our patient in an effort to destroy any viable eggs.

Conclusion: This patient demonstrates how uncommon diseases are being seen frequently with an increase in migration. A keen vigilance should be kept on history, and labs which may suggest parasitic infection in an asymptomatic individual that comes for routine screening.

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MUCOSAL TEAR IN COLLAGENOUS COLITIS

T. Dunzendorfer, MD,[1] S. Wilkins, MD,[2] R. Johnson, MD[2]. 1. Gastroenterology, Berkshire Medical Center, Pittsfield, MA; 2. Pathology, Berkshire Medical Center, Pittsfield, MA.

Purpose: To draw attention to mucosal tears as an unusual but important endoscopic presentation of collagenous colitis.

Methods: Case report of patient with collagenous colitis and mucosal tear on colonoscopy.

Results: A 60-year-old woman with a history of constipation presents with a complaint of rectal pain, watery, non-bloody diarrhea, and a 6-pound weight loss over one year. Physical exam, stool and blood tests were unremarkable. She did not use NSAID's, enemas or other rectal manipulations. Colonoscopy showed a 3-cm linear, raised mucosal sigmoid tear (Figure A). The remaining colon and terminal ileum were normal. Random colon biopsies showed diffuse, irregular thickening of the subepithelial collagen table accompanied by focal denudation of the surface epithelium and increased intraepithelial lymphocytes, diagnostic of collagenous colitis (Figure B, right). Biopsies of the mucosal tear showed granulation tissue with acute inflammation consistent with a nonspecific ulcer (Figure B, left). The patient was treated with Pepto-Bismol, budesonide, mesalamine enemas, metronidazole, and ciprofloxacin. After three days, the diarrhea and rectal pain resolved and after three weeks, all medications, except budesonide, were stopped. At two years, the patient remained asymptomatic with normal colonoscopy and biopsies.

Conclusion: Mucosal tears have been reported previously in 12 patients with collagenous colitis. The cause is unclear but may be related to underlying inflammation with mucosal friability. In microscopic colitis, the mucosa is endoscopically normal, but histology shows characteristic abnormalities. We propose that mucosal tears may be a characteristic and significant endoscopic abnormality in collagenous colitis. Standard treatment for collagenous colitis appears adequate for management of mucosal tears.

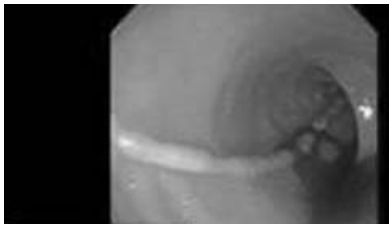

Figure A.
Endoscopy showing linear raised mucosal tear in sigmoid

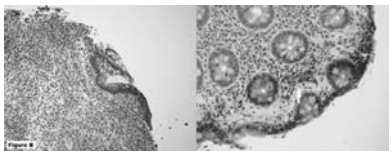

Figure B.
Left panel: H&E 20x, histology of tear, granulation tissue with acute inflammation
Right panel: H&E 20x, random colon biopsy showing thickened subepithelial collagen layer (arrow)

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ACUTE ISCHEMIC COLITIS IN A PATIENT WITH METASTATIC BREAST CANCER UNDERGOING BEVACIZUMAB THERAPY

B. C. Yu, MD,[1] A. Ariyachaipanich, MD,[1] G. Zalzaleh, MD,[2] H. Raddawi, MD, FACG[3].
1. Department of Internal Medicine, University of Illinois at Chicago/Advocate Christ Medical Center, Oak Lawn, IL; 2. Oncology-Hematology, Advocate Christ Medical Center, Oak Lawn, IL; 3. Gastroenterology, Advocate Christ Medical Center, Oak Lawn, IL.

Purpose: Although combination therapy with bevacizumab (a monoclonal antibody against vascular endothelial growth factor) and paclitaxel has shown improvement in progression-free survival in patients with metastatic breast cancer, bevacizumab has been linked to an increased risk of severe bowel complications.

Results: A 71 year old Caucasian female with history of metastatic breast cancer presented to her oncologist's clinic with rectal bleeding. Her medical history began four years ago when she was diagnosed with stage IIB estrogen and progesterone-receptor positive, HER2-negative breast adenocarcinoma, which was treated with mastectomy and hormonal therapy. Three months prior to this presentation, she was found to have liver and bone metastases, and was started on bevacizumab and paclitaxel therapy. Her past medical history was also significant for a history of paroxysmal atrial fibrillation for which she was on warfarin therapy. At her oncologist's office, the patient reported several days of mild left lower quadrant abdominal cramps and then one episode of rectal bleeding that morning. The patient denied any previous episode of rectal bleeding or thrombotic events. On exam, she was found to be hypotensive. Her physical exam was otherwise normal except for tenderness to palpation in the left lower quadrant. The patient was administered IV fluids and admitted to the hospital, where initial laboratory evaluation was notable for a hemoglobin level of 9.5 and INR of 1.9. Colonoscopy revealed focal ischemia within the sigmoid colon spanning approximately 8 cm with surrounding ulceration and edema. Histological examination was consistent with ischemic colitis. Her rectal bleeding was of a self limited nature with no further episodes of bleeding during the hospitalization and stable hemoglobin prior to discharge.

Conclusion: This case illustrates a serious complication of bevacizumab therapy. Although ischemic colitis has been reported in treatment for metastatic cancer in patients who have received prior radiation therapy, to our knowledge, this is the first documented case of ischemic colitis in the treatment of metastatic cancer in the absence of radiation. Treatment with bevacizumab increases the risk of ischemic damage to the bowel. This could possibly be due to its anti-angiogenic properties. However, treatment with bevacizumab has also been shown to increase the risk of arterial thromboembolism which could also potentially lead to bowel ischemia. Other known complications of bevacizumab therapy include abdominal pain, vomiting, gastrointestinal hemorrhage, and perforation. New abdominal symptoms must be taken seriously in patients treated with bevacizumab and caution must be used when prescribing this therapy to patients.

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SEBACEOUS CARCINOMA IS A RECOGNIZED RISK FACTOR FOR COLON CANCER THAT INDICATES URGENT SCREENING COLONOSCOPY; THE MUIR-TORRE SYNDROME

M. A. Titi, MD, T. Kothari, MD, S. Devgun, MD, P. Leve, MD, K. Patel, MD. *Internal Medicine, Unity Hospital, Rochester, NY.*

Purpose: Muir-Torre syndrome is a rare autosomal dominant condition characterized by the combination of sebaceous gland tumors and at least one visceral cancer especially colonic. It has been recognized as a subtype of Lynch Type II hereditary nonpolyposis colon cancer. Early recognition of the syndrome in patients with sebaceous gland tumors should facilitate early detection of subsequent malignancies if the patients and their relatives are entered into appropriate screening programs. Case presentation: A 46 years old asymptomatic male was referred by his dermatologist and primary care physician for screening colonoscopy before the age 50. The patient had no gastrointestinal symptoms and had no previous history of inflammatory or any other bowel disease. His paternal grandmother had colon cancer at old age but he denied any other family history of cancer. Patient had no significant past medical or surgical history. However, he recently had an excision of a sebaceous cyst from the nose and the histology showed sebaceous carcinoma. Histological findings of sebaceous carcinoma raised concerns about the possibility of Muir-Torre Syndrome which involves an increased risk of concomitant visceral malignancy especially colonic carcinoma in such patients and indicates regular colonic screening. Based on this clinical concern the patient was referred for screening colonoscopy. Patient had colonoscopy performed which showed an ulcerated circumferential mass at the level of the cecum, biopsies confirmed the diagnosis of moderately and poorly differentiated adenocarcinoma of the colon. Staging investigations were normal and patient was referred for surgical colonic resection. Patient also had an upper endoscopy and chest radiograph which were normal. Conclusion: Patients with Muir-Torre Syndrome are probably more common than is recognized, but sebaceous gland tumors are rare and the diagnosis of such a tumor should suggest the possibility of the syndrome and prompt a search for associated malignancies especially colonic carcinoma and to investigate for the underlying genetic mutation. Timely diagnosis of colonic malignant neoplasm in this subset of patients, before the screening age of 50 can cure the disease and save many lives.

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***KLEBSIELLA OXYTOCA* AND ANTIBIOTIC-ASSOCIATED HEMORRHAGIC COLITIS**

K. Kulkarni, MD, D. Weine, MD, C. Maltz, MD, PhD. *Department of Gastroenterology and Hepatology, Weill Cornell Medical Center, New York, NY.*

Purpose: To increase awareness among physicians of antibiotic-associated hemorrhagic colitis caused by *Klebsiella oxytoca*.

Results: Case 1: A 30 year-old man with no significant past medical history presented with right-sided abdominal pain and bloody diarrhea one week after receiving amoxicillin following a routine dental procedure. The patient's labs were significant for a mildly elevated WBC count and a CT scan demonstrated wall thickening of the entire colon, sparing the sigmoid colon and rectum, but most pronounced in the right hemicolon. Multiple stool studies were negative for the presence of *Clostridium difficile* toxin. However, *Klebsiella oxytoca* was isolated from stool cultures and the patient's symptoms resolved with supportive care. **Case 2**: A 67 year-old man with a history of AML who underwent induction chemotherapy followed by autologous stem cell transplantation complicated by MRSA bacteremia requiring linezolid began complaining of bloody diarrhea and abdominal pain two weeks following completion of his antibiotic course. Stool studies were negative for the presence of *Clostridium difficile* toxin; however *Klebsiella oxytoca* was isolated from stool cultures. The patient's diarrhea resolved after three days of supportive care.

Conclusion: Colitis following administration of an antibiotic is a well-recognized complication, with *Clostridium difficile* traditionally implicated as the most common culprit. However, increasingly *C. difficile* negative antibiotic-associated colitis is being diagnosed and infection with *Klebsiella oxytoca* has been identified as a cause of antibiotic-associated hemorrhagic colitis. Antibiotic-associated hemorrhagic colitis caused by *Klebsiella oxytoca* is a separate entity from *C. difficile* colitis and typically occurs in young, healthy patients after administration of penicillins. However, we also report here, for the first time to our knowledge, *K. oxytoca* infection after linezolid use in a hospitalized patient. The colitis associated with *Klebsiella oxytoca* usually displays an abrupt onset and involves the right colon. The colitic symptoms are typically self-limited and resolve after discontinuation of the offending antibiotic without the need for additional treatment. Our series of patients emphasize the importance of pursuing specific studies for the diagnosis of *K. oxytoca* among patients with the classic presentation (case 1) in addition to individuals with *C. difficile* negative colitis following antibiotics (case 2). Greater awareness of *Klebsiella oxytoca* associated colitis is needed among gastroenterologists and primary care physicians in order to avoid misdiagnosis and unwarranted therapy.

P521

COLONOSCOPY DIAGNOSIS OF AMYLOIDOSIS

K. Kim, MD,[1] K. Yap, MD,[2] D. L. Moseley, MD[3]. *1. Internal Medicine, UCSF Fresno, Fresno, CA; 2. Pathology, VA Central California Health Care System, Fresno, CA; 3. Gastroenterology, VA Central California Health Care System, Fresno, CA.*

Purpose: Amyloidosis (below AM) is characterized by extracellular deposition of abnormal protein with multiple systemic manifestations. Since AM clinical findings, especially GI symptoms, are broad and nonspecific, making a primary diagnosis by colonoscopy is challenging if the patient does not have an established diagnosis.

Methods: A 75-year-old male presented in GI clinic with non-specific abdominal pain and recent onset of rectal bleeding. History was significant for CAD, non-DM renal failure on hemodialysis since 2007, and a colonic polypectomy in 2002. The prior colonoscopy only showed a benign polyp. Physical exam was nonspecific. The laboratory finding was noted to have normocytic anemia, elevated ALP, and a negative SPEP. A repeat colonoscopy revealed diffuse petechiae, ecchymosis and ulceration in the sigmoid descending colon region (Fig 1).

Results: Biopsies were obtained and the pathology revealed amyloid deposition in the muscularis mucosa on Congo Red staining showing the apple green biferengent appearance under polarized light (Fig 2). Further immunostaining proved Amyloid P, confirming the diagnosis of primary AM. A kidney biopsy confirmed the diagnosis. A bone marrow biopsy showed amyloid deposition and plasmocytosis. The patient is now on chemotherapy and his GI clinical symptoms have resolved.

Conclusion: The initial clinical diagnosis of primary AM by non-specific GI symptom is difficult and requires a high index of suspicion. The colonoscopic findings of ulceration and mucosal petechiae in the left colon with a clinical history of non-DM nephropathy, cardiomyopathy or hepatomegaly with abnormal LFT should prompt AM evaluation. Biopsies with amyloid staining is critical for making the diagnosis, as early diagnosis reduces risk of critical systemic end organ damages.

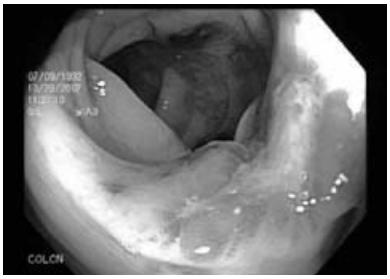


Fig 1. colonoscopic picture of petechial lesion

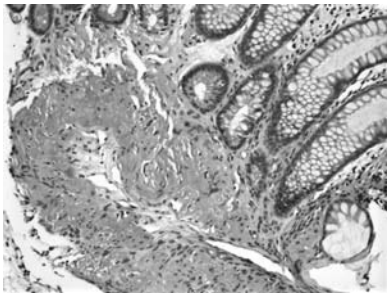


Fig 2. Congo Red stain of biopsy lesion in colon

P522

RAPIDLY GROWING LARGE B-CELL LYMPHOMA OF THE COLON

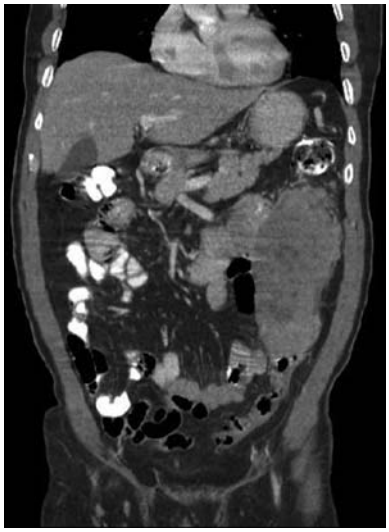
S. Banerjee, MD,[1] A. Walfish, MD,[1] V. V. Gumaste, MD,[1] M. S. Angelova, MD[2].
1. Gastroenterology, Mount Sinai Services at Elmhurst Hospital Center, Elmhurst, NY;
2. Pediatrics, Winthrop University Hospital, Mineola, NY.

Purpose: Lymphomas may appear in the colon as primary malignancy or as a part of systemic disease. The incidence of this tumor is increasing, and its presentations are varied. Knowledge of the forms of presentation is therefore important in order to suspect the disease and reach an early diagnosis. Additionally, colonic lymphoma often requires a multidisciplinary treatment approach. We present a case that illustrates these points.

Methods: A 59 years old male was admitted with a chief complaint of left sided dull, non-radiating abdominal pain associated with 20lbs of weight loss over the last 2 months. On physical examination, his abdomen was soft with normal bowel sounds and mild tenderness in the left lower quadrant without any rebound. A firm mass with an irregular margin, about 10x12 cm in size was palpable in left lower quadrant of the abdomen. Rectal exam was positive for fecal occult blood. All laboratory tests including CBC were normal. He had had an unremarkable screening colonoscopy about 18months prior to this visit. CT scan of abdomen showed an 8x17 cm lobulated irregular soft tissue mass in left lower quadrant arising from the descending colon. A colonoscopy showed a 15cm long circumferential, ulcerated, friable, nearly obstructing lesion in the descending colon 60 cm from the anal verge. The biopsy findings, negative for cytokeratin and CD 117 and equivocal for CD45, were suspicious for lymphoma, although not conclusive. The patient underwent surgical resection of the tumor.

Results: Histopathological examination of surgical specimen confirmed the diagnosis of large B cell lymphoma. Margins of the resected colon and adjacent lymph nodes were tumor free. The patient was started on adjuvant chemotherapy with R-CHOP regimen. At six months the patient has not shown any evidence of recurrence of his disease.

Conclusion: Primary colonic lymphoma is a rare entity. We found our case unique because of the large size of tumor, the rapidity of growth and the lack of traditionally described risk factors for the development of lymphoma. Our case illustrates that treatment involving a multidisciplinary approach including surgery and chemotherapy is considered ideal.

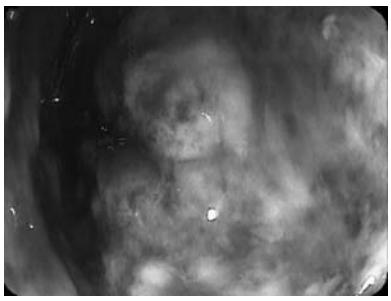


P523

SUMATRIPTAN-ASSOCIATED ISCHEMIC COLITIS (IC)

T. T. Nguyen, MD,[1] A. J. Mazer, BS,[1] J. H. Lewis, MD, FACG[2]. 1. Medicine, Georgetown University, Washington, DC; 2. Gastroenterology, Georgetown University, Washington, DC.

Results: A 50 yr WF was admitted at 3pm for abdominal pain, nausea, vomiting and bloody diarrhea. She awoke at 3am with LLQ pain, diaphoresis and tenesmus, and subsequently had 6 bowel movements which progressively became more bloody. The pain was continuous, crampy, non-radiating with pain 8/10, requiring narcotics. She denied GI symptoms like this in the past. She has a PMH of migraine and had been using sumatriptan tablets for about 15 yrs, usually once every other month. She had not used the IM form until 8 days prior to the onset of these symptoms, a one time 6mg injection. On abdominal exam, she was tender in the LLQ without guarding or rebound; bowel sounds were hyperactive. The rest of her physical exam was normal. WBC was 16,700 with 92% neutrophils. A colonoscopy performed the next morning showed a normal rectum and sigmoid colon. In the upper descending colon, a colonic "stripe sign" (an area of broad exudate) was noted, beyond which were changes of severe colitis consistent with ischemia at the splenic flexure. Bx was consistent with acute IC. An IC scoring system (developed for IC cases associated with alosetron–Ringle et al Gastroenterology 2005;128 (No 4 suppl 2):A-467)gave a score of 15 out of 17, indicating a very high probability of IC. She was started on mesalamine, pentoxyfylline, Cipro, and metronidazole. Stool studies were negative. An MRI/MRA was consistent with IC, with edema and colonic wall thickening from the hepatic felxure to distal sigmoid colon, with no vascular abnormalities. A 2-D echo was normal with an EF of 60% and no thrombus. Over the next few days her pain and nausea diminished, she tolerated a regular diet, and her WBC normalized and was discharged. A repeat colonoscopy 6 weeks later showed complete healing of the mucosa, with some residual scarring at the splenic flexure. The rest of the colon, including the terminal ileum, was normal. There have been only two previous reports of IC caused by sumatriptan; one being a case report and the 2nd a series of 7 cases reported to the FDA. In our pt, despite having used oral sumatriptan for years, her presentation after the IM form was classic for IC. No other causes were found



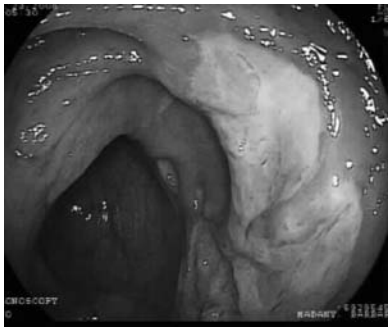
severe ischemic colitis changes characterized by purplish mucosa, exudates, and friability

P524

DIFFUSE COLONIC ULCERATION SECONDARY TO AEROMONAS SOBRIA

P. M. Dionisio, MD,[1] K. Ruff, MD,[1] H. Vikram, MD,[2] L. Harris, MD,[1] T. Lunsford, MD[1].
1. Gastroenterology, Mayo Clinic Scottsdale, Scottsdale, AZ; 2. Infectious Diseases, Mayo Clinic Scottsdale, Scottsdale, AZ.

Purpose: Aeromonas species are a ubiquitous, hydrophilic, gram-negative rod. Reservoirs include a variety of water environments and vegetable produce with an increase in isolation during warm weather months. Originally thought of as a pathogen in the immunocompromised host only, these organisms are now recognized as a cause of a spectrum of disease in immunocompetent humans. The following is a case of diffuse colitis with deep ulcers secondary to Aeromonas sobria. A 76-year-old, previously healthy female presented with complaints of 2-3 months of nightly fevers up to 102 degrees Fahrenheit associated with sweats. She also complained of crampy abdominal pain and diarrhea intermittently associated with the passage of bright red blood over the previous two weeks and a 15 pound weight loss over the same time period. Evaluation in infectious disease clinic outside of our facility had not revealed a clear cause of her symptoms despite performing multiple blood and stool cultures. Examination revealed a febrile (38.8 C), thin appearing female with mild diffuse abdominal tenderness. Colonoscopy revealed erythema and deep ulcers throughout the entire colon (including rectum). Ulcers were deep, clean-based with undermined edges and surrounding hyperemia. Multiple biopsies were obtained throughout the patient's colon (from ulcers and surrounding tissue). Biopsies and stool cultures supported the diagnosis of an acute infectious colitis secondary to Aeromonas sobria. The patient was treated with ciprofloxacin and had an appreciable decline in her gastrointestinal symptoms prior to hospital discharge. Review of the literature revealed several case reports describing segmental colitis secondary to an Aeromonas species. Our case demonstrates an occurrence of a pan-colitis secondary to Aeromonas sobria and emphasizes the need to consider Aeromonas species in the differential diagnosis for colitis.



P525

ACUTE COLONIC PSEUDO-OBSTRUCTION: IS TEGASEROD A TREATMENT OPTION?

R. Ramirez, MD,[1] M. Zuckerman, MD,[1] S. Chokhavatia, MD[2]. 1. Medicine, Texas Tech University Health Sciences Center, El Paso, TX; 2. Medicine, Mount Sinai School of Medicine, New York, NY.

Purpose: Acute colonic pseudo-obstruction is characterized by symptoms, signs and radiological appearance of acute large bowel obstruction in the absence of a true mechanical obstruction. The pathophysiology is not well understood. A proposed theory involves transient impairment of the sacral parasympathetic nerves causing atony of the distal large bowel resulting in functional obstruction.

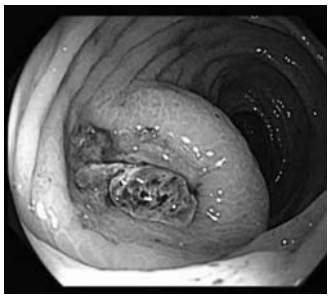
Methods: We present a case of a patient with Guillain-Barré syndrome complicated by acute colonic pseudo-obstruction, in whom neostigmine could not be used.

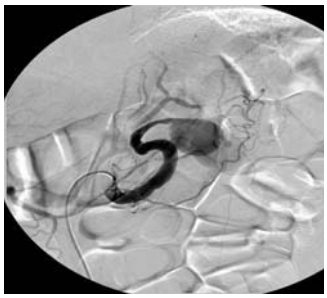
Results: A 57 year old man with Guillain-Barré syndrome and progressive ascending muscular weakness was hospitalized for significant autonomic dysfunction and pronounced muscular weakness. He developed diffuse abdominal pain and distension, and was unable to pass gas or feces on hospital day 5. The physical exam was significant for abdominal distension, hyperactive bowel sounds, and diffuse abdominal tenderness. An abdominal CT showed dilated colon and cecum with a maximum diameter of 8.3 cm without associated abnormality of the bowel wall or proximal bowel dilation, consistent with acute colonic pseudo-obstruction. Successful endoscopic colonic decompression was performed the next day and supportive measures continued, including nasogastric (NG) suction and maintaining electrolyte balance. The patient developed recurrent distension within 24 hours. Neostigmine was contraindicated because of autonomic dysfunction and he failed to respond to erythromycin. Tegaserod 6 mg was given every 12 hours per NG tube and within 14 hours the patient started passing gas and had a sponta-

neous bowel movement. Abdominal pain and distension resolved, confirmed by an abdominal film. The patient continued to receive tegaserod until discharge 7 days later with no recurrence of obstructive symptoms.
Conclusion: Treatment options for acute colonic pseudo-obstruction have had variable outcomes and include medications (neostigmine and erythromycin), endoscopic decompression, percutaneous tube cecostomy and colectomy. To our knowledge, this is the first case report of acute colonic pseudo-obstruction with a clinical response to treatment with tegaserod, a partial 5-HT4 receptor agonist. 5-HT4 receptor agonists may be a viable option in the treatment of acute colonic pseudo-obstruction.

P526

GASTROINTESTINAL BLEEDING SECONDARY TO SPLENIC ARTERY PSEUDOANEURYSM FISTULIZING TO THE COLON
S. Sweetser, MD, L. Wong Kee Song, MD. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.
Purpose: A rare case of GI bleeding from a post-splenectomy splenic artery pseudoaneurysm fistulizing to the colon is presented.
Methods: Case Report: A 79 y/o male awoke with abdominal pain and rectal bleeding. Past history was notable for a splenectomy 6 yrs ago for immune thrombocytopenic purpura. He denied aspirin or NSAID use. Evaluation revealed a significant drop in hemoglobin (13 g/dL to 6.9 g/dL) and resuscitative measures were undertaken.
Results: An emergent upper endoscopy was performed and was negative. At colonoscopy, a large 3-4 cm pulsatile lesion with ulceration and overlying adherent clot was seen in the proximal descending colon (Fig 1). CT angiogram was performed which revealed a large hematoma in the splenic bed and visualization of the splenic artery coursing into this location with contrast extravasation. The patient declined surgery and subsequently underwent successful angiographic embolization of a large pseudoaneurysm at the distal splenic artery stump (Fig 2). Repeat colonoscopy 6 weeks later revealed complete healing at the site of the eroding pseudoaneurysm.
Conclusion: GI bleeding from splenic artery pseudoaneurysm (SAP) is an uncommon but potentially life-threatening condition. Risk factors for SAP include pancreatitis, posttraumatic, peptic ulcer disease, and iatrogenic. Lower GI bleeding due to erosion or fistulization of SAP to the colon is a very rare event that requires a high index of suspicion and appropriate endoscopic/imaging studies to arrive at a correct diagnosis. This case highlights the fact that SAP should be considered in the differential diagnosis of GI bleeding in individuals who have undergone splenectomy.





P527

DEATH FROM CLOZAPINE-INDUCED GASTROINTESTINAL HYPOMOTILITY
R. M. Siwiec, MD,[1] B. Qazi, MD,[2] M. S. Fine, MD[2]. 1. Internal Medicine, Advocate Lutheran General Hospital, Park Ridge, IL; 2. Gastroenterology, Advocate Lutheran General Hospital, Park Ridge, IL.
Purpose: Clozapine is an atypical antipsychotic commonly prescribed for treatment-resistant schizophrenia. The adverse effect profile is considerable, including hematologic risks, cardiomyopathy, seizures, weight gain, venous thromboembolism, metabolic syndrome and hypotension. Less well recognized is clozapine's potential to impair motility throughout the gastrointestinal tract, causing dysphagia, intestinal obstruction, bowel ischemia, and megacolon. There have been eight reported cases in the English literature of death from clozapine-induced gastrointestinal hypomotility (CIGH). We report a case of death from CIGH, accompanied by a brief review of the available literature.
Methods: A systematic review of the medical literature using Medline was performed.
Results: A 48 year old man with schizophrenia treated with clozapine 400 mg daily presented with a one day history of nausea, vomiting and abdominal pain. Physical examination revealed a distended rigid abdomen with pain to palpation in the epigastric region. Laboratory evaluation revealed an anion gap metabolic acidosis with a lactate level of 7.8 mg/dL, creatinine of 2.9, and white blood cell count of 11,100 with 22% bands. Computed tomography (CT) scan of the abdomen and pelvis revealed extensive fecal impaction extending from the rectum to the splenic flexure along with gas and feces in a markedly distended right colon. Intravenous fluids along with broad-spectrum antibiotics were administered. Manual disimpaction was performed with removal of numerous hard stools. The patient was transferred to the medical intensive care unit (MICU) for further management. Within hours of arrival to the MICU, the patient developed respiratory distress and underwent rapid sequence intubation for impending respiratory failure. Low systolic blood pressures prompted the initiation of vasopressors. A repeat CT scan of the abdomen and pelvis showed increased colonic distention and new ascites, but remained negative for free air. Despite the use of three vasopressors and drotrecogin alfa, the patient remained hypotensive. The family decided to withdraw support and the patient expired within minutes. Post-mortem examination revealed toxic megacolon with bowel ischemia and infarction.
Conclusion: Gastrointestinal hypomotility is a serious side effect of clozapine that may result in bowel obstruction, ischemia and necrosis, perforation, or aspiration pneumonia. The mechanism is likely to be anticholinergic and antiserotonergic. The scarcity of literature on CIGH suggests that the significance of this uncommon but important and frequently fatal side effect has not been recognized. A patient receiving clozapine and presenting with vomiting and abdominal pain should raise immediate concern for the physician.

P528

COLONOSCOPIC POLYPECTOMY IN GLANZMANN'S THROMBASTHENIA
D. Raina, MD,[1] A. Khomani, MD,[2] F. E. Rahhal, MD,[1] A. Movva, MD,[1] S. M. Chamberlain, MD[1]. 1. Section of Gastroenterology and Hepatology, Medical College of Georgia, Augusta, GA; 2. Section of Hematology Oncology, Medical College of Georgia, Augusta, GA.
Purpose: Glanzmann's thrombasthenia (GT) is a rare autosomal recessive bleeding syndrome characterized by absent platelet aggregation secondary to abnormal Glycoprotein IIb/IIIa complex. We report the first case of endoscopic management of large polyps in a patient with GT.
Methods: A 52-year-old African American female with GT underwent four sequential colonoscopies over 9 months as enumerated below.
Results: Colonoscopy 1: Performed for heme-positive stools, no blood products given. It revealed multiple sessile polyps, the 2 largest (13 and 14 mm) in the right colon. The 13 mm one was removed using saline-assisted technique in combination with Endoloop and standard cautery. Immediate post-polypectomy bleeding was observed and successfully controlled with placement of 2 Triclips. Further polypectomies were deferred. The polyp was a sessile serrated adenoma. A surgical opinion recommended endoscopic surveillance. Colonoscopy 2: Preprocedure platelets and aminocaproic acid were given. Hot biopsy polypectomies were done to remove ten smaller 4-5 mm polyps in left colon. The 14 mm polyp was left in place to help localize potential post-polypectomy bleeding. No immediate or delayed bleeding occurred. Colonoscopy 3: Preprocedure platelets and aminocaproic acid were given. The remaining 14 mm polyp was removed by saline-assisted technique. A single Quick Clip placed at the polypectomy site. Two other smaller polyps (7 and 9 mm) were also removed from the left colon using standard electrocautery, with no clips applied. Three days later patient was admitted with delayed post-polypectomy bleeding. Colonoscopy 4: Hematochezia persisted despite daily replacement of red blood cells, platelets, recombinant factor VIIa, and prothrombin concentrate complex over a period of 10 days prompted the fourth colonoscopy. Active bleeding was identified in the right colon at the 14 mm polypectomy site. Dual therapy with epinephrine injection and placement of 4 Resolution clips achieved hemostasis. No further episodes of colonic bleeding have been reported to date.
Conclusion: Polypectomy in GT patients is complicated by immediate and delayed bleeding. The single previous GT case report suggested a protective effect of platelet transfusion and aminocaproic acid, to retard fibrinolysis, in preventing post-polypectomy bleeding. However, we conclude that for polyps 10mm or larger the addition of mechanical therapy, with multiple clips, after standard cautery polypectomy, is more effective in preventing immediate and delayed post-polypectomy bleeding in patients with GT. The cost of preemptive multiple clips at the post-polypectomy site may be offset by a reduction in the need for blood products and by averting or shortening potential hospitalizations.

P529

RARE GASTROINTESTINAL COMPLICATIONS OF A RARE DISEASE: KLIPPEL-TRENAUNAY SYNDROME
J. Naik, MD, Y. Li, MD, N. Griglione, MD, Q. Cai, MD. Division of Digestive Diseases, Emory University, Atlanta, GA.
Purpose: A 26 year old man presented with 3 day history of severe bright red blood per rectum and dizziness. Pt had multiple hospitalizations since age of 7 for lower GI bleedings. In addition to orthostatics hypotension and tachycardia, his physical examination findings were remarkable for asymmetry left shoulder hypertrophied than right, hypertrophy of first 3 digits on left hand and 2nd and 3rd digit on right hand, as well as cutaneous cafe au lait laced spots extending from the right forearm to chest and hemangiomas in low extremities. His laboratory data revealed severe microcytic anemia with hemoglobin of 2.7 g/dl (normal= 12.9-16.1) with mean corpuscular volume of 58.0 fl (79.3-94.8). Others were normal After successful resuscitation with blood transfusion, patient underwent a colonoscopy that revealed extensive stage IV varices in the rectum. MRI/MRA demonstrated large hemangiomas in anterior and superior pelvic veins, extensive varices and dilatation of the abdominal IVC that were consistent with multiple vascular malformations. AVMs in the mesentery, the spleen, and the kidneys were identified. Portogram revealed normal portosystemic gradient of 2 mmHg. Arteriogram was normal. Patient underwent successful embolization of a middle sacral artery AVM with good collateral flow to the distal rectum.
Conclusion: Based on the above finding, the diagnosis was Klippel-Trenaunay Syndrome (KTS). KTS is a congenital disorder characterized by the triad of port wine stains, varicosities and venous malformation and limb hypertrophy (98%, 72%, 67% frequency seen, respectively). Most cases are sporadic and the pathogenesis remains unclear. GI manifestations, found in less than 1% of KTS, include cavernous hemangiomas of the distal colon and rectum and rarely of the jejunum, and esophageal and rectal varices secondary to prehepatic portal hypertension from hemangiomas or hypoplasia of portal vein. These hemangiomas and varices are susceptible to bleed leading to massive hematemesis or hematochezia, which was seen in this patient. Radiological investigations are vital in evaluating the location, severity and management of these bleeding GI. Management of nonsignificant bleeding is conservative with iron supplementation. In cases of recurrent and/or severe bleeding, management with either embolization of the bleeding site or surgical resection. However, resection is not curative due to extensive visceral hemangiomas. Endoscopic argon laser and photodynamic therapies have been utilized in a few cases of refractory post-resection localized bleeds.

P530

MYCOBACTERIAL SPINDLE CELL PSEUDOTUMOR OF THE COLON: A CASE REPORT

S. Manitsas, MD,[1] C. D. South, MD,[1] P. Panchal, MD,[1] M. M. Yearsley, MD[2]. 1. Division of Gastroenterology, Hepatology, and Nutrition, The Ohio State University Medical Center, Columbus, OH; 2. Department of Pathology, The Ohio State University Medical Center, Columbus, OH.

Purpose: Inflammatory pseudotumors are a type of solid tumor that may be comprised of spindle cells, myofibroblasts, plasma cells, or histiocytes as a secondary reaction to an underlying inflammatory process. Infection in an immunocompromised host is a common etiology of inflammatory spindle cell pseudotumors. Many infectious agents have been reported to cause inflammatory spindle cell pseudotumors although non-tuberculous Mycobacterial species are the most commonly reported infectious etiology in patients with Human Immunodeficiency Virus infection. To our knowledge this is the first reported case of a Mycobacterial spindle cell pseudotumor of the colon.

Methods: A 30 year man with a diagnosis of AIDS presented for evaluation of progressive fatigue and weakness for 3 weeks. The patient also complained of abdominal pain and diarrhea for 1 week with one episode of melena. He underwent an EGD and colonoscopy. The colonoscopy showed a 4 millimeter polyp in the transverse colon which was resected with jumbo cold forceps. The pathology of the transverse colon polyp was consistent with a Mycobacterial spindle cell pseudotumor.

Results: The lesion described as the transverse colon polyp was examined using a routine hematoxylin-eosin (H & E) stain, AFB stain, GMS histochemical stains, and CMV immunohistochemical stain. The lesion was described as a polypoid spindle cell proliferation and non-caseating epithelioid granuloma with numerous acid fast bacilli consistent with Mycobacteria. These findings were consistent with a Mycobacterial spindle cell pseudotumor. Duodenal biopsies were evaluated with AFB stain, GMS stain, PAS stain, Trichrome stain, and immunostain for CMV. The biopsies showed acute and chronic inflammation and macrophages containing numerous acid fast bacteria consistent with Mycobacteria.

Conclusion: The patient was placed on clarithromycin 500mg every 12 hours, which was ultimately changed to azithromycin 500mg daily, and ethambutol 1200mg daily for Mycobacterium avium complex. He continued darunavir, raltegravir, ritonavir, and emtricitabine-tenofovir for his HIV/AIDs. The patient was seen in a clinic follow up visit two months after the initial presentation to the hospital. He continued his antiretroviral medication and azithromycin and ethambutol. The patient's diarrhea and abdominal pain had resolved. He had a good appetite and was gaining weight. This case is an example of an inflammatory pseudopolyp caused by MAC found in the colon in a patient with AIDS. It highlights the importance of recognizing that inflammatory pseudopolyps may be a result of infection in an immunocompromized patient and the importance of providing the appropriate clinical treatment.

P531

ENDOMETRIOSIS: AN UNUSUAL CAUSE OF INVERTED APPENDIX. A CASE REPORT AND REVIEW OF THE LITERATURE

K. Robson, MD,[1] J. Coller, MD[2]. 1. Gastroenterology, Lahey Clinic, Burlington, MA; 2. Colorectal Surgery, Lahey Clinic, Burlington, MA.

Purpose: Inversion of the appendix can be seen incidentally at the time of colonoscopy and can be caused by a variety of factors. We present a case of an inverted appendix that was identified during a colonoscopy and that was due to endometriosis based on histologic examination after surgical resection.

Methods: Case report.

Results: A 51 year old woman with a history of endometriosis and menorrhagia presented for colonoscopy at the request of her primary care physician. She had a history of right lower quadrant pain. Surgical history included the removal of an endometrioma ten years prior and laparoscopic cholecystectomy five years prior to presentation. During colonoscopy, a smooth, soft, polypoid lesion was identified in the caput cecum. The lesion seemed to be extruding from the appendiceal orifice. Sigmoid diverticulosis was noted but the colonoscopy was otherwise unremarkable. A computed tomography scan revealed no abnormality in the pericecal region. A laparoscopic cecectomy was performed. At operation, the appendix was not clearly evident, but the mesoappendix appeared to be protruding into the caput cecum. Endometrial implants were not observed. When the specimen was examined, the appendix was inverted into the cecum. The histopathologic examination demonstrated endometriosis within the substance of the inverted appendix. This was supported by positive cytokeratin 7 and negative cytokeratin 20 staining.

Conclusion: Most cases of inverted or intussuscepted appendix have been identified at the time of surgery. An inverted appendix may be caused by appendiceal carcinoma, carcinoid tumor of the appendix, mucocele, appendicitis, polyp or endometriosis. The condition may present with symptoms such as abdominal pain or may be asymptomatic. Although endometriosis of the appendix is well described, inversion of the appendix secondary to endometriosis is unusual and only 22 cases have been reported. Approximately 200 cases of appendiceal intussusception due to various causes have been described in the literature, and there are few cases of identification of an inverted appendix at the time of colonoscopy. The underlying etiology of an inverted appendix is typically established upon histologic examination of the surgical specimen as biopsies of the overlying mucosa and radiologic imaging of the region tend to yield non-diagnostic results. The development of a standardized approach to the evaluation of an inverted appendix found during colonoscopy would be helpful for clinicians.

P532

NITAZOXANIDE (ALINIA®) AS A RESCUE TREATMENT FOR REFRACTORY FULMINANT *CLOSTRIDIUM DIFFICILE* COLITIS

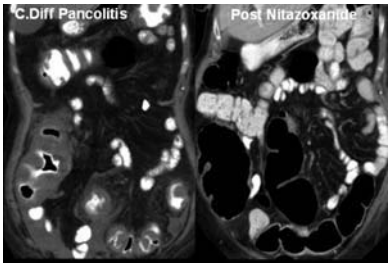
A. Ali, MD, W. Pullano, MD. Gastroenterology, Lenox Hill Hospital, New York, NY.

Purpose: Clostridium Difficile remains a significant cause of morbidity and mortality among hospitalized patients. In recent years C. Difficile infections were observed to be more frequent, more severe and more refractory to standard therapy. We describe our experience with nitazoxanide in two cases of severe, refractory C.Difficile colitis.

Methods: 71 year old female with hypertension, diverticulosis and hypothyroidism presented with diffuse abdominal pain, profuse non bloody diarrhea, fevers and vomiting. She quickly developed septic shock and respiratory distress requiring mechanical ventilation. Labs revealed metabolic acidosis, WBC count of 71K and CRP was 67mg/L. Stool C.difficile assay for toxin A and B was positive. Despite receiving oral metronidazole, vancomycin, saccharomyces boulardii and cholestyramine, her clinical status remained unchanged. CT scan of Abdomen (Figure) revealed diffuse pancolitis and pericolonic fat stranding. Surgical intervention was contemplated, however, as a last resort, nitazoxanide 500mg BID per NG tube was started. Over the course of several days, fevers resolved, WBC count improved significantly, she was extubated and continued to improve clinically. Nitazoxanide was continued for 10 days and then vancomycin PO was continued for another 2 weeks. A repeat CT scan revealed resolution of colitis and at 2 months follow up, she was doing well.

Results: The second case involves a 52 year old female with ESRD, Hypertension and Diabetes who presented with severe refractory C.Diff pancolitis and failed standard therapy. She received nitazoxanide for 10 days as add on therapy and had dramatic improvement in clinical and laboratory parameters and remains well at 2 months follow up.

Conclusion: Nitazoxanide should be considered as a rescue therapy for refractory C.Difficile colitis especially when standard treatment fails. In some patients colectomy can be avoided. Questions remain about the appropriate timing of nitazoxanide treatment in these patients. Also it is unclear whether nitazoxanide is effective as an add on therapy only or if it can work well as monotherapy.



Resolution of refractory C.Difficile Pancolitis after 10 days of Nitazoxanide treament.

P533

COMPLETE ENDOSCOPIC HEALING OF RADIATION PROCTITIS WITH LOW PRESSURE CRYOABLATION

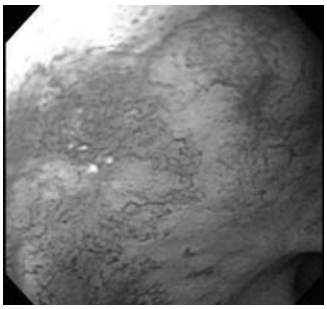
Y. H. Shaib, MD, MPH, J. Hou, MD. Gastroenterology, Baylor College of Medicine, Houston, TX.

Purpose: To present a case of low-pressure cryoablation for the treatment of radiation proctitis.

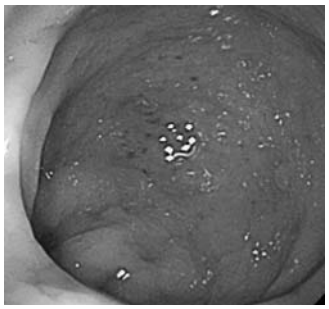
Methods: A 74 year old man who one year earlier was treated with radiotherapy for prostate cancer presneted with rectal bleeding. Colonoscopy showed erythema and inflammation in the distal 3 cm of rectum consistent with radiation proctitis. Bleeding persisted despite local therapy with steroid suppositories and hemoglobin progressively dropped from 14 g/dL to 9.4 g/dL. Low pressure cryoablation (CSA Medical) was performed using a cryoablation catheter passed through an endoscopic channel. The catheter was directed under direct visualization to three areas of the rectum most involved with proctitis. Liquid nitrogen spray was injected through the catheter in 10 second applications. A total of 4 applications were used for each area of proctitis. During cryoablation, a cryo decompression tube was placed in the rectum to prevent over insufflation.

Results: The patient denied any adverse effects after cryoablation. He reported a decrease in amount and frequency of rectal bleeding. Follow up sigmoidoscopy 6 weeks after cryoablation showed decreased erythema and inflammation with exudative material on treatment areas. Sigmoidoscopy at fifteen weeks follow up showed near normal mucosa throughout the rectum. His hemoglobin increased from 9.4 g/dL to 11.7 g/dL over the same time period.

Conclusion: We present the first case of mucosal healing and symptomatic resolution of radiation proctitis using low-pressure cryoablation in a patient who previously did not respond to medical therapy



Pre treatment rectum



Post treatment rectum

P534

A SHEEP IN WOLF'S CLOTHING: RECTAL HISTOPLASMOSIS BEHAVING LIKE CANCER

S. V. Nguyen, MD, D. W. Victor, MD, S. G. Abshire, MD. Internal Medicine, Tulane University, New Orleans, LA.

Purpose: Purpose: Gastrointestinal involvement of disseminated histoplasmosis is an emerging disease. Signs and symptoms mimic inflammatory bowel disease and malignancy in both immunosuppressed and immunocompetent patients, often leading to misdiagnosis and unnecessary therapies. We report a rare case of rectal histoplasmosis in an immunocompetent patient.

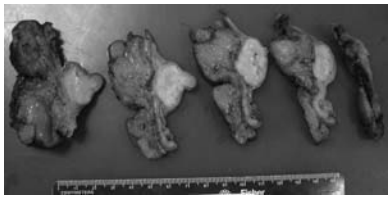
Case Report: An 86 year old gentleman from South Louisiana with multiple chronic, but stable, medical problems presented with altered mental status, fatigue and generalized weakness. CT scan and MRI of the brain showed multiple brainstem lesions that were suggestive of metastatic disease and further imaging revealed hepatic and pulmonary lesions. In addition to having hemoccult positive stools and iron deficiency anemia, the patient also had a history of colonic polyps found on colonoscopy performed 5 years prior. The patient denied abdominal pain but endorsed constipation. A repeat colonoscopy was performed to attempt to establish a definitive diagnosis. Findings include a large 4-cm exophytic lesion covering about one-third of the circumference of the wall of the rectum, with multiple necrotic satellite lesions noted in the rectosigmoid colon. Initial gross pathologic impression was primary rectal carcinoma with the satellites respresenting either nodal metastases or possibly a second primary malignancy. However, separate biopsies of the rectal and satellite lesions were obtained for histological and pathological analysis, and the results were consistent with infection by Histoplasmosis capsulatum. The patient was started on a long-term course of an antifungal regimen, and had marked clinical improvements of his initial presenting symptoms. Repeat MRI of the brain demonstrated significant improvement of prior lesions. Furthermore, repeat flexible sigmoidoscopy at 6 months showed near resolution of the satellite lesions with marked diminution in the size of the previous rectal lesion. Discussion: In disseminated histoplasmosis, the gastrointestinal tract, predominately the terminal ileum and colon, is involved 50% of the time. Rectal involvement is atypical and reported cases in the literature are largely seen in AIDS patients. Gastrointestinal histoplasmosis can often present as a large obstructing mass suspicious of a carcinoma or as ulcerating lesions suggestive of Crohn's disease. This case illustrates that histoplasmosis is the great imitator and that the gastroenterologist must have an increased degree of suspicion for this emerging disease, as medical management with antifungal therapy has been shown to significantly decrease the mortality rate by more than 4 fold.

P535

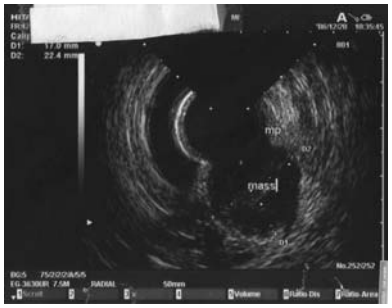
SCHWANNOMA: A RARE SIGMOID MASS

N. Anand, MD, N. Herbsmann, MD, L. Cronin, MD, S. Ho, MD. Montefiore Medical Center, Bronx, NY.

Purpose: To describe a case of sigmoid schwannoma detected on colonoscopy.
Methods: case report, review
Results: A 62 year old woman with history of DM and HTN had a colonoscopy for a lower GI bleed. The patient had an unremarkable physical exam and laboratory tests. During colonoscopy, she was found to have a submucosal mass at the recto-sigmoid junction with a superficial ulceration; a biopsy was not diagnostic. The patient was sent for rectal EUS to further evaluate the lesion. On EUS, the lesion appeared to be originating from the muscularis propria. The mass was measured to be 2.7cm x 1.8 cm and appeared to be consistent wih a GIST. The patient was referred to surgery and the mass was resected. It was found to be consistent with a schwannoma. The tumor stained strongly for protein S100 and negative for KIT, CD34 and desmin. The margins were negative and 7 lymph nodes were negative for involvement.
Conclusion: Schwannomas are benign tumors derived from the cells of Schwann that form the neural sheath, which can become malignant. Schwannomas have been documented as primary tumors in the gastrointestinal tract, but are usually found in the stomach. There is an equal incidence in men and women and the median age of presentation appears to be 65 years. These tumors appear to grow very slowly. Patients are usually asymptomatic but can present with rectal bleeding, constipation, obstruction, and abdominal pain. A variety of imaging modalities have been used to investigate schwannomas such as CT, MRI, colonoscopy and endoscopic ultrasound. Endoscopic ultrasound has been suggested to be reliable in predicting malignant potential; the predictive features being irregular margins, depth of penetration, cystic spaces and lymph nodes with a malignant pattern. Treatment usually consists of surgical excision although these tumors are benign and usually do not recur.



Gross specimen



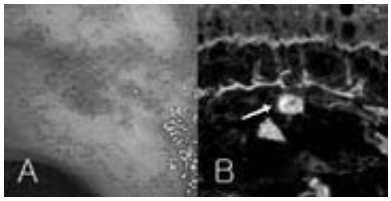
EUS image of rectosigmoid mass

P536

HENOCH-SCHONLEIN PURPURA PRESENTING AS BLOODY DIARRHEA IN AN ELDERLY PATIENT

E. H. Choi, MD, W. Coyle, MD. Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA.

Purpose: Vasculitides are an uncommon cause of bloody diarrhea and abdominal pain. Henoch-Schonlein Purpura (HSP) is a leukocytoclastic vasculitis of small vessels, and although HSP represents the most common vasculitis in children, it is infrequently described in the geriatric population. We describe a case of HSP with an initial presentation of abdominal pain and bloody diarrhea in a geriatric patient.
Methods: Case Report
Results: A 65-year-old Asian female was admitted with bloody diarrhea and diffuse abdominal pain. She had no significant past medical history except for a recent upper respiratory tract infection, which was treated with a course of antibiotics. Eight days after starting antibiotics, the patient developed bloody diarrhea and diffuse abdominal pain. Three days into her hospitalization, she developed symptoms of diffuse arthralgias and petechiae in her lower extremities. Her only abnormalities on laboratory analysis were a WBC count of 12.0 K/cumm (normal 4.5-11), a hemoglobin of 11.0 g/dL (normal 12-15) and an ESR of 52 mm/hr (normal 0-20). The patient's urinalysis and renal function remained normal throughout her hospitalization. Colonoscopy demonstrated multiple areas of mucosal petechiae (Fig. A). A biopsy of the petechial skin lesions was performed, which demonstrated IgA deposition in the walls of the blood vessels in the dermis (arrow, Fig. B). This confirmed the diagnosis of HSP and the patient was treated with a course of oral prednisone, resulting in complete resolution of her symptoms in 2 weeks and no recurrence on 6 month follow-up.
Conclusion: HSP typically manifests as a tetrad of clinical symptoms: purpuric skin lesions, arthralgias, abdominal pain, and nephropathy. The diagnosis of HSP can be very difficult because the constellation of symptoms may not be synchronous but appear in succession. The clinical diagnosis is most facilitated by the presence of cutaneous lesions, however when gastrointestinal symptoms precede the skin lesions, which occur in 14% of patients, the diagnosis can often be missed (1). Although most patients progress to complete recovery without therapy, early diagnosis is important because there is some evidence that corticosteroids may enhance the rate of resolution in patients with arthritis and abdominal pain. 1. Chen MJ, et al. Endoscopic findings in a patient with Henoch-Schonlein purpura. World J Gastroenterol. 2005 Apr 21;11(15):2354-6.



P537

SYMPTOMATIC INTESTINAL SPIROCHETOSIS IN TWO IMMUNOCOMPETENT PATIENTS

R. Concha, MD,[1] A. Aytaman, MD,[2] M. Butt, MD,[1] R. Wieczorek, MD,[3] F. Desoto-Lapaix, MD,[3] G. Fruchter, MD[2]. 1. Gastroenterology and Hepatology, SUNY Downstate Medical Center, Brooklyn, NY; 2. Gastroenterology, VA New York Harbor Health Care System, Brooklyn, NY; 3. Pathology, VA New York Harbor Health Care System, Brooklyn, NY.

Purpose: The purpose of this report is to raise an awareness of spirochetosis as a possible but rare cause of diarrhea and/or hematochezia in humans Case 1: A 60 year old white male was evaluated for the complaints of watery intermittent chronic diarrhea of more than 2 years duration. Stool studies including ova and parasites, fecal leukocytes and stool cultures have been negative. Colonoscopy was performed and showed normal appearing mucosa. Random biopsies were obtained and were notable for a continuous layer of spirochetes covering the luminal surface of the epithelium. He received oral metronidazole 500 mg three times per day for 10 days with a complete resolution of his symptoms. Case 2: A 48 year old white male was evaluated for a low grade hematochezia, abdominal bloating and excessive flatulence. Colonoscopy revealed patchy erythema in the transverse and sigmoid colon. Representative biopsies were obtained and showed focal hemorrhage and a layer of spirochetes covering the colonic epithelium. In view of spontaneous resolution of symptoms no therapy was given. Patient remains asymptomatic after 4 months follow-up. Discussion: Intestinal spirochetosis is defined as the colonization of the luminal surface of the colonic epithelial cells with the weakly beta-hemolytic spirochetes: Brachyspira aalborgi and Brachyspira pilosicoli. Spirochetes are well known pathogens in dogs, pigs and birds. Infected humans can present with a variety of symptoms including diarrhea and rectal bleeding. However, some investigators report a lack of association between symptoms and the presence of spirochetes. It is therefore unclear whether the spirochetes colonizing the colon are true pathogens. Diagnosis requires a biopsy specimen from the colon. Based on a very few small case series, the disappearance of the infection (whether spontaneous or following treatment) paralleled a clinical sustained recovery. It is important not to minimize the significance of this infection, since invasive spirochetosis has been reported. Intestinal Spirochetosis should be considered in the differential diagnosis of chronic diarrhea and/or rectal bleeding. Further studies and case series reports are warranted.

P538

TWO CASES OF CROHN'S DISEASE IN THE SETTING OF PAST NECROTIZING ENTEROCOLITIS

P. L. Kozuch, MD. Gastroenterology/Internal Medicine, Thomas Jefferson University, Philadelphia, PA.

Purpose: Two 23 year-old women with histories of necrotizing enterocolitis (NEC) subsequently developed Crohn's disease (CD). The first had significant small bowel and colon resection as an infant; she required hyperalimentation until age 4. She was well until age 10, when she presented with abdominal pain and was found to have ileal CD. Her course was complicated by perirectal abscess/fistula treated with incision and drainage and later a fibrin plug. Past medical therapy for CD has included 5-ASAs and antibiotics; 6-mercaptopurine was recently initiated to treat mild active ileal disease and a small rectovaginal fistula. The second patient underwent extensive small bowel resection as an infant and 1 year of enteral tube feeding. She was well until age 19, when she developed diarrhea, nausea and weight loss, and eventually diagnosed with ileal CD: 5-ASA and steroids were not helpful. Adalimumab was initiated with good effect for several months but was stopped after miscommunication with her doctor. One month later, the patient presented with clinical and radiographic small bowel obstruction: surgical exploration revealed ~ 130 cm of intact small bowel with two distal ileal strictures and an inflammatory mass; ~ 10 cm was resected and a primary ileocolonic anastomosis performed. Post-operatively, she has been in clinical remission for 7 months; adalimumab was reinstituted given her previous response and the serious potential consequence of short-gut syndrome with a future flare and/or surgery. A colonoscopy 6 months after surgery showed minimal inflammation at the anastomosis. NEC is the most common life-threatening gastrointestinal disorder seen in neonates. The distal small bowel and proximal colon are usually involved, with extensive neutrophilic infiltrate and hemorrhagic necrosis seen on pathology. While the pathogenesis appears multifactorial, 90% of NEC cases occur in premature infants: intestinal ischemia combined with luminal antigen exposure during enteral feeding are key putative events. TNF-α is an important inflammatory mediator and potent vasoconstrictor which has been implicated mechanistically in both NEC and CD. Further, failure of enteric glial cells (EGC) to appropriately respond to ischemic injury has been demonstrated in NEC, and disruption of the EGC network in CD may increase mucosal permeability and vascular dysfunction. These possible links in the pathogenesis of NEC and CD coupled with the above two cases of CD post-NEC are compelling arguments for further study to delineate the commonalities between these two diseases.

Disclosure - Patricia Kozuch: consultant, Abbott pharmaceuticals

P539

HIDRADENITIS SUPPURATIVA, ACNE CONGLOBATA ASSOCIATED WITH SPONDYLOARTHROPATHY AND PYODERMA GANGRENOSUM: RESPONSE TO INFLIXIMAB

D. Blachman, MD, K. Das, MD, N. Schlesinger, MD. Internal Medicine, Robert Wood Johnson University Hospital, New Brunswick, NJ.

Purpose: Our patient is a 44-year-old African American male who has a 30-year history of Hidradenitis Suppurativa (HS) and Acne Conglobata (AC). HS and AC are part of the follicular occlusion (FO) triad (HS, AC and Perifolliculitis Capitis Abscedens et Suffodiens). He has a 10-year history of a spondyloarthropathy. He has clinical and radiological evidence of ankylosis of bilateral sacroiliac joints and cervical spine ankylosis. Recently he developed high fevers and Pyoderma Gangrenosum (PG) on both his lower extremities, which was resistant to local wound care and systemic corticosteroid treatment. Our purpose is to demonstrate a trial of an anti-tumor necrosis factor (TNF) agent for PG resistant to steroid treatment in a patient with associated HS, AC and Spondyloarthropathy.

Methods: Our patient was treated with a retinoid and antibiotics as needed for his AC and HS. An NSAID has been prescribed for his arthritis as well as sulfasalazine for the spondyloarthropathy. He received aggressive physical therapy for his spondyloarthropathy. Therapy with infliximab in a dosage of 5 mg/kg/d I.V. (three doses at 0, 2 and 6 weeks) was started when he presented with the severe bilateral PG on both legs.

Results: A dramatic improvement was seen after treatment with infliximab for pyoderma as well as the HS, AC and the spondyloarthropathy. After the first dose, the pyoderma lesions on both lower extremities improved significantly. Six months later, the patient is in remission from the skin lesions and his spondyloarthropathy is much improved. He continues treatment with Infliximab and Sulfasalazine.

Conclusion: A triad of HS, AC and spondyloarthropathy is a rare syndrome described only in a few case reports in the literature. PG has been associated with Acne Conglobata in rare cases and has been described extensively in Crohn's disease, which the patient developed one year prior to admission. The exact role of anti-tumor-necrosis-factor antibodies in this syndrome is unclear. Further evaluation is needed to assess the role of anti-TNF as a therapeutic choice for this rare syndrome.

P540

HERPES SIMPLEX VIRUS COLITIS IN A PATIENT WITH CROHN'S DISEASE AND HEPATITIS B AND D CIRRHOSIS

J. O. Smith, MD,[1] R. K. Sterling, MD,[1] A. Mills, MD,[2] R. T. Stravitz, MD,[1] V. A. Luketic, MD,[1] M. Fuchs, MD,[1] A. J. Sanyal, MD,[1] M. L. Shiffman, MD[1]. 1. Gastroenterology and Hepatology, Virginia Commonwealth University, Richmond, VA; 2. Pathology, Virginia Commonwealth University, Richmond, VA.

Purpose: Herpes simplex virus (HSV) is recognized as a cause of gastrointestinal infection in patients with underlying immunodeficiency with esophagus, perineum, and rectum as the most common sites of involvement, but diffuse colitis is rare. A 50yo male with history significant for Crohn's disease and hepatitis B (HBV) and hepatitis D (HDV) cirrhosis presented with complaint of bloody stools. Patient (pt) was enrolled in NIH PEG-IFN for HDV trial, and mesalamine used for Crohn's maintenance therapy with flares previously controlled with antibiotics. IFN and mesalamine were stopped six months prior to presentation due to foot abscess. Pt was treated for presumed Crohn's flare two months prior to presentation, and IFN was subsequently restarted. Pt then developed progressive weakness, weight loss, abdominal pain, and rectal bleeding, and presented to outside hospital where he was again treated for presumed Crohn's flare prior to transfer. Vital signs normal and pt afebrile on admission. Physical examination negative for encephalopathy. The pt had temporal wasting, and abdomen notable for distention with right upper quadrant tenderness to palpation. Laboratories notable for sodium 134, AST 50, ALT 38, Alk Phos 291, albumin 2.0, WBC 11 with 91% neutrophils, hemoglobin 11, platelets 70, INR 1.5, CMV PCR negative. Pt initially placed on bowel rest and started TPN. Intravenous antibiotics, steroids and oral mesalamine were continued. Stool cultures were negative, and pt referred for endoscopic evaluation. The colon was diffusely erythematous, friable, and ulcerated with purulent exudate. CT scan showed diffuse contiguous bowel wall thickening extending from the ascending colon to the rectum. Biopsy specimens of the colon showed ulcerated mucosa with fibrinous necrosis. Herpes simplex viral inclusions, confirmed by immunostaining, were noted within the surface epithelium and within the ulcer bed. CMV and adenovirus immunostaining were negative. Colonic tissue viral culture was positive for HSV-2. Steroids were discontinued, and pt treated with antiviral therapy with cessation of abdominal pain and bloody stools. However, he developed progressive hepatic decompensation and subsequently expired. Treatment of Crohn's flare begins with exclusion of acute infection and atypical etiologies should be considered in those patients who fail to respond to therapy, especially those who are immunosuppressed. Diffuse colonic involvement with HSV is very rare and has been reported once in a Crohn's pt, and has not been reported in a patient with HBV/HDV cirrhosis. This case demonstrates the need to consider HSV in the diagnosis of refractory colitis in order to reduce the morbidity and mortality of this disease entity.

P541

A CASE OF "INFLAMED VESSELS"

H. Patel, MD,[1] M. Cino, MD[2]. 1. Department of Medicine, University of Toronto, Toronto, ON, Canada; 2. Department of Medicine, Division of Gastroenterology, University Health Network, University of Toronto, Toronto, ON, Canada.

Purpose: Ulcerative colitis (UC) is an inflammatory bowel disease (IBD), which can have many systemic complications. We present a case of UC with systemic vasculitis involvement of skin, lungs, and central nervous system.

Methods: A case report of a patient seen in the outpatient Gastroenterology Clinic.

Results: A 35 year old Caucasian man presented with non-blanching, non-pruritic, annular skin lesions, myalgia, and arthritis that preceded the onset of his intestinal illness. Complete blood cell count,electrolytes, and renal function tests were within normal limits. Inflammatory markers were elevated: C-reactive protein 65mg/L and erythrocyte sedimentation rate 47mm/hr. Rheumatoid factor, anti-DNA antibody, antinuclear antibody, immunoglobulins, peroxidase-antineutrophil cytoplasmic antibodies were negative. CT of the neck showed C4-C5 disc herniation. Electromyography studies revealed axonal injury consistent with brachial neuritis. Flexible sigmoidoscopy revealed diffuse hemorrhagic mucosa, with loss of vascular pattern, mild edema, and preservation of haustral architecture compatible with moderate UC. The patient was started on Salofalk 4 g/day with complete resolution of rectal bleeding, diarrhea, arthralgias and skin lesions within 48 hours. He then developed hemoptysis and dyspnea, hemoglobin 85 g/L, elevated peripheral eosinophil count 1.5x103/μl and a right middle lobe consolidation on chest radiograph. CT of the chest confirmed an intrapulmonary hemorrhage. The question of Salofalk-induced pulmonary and skin complications was raised; therefore, Salofalk was discontinued. A muscle biopsy revealed necrotizing small vessel vasculitis with eosinophilia. After more than one month off Salofalk, the skin lesions, myalgias and arthralgias recurred. The patient remained asymptomatic from intestinal symptoms. Treatment with oral prednisone 40mg/day was commenced with resultant improvement of the arthritis, skin lesions and brachial neuritis. Over the next year, the patient tapered prednisone slowly, with recurrence of rectal bleeding and diarrhea at prednisone dose of 20mg/day. Salofalk was slowly re-introduced; however, in view of corticosteroid dependence, Azathioprine was introduced.

Conclusion: Vasculitis affecting multiple organ systems in a patient with UC suggests that IBD may be part of a larger inflammatory systemic illness as manifested by the extra-intestinal symptoms. The distinction between disease-related and drug-induced systemic symptoms in patients with IBD is a diagnostic challenge and complicates medical management. Early awareness of vasculitis as an extra-intestinal manifestation should be made, so that prompt treatment with a course of corticosteroid therapy may be initiated to prevent serious complications.

P542

CLOSTRIDIUM SEPTICUM INFECTION SECONDARY TO IMMUNOSUPPRESSION BY SULFASALAZINE IN CROHN'S DISEASE

N. Bowser, MBBS, V. Ho, MBBS, A. Pascoe, MBBS, FRACP. Gastroenterology, Princess Alexandra Hospital, Brisbane, QLD, Australia.

Purpose: C.septicum gas gangrene is well documented in the literature, typically in the setting of trauma or immunosuppression. We report a unique case in the English literature of spontaneous clostridial myonecrosis in a patient with Crohn's disease and sulfasalazine-induced neutropaenia.

Methods: A 26 year old man presented after a few hours of vomiting, diarrhoea and severe left anterolateral thigh pain. His background history included asthma and Crohn's colitis, diagnosed by colonoscopy two months prior. He was given sulfasalazine, though this was ceased two weeks prior to presentation due to 'ineffective' relief of symptoms. He was tachycardic (150bpm) but normotensive and afebrile. Respiratory and abdominal exams were unremarkable. Initially the left thigh was extremely tender to palpation, but two hours later he was febrile (38.7°C) and a marked erythema of the left thigh developed. Laboratory investigations demonstrated a profound neutropaenia (neutrophil count $0.2x10^9$/L,WCC 1.6 $x10^9$/L) and myoglobinuria. MRI scan showed extensive necrotizing myositis of quadriceps and adductors. The patient underwent an emergent left hip disarticulation and laparotomy. Two days later a right hemicolectomy was performed after abdominal CT scan showed free gas in the caecal wall. Initial blood cultures grew C.septicum. Antibiotic treatment was with IV meropenem, lincomycin and penicillin.

Results: There was no further progression of necrotising myositis. The patient was discharged after three weeks, on oral penicillin. Two weeks after the four-week antibiotic course was completed, the patient returned with pain and erythema over the right pectoral muscle. CT scan showed an enlarged right pectoralis major muscle with intramuscular gas and inflamed overlying subcutaneous fat. Necrotic pectoralis major was debrided, C.septicum was cultured from the intraoperative specimen. High dose IV benzylpenicillin was used in the perioperative period and recovery was uneventful. The patient now remains on lifelong oral ampicillin prophylaxis.

Conclusion: C.septicum is uncommonly found in healthy human intestinal flora. It is a motile, gram positive bacilli capable of rapidly producing tissue necrosis and systemic shock. C.septicum seems to have a predilection for the caecum as a portal of entry and most cases complicate haematological or colon cancer. Sulfasalazine is a common drug treatment in inflamma-

tory bowel disease, less so in Crohn's disease, and not infrequently causes agranulocytosis in the first weeks. This case highlights the need for physicians to be aware of the potentially life-threatening adverse effects of sulfasalazine and the need for early laboratory monitoring and emergent management if symptoms of sepsis manifest in the neutropaenic state.

P543

RECTAL SQUAMOUS CELL METAPLASIA IN CROHN'S DISEASE

M. Trivedi, MD,[1] G. Fruchter, MD,[1] A. Seymour, MD[2]. 1. Gastroenterology, VA NY Harbor Healthcare System & SUNY Downstate Medical Center, Brooklyn, NY; 2. Gastroenterology, VA NY Harbor Healthcare System, Brooklyn, NY.

Purpose: Case: 66 year old white male with history of long standing Crohn's disease presented for a surveillance colonoscopy. He was diagnosed in 1977 presenting with colo-vesicular fistula requiring a sigmoid resection. He subsequently developed peri-anal disease including fistulas and abscesses. Over the past several years the patient's disease was quiescent while receiving maintenance dosing of 6 mercaptopurine. He reported one to two formed, non-bloody bowel movements per day. His prior colonoscopy one year earlier revealed no evidence of active colitis and biopsies including the rectum did not show evidence of any dysplasia. A complete colonoscopy was performed which was normal with the exception of a uniform circumferential white-grayish discoloration extending 6cm beyond the anal verge (Figure 1). This finding simulated the appearance seen in Barrett's esophagus. Random biopsies were obtained every 10 cm from the colon using cold biopsy forceps. Other than the area in the rectum, the pathology revealed mild colonic inflammation. The proximal rectum revealed normal colonic mucosa, while pathology from the distal rectum revealed squamoglandular mucosa with focal acute cryptitis, without evidence of dysplasia or malignancy (Figure 2). Discussion: The patient's findings reveals a rare case of squamous cell metaplasia in the rectum in a patient with long standing Crohn's disease. Review of literature revealed one such case in patient's with Crohn's disease, and two cases in patients with ulcerative colitis. The squamous cell metaplasia is likely due to chronic inflammation. This entity carries an increased risk for malignant transformation, however, due to the paucity of cases the magnitude of this risk is uncertain.

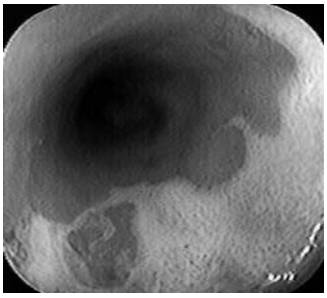


Figure 1

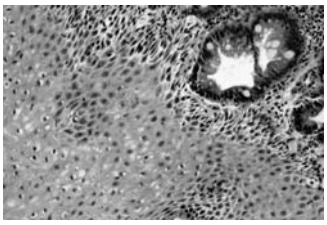


Figure 2

P544

RIFAXIMIN MONOTHERAPY WAS EFFECTIVE IN PATIENTS WITH NEWLY DIAGNOSED CROHN'S DISEASE

I. Shafran, MD, P. Burgunder, ARNP. Shafran Gastroenterology Center, Winter Park, FL.

Purpose: The pathophysiology of Crohn's disease (CD) most likely involves abnormal immune responses to enteric bacteria. Clinical data suggest the nonabsorbed antibiotic rifaximin may be effective for treating mild-to-moderate CD. However, information on the efficacy of rifaximin in treatment-naive patients with CD is lacking.

Methods: This case series evaluated the long-term efficacy of rifaximin monotherapy on clinical and endoscopic outcomes in 2 patients with newly diagnosed CD.

Results: Case 1 was a 26-yr-old female who presented with a 4-mo history of chronic abdominal pain, diarrhea, and weight loss. Biopsy during colonoscopy and small bowel capsule endoscopy (SBCE) suggested CD diagnosis. Colonic biopsy showed noncaseating granuloma with erosion and active ileitis; SBCE identified multiple aphthous ulcerations, cobblestoning, and denudation of the mucosa. The patient's baseline Crohn's disease activity index (CDAI) score was 260. Approximately 5 wk after initiating treatment with rifaximin 800 mg/d, the patient had complete relief of gastrointestinal symptoms and SBCE revealed >75% healing of the small bowel mucosa. After 13 mo of continued treatment with rifaximin 800 mg/d, SBCE revealed 90% healing of the small bowel mucosa and the patient's CDAI score of 122 was within normal range. The patient has not required any additional CD therapy during rifaximin treatment. Case 2 was a 42-yr-old male who presented with painful bowel movements and a history of painful, nonhealing anal fissures. Biopsy during colonoscopy, SBCE, computed tomographic enterography, and serologic panel results indicated CD diagnosis. Ileal biopsy showed follicular lymphoid hyperplasia, and SBCE revealed nodular hyperplasia, fissuring, edema, erythema, and aphthous ulcerations. Baseline CDAI score was 175 and serum CRP level was 5.4 mg/L. After receiving rifaximin 800 mg/d for 7 wk, the patient's CDAI score had improved to 91 and SBCE revealed substantial small bowel musocal healing. The total area of active disease decreased, with active disease confined to the distal ileum at the 7-wk follow-up. After 1 yr of continued rifaximin treatment (800 mg/d), SBCE revealed complete healing of small bowel mucosa and the patient had complete resolution of anal fissures; his CDAI score was 14, and his serum CRP level was 0.78 mg/L. The patient has not required any additional CD therapy during rifaximin treatment.

Conclusion: In conclusion, patients with newly diagnosed CD who received rifaximin monotherapy had substantial and sustained improvement of clinical and small bowel endoscopic measures of disease activity. These findings suggest that rifaximin may provide therapeutic benefits when administered as first-line therapy for CD, warranting further investigation.

Disclosure - Shafran (Salix Pharmaceuticals) Consultant, Speakers Bureau; Investigator for clinical trials; Burgunder (Salix Pharmaceuticals) Investigator for clinical trials

This research was supported by an industry grant from Salix Pharmaceuticals

P545

A CASE OF TUBERCULOUS ENTERITIS MIMICKING CROHN'S DISEASE

R. Blatt, MD, J. Law, MD, T. Dhere, MD, M. Goldstein, MD, H. Olejeme, MD. Emory University, Atlanta, GA.

Purpose: A 20-year-old Guatemalan male with no significant past medical history presented with complaints of one week of abdominal pain, nausea and vomiting. Labs were unremarkable. A CT scan of the abdomen and pelvis revealed evidence of a small bowel obstruction. After the patient showed no improvement in symptoms with bowel rest and decompression, a small bowel enteroscopy was performed. The enteroscopy showed a stricture within the proximal jejunum, ulcerations distal to the stricture, and diverticulae proximal to the stricture. Biopsies of the ulcerations revealed noncaseating granulomas. Acid fast bacilli (AFB) and fungal stains were negative. Based on the biopsy, there was a concern for the possibility of Crohn's disease so the patient was started on steroids and antibiotics. When the patient did not improve over the next 48 hours, he was referred for a surgical evaluation. A laparotomy revealed the presence of multiple peritoneal nodules, and lysis of adhesions was performed without bowel resection. Biopsies showed caseating granulomas with positive AFB stains. The patient's PPD, HIV test, and chest X-ray were all negative. The patient was started on rifampin, ethambutol, pyrizinamide, and levofloxacin. He showed an improvement in symptoms within six weeks. This case highlights the need for a high index of suspicion for tuberculous enteritis when evaluating patients with possible Crohn's disease, especially HIV patients and immigrants from areas where TB is endemic. Tuberculous enteritis rarely causes a small bowel obstruction. However, in cases where it causes strictures, obstruction is a common complication. Tuberculous enteritis is the most common extrapulmonary manifestation occurring in 25% of patients with pulmonary TB. Although our patient presented with proximal small bowel involvement, the majority of patients (75%) have distal small bowel and ileocecal involvement. As highlighted in this case, diagnosis is often difficult because common screening methods and microbiological diagnostics often fail to detect gastrointestinal TB. However, a prompt diagnosis can help prevent the development of serious complications such as intestinal fistulas, obstruction, and perforations.

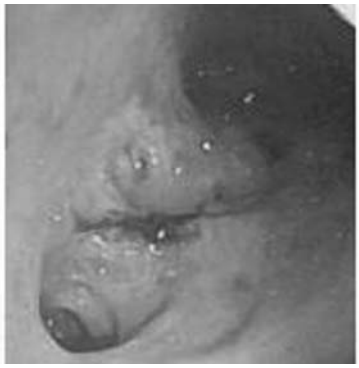


Figure. Small Bowel Enteroscopy described above

P546

CYCLOSPORINE IN STEROID REFRACTORY ULCERATIVE COLITIS IN THE FIRST TRIMESTER OF PREGNANCY

S. Balzora, MD,[2] V. E. Jacob, MD,[1] E. Scherl, MD,[1] B. P. Bosworth, MD[1]. 1. Roberts IBD Center, Division of Gastroenterology and Hepatology, Weill Medical College of Cornell University, New York, NY; 2. Medicine, New York Presbyterian Hospital: Columbia Presbyterian Center, New York, NY.

Purpose: Introduction: Establishing a successful treatment regimen for severe ulcerative colitis (UC) during pregnancy, while minimizing risk to the developing fetus, is a complicated endeavor. Whether to treat steroid-refractory UC with cyclosporine (CSA) or infliximab, an anti-TNF-α monoclonal antibody, is controversial, and the debate is even less clear when the goal is to induce rapid remission and avoid colectomy during pregnancy. We present the first case of steroid-refractory UC in which CSA was initiated during the first-trimester. Case Description: A 30 year-old woman was diagnosed with left-sided UC at age 27, and was initially induced into remission with mesalamine enemas. Her two additional flares were treated with oral and rectal mesalamine. When the patient discovered she was pregnant at 6 weeks gestation, she stopped all her UC treatment. Two weeks later, she developed severe bloody diarrhea and a 5-pound weight loss. She restarted both oral and rectal mesalamine without response. When she presented at 9 weeks gestation, she was placed on prednisone 60mg daily with no response. Flexible sigmoidoscopy showed severe colitis and she was admitted for IV hydrocortisone. After several days of no response, IV CSA 2mg/kg was initiated. She demonstrated a rapid, dramatic improvement in symptoms over 7 days and her Mayo score decreased from 11 to 2. She was discharged on a rapid prednisone taper and oral CSA. Subsequently 6-MP 1.5mg/kg was initiated, and a taper of the CSA was begun after 8 weeks. The CSA taper led to recurrence of bleeding and her CSA dose was increased back to prior levels – maintaining her remission for the duration of her pregnancy (delivery at 38 weeks). Two months post-partum, her CSA was discontinued and she remained in remission. Discussion: The success of CSA for acute, severe UC refractory to steroids has been well-established in the literature; studies show its efficacy in inducing rapid remission, thereby staving off colectomy in the short-term. There is more limited data supporting infliximab as salvage therapy and when considering time to remission, little data exist. Infliximab induces remission generally in 2 weeks, but outcomes in this severe population are limited. However, numerous studies on CSA report mean response time from 5-10 days. Although infliximab is a pregnancy Category B and CSA a Category C, the short term risks to the patient and the fetus may be minimized with a faster induction of remission. Thus, given the rapid response rate to CSA, and its ability to allow pregnant UC patients to avoid surgery, CSA may be a more beneficial option for severe, steroid-refractory UC flares during pregnancy.

Disclosure - Dr. Scherl - Consultant: Centocor, Advisory Board

P547

TERMINAL ILEAL CARCINOID TUMOR IN ACTIVE CROHN'S DISEASE: DIAGNOSTIC AND MANAGEMENT UNCERTAINTIES

J. M. Swoger, MD, MPH, E. V. Loftus, MD. Miles and Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN.

Purpose: Crohn's disease (CD) and carcinoid tumors commonly affect the terminal ileum (TI). Clinical, radiographic and pathologic findings in these conditions may be difficult to distinguish, and patients often undergo surgery for bowel obstruction before a diagnosis is confirmed. We report a case of coexisting CD and TI carcinoid tumor which highlights some of the diagnostic difficulties.

Methods: Case Report: A 38 year old woman with a 10-yr history of CD ileocolitis presented for routine follow-up. She had been maintained in asymptomatic remission on 2.4g/d Asacol for 4 years. Recent episodic epigastric pain, nausea and vomiting led to an ultrasound showing a 1.0cm liver lesion. CT enterography showed a liver FNH, along with a focal nodular area of enhancement in the TI. Concern was raised for a carcinoid tumor, but ileocolonoscopy showed only TI ulceration. Biopsies showed mild active chronic ileitis. She returned for reimaging after 4 months of budesonide. While TI mucosal hyperenhancement improved, a 0.9x0.8cm nodular area remained. A 24-hr urine collection for 5-HIAA was normal. Octreoscan showed activity at the 24-hr images in the anterior ileal wall, but 48-h images showed resolution of this uptake. This was thought to represent physiologic excretion of the tracer, and not be consistent with carcinoid.

Results: Based on continued presence of the nodular mass with resolved TI inflammation following budesonide therapy, surgery was recommended for definitive diagnosis. She underwent laparoscopic-assisted right hemicolectomy with en-bloc lymphadenectomy. Histology showed a carcinoid tumor with invasion into the surrounding adipose tissue, along with 3 ulcerated strictures (min. diameter 3mm), not present on radiographic imaging. Sixty regional lymph nodes were negative for tumor.

Conclusion: Despite careful endoscopy with biopsy, CT scans, and nuclear imaging, the diagnosis of a carcinoid tumor in the background of CD was not made until surgical excision. CD and carcinoid can both coexist and mimic each other, with up to 2.3% of TI carcinoids being initially misdiagnosed as CD. Furthermore, an incidental carcinoid diagnosis is made in 3.6% of CD resections. Most cases require surgical intervention for diagnosis, as in our case. An unexpected finding was significant ileal stricturing disease, which was not appreciated on CT enterography. Due to symptomatic, radiographic, and even histologic similarities between CD and carcinoid, accurate diagnosis remains challenging. Clinical suspicion for these diagnoses should remain high when the clinical picture remains unclear.

P548

NEW ONSET CROHN'S DISEASE IN THE POSTPARTUM PERIOD: A CASE REPORT AND REVIEW OF THE LITERATURE

H. Singh, MD,[1] A. Kulkarni, MD[2]. 1. Gastroenterology, Allegheny General Hospital, Pittsburgh, PA; 2. Gastroenterology, Baylor College of Medicine, Houston, TX.

Purpose: Crohn's Disease is a chronic, idiopathic, inflammatory bowel disease (IBD) that can often present a diagnostic dilemma due to a nonspecific clinical presentation and the lack of sensitive and specific serologic, radiographic and pathologic findings. A 29 year old female presented to our institution with a 10 day history of nausea, vomiting, abdominal pain and diarrhea which started 2 weeks after an uneventful cesarean section. She had no significant past medical, social or family history. Initial evaluation revealed an elevated C-reactive protein, bandemia and diffuse small bowel thickening on a CT scan of the abdomen and pelvis. Stool studies were negative for Clostridium difficile, Salmonella, Shigella, Campylobacter, Giardia and Yersinia. Enteroscopy demonstrated diffuse granularity, erosions, erythema from the second part of the duodenum upto the proximal jejunum. Biopsies showed nonspecific inflammation, villous blunting, and ulceration. Gram's stain and fungal stain on the biopsies were negative. Additional testing included a Magnetic Resonance Angiogram of the abdomen, anti-neutrophilic cytoplasmic antibodies, tissue transglutaminase immunoglobulin A, anti-neutrophilic antibody, anti-double stranded DNA antibody, serum complements and lactic acid, which were all negative. A presumptive diagnosis of Crohn's enteritis was made and steroid therapy resulted in partial resolution of her symptoms. Over the next few months, she had multiple admissions for recurrent symptoms while on a steroid taper. Further evaluation included IBD serologies (anti-saccharomyces cerevisiae antibody, anti-Outer membrane porin C, antibody to CBir1 flagellin), a small bowel follow-through, human leukocyte antigen typing for DQ2 and DQ8, serum Entamoeba histolytica antibody, a repeat upper endoscopy with duodenal biopsies including smear for acid fast bacilli, colonoscopy with terminal ileal evaluation and a mesenteric angiogram which were all unrevealing. A diagnosis of Crohn's Disease was established after a Virtual Capsule Endoscopy showed patchy mucosal changes of erythema, fold thickening and fissuring, villous blunting, erosions and linear ulcerations in mid and distal small bowel with luminal stenoses at two sites. She was then started on azathioprine with good response. To our knowledge, six cases of new-onset Crohn's Disease in the postpartum phase have been previously described in the literature. However, this is the first case of Crohn's Disease with such a severe early onset presentation in the puerperium.

P549

EFFICACY OF RIFAXIMIN AS LONG-TERM MAINTENANCE THERAPY FOR REFRACTORY CROHN'S DISEASE

2008 ACG Presidential Poster Award Recipient

W. Finkelstein, MD. The Gastroenterology Group of New Jersey, Glen Ridge, NJ.

Purpose: Rifaximin is a minimally-absorbed broad-spectrum antibiotic successfully used in the treatment of traveler's diarrhea. Multiple clinical studies have suggested clinical benefits of rifaximin in Crohn's disease. I previously presented two case reports of the successful induction of clinical remission by rifaximin in two patients with medically refractory Crohn's disease. The following case reports demonstrate the effectiveness of rifaximin as long-term maintenance therapy for these two patients.

Methods: Case Reports

Results: Case Report No. 1: A 39-year-old man with an 11-year history of Crohn's ileocolitis presented 3½ years ago with severe non-bloody diarrhea. The patient had previously failed to respond to high-dose mesalamine, ciprofloxacin, metronidazole and multiple courses of prednisone. He developed severe pancytopenia on 6-mercaptopurine requiring hospitalization. He failed to respond to infliximab (5mg/kg i.v.). Colonoscopy showed moderate pancolitis and mild ileitis. Treatment with rifaximin (400mg bid) resulted in complete resolution of diarrhea within 10 days. Colonoscopic improvement was confirmed 2 months after initial rifaximin therapy and was sustained on a recent colonoscopy 3½ years later which showed only mild colitis. The patient has remained fully asymptomatic on rifaximin (800 mg/day) for the past 3½ years. No adverse effects of therapy occurred. Case Report No. 2: A 44-year-old woman with a 22-year history of Crohn's colitis presented with a 2 month history of bloody diarrhea and lower abdominal pain. The patient had previously failed to respond to high-dose mesalamine, ciprofloxacin, metronidazole and was steroid-dependent after many courses of prednisone. She could not tolerate 6-mercaptopurine or azathioprine. She failed to respond to methotrexate. She developed optic neuritis while on infliximab. Colonoscopy showed patchy colitis of the left colon with many ulcerations. Treatment with rifaximin (400mg bid) resulted in complete resolution of diarrhea within 3 weeks. A colonoscopy 3-months later showed no active colitis. The patient has remained fully asymptomatic on rifaximin (800 mg/day) for the past 3 years. No adverse effects of therapy occurred.

Conclusion: Rifaximin effectively and safely induced and maintained long-term clinical remission for 3–3½ years in two patients with refractory Crohn's disease. Double-blind randomized placebo-control trials are needed to determine the role of rifaximin as maintenance therapy for Crohn's disease.

P550

ABDOMINAL AORTITIS, AN EXTREMELY UNUSUAL EXTRA-INTESTINAL MANIFESTATION OF CROHN'S DISEASE

R. Concha, MD, A. Azarm, MD, A. Goodman, MD, F. G. Gress, MD. Gastroenterology and Hepatology, SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: To report a unique case of abdominal aortitis associated with Crohn's disease. Case: A 47 year old African Caribbean female with a history of colonic Crohn's disease and uveitis (diagnosed 3 years earlier) was admitted for increased bowel movements (up to10 stools/day), abdominal pain, and fever (39°C). Physical examination was normal except for fever. Leukocyte count was normal (10,700 x 10 9/L) and ESR was elevated (74 mm/1st hr). The remaining hematologic parameters were normal. Empirical antibiotic treatment was initially started while awaiting for blood, urine, and stool cultures results, which were all negative. An abdominal CT scan ruled out intra-abdominal abscess but showed an increased wall thickness of the abdominal aorta up to 1 cm in the thickest region (fig 1). This thickness extended inferior to the celiac axis to the suprarenal aorta. ANA, anti DS-DNA, AMA, and ASMA were negative. Serology for syphilis was also negative. IV Methylprednisolone was started for suspected autoimmune aortitis. Patient improved clinically and was discharged on escalating doses of azathioprine and prednisone tapering doses. A control CT scan confirmed the normalization of the aorta wall thickness. Discussion: Crohn's disease is considered to be a systemic disease since it is often associated with extra intestinal manifestations. Takayasu Arteritis is an extremely unusual extra-intestinal manifestation of Crohn's disease. In the literature only 21 cases of this unusual association have been reported. The diagnosis of aortitis is based on the occurrence of compatible clinical manifestations together with an imaging study demonstrating vascular wall abnormalities or compatible histologic changes in biopsies. When histology is not available, blood cultures and serology for syphilis must be performed in order to exclude bacterial and fungal infectious aortitis. The development of granulomas and granulomatous vasculitis seen in both Crohn's disease and Takayasu arteritis may suggest a common physiopathologic mechanism.

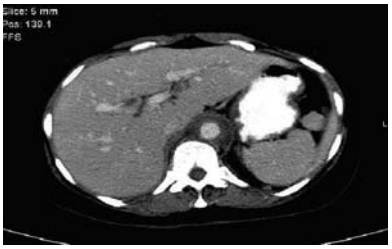


Image 1. Increased wall thickness of the abdominal aorta.

P551

ESOPHAGEAL INTRAMURAL PSEUDODIVERTICULOSIS PRESENTING AS SEVERE UPPER GASTROINTESTINAL HEMORRHAGE

M. D. Hopkins, MD, K. Bull-Henry, MD, K. Shetty, MD, S. B. Benjamin, MD. Gastroenterology, Georgetown University Hospital, Washington, DC.

Purpose: Case: A 43 year old African-American male presented with multiple episodes of frank hemetemesis and hematochezia. Initial evaluation revealed hemodynamic instability, a hematocrit of 29% (which fell to 18%), normal platelets, and normal coagulation profile. He was resuscitated aggressively; intravenous proton pump inhibitor was started. Intubation was performed for airway protection prior to endoscopic examination. Esophagogastroduodenoscopy (EGD) revealed large blood clots in the esophagus which were removed. The stomach and duodenum contained blood, but thorough irrigation and visualization showed no abnormalities. Fresh blood was seen oozing from the esophagus on retroflexion; esophageal examination revealed multiple sub-centimeter diverticula in the mid to lower esophagus with small punctate lesions consistent with intramural pseudodiverticulosis. No diverticula were actively bleeding; therefore, no therapeutic intervention was undertaken and the patient was extubated and managed conservatively. Barium esophagram showed small outpouchings of the esophageal wall, but no stricture was present. The patient was discharged to home two days later and has had no recurrent bleeding as per a telephone conversation one month after discharge. Symptoms such as dysphagia and pyrosis were never present. He had no prior history of esophageal infection, motility disorders, or gastroesophageal reflux disease. Discussion: Esophageal intramural pseudodiverticulosis (EIP) is an unusual condition characterized by small outpouchings of the esophageal lumen which can involve any segment of the esophagus and typically are less than 5mm in diameter. Histologically they are not true diverticula, but rather pathologic dilations of excretory submucosal glands. Although the pathogenesis is un-

clear, it is thought to be an acquired disorder usually associated with abnormal esophageal motility, strictures, or mucosal inflammation. The most common presenting symptom is dysphagia; however, EIP may be an incidental finding in asymptomatic patients. Diagnosis can be made using a combination of endoscopy and radiologic imaging. Treatment should focus on the underlying disorder. The disease typically follows a benign course, but severe complications such as esophageal perforation or fistula resulting in mediastinitis have been reported. Only one other case report exists of upper gastrointestinal bleeding in a patient with EIP, although the authors attributed the bleeding to an esophageal web. The case described here is unique in that his presenting symptom was severe hemorrhage due to EIP. In addition, no other associated esophageal abnormalities were present.

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ENDOSCOPIC, RADIOLOGIC, AND MANOMETRIC FEATURES OF AN INCOMPLETE HELLER MYOTOMY FOR ACHALASIA: SUCCESSFUL TREATMENT BY PNEUMATIC DILATION

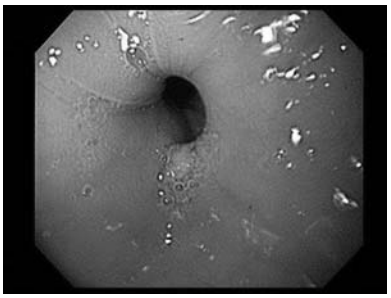
P. W. Benson, MD, N. Shores, MD, J. Bruggen, MD, J. D. Long, MD. Internal Medicine, Wake Forest University, Winston-Salem, NC.

Purpose: Laparoscopic Heller myotomy is an effective surgical therapy for idiopathic achalasia. Unfortunately 5-10 % of patients develop recurrent dysphagia or chest pain in the early postoperative period. The most common cause for recurrence is an incomplete myotomy, in which the muscle fibers at the distal end of the myotomy are not completely released. Proper recognition of an incomplete myotomy is poorly described in the literature and the best approach to therapy is unclear.

Methods: A 63 yo female with diabetes and hypertension who presented with dysphagia to solids and liquids and a 40 pound weight loss was diagnosed with achalasia on barium esophogram and manometry. The manometry showed a hypertensive lower esophageal sphincter (LES), incomplete LES relaxation, and aperistalsis with low-amplitude, simultaneous contractions after all wet swallows. She underwent a laparoscopic Heller myotomy with Dor fundoplication which was initially successful. However, she returned one year later with recurrent dysphagia, chest pain and weight loss.

Results: Evaluation with esophogram and endoscopy showed a focal distal stenosis lacking the appearance of a peptic or fibrotic stricture(see Figure). Repeat manometry showed an isolated high-pressure zone (HPZ) with failure of relaxation within the proximal margin of the LES. This HPZ was consistent with intact residual LES fibers from an incomplete myotomy. Thus, pneumatic dilation (PD) was chosen as the therapeutic approach instead of a repeat surgery. The dilation was performed with a 3 cm balloon and was successful - at follow-up 1 and 4 months later she reported resolution of dysphagia and chest pain and had a weight gain of 8 pounds.

Conclusion: This case nicely illustrates what might be observed in a patient with achalasia and recurrent symptoms due to an incomplete myotomy. A focal residual HPZ at the proximal end of the LES was observed on endoscopy, radiology, and manometry. Our case is interesting in that the residual HPZ was located at the proximal rather than distal margin of the LES. The use of PD following incomplete myotomy has been reported in the literature with success rates as high as 80 percent. More studies are needed to improve recognition of an incomplete myotomy and to develop criteria for the selection of patients who would benefit most from PD after failed myotomy.



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THE BLACK ESOPHAGUS: A CASE OF NECROTIZING ESOPHAGITIS

B. Sauer, MD, MS, V. M. Shami, MD, M. Kahaleh, MD. Digestive Health, University of Virginia, Charlottesville, VA.

Purpose: To demonstrate the diagnosis and management of necrotizing esophagitis including esophageal stricture

Methods: A 50 year-old woman presented to the emergency room with abdominal pain, nausea, and coffee ground emesis. She was admitted to the hospital with systolic blood pressures greater than 200mmHg and upper gastrointestinal bleeding. Her past medical history was significant for cocaine abuse, stroke, diabetes mellitus, poorly-controlled hypertension, and gastroesophageal reflux disease. An esophagogastroduodenoscopy(EGD)(Figure 1—top left) showed a black esophagus and a diagnosis of necrotizing esophagitis was made. The patient was empirically started on broad-spectrum antibiotics and fluconazole, placed on strict NPO status, and started on total parenteral nutrition (TPN). Repeat upper endoscopy two weeks later showed healing necrotizing esophagitis and a severe distal esophageal stricture that was unable to be passed with the endoscope (Figure 1—top right). Multiple endoscopic therapy sessions including dilation and temporary metal stent placement (Alimaxx Stent) were required (Figure 1—bottom left). On long-term follow-up (13 months) the patient is asymptomatic and has no evidence of residual esophageal stricture.

Results: Acute necrotizing esophagitis is rare and severe form of acute esophagitis diagnosed endoscopically by the black appearance of the esophagus.(1-3) The incidence ranges from 0.01-0.28% of all upper endoscopies and the overall mortality is approximately 33%. The etiology appears to be multifactorial attributed to ischemic, traumatic, toxic, and infectious causes.(1) The most typical complication is esophageal stricture occurring in approximately 10% of cases.(3) Therapy is supportive including parenteral alimentation, intravenous proton pump inhibitors, and antibiotics if infectious etiologies are suspected.(1,3)

Conclusion: The patient's necrotizing esophagitis likely resulted from severe reflux with ischemia related to cocaine use and hypertension.

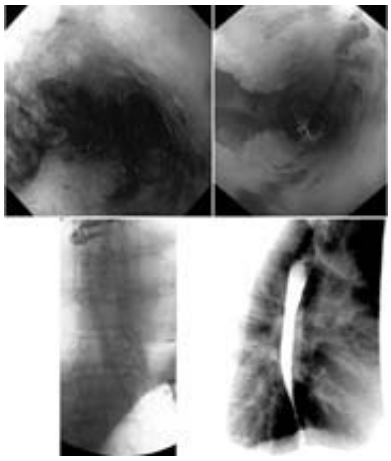

Figure 1 (clockwise): a) necrotizing esophagitis, b) healing necrotizing esophagitis with esophageal stricture c) barium swallow d) placement of fully-covered metal stent (Alimaxx, Alveolus Inc)

Disclosure - Dr Kahaleh received grant support from Alveolus, Boston Scientific, Conmed, Olympus and Wilson Cook.

P554

THE GRAPE OBSTRUCTION

G. T. Arbour, MD, A. Sheth, MD, P. A. Jordan, MD, K. J. Manas, MD. Gastroenterology, LSU Health Sciences Center - Shreveport, Shreveport, LA.

Purpose: Eosinophilic esophagitis (EE) is an esophageal disorder characterized by upper GI symptoms and associated with dense eosinophilic infiltration of the esophagus. The exact pathophysiology is unknown, but there is an association with food allergies suggesting an aberrant immune response is responsible. EE is increasing in prevalence, most likely due to increased recognition. Clinically, EE usually presents with dysphagia and food-bolus impaction is common. Endoscopically, linear furrows or mucosal rings are often observed in the esophagus. Histologically, greater than 15 eosinophils are present per high power field. We present a case of eosinophilic esophagitis presenting with a grape obstructing the esophagus and innovative management with removal of the grape using the barrell apparatus from a banding device.

Methods: A 26 year old male prisoner with no past medical history was brought to our emergency department with the complaint of dysphagia and inability to swallow his secretions after eating grapes. Malingering was initially suspected, but GI was eventually consulted. EGD revealed a fully intact grape obstructing the distal esophagus. A transient appearance of a ringed esophagus and persistent longitudinal furrows were observed as well.

Results: An attempt was made with a Roth net to retrieve the grape but was unsuccessful. Rat tooth forceps were then used to excise multiple pieces of the grape, however the grape maintained its integrity and we were unable to push the grape through the GE junction. The bands were then removed from the plastic barrell of a variceal ligation device. This cap was utilized to provide a larger area of forceful suction enabling us to remove the grape from its impacted location. Multiple biopsies were then taken along the length of the esophagus which revealed degranulated eosinophils and greater than 15 eosinophils per high power field confirming the diagnosis of eosinophilic esophagitis.

Conclusion: Eosinophilic esophagitis is chronic inflammatory disease of the esophagus and while there are many effective treatments, the optimal therapy has yet to be fully defined. As it is being recognized more frequently, different presentations and findings are being documented. This case is the first, to our knowledge, of eosinophilic esophagitis presenting with a grape as a food-bolus impaction. Another case of a grape causing esophageal obstruction has been described, but the primary pathology was a stricture. This case also demonstrates an alternative use for the barrell on banding devices, which may prove useful with foreign bodies such as in this case.

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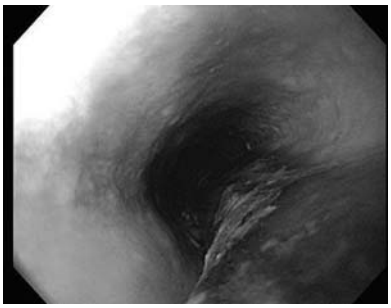
ESOPHAGEAL APOPLEXY: A PURPLE HAZE

J. M. McKinley, MD, S. Kucera, MD, Y. Saloum, MD, H. Worth Boyce, MD, MACG.
Gastroenterology, University of South Florida, Tampa, FL.

Purpose: An 83 year old healthy female presented with one episode of hematemesis. She denied prior episodes of hematemesis, abdominal pain and melena. She c/o acute onset solid food dysphagia but denied odynophagia, recent trauma and retching. She was on no medications, did not smoke or drink etoh and had no family history of GI malignancies. An EGD revealed a large mass in the proximal esophagus that was thought to be composed of blood vessels. The endoscopists were concerned for the presence of esophageal varices, but were unsure and transferred her to our tertiary care center. We repeated the upper endoscopy on her arrival; at 20cm within the proximal esophagus we encountered a large submucousal mass that extended continuously to 40cm. The lesion was on the posterior wall of the esophagus, was 2cm wide and 20 cm long. It appeared beefy red in color with multiple areas of purple discoloration and ulceration. CT scan of the thorax revealed a large submucousal mass within the esophagus which was concerning for malignancy, however a definitve diagnosis could not be made. Conservative management was undertaken with plans for repeat endoscopy as we entertained a diagnosis of esophageal apoplexy. Repeat endoscopy was performed two weeks later with near resolution of the findings thus confirming our suspicion. Esophageal apoplexy, also known as esophageal intramural hematoma is a rare cause of hematemesis. Patients usually present with retrosternal chest pain, dysphagia and hematemesis. Frequently the patient is an older female on anticoagulants. Precipitating events include food bolus impactions, vomiting with recurrent retching, recent esophageal instrumentation including dilation and biopsy. Occasionally esophageal apoplexy occurs with no identifiable trigger. EGD helps with diagnosis and is especially useful to rule out esophageal cancer. Barium esophagram may show the "double barrel sign" suggesting intramural dissection. EUS and CT are useful to help confirm the diagnosis. Management is generally conservative as the hematoma usually resolves in 1-3 weeks. Prompt recognition is critical as the prognosis is excellent and the need for more invasive investigation and surgery is unnecessary.



esophageal apoplexy

P556

DOWNHILL ESOPHAGEAL VARICES - A DIFFERENT ENTITY FROM PORTAL HYPERTENSIVE ESOPHAGEAL VARICES

D. Lingutla, MD, K. Joshi, MD, M. DiSalle, MD. Medicine, Unity Health System, Rochester, NY.

Purpose: Varices in the distal esophagus are a commonly seen complication of portal hypertension; these are termed "uphill" varices, based on the direction of flow to the superior vena cava from the portal venous system. Proximal esophageal varices are termed "downhill" varices, referring to flow from above downwards and are usually associated with upper body venous obstruction. We report a case of bleeding downhill esophageal varices as a complication of upper extremity hemodialysis access.

Methods: A 62 year old male with ESRD on hemodialysis secondary to polycystic kidney disease presented with hematemesis. Due to failures of upper extremity dialysis fistulae, he underwent repeated placement of dialysis catheters into the central venous system. This resulted in bilateral innominate vein occlusion, and led to balloon angioplasty with the insertion of stents to maintain flow and hemodialysis access. In the present admission, EGD after initial resuscitation with IV fluid and blood transfusion showed grade 3-4 varices in the proximal and mid esophagus, including one varix with fresh clot in mid esophagus. Band ligation of this varix was successful.

Results: Doppler ultrasound of the abdomen did not suggest portal hypertension. Proximal esophageal varices were felt to be due to bilateral innominate vein occlusion causing SVC syndrome.

Conclusion: Felson and Lessure in 1964 first coined the term downhill varices because the direction of blood flow is from above downwards. Most downhill varices results from superior venacaval syndrome/occlusion either by intrinsic or extrinsic causes. In our patient, longstanding complications of recurrent bilateral innnominate vein occlusion and SVC occlusion resulted in downhill esophageal varices in the proximal and mid esophagus. Although downhill varices are usually limited to the upper esophagus they can present in entire length of esophagus depending on the site of obstruction. If the occlusion appears proximal to the azygous vein, blood will be diverted via collaterals through the internal mammary, vertebral and patent azygous vein and downhill varices will be confined to the proximal esophagus. If SVC obstruction occurs beyond the confluence of the azygous vein, blood is diverted via collaterals along the entire length of the peri-esophageal plexus to the portal vein and inferior vena cava before reaching the heart, thus the varices can be seen in the entire esophagus. Diagnosis is by endoscopy. Treatment may include banding of varices, SVC stent/innominate vein stent and grafting. In the case of bleeding downhill varices, banding is the treatment of choice. Sclerotherapy is not recommended as it may cause severe complications such as vertebral infarction and pulmonary embolism.

P557

EOSINOPHILIC ESOPHAGITIS PRESENTING WITH DYSPEPSIA AND ANOREXIA

K. L. Kopec, MD,[2] S. A. Shah, MD,[1] E. R. Feller, MD[2]. 1. Medicine, Divison of Gastroenterology, Gastroenterology Associates and Brown University, Providence, RI; 2. Department of Medicine, Warren Alpert Medical School, Providence, RI.

Purpose: Eosinophilic esophagitis(EoE)is characterized by an eosinophilic infiltration of the esophagus and is increasingly recognized as a cause of dysphagia and heartburn unresponsive to antireflux therapy. We report a case of eosinophilic esophagitis that presented without dysphagia, heartburn or endoscopic abnormalities to alert clinicians to the importance doing of esophageal biopsies in atypical presentations of EoE.

Methods: A 19 yo college student presented with a 3 year history of anorexia and dyspepsia. Multiple foods and milk seemed to cause dyspepsia. However, his symptoms persisted despite avoiding milk and milk products. He had several episodes of minor hematemesis that led to an endoscopy at age 16 (by a different physician) showing only a small Mallory-Weiss tear and normal duodenal biopsies. Because of worsening symptoms and weight loss of ten pounds, he was referred for further evaluation. Family history was notable for mother with celiac sprue. A gastric emptying test was normal, LFTs and CBC were normal except for borderline eosinophilia; WBC = 7000/uL and 7.3% eosinophils (normal 0-7.0%). A full panel of celiac antibodies were negative except for an antigiadin IgG of 100.0 U/ml (normal <10.0 U/ml). A repeat endoscopy to assess for celiac sprue was normal except for slight gastric retention. Multiple biopsies were negative for celiac sprue and H pylori. There was no eosinophilia in the duodenal or gastric biopsies. The esophagus was endoscopically normal without evidence of esophagitis, rings, or any other abnormalities. Biopsies from a normal appearing GE junction revealed a focal dense eosinophilic infiltration in the squamous epithelium (≥28 eosinophils per high powered field) consistent with EoE. The patient was started on fluticasone swallowed twice a day with resolution of all symptoms within a few weeks.

Results: EoE is becoming more frequently diagnosed as a cause of dysphagia and heartburn and is predominantly considered in younger patients presenting with symptoms that are unresponsive to antireflux therapy or with endoscopic signs of EoE such as ringed esophagus. Diagnosis is by clinical features supported by esophageal biopsy with ≥15 eosinophils per HPF. Five biopsies (including proximal esophagus) have a sensitivity of 100%. Other bloodwork and endoscopic findings are neither sensitive nor specific.

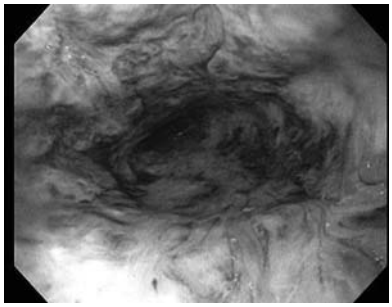
Conclusion: This case highlights the importance of esophageal biopsies in the diagnosis of EoE in atypical presentations. We suggest that clinicians consider the possibility of EoE in patients with prolonged, non-specific upper GI complaints and biopsy the esophagus even if the mucosa appears normal on endoscopy.

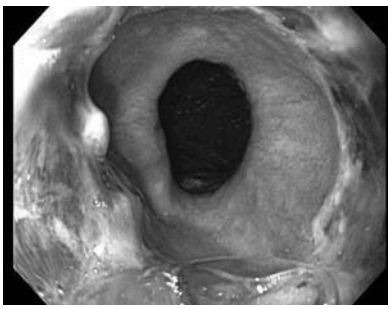
P558

BLACK ESOPHAGUS - A RARE CAUSE OF GASTROINTESTINAL BLEEDING

S. Kucera, MD, J. M. McKinley, MD, P. G. Brady, MD, FACG, FAGA, H. Worth Boyce, MD, MACG. University of South Florida, Tampa, FL.

Purpose: 66 yr male with a medical history of ESRD, DM, and PVD requiring femoral-popliteal bypass surgery was admitted with bilateral lower extremity claudication. The diagnostic work-up revealed failure of the bypass grafts; the patient subsequently required bilateral above the knee amputations. His operative course was remarkable for sustained periods of hypotension. On post-op day 3, the patient had multiple episodes of melena with an acute drop in hemoglobin of 2g without abdominal pain. An upper endoscopy was performed. Esophageal necrosis was present circumferentially immediately below the circopharyngeus and extended to the GEJ (photographs 1 and 2). The remainder of the endoscopy was normal; acute esophageal necrosis was presumed to be the etiology of the bleed. Biopsies revealed necrotic debris with acute inflammatory leukocytic infiltration. The patient was treated conservatively with high dose proton-pump inhibitor therapy and maximization of cardiac output. He recovered without complication. Acute esophageal necrosis, or black esophagus, is a rare endoscopic finding, with only a handful of cases described in the world literature. The incidence has been reported to be 0.0125% to 0.2%, with a predominance of the cases involving men mean age 65. The proposed pathophysiology involves ischemia in a majority of cases; massive gastroesophageal reflux, infection, and caustic ingestion have also been implicated. Associated risk factors have included atherosclerotic vascular disease, diabetes, end stage renal disease, and recent surgery – all of which were common to the patient presented. Treatment is largely supportive with bowel rest, high dose PPI therapy, and optimization of cardiac perfusion. Despite supportive care, mortality rates approach 32%.





P559

FAMILIAL BARRETT'S ESOPHAGUS

C. M. Farr, MD. Gastroenterology, St. Agnes, Fresno, CA.

Purpose: Barrett's Esophagus is seen in 3-12% of patients with chronic reflux symptoms. This is a study of three family members (father,son, and daughter) all of whom had long-segment Barrett's esophagus that rapidly progressed from low grade dysplasia(LGD) to high grade dysplasia(HGD) within a year. This study demonstrates that there is a genetic component to this disease, and that, in familial cases, there can be rapid histological progression suggesting that the biological behavior is distinct from that seen in sporadic cases of Barrett's esophagus.

Methods: A 77year old male with chronic acid reflux was found to have long-segment Barrett's esophagus with LGD that progressed to HGD within a year. A laparoscopic esophagectomy was performed with the finding of HGD. The pstient's son and daughter were both subsequently diagnosed with long-segment Barrett's esophagus that rapidly progressed from LGD to HGD within a year. Both son and daughter had laparoscopic esophagectomy with finding of HGD.The patient's grandson was found to have short segment Barrett's esophagus without dysplasia. The patient's wife has erosive esophagitis as does a granddaughter.

Results: A 77 year old male, his daughter and son all were found to have long-segment Barrett's esophagus that rapidly progressed from LGD to HGD within a year. The patient's grandson was found to have short segment Barrett's esophagus without dysplasia and is under close surveillance.

Conclusion: Barrett's esophagus is felt to be an acquired condition resulting from chronic acid reflux. This report suggests that there is a genetic component to this disease, and, where there are familial clusters, the biological behavior can be more aggressive with rapid progression to HGD emphasizing the need to consider some modification of endoscopic screening strategies for this group of patients.Early intervention with ablation of Barrett's tissue might be considered in patients with a strong family history of Barrett's esophagus.

P560

HEPATOID ESOPHAGEAL CANCER: A RARE CAUSE OF ELEVATED ALFA-FETOPROTEIN

M. Atiq, MD,[1] D. K. Brown, MD,[1] M. Husain, MD,[2] K. W. Olden, MD[1]. 1. Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR; 2. Pathology, University of Arkansas for Medical Sciences, Little Rock, AR.

Purpose: To recognize esophageal cancer as a possible explanation for high Alfa fetoprotein (AFP)

Methods: Case review and review of literature

Results: Alpha-fetoprotein (AFP)-producing esophageal tumors are extremely rare. AFP producing tumors with liver metastasis pose significant diagnostic dilemma with regards to delineating the primary. A 56 years old gentleman with no significant past history presented for evaluation of fatigue and weight loss. He did not complain of dysphagia, hematemesis or melena. Initial evaluation reveled iron deficiency anemia. A CT scan showed multiple liver lesions. Alfa-fetoprotein was elevated at >3000ng/ml. Fine Needle Aspiration of liver was positive for malignant cells. Gastroscopy revealed a large fungating mass in lower esophagus, with yellowish colored debris. The biopsy material showed a malignant tumor with extensive necrosis. The tumor cells were large, had large nuclei and occasional prominent nucleoli. They were arranged in clumps, columns and vague acinar configuration intercepted by thin vascular channels. Many mitotic figures were present. By immunohistochemical stains, tumor was suggestive to be of hepatoid origin.

Conclusion: Primary tumors of the upper gastrointestinal tract showing hepatoid differentiation are very infrequent. Most have been reported as arising in the stomach. To our knowledge, this is the first case of hepatoid esophageal cancer to be reported from the United States.

P561

UNCOMMOM PRESENTATION OF PANCREATIC MICROCYSTIC ADENOMA IN A PATIENT WITH VON HIPPEL-LINDAU SYNDROME

L. F. Arevalo, MD, J. C. Defillo, MD, Y. Lee, MD, S. Chaudhari, MD. Internal Medicine, New York Medical College, New York, NY.

Purpose: INTRODUCTION Von Hippel-Lindau disease (VHL) is a rare, genetic multi-system disorder, characterized by a propensity for developing retinal, cerebellar and spinal hemangioblastomas, pancreatic cysts, renal cell carcinomas, and pheochromocytomas. We report a case of a patient with spinal hemangioblastomas due to Von Hippel Lindau syndrome who was found to have numerous pancreatic cysts on abdominal imaging. Biopsy revealed a diffuse variant of microcystic adenoma of the pancreas which, according to literature review, is extremely rare. CASE A 43 year-old Haitian female with two year history of back pain was seen in the Neurology Clinic for recent episodes of left arm numbness. MRI with gadolinium showed hemangioblastomas in the 4th ventricle as well as the upper and lower cervical cord. The patient was referred to neurosurgery for resection of the cervical hemangioblastomas. Oncogenetic testing proved VHL. Abdominal CT revealed numerous pancreatic cysts ranging in size from 5-10mm, along with multiple diminutive cysts in the liver and kidneys. EUS revealed multiple pancreatic cysts, FNA biopsy of these cysts showed elevated CEA. The patient subsequently underwent distal pancreatectomy and splenectomy. Histopathologic examination of the surgical specimen was significant for diffuse microcystic adenoma of the pancreas. No other coexistent pancreatic malignancy was identified. The patient is currently in good condition. DISCUSSION Von Hippel-Lindau (VHL) is caused by mutations of the VHL tumor suppressor gene on the short arm of chromosome 3. The disease is inherited in an autosomal dominant pattern. The pancreatic lesions in VHL disease are usually classified as nonsecretory (cyst and cystadenoma) or secretory (islet cell tumors). Pancreatic cyst is the most common pancreatic lesion, and it is observed in about 15% to 30% of patients with VHL. Microcystic adenoma of the pancreas is the rarest pancreatic lesion in VHL disease. Usually unifocal, they present as single, large, well-demarcated multiloculated cystic tumors. Multifocal variants or diffuse serous cystadenomas are extremely rare. Pancreatic cysts usually do not produce any symptoms and are diagnosed incidentally by abdominal imaging studies. In spite of this uncommon presentation, the possibility of diffuse microcystic adenoma should be kept in mind in VHL patients, and careful examination of the pancreas is warranted to rule out a possible coexistent pancreatic malignancy.

P562

SUCCESSFUL DIAGNOSIS AND MANAGEMENT OF BILIARY CAST SYNDROME IN A LIVER TRANSPLANT PATIENT USING SINGLE OPERATOR CHOLANGIOSCOPY

U. Navaneethan, MD, M. Al Mohajer, MD, A. L. Mestanza, MD, J. B. Palascak, MD, A. Gelrud, MD, MMSc. Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH.

Purpose: Biliary cast syndrome is an unusual complication of orthotopic liver transplantation (OLT) with serious clinical implications. Biliary cast formation is usually associated with biliary strictures and/or hepatic ischemia. Surgical management is the mainstay of treatment. Endoscopic techniques have been recently described in the successful removal of biliary casts. We report a post OLT patient who underwent successful endoscopic removal of biliary cast using single operator cholangioscopy. Our patient is a 68 year-old male with history of OLT seven months before for hepatitis C induced cirrhosis who came for a follow up visit. He had no complaints and physical exam was normal. He had cholestatic liver enzyme elevation (Alkaline phosphatase 580 IU/L, Total bilirubin 2.3 mg/dl) with normal aminotransferases. Hepatitis C RNA was undetectable. Ultrasound demonstrated normal common bile duct (CBD) diameter with normal Doppler flow. Liver biopsy showed no rejection with suggestion of cholestasis. Endoscopic retrograde cholangiopancreatoscopy (ERCP) was performed and cholangiogram showed multiple linear filling defects in the common hepatic duct (CHD) proximal to the anastomosis with extension into the intrahepatic system. After failure of the balloon to remove the filling defect, a single-operator choledochoscope was passed into the CHD for diagnostic and possible therapeutic purposes. A dark brown tubular structure was seen resembling a cast of the bile duct. Using a basket, the distal aspect of the cast was secured and a 6 cm long cast was successfully removed in a single piece. (Image) Cholangiogram showed improvement with excellent biliary drainage both fluoroscopically and endoscopically. Liver function tests have subsequently normalized and the patient remains normal with a follow period of 10 months without recurrence. In conclusion, Biliary cast syndrome is a rare complication of OLT which should be thought of when patients present with cholestatic liver enzyme elevation usually within the first year of transplant. Single operator cholangioscopy provides a safe means of diagnosing and treating patients with Biliary cast syndrome particularly in cases with intrahepatic duct casts where surgery or percutaneous techniques are often required.

P563

ACUTE NECROTIZING PANCREATITIS WITH NORMAL AMYLASE & LIPASE

S. DiGiacomo, MD, R. Shakov, MD, S. Khara, MD, M. Ismail, MD, H. Elfarra, MD, W. Baddoura, MD. Gastroenterology, St. Joseph's Regional Medical Center, Paterson, NJ.

Purpose: In acute pancreatitis (AP), serum amylase rises within 6-12 hours of onset & remains elevated for 3-5 days in uncomplicated attacks. Amylase is excreted by the reticuloendothelial system (75%) & kidneys (25%). Serum lipase peaks at 24 hours, has a half-life between 7-14 hours & may stay elevated for 8-14 days; it is secreted by the biliary ductal system & kidneys. The sensitivity of serum amylase & lipase for the diagnosis of acute pancreatitis ranges from 85-100% in various reports. Furthermore, the negative predictive value of lipase is between 94-100%.

Methods: A 66 year old male with PMHx of IDDM, HTN & CAD presented to the ER with 2 days of generalized malaise, ill-defined abdominal discomfort & associated nausea & vomiting. He denied alcohol use & was not taking new medications. Exam was significant for fever & non-specific abdominal tenderness.

Results: Diagnostic work-up revealed diabetic ketoacidosis & an acute myocardial infarction. Additional lab values revealed: WBC 13, ALT 44, AST 52, blood sugar 1320, serum bicarbonate 11, BUN 149, creatinine 5.5, amylase 115 & lipase 48. Serum calcium & lipid panel were normal. Five days into his admission, the patient was still experiencing vague abdominal pain, persistent fevers and leukocytosis. Repeat amylase and lipase were 86 and 15, respectively; they continued to be persistantly normal throughout hospitalization. CT of the abdomen was performed and revealed marked inflammatory changes surrounding the region of the pancreas consistent with acute pancreatitis. An abdominal ultrasound was unremarkable for gallstones or common bile duct dilation. Interval CT scans revealed the development of extensive pancreatic necrosis; serum amylase and lipase remained normal. The patient had a prolonged hospital course complicated by CAD, sepsis and multi organ system failure. He expired 2 months following admission. Autopsy revealed diffuse fatty necrosis of the pancreas with extension into the mesentery.

Conclusion: The setting of acute pancreatitis associated with a normal serum amylase is rare, but well described. Multiple factors may contribute to the absence of hyperamylasemia on admission, including a return to normal enzyme levels before hospitalization, inability of the inflamed pancreas to produce amylase, or suppressed levels due to hypertriglyceridemia. However, elevated levels of serum lipase are invariably present. Despite a thorough literature review, we were unable to find a case report of acute necrotizing pancreatitis with a normal serum lipase.

P564

LEMMEL'S SYNDROME: ABDOMINAL PAIN IN A MIDDLE-AGED FEMALE

M. E. Brewster, MD, D. Hutchinson, MD, S. Maryala, MD, M. G. Mutchnick, MD. Department of Gastroenterology, Wayne State University School of Medicine/Detroit Medical Center, Detroit, MI.

Purpose: Small bowel diverticula are more common than intuition would suggest. As described, a case that was increasingly suggestive of serious pancreatic or biliary disease was the result of bezoar impaction of a juxta-ampullary duodenal diverticulum, also referred to as Lemmel's Syndrome.

Methods: A 50-year-old Caucasian female is referred to Gastroenterology for evaluation of 3 months of intermittent abdominal pain associated with nausea, vomiting, and acholic stools. Laboratory studies revealed abnormal transaminases and an elevated alkaline phosphatase, convincingly suggestive of biliary disease. Synthetic liver function appeared to be intact and abdominal ultrasonography revealed a dilated common bile duct to 1.2 cm without visualization of gallstones or sludge. Intrahepatic ducts were within normal limits and thus ultrasound was suggestive possibly of an obstructive lesion. HIDA Scan was negative.

Results: Direct visualization with upper endoscopy and endoscopic ultrasonography was initially planned. Endoscopically, a very large, smooth rimmed juxta-ampullary diverticulum was visualized, measuring 3.0x3.0x2.6 cm, with what appeared to be a large food bezoar bulging from the aperture. Using careful dissection and an endoscopic irrigation device the bezoar was broken up and dislodged from the diverticulum. Proteinaceous material was snared and removed to the lumen and the diverticulum was cleared. Follow-up clinical assessment revealed complete resolution of all abdominal symptoms including the intense pain and nausea with vomiting. Laboratory parameters subsequently normalized briefly thereafter.

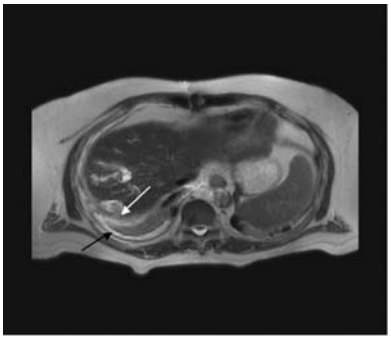
Conclusion: This case illustrates an unusual etiology for a commonly encountered clinical scenario. Direct endoscopy proved to be the most effective means to evaluate this patient and simultaneously provided the modality for treatment. Small bowel diverticula are not vastly prevalent in our population. As in this case, these lesions have an unexpected ability to mimic many other physiologic, pathologic and/or anatomic conditions. The rarity of juxta-ampullary diverticulum may very well contribute to an expensive and at often times, unfocused workup.

P565

BILIO-PLEURAL FISTULA FOLLOWING TRANS-ARTERIAL CHEMOEMBOLIZATION IN A PATIENT WITH HEPATOCELLULAR CARCINOMA

I. R. Lewis, MD,[1] B. Gehlbach, MD,[2] O. Aytekin, MD,[3] J. Chennat, MD,[4] S. R. Mohanty, MD[4]. 1. Internal Medicine, University of Chicago Medical Center, Chicago, IL; 2. Pulmonary and Critical Care, University of Chicago Medical Center, Chicago, IL; 3. Radiology, University of Chicago Medical Center, Chicago, IL; 4. Gastroenterology, University of Chicago Medical Center, Chicago, IL.

Purpose: Trans-arterial chemoembolization (TACE) is used as a bridge to liver transplantation in patients with hepatocellular carcinoma (HCC). Adverse events following TACE including infection and bleeding have been well documented in the literature. However, bilio-pleural fistula (BPF) following TACE has not been reported. We present a case of BPF in a patient with HCC following TACE. The patient is a 66-year old male with cryptogenic cirrhosis complicated by a 3.5 x 2.7 cm HCC who was listed for liver transplantation. He underwent successful preoperative TACE in August and November of 2007. However, in March 2008, he presented with a productive cough and pleuritic, right-sided chest pain. A chest x-ray revealed a large, right-sided pleural effusion and a thoracentesis revealed bilious, exudative fluid with a neutrophilic predominance. The pleural fluid bilirubin level was 18.4mg/dL with a pH of 6.8. These findings were suggestive of BPF and required chest tube placement. A subsequent MRI/MRCP revealed a significant dilatation of the right biliary duct without visualization of the liver capsule in segments VI and VII. These findings further confirmed BPF, suggesting tracking of bilious fluid from the liver into the pleural space. He underwent an ERCP-guided sphincterotomy with biliary stent placement and a thoracotomy with decortication which resulted in improvement of BPF. It appears that BPF in this case resulted from TACE-related rupture of HCC into the pleural space. A potential mechanism for the development of BPF is tumor necrosis and capsular destruction following TACE leading to a communication between the biliary system and pleural space through pre-existing diaphragmatic defects. Furthermore, tumor encasement of biliary structures and subsequent increases in retrograde biliary flow may serve to maintain flow into the pleural space.



MRI/MRCP shows communication between necrotic tumor (white) and pleural effusion (black).

P566

SEVERE POST ENDOSCOPIC BILIARY SPHINTEROTOMY BLEEDING IN A PATIENT WITH BOTH DUODENAL DIVERTICULUM AND ABNORMAL VASCULAR ANATOMY

K. Jo, MD, A. N. Shah, MD, MACG. Gastroenterology, University of Rochester, Rochester, NY.

Purpose: Post endoscopic biliary sphinterotomy bleeding is a frequent and life threatening complication associated with ERCP. Multiple risk factors have been identified. We describe a case of post endoscopic biliary sphinterotomy bleeding in a patient with both duodenal diverticulae and abnormal vascular anatomy.

Results: A 75 year-old with a history of CVA, COPD, and GERD presented to the hospital with intermittent abdominal pain. The patient reported subjective fevers and chills and was noted to have elevated LFTs. The patient's LFTs peaked at an AST of 494, ALT of 541, T. bili of 4.2, and alkaline phosphatase of 278. An MRCP revealed a 1 cm filling defect in the distal common bile duct (CBD) with mild extra-hepatic ductal dilatation. Additionally, multiple duodenal diverticulae were noted. An ERCP was performed given the findings on MRCP. Upon visualization of the ampulla, the anatomy of the ampulla was noted to be altered due to large diverticulae bilaterally. The ampulla was cannulated, and the subsequent cholangiogram revealed a large filling defect in the distal CBD. Initial sphincterotomy was performed with a 20mm wire sphincterotome. Due to both the inadequacy and inability to extend the sphincterotomy, a 25mm wire sphincterotome was used to further extend the sphincterotomy. Upon extension of the sphincterotomy, rapid arterial bleeding was noted. The endoscopic field was quickly and completely obscured with blood preventing any endoscopic intervention. The patient was emergently transferred to interventional radiology due to the profuse ongoing bleeding. Initial angiogram at the celiac axis revealed active bleeding from the gastroduodenal artery (GDA). Deep cannulation of the GDA revealed that the bleeding source was supplied by the GDA and a collateral branch. Multiple coils were placed across the extent of the GDA which resulted in hemostasis. Post embolization angiogram revealed a small collateral branch off of the hepatic artery in the region of the previously seen bleeding site. Due to the possibility that this was the collateral branch contributing to the bleeding, this was also embolized. Following angiography, the patient did not have any further bleeding. After close monitoring, the patient was discharged. An outpatient ERCP performed one month later resulted in the removal of the retained CBD stones.

Conclusion: Hemorrhage is a well known complication of endoscopic biliary sphincterotomy during ERCP. Risk factors for post sphinterotomy bleeding are well described. While the presence of duodenal diverticulae is a well documented risk factor for post sphinterotomy bleeding, we present a case of severe bleeding in a patient with both duodenal diverticulae and abnormal vascular anatomy.

P567

TUBERCULAR PANCREATIC ABSCESS PRESENTING AS FEVER AND CYSTIC PANCREATIC LESION WITH ENDOSCOPIC MANAGEMENT

I. M. Fenkel, MD, M. Spodik, MD, B. S. Singu, MD, D. E. Loren, MD. Division of Gastroenterology and Hepatology, Thomas Jefferson University Hospital, Philadelphia, PA.

Purpose: A 43 year-old male presented complaining of left upper quadrant pain for one week, and fevers for 3 days. He had no localizing symptoms for other sources of fever. His only medical history was a positive PPD 7 years ago treated with 1 year of INH, and infectious colitis 9 months earlier treated with metronidazole. During treatment he developed acute pancreatitis attributed to the metronidazole. At current presentation, he was febrile to 104°F and diaphoretic, although appeared comfortable. His chest was clear. His pulse was regular at 120 bpm without murmur. There were active bowel sounds and no abdominal distention. There was moderate left-upper quadrant tenderness without peritoneal signs. There was no skin rash. Serum laboratories: sodium 132 mmol/L, hemoglobin 10.2 g/dL; WBC count, platelets, amylase, lipase, liver tests, and creatinine were normal. Abdominal CT scan demonstrated a 3.6 x 3.0 cm, thick-walled, cystic mass without septation at the pancreatic neck, without acute or chronic pancreatitis. This lesion was new compared to imaging during his episode of pancreatitis. Chest x-ray was normal. Blood and urine cultures were negative. The patient was transferred to our facility for further evaluation.

Methods: Endoscopy revealed esophageal candidiasis. EUS identified a 3.2 x 2.8 cm thick-walled cyst with heterogeneous hyperechoic reflectors. Fine needle aspiration was performed with a 19G needle yielding 6 mL of purulent fluid. The cyst was then accessed with a needleknife and cystduodenostomy was established using a 10mm x 40mm balloon dilator and two 6 Fr double-pigtail stents. A 5 Fr nasocystic catheter was placed into the cyst for irrigation over the next three days.

Results: The initial stain of the aspirate revealed numerous acid-fast bacilli. A four-drug regimen for M. tuberculosis was initiated along with clarithromycin for MAI. Cultures grew M. tuberculosis after 7 days. The patient's fever and pain resolved 6 days after endoscopic drainage. A follow-up CT scan 7 days later showed a decrease in the abscess size to 1.5cm. HIV testing was positive with an absolute CD-4 count of 18/mcl.

Conclusion: This is an unusual presentation of M. tuberculosis as fever and a pancreatic cystic lesion, diagnosed as isolated tubercular abscess by EUS-guided aspiration. The presence of esophageal candidiasis suggested unrecognized immunosuppression and served as a clue to the diagnosis. Endoscopic ultrasound is often used in the evaluation of pancreatic cystic lesions but infrequently for the diagnosis of pancreatic tuberculosis. We believe this is the first reported case of an endoscopic cystduodenostomy for therapy of a tubercular pancreatic abscess. Endoscopic management of tubercular pancreatic abscesses is feasible and effective.

P568

PARALYZING DIARRHEA

T. J. Rutland, MD,[1] L. Thompson, MD,[2] J. Herrera, MD[1]. 1. Division of Gastroenterology, University of South Alabama, Mobile, AL; 2. Department of Surgery, University of South Alabama, Mobile, AL.

Purpose: When patients present with several symptoms including extraintestinal problems, a unitary diagnosis is occasionally possible. A 28 year-old white female reported one year of diarrhea with more than 10 watery bowel movements daily. There was mild bilateral lower quadrant abdominal pain without associated or alleviating factors. During the preceding two months, she lost 10 pounds. She denied dysentery, hematochezia, fever, chills or laxative use. She had been receiving potassium supplements for chronic hypokalemia and had several

episodes of generalized weakness, followed by "paralysis" that had required hospitalization for the treatment of profound hypokalemia. The evaluation included negative results for stool cultures, stool Clostridium difficile toxin, amoeba serology, sedimentation rate, C reactive peptide level, thyroid stimulating hormone level, serum gastrin level, calcitonin level, tissue transglutaminase IgA, serum protein electrophoresis with quantitative immunoglobulins, urine laxative screen, and complete blood cell count. Metabolic panel was remarkable for serum potassium level of 1.8 and a serum bicarbonate level of 20 in the face of a non-anion gap metabolic acidosis. Colonoscopy with terminal ileum intubation showed no mucosal lesions and random biopsies were normal mucosa . CT scan with thin cuts through the pancreas revealed a 7.3 X 6.9 cm mass in the tail of the pancreas. Vasoactive intestinal peptide level was elevated at 1055 pg/mL. Diarrhea and hypokalemia-associated symptoms abated on octreotide. She underwent a laparoscopic subtotal pancreatectomy, splenectomy and lymph node resection. Light microscopy of the pancreatic mass demonstrated a well-differentiated pancreatic endocrine neoplasm with no extension through the tumor capsule. Associated lymph nodes were negative for malignancy. Immunohistochemical analysis had positive staining for anti-cytokeratin (CAM 5.2), neuron-specific enolase (NSE), and synaptophysin (SYP) in the tumor cells, consistent with a neuroendocrine tumor of the pancreas. This case demonstrates the importance of considering pancreatic neuroendocrine tumors in patients presenting with watery diarrhea and periodic hypokalemia-associated paralysis.

P569

ACUTE PANCREATITIS SECONDARY TO PERCUTANEOUS LIVER BIOPSY-ASSOCIATED HEMOBILIA: A CASE REPORT AND LITERATURE REVIEW

G. Noh, MD,[1] A. J. Kansagra, MD,[2] H. Kalia, DO,[2] W. W. Wang, MD[2]. 1. Department of Internal Medicine, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, NJ; 2. Department of Gastroenterology, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, NJ.

Purpose: Background: Percutaneous liver biopsy (PLB)-associated hemobilia is a rare complication, with an incidence rate of 0.06%. It results from a needle tract connection of the hepatic artery, portal vein or both to the biliary tree. 90% of cases of hemobilia present with upper gastrointestinal bleeding. Only 30-40% of cases have the Sandblom triad of biliary colic, gastrointestinal bleeding and jaundice. Hemobilia usually occurs 5 days post PLB. With a rapid rate of bleeding, acute upper gastrointestinal bleeding such as melena or hematemesis can be seen. When the rate of bleeding is slow, a clot can be formed in the biliary tree causing obstruction, acute cholecystitis or cholangitis. It is extremely rare for acute pancreatitis to occur in this setting. We report the case of a patient with pancreatitis secondary to a clot produced from a liver biopsy. Case: 43-yr-old Caucasian female initially presented with abnormal liver function tests consistent with cholestatic pattern for several months. Pathology from liver biopsy revealed primary biliary cirrhosis. One week later, patient presented with severe abdominal pain, vomiting, jaundice and melena. Physical exam was remarkable for scleral icterus and right upper quadrant tenderness. Admission labs were significant for hemoglobin of 11.7, direct bilirubin 5.6, amylase 815 and lipase 3162. Abdominal ultrasound revealed a 4.5 cm complex right hepatic lesion with dopplers demonstrating no flow within the lesion, suggestive of a hematoma. The common bile duct was dilated to 15 mm and the gallbladder contained a large amount of blood clot without wall thickening. Angiogram showed a pseudoaneurysm in a branch of the right hepatic artery. This was successfully embolized using coils with hemostasis achieved. A decision was made to wait for possible endoscopic retrograde cholangiopancreatography (ERCP) if patient's symptoms worsened; her pancreatitis resolved after 4 days. Discussion: Pancreatitis secondary to PLB associated hemobilia is a rare entity; a review of the English language literature reveals ten documented cases. We examined the diagnostic tests, mechanisms and treatment options for this disease process. There were a wide range of modalities used for diagnosis. Two recognized mechanisms include pseudoaneurysm and arteriobiliary fistula. It seems PLB with or without ultrasound guidance made no difference in the occurrence of these malformations. Super selective catheter arterial embolization led to better outcomes than those patients receiving sphincterotomy. In those patients who underwent ERCP with sphincterotomy, half of those cases were subsequently complicated by cholecystitis requiring cholecystectomy.

P570

PRIMARY B-CELL LYMPHOMA OF THE PANCREAS

S. Akerman, MD,[1] A. T. Pellecchia, MD,[2] S. N. Khader, MD,[3] S. Ho, MD[2]. 1. Medicine, Montefiore Medical Center, Bronx, NY; 2. Gastroenterology, Montefiore Medical Center, Bronx, NY; 3. Pathology, Montefiore Medical Center, Bronx, NY.

Purpose: Introduction: Primary B cell lymphomas may be found in a host of tissues outside of the lymphatic system, including the stomach, heart, thyroid, oral cavity, mediastinum, and liver. One organ that in general appears to be spared is the pancreas, although this case report demonstrates that this is not always the case.

Methods: None

Results: Case Report: A 64 year old man with hypertension, diabetes mellitus type II, and interstitial lung disease secondary to asbestos exposure was seen for hematuria and complaints of increasing abdominal pain. The patient had known history of bilateral renal cysts seen on CT imaging in the past. He was sent for repeat imaging of his abdomen and a 5.0 x3.4cm homogenous solid mass in the body of the pancreas was found. (Figure 1) Three weeks later the patient was admitted for abdominal pain. Endoscopic exam was within normal limits, without evidence of external compression of the stomach. On the endoscopic ultrasound examination, a 3.5cm round, hypoechoic mass was seen in the body of the pancreas, and fine needle aspiration was performed. The cytological specimen collected contained small cells with irregular nuclear contours, (Figure 2) suggestive of a lymphoproliferative disorder, of which B and T cell lymphoma, and neuroendocrine tumor were included in the differential. Immunostaining showed the cells to be positive for CD20 and negative for CD3 and neuroendocrine markers and chromogranin, making the findings support the diagnosis of B-cell lymphoma

Conclusion: Summary: Although the pancreas is an atypical primary site for B Cell lymphoma, it should be included in the differential diagnosis when a mass is discovered in the pancreas.

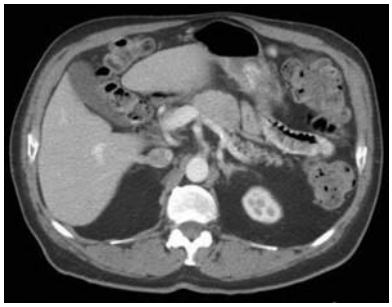


Figure 1

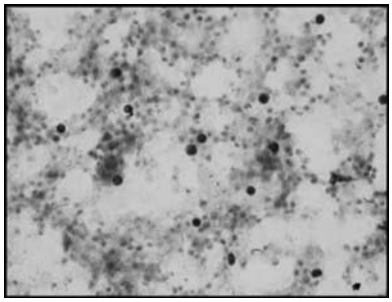


Figure 2

P571

A RARE CASE OF MULTIFOCAL NON-FUNCTIONING NEURO-ENDOCRINE TUMOR OF THE PANCREAS PRESENTING AS CHRONIC AUTOIMMUNE PANCREATITIS

N. Coelho-Prabhu, MD, S. T. Chari, MD. Gastroenterology, Mayo Clinic Rochester, Rochester, MN.

Purpose: Pancreatic neuro-endocrine tumors (PNET) are rare malignancies which present with either symptoms from excess hormone production or are detected incidentally. Autoimmune pancreatitis (AIP) is associated with markedly elevated serum IgG4 levels.

Results: A 64 year old woman presented with a 1 year history of steatorrhea, a 50 pound weight loss and diabetes. This was preceded by 4 attacks of pancreatitis over 3 years. Steatorrhea was confirmed by a 24 hour stool study showing 84 grams of excreted fat/day. Contrasted CT scan showed evidence of chronic pancreatitis with atrophy of the body and tail, non dilated pancreatic duct and mildly dilated common bile duct to the level of the pancreas. She had been started on pancreatic enzyme replacement and noted an improvement in diarrhea with slow weight gain. At our institution, baseline labs showed mildly elevated transaminases, normal amylase and lipase and highly elevated serum IgG4 464 mg/dl (normal 8-140). Endoscopic ultrasound (EUS) showed changes consistent with AIP with diffusely hypoechoic gland interspersed with marked lobularity and hyperechoic bands, and a thickened bile duct wall; no masses were seen. Yet, Tru-cut biopsies of the gland were suggestive of NET with mildly positive staining for synaptophysin. IgG4 stains were negative. Repeat pancreas protocol CT did not show a focal mass and an Octreotide scan did not show any evidence of NET. With surgical consultation, we decided to reassess her after treatment with 4 weeks of oral prednisone for presumed AIP. On follow-up, her serum IgG4 had decreased to 314 mg/dl. Repeat pancreas protocol CT was unchanged, and EUS showed features consistent with chronic AIP, though an infiltrating carcinoma could not be ruled out. Tru-cut biopsies again showed stage 2 of 3 neuro-endocrine tumor. She then underwent a total pancreatectomy, splenectomy and hepatico-jejunostomy. The specimen showed a 14x2.2x1.5 cm multinodular well differentiated NET involving the entire pancreas with changes of chronic pancreatitis, including complete acinar loss, dense fibrosis and chronic inflammation in the adjacent tissue.

Conclusion: We report a sporadic case of multifocal non-functioning neuro-endocrine tumors with many unusual features. Imaging studies failed to show any evidence of PNET and her presentation was highly suggestive of chronic pancreatitis with some features of AIP. This unusual presentation led to treatment with steroids which caused a serologic response but not a radiologic response. The possibility that AIP predisposed to multifocal PNET was not confirmed on pancreatic histology. Differentiating AIP from other pancreatic disease can be difficult. Elevated serum IgG4 and serologic "response" to steroids are not diagnostic of AIP.

P572

MIRIZZI SYNDROME WITH XANTHOGRANULOMATOUS CHOLECYSTITIS (XGC): AN UNUSUAL ASSOCIATION

N. Coelho-Prabhu, MD, W. Sanchez, MD. Gastroenterology, Mayo Clinic Rochester, Rochester, MN.

Purpose: Mirizzi Syndrome is characterized by biliary obstruction caused by a gallstone impacted in the cystic duct or gallbladder neck creating extrinsic compression and inflammation of the common bile duct. XGC is a rare chronic inflammatory condition of the gallbladder that can involve adjacent structures and thereby mimics gallbladder carcinoma.

Results: A 68 year old Caucasian male was evaluated due to a two month history of intermittent nausea, abdominal discomfort, elevated transaminases and hyperbilirubinemia. Medical history was significant for recurrent melanomatous skin cancer resections. He had consumed 2 alcoholic drinks per day for 25 years but had no risk factors for viral hepatitides. On initial assessment, serologic studies for viral hepatitis and autoimmune hepatitis were negative. Initial abdominal ultrasonography showed cholelithiasis but was otherwise unrevealing. Upon recurrence of symptoms, cholelithiasis without choledocholithiasis or dilated ducts was seen on repeat ultrasonography. A liver biopsy was performed which revealed portal inflammation, bile ductular proliferation and periportal fibrosis. MRI of the liver with MRCP showed intrahepatic ductal dilation, an extrinsic-appearing stricture of the proximal hepatic duct and irregular enhancement of the gallbladder wall, concerning for malignancy. ERCP confirmed the stricture at the proximal hepatic duct with a thin irregular wall. Brushings obtained were negative for malignant cytology, FISH was positive, and a serum CA19-9 was mildly elevated. The patient then underwent open cholecystectomy. Examination of the gallbladder was negative for malignancy, but instead revealed acute and chronic cholecystitis with cholelithiasis, peri-gallbladder inflammation, fibrosis and abscess formation with xanthogranulomatous inflammation.

Conclusion: We present a case of recurrent cholestatic hepatitis secondary to Mirizzi syndrome associated with xanthogranulomatous cholecystitis. While Mirizzi syndrome is seen in approximately 1% of all cholecystectomies, to our knowledge, only 4 cases associated with XGC have been reported previously in the literature. Because gallbladder carcinoma is a more common cause of Mirizzi syndrome, and XGC can be diagnosed only on pathologic examination of the resected gallbladder, cholecystectomy remains the treatment of choice if this association is suspected.

P573

OBSTRUCTIVE JAUNDICE SECONDARY TO DIAPHRAGMATIC HERNIA DIAGNOSED BY ERCP

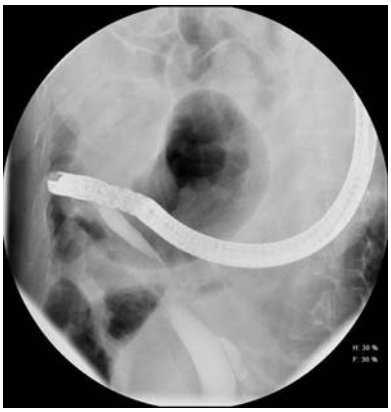
F. DePalma, MD,[1] N. Sivaprakasapillai, MD,[2] J. Hong, MD,[1] A. Elfant, MD[2]. 1. Department of Internal Medicine, Cooper University Hospital, Camden, NJ; 2. Department of Gastroenterology, Cooper University Hospital, Camden, NJ.

Purpose: Diaphragmatic hernia is a rare cause of biliary obstruction. We report a patient who presented with obstructive jaundice and was diagnosed by endoscopic retrograde cholangiopancreatography (ERCP) to have compression of the common bile duct (CBD) by the rim of a diaphragmatic defect.

Methods: A 64 year old female with history of breast cancer presented with jaundice, acholic stools, and weight loss. She denied any trauma, alcohol or drug use, tattoos, or blood transfusions. In addition to jaundice, exam demonstrated right upper quadrant and epigastric tenderness, and hepatomegaly. Laboratory data showed AST of 218 U/L, ALT of 167 U/L, alkaline phosphatase of 433 U/L, total bilirubin of 9.8mg/dl. CT scan of abdomen and pelvis revealed a large right-sided diaphragmatic hernia with a portion of stomach, duodenum, pancreatic head, multiple loops of small bowel and the transverse colon in the thoracic cavity. There was hepatomegaly, dilated intrahepatic and pancreatic ducts. An ERCP was performed. Papilla was identified to be in a tangential position. Selective cannulation revealed normal CBD with a smooth concentric narrowing at the level of the crura with proximal dilatation and a biliary stent was placed. She subsequently underwent exploratory laparotomy with repair of the hernia defect and resection of the hernia sac. Several weeks later another ERCP was performed for stent removal. Papilla was identified in the usual position and CBD injection revealed resolution of the obstruction.

Results: Review of the literature revealed reports of patients with diaphragmatic hernias presenting with obstructive jaundice due to compression of the biliary system by the rim of a diaphragmatic defect. The etiology of the obstruction in those cases were diagnosed with CT scan, percutaneous transhepatic cholangiogram, or intraoperatively. To our knowledge, this is the first report where diagnosis was made utilizing ERCP.

Conclusion: ERCP can be utilized to facilitate diagnosis as well as provide temporary relief of obstructive jaundice secondary to diaphragmatic hernia.



ERCP image showing smooth concentric narrowing of the CBD at the level of the crura with proximal dilatation

P574

PANCREATIC PLASMACYTOMA PRESENTING AS VARICEAL HEMORRHAGE: LIFE THREATENING COMPLICATION FROM A RARE ENTITY

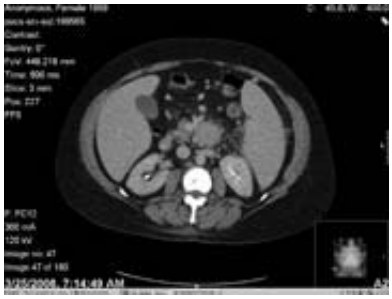
M. Atiq, MD,[1] S. A. Ali, MD,[2] S. Dang, MD,[1] E. Anaissee, MD,[2] K. W. Olden, MD,[1] F. Aduli, MD[1]. 1. Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR; 2. Myeloma Institute of Research and Therapy, University of Arkansas for Medical Sciences, Little Rock, AR.

Purpose: 1. To describe a rare presentation of plasmacytoma involving pancreas 2. To describe complications arising from pancretic plasmacytoma

Methods: Review of clinical history, imaging stides and endoscopic records

Results: Extramedullary plasmacytomas are neoplastic plasma cell proliferation outside the bone marrow. We describe a case of pancreatic plasmacytoma presenting as gastric variceal hemorrhage secondary to splenic vein thromois. Case A 49 years old Caucasian female with history of diabetes type II, hypertension and congestive heart failure underwent work up for recurrent episodes of acute pancreatitis and was found to have a pancreatic mass. Fine needle aspiration of the lesion was consistent with monoclonal plasma cell dyscrasia. Bone marrow biopsy confirmed the diagnosis of multiple myeloma. Chemotherapy was being contemplated when she started to have acute onset of hematemesis with drop in hemoglobin requiring multiple transfusions of packed red blood cells. After hemodynamic resuscitation an EGD was performed. It showed presence of prominent gastric varices with active bleeding. Endscopic sclerotherapy was performed with control of bleeding. CT scan of abdomen revealed a 3.9 cm mass in the body of the pancreas. The tumor resulted in the invasion and occlusion of the splenic artery and vein. Multiple collateral vessels were visible near the splenic hilum and along the lesser and greater curvatures of the stomach. Patient responded well to the endoscopic sclerotherapy. No further intervention was needed. Systemic chemotherapy was started resulting in a decrease tumor size; and after 2 months of follow up, patient has remained free of any recurrent variceal hemorrhage. Repeat EGD at 2 months showed almost complete obliteration of gastric varices.

Conclusion: Pancreatic Plasmacytoma is a rare entity. To our knowledge, this is the first case of pancreatic plasmacytoma presenting as gastric variceal hemorrhage.



P575

FASCIOLA HEPATICA CAUSING ACUTE PANCREATITIS COMPLICATED BY BILIARY SEPSIS

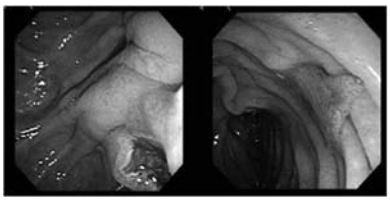
N. L. Badalov, MD, A. B. Anklesaria, MD, A. Torok, MD, I. M. Wall, DO, J. Braha, DO, J. Li, MD, FACG, K. Iswara, MD, FACG, S. Tenner, MD, MPH, FACG. Gastroenterology, Maimonides Medical Center, Brooklyn, NY.

Purpose: Although gallstones and alcohol are the most common causes of acute pancreatitis (AP) world-wide, parasites such as ascariasis have been shown to be an important cause in other parts of the world.

Methods: We present a case of a patient recently emigrating from Asia found to have a rare parasitic infection causing biliary sepsis in a patient with AP.

Results: A 33 year old gentleman presented with a 2 day history of nausea, vomiting, fever, and epigastric pain-which was described as burning and radiating to the RUQ. The patient denied any medical or surgical history, or history of alcohol use. The patient was born and raised in Uzbekistan (former USSR), and moved to the US 2 months prior. Vital signs at admission were significant for a fever of 38 C, and heart rate of 115 beats per minute. Significant findings on physical exam were scleral icterus, and RUQ tenderness. Laboratory findings on admission included a WBC of 16,000/mm3 with a differential including eosinophilia of 11%. Liver enzymes(LFT) were elevated with AST of 282 u/l(range 1-37), ALT of 319 u/l(range 1-40), total bili of 5.4mg/dl(range 0-1.0), direct bili of 3.8 mg/dl(range 0-0.3) and alk phosphatase of 319 u/l(range 39-120).Serum amylase and lipase were elevated at 636 u/l(range 0-131) and 155 u/l(range 1-52), respectively. Serum calcium and triglyceride levels were normal. Ultrasound findings included thickened gallbladder wall, normal common bile duct (CBD) and no gallstones or sludge was appreciated. As the patient remained febrile with persistently abnormal LFT's, ERCP was performed. ERCP revealed mild intra and extra hepatic biliary dilatation with filling defects in the mid CBD. Sphincterotomy was performed followed by balloon sweep of the CBD. A motile, flat, brown, leaf like parasite was retrieved and sent for pathology. Fasciola hepatica was identified. Triclabendazole was initiated, and the patient rapidly improved and remains well.

Conclusion: Manifestations of human fascioliasis depends upon the stage and intensity of the infection. Fasciola hepatica has rarely been shown to cause AP. This case demonstrates the classic presentation of biliary sepsis complicating AP. Clinicians must consider fasciola in the differential diagnosis of AP in patients emigrating from endemic countries, especially Central Asia.



P576

Poster Withdrawn

P577

POST-EMR SURVEILLANCE OF GE-JUNCTION MUCOSAL LESIONS WITH EUS

J. E. Carroll, MD, E. H. Kramer, BS, H. Mahjoob, MD. Medicine, Georgetown University Medical Center, Washington, DC.

Purpose: Introduction: Endoscopic mucosal resection (EMR) has become the standard of care for the endoscopic management of early neoplastic lesions of the GE-Junction. Lesions that are effectively removed with clear resection margins are uniformly felt to be endoscopic cures and are followed with surveillance endoscopies. The exact surveillance guidelines for following post-resection lesions are not well established. Case Report: A 52 y/o man with dyspepsia was found to have a GE-Junction nodule with high grade dsyplasia. EUS demonstrated that it was confined to the mucosa (T1 N0). EMR was done and the resected specimen showed carcinoma in situ with clear margins. Follow up endoscopies and biopsies were done at 2 and 5 months, and were normal without residual dysplasia. At that point, the patient was followed annually with surveillance EUS. At the 5 year surveillance EUS, the GE-Junction again appeared normal endoscopically with normal biopsies. EUS, however, revealed new local adenopathy, with a 1.3 cm perigastric LN, found to be adenocarcinoma by FNA. An oncologic evaluation showed no evidence of metastatic disease, or of a second primary. The patient underwent adjuvant chemotherapy, followed by an esophagectomy, with the pathology showing 8 of 23 LN's positive for disease, as well as a focus of adenocarcinoma in the peri-esophageal fat. Conclusion: The exact guidelines for following early GE-Junction neoplastic lesions which have been resected endoscopically are not well established. This case demonstrates that resected superficial T1 lesions can present with delayed local nodal spread in the absence of mucosal recurrence. This case suggests that resected neoplastic GE-Junction lesions should be followed for at least five years after endoscopic resection, and that EUS should be part of the surveillance to detect extraluminal recurrence.

P578

PROPOFOL FACILITATES FOREIGN BODY EXTRACTION

M. Reddy, DO, M. Frank, MD. Gastroenterology, Lenox Hill Hospital, New York, NY.

Purpose: Airway obstruction is a well known complication of propofol. The mechanism of action is related to laryngopharyngeal musculature relaxation. We report a case of large meat impaction in the distal esophagus that could not be extracted until a single dose of propofol was administered, which facilitated temporary laryngopharyngeal musculature relaxation.

Methods: Case Summary A 50-year-old man was evaluated in the emergency room with a symptomatic foreign body impaction making it difficult for him to manage his secretions. He reported eating steak prior to the onset of symptoms. Upper endoscopy with standard monitoring was employed, performed after admisitering midazolam 5 mg and miperidine 50 mg. A collection of food debris was found in the mid-esophagus and a large piece of meat was impacted in the distal esophagus. The endoscope could not be advanced beyond the impaction. The size of the meat precluded the use of an over tube. The meat was firmly held by a snare wire but despite adequate sedation could not be extracted beyond the proximal oropharynx without significant resistance. Multiple attempts at extraction had failed. A bolus dose 50 mg of propofol was administered to allow for relaxation of the laryngopharynx and to provide short-term deep sedation. The meat was then easily withdrawn in one attempt without resistance. The foreign body was a solid piece of meat that measured 6 cm in length and 2 cm in width. The patient maintained his respiratory status throughout the procedure and recovered consciousness within thirty seconds.

Results: NONE

Conclusion: Propofol may offer better laryngeal relaxation than midazolam and meperidine and should be considered an important agent that can allow for the safe extraction of a large foreign body. Future research to evaluate its safety profile and the efficacy in an emergency situation for foreign body removal should be studied.

P579

CASE REPORT OF ENDOSONOGRAPHIC DOPPLER INTERROGATION OF BLUE RUBBER BLEB NEVUS SYNDROME

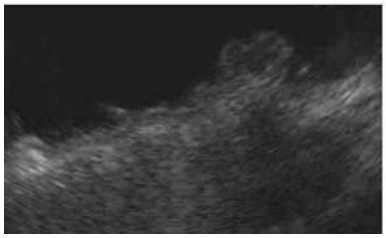
D. R. Flomenhoft, MD,[1] N. Nickl, MD[2]. 1. Internal Medicine and Pediatrics, University of Kentucky, Lexington, KY; 2. Internal Medicine, University of Kentucky, Lexington, KY.

Purpose: Description of endosonogrpahic doppler interrogation of blue rubber bleb nevus syndrome.

Methods: Case report

Results: Blue rubber bleb nevus syndrome is an uncommon, but well documented cause of GI blood loss in children. Low flow vascular lesions may occur throughout the GI tract, most commonly in small bowel. There are currently no reports documenting the endosonographic Doppler interrogation of these lesions. We report the case of an eight year old with increasing fatigue and pallor found to have a microcytic anemia (Hgb 6.0 g/dL, MCV 61). The patient reported daily soft brown stools. The patient had a similar episode 18 months prior to this presentation: Hgb was 5.1 with MCV of 54. At that time the child was noted to drink approximately forty ounces of milk a day. The patient was transfused and begun on iron therapy. The child remained completely asymptomatic and was documented to have a hemoglobin of 11.8 g/dL three months prior to this presentation. On evaluation at this presentation stools were guaiac positive. Endoscopy was performed. On upper endoscopy the patient was noted to have two vascular lesions: a ten millimeter lesion on the greater curvature of the stomach and a larger, fifteen millimeter vascular lesion in the second portion of the duodenum. Wireless capsule endoscopy demonstrated six additional lesions throughout the jejunum and ileum. Endoscopic ultrasound was performed to further delineate the nature of the lesions prior to intervention. The gastric lesion was noted to be an intramucosal vascular lesion in the second layer. Doppler interrogation revealed arterial flow to the vascular lesion: an arterial vessel arising in the muscularis (fourth layer) was documented to pass through the third layer and into the intramucosal vascular lesion. After multidisciplinary evaluation, the patient continues on iron. Balloon enteroscopy with endoscopic ablation or endoscopically assisted laparascopic ablation will be considered if anemia becomes intractable.

Conclusion: This is the first report of documentation of flow in blue rubber bleb nevus syndrome.



Intramucosal vascular lesion seein in layer 2 on endoscopic ultrasound.

P580

CHILAIDITI SYNDROME & DOUBLE BALLOON COLONOSCOPY

T. J. Duncan, MD, J. M. Koff, MD, F. M. Moses, MD. Gastroenterology, Walter Reed Army Medical Center, Washington DC, DC.

Purpose: A 76-year-old African American man presented with a 10 year history of constipation. He also had described numerous evaluations for multiple episodes of partial bowel obstructions, with symptoms consistent with obstipation. His only surgical history was a right nephrectomy for renal cell carcinoma. Colonoscopy was extremely technically difficult due to severe tortuosity of the colon. Advancement in the area of the hepatic flexure was difficult and the Olympus OPD positioning detecting unit was inserted, the scope tip appeared to be in the area of the right nipple. The procedure was aborted out of concern for a diaphragmatic hernia, and a virtual colonography was performed to evaluate the remainder of the colon for pathology and to define the anatomic layout of the colon. Virtual colonography demonstrated the hepatic flexure colon segment passing lateral, then superior and finally anterior to the liver. In addition, there was 12 x 5mm pedunculated polyp in the ascending colon. There was no evidence for a diaphragmatic hernia. A double balloon colonoscopy was the performed with the intent of polyp removal. The cecum was comfortably reached without fluoroscopy. The ascending polyp was more easily approached in the retroflexed position and was removed using a saline lift piecemeal polypectomy. Final pathological diagnosis was tubular adenoma. Chilaiditi's syndrome is defined as interposition of bowel between the liver and right hemi-diaphragm. The syndrome has a low prevalence rate, which has been estimated to be between 0.1-0.25% of reviewed chest x-rays. It is associated with a number of abnormalities including chronic constipation, absence of transverse colon or falciform ligaments, chronic lung disease, hemi-diaphragm paralysis, ascites and/or cirrhosis. Complications can range from bowel puncture during liver biopsy, misdiagnosis of pneumoperitoneum or large bowel volvulus. There are few examples in the endoscopic literature to note that Chilaiditi's syndrome may be an unrecognized cause of a "difficult" colonoscopy. There are no prior examples of double balloon technique successfully facilitating colonoscopy completion with Chilaiditi's syndrome.

P581

CAVERNOUS MALFORMATION MASQUERADING AS A NEOPLASM ON ROUTINE IMAGING ACCURATELY DIAGNOSED USING EUS

P. J. McDevitt, DO, Msc,[1] M. T. Moyer, MD, MSc,[2] A. Mathew, MD, Msc[2]. 1. Department of Internal Medicine, The Penn State Hershey Medical Center, Hershey, PA; 2. Department of Gastroenterology and Hepatology, The Penn State Hershey Medical Center, Hershey, PA.

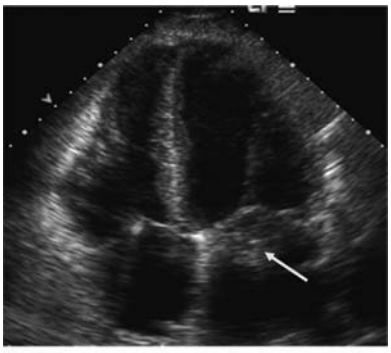
Conclusion: A 35 year old male presents with hematemesis and abdominal pain. His prior history is significant for idiopathic pancreatitis diagnosed 10 years prior complicated by portal vein thrombosis requiring placement of a spleeno-renal shunt. He had a known history of low grade varices identified on recent EGD and a large mass in the porta-hepatis noted on enhanced CT imaging, and what was described as extensive tumor surrounding the distal gastric body filling the gastro-hepatic ligament with extension around the lower esophagus to the GE junction. EUS was performed to obtain a tissue diagnosis, however; the lesion appeared to be more suggestive of a congregation of varices with further varices visualized around the esophagus and porta-hepatis. MRI previously ordered as a follow-up to the CT again described a large non-enhancing soft tissue mass within the upper abdomen surrounding the porta- hepatis with extension towards the stomach was again seen and speculated to represent malignancy or fibrotic tissue. Given these conflicting impressions, a biopsy of the mass was recommended for further evaluation which returned negative for malignancy or any pathology. With EUS findings being consistent with a vascular structure and CT/ MRI findings showing a mass, along with negative biopsy results, angiography was then performed for further evaluation. The findings on angiography confirmed that the identified mass was massive cavernous transformation of numerous collaterals, consistent with the EUS findings of a vascular structure. While EUS has been routinely used for assessment of gastrointestinal tumor staging along with differentiation of submucosal lesions, there is limited data comparing CT, MRI, and EUS in abdominal mass evaluation. CT has been shown to be inferior to EUS in assessing extraluminal compression and evaluating local and regional tumor extension. To date, this is the first case in the literature where an abdominal mass concerning for malignancy on radiographic studies was found to be massive cavernous transformation of vessels by EUS. In this instance, EUS was more accurate than CT and MRI for diagnosis of this unusual structure. The contrast load on CT was likely not enough to visualize all of the vessels given the large volume of collaterals, the MRI was not likely delayed enough to capture the numerous collaterals, but EUS afforded not only tissue visualization, but dynamic vascular evaluation and tissue sampling if necessary.

P582

FUNGAL ENDOCARDITIS: A CASE FOR FUNGAL PROPHYLAXIS BEFORE GASTROINTESTINAL PROCEDURES

S. Sivendran, MD, N. Swallow, MD, I. Schreibman, MD. Medicine, Pennsylvania State University-Hershey Medical Center, Hershey, PA.

Conclusion: This case illustrates the need for fungal prophylaxis during invasive gastrointestinal procedures in patients at high risk for endocarditis. A 53 year old man with two previous episodes of bacterial endocarditis resulting in aortic valve replacement and repair was admitted for evaluation of hematemesis. Several days after endoscopy, he developed shortness of breath and a progressive palpable purpuric rash. Studies revealed hypocomplementemia, anemia, thrombocytopenia, elevated creatinine and pleural effusions. Blood cultures revealed Candida parapsilosis. Echocardiography showed vegetations on the native mitral valve and prosthetic aortic valve. Due to the patient's previous valve replacement, he was a poor surgical candidate. Despite aggressive antifungal treatment, the patient's fungemia continued leading to valvular destruction and subsequent death. Fungal endocarditis is a rare, serious disease that often requires cardiac surgery and carries a poor prognosis. The updated American Heart Association guidelines do not address fungal prophylaxis and they no longer recommend routine bacterial prophylaxis for gastrointestinal procedures except in high risk patients. Recent reports show an association between Candida parapsilosis, nosocomial infections, invasive procedures and prosthetic devices. As Candida is normal flora in the upper gastrointestinal tract, endoscopy may lead to a transient fungemia which could seed the cardiac valves. In our high risk patients, prophylaxis for fungal infections during endoscopy may be beneficial. Animal models demonstrated that two doses of fluconazole prevented experimental endocarditis caused by Candida. Amphotericin B has also shown to be successful in preventing fungal endocarditis in animal models. Newer generation echinocandins may be able to achieve the same result with fewer side affects. Guidelines should be interpreted within a clinical context. Fungal prophylaxis of high risk individuals for invasive procedures may prevent unnecessary death.



Vegetation on the atrial side of the anterior leaflet of the native mitral valve annulus (arrow).

P583

ENDOSCOPIC SIGMOIDOPEXY FOR RECURRENT SIGMOID VOLVULUS AS ALTERNATIVE TO SURGICAL MANAGEMENT

M. Arya, MD, S. Mathur, MD, N. Sonpal, MD, Y. Arya, MD. Wyckoff Heights Medical Center, Brooklyn, NY.

Purpose: Sigmoid volvulus is the most-common form volvulus of the gastrointestinal tract and is responsible for 8% of all intestinal obstructions. Sigmoid volvulus is particularly common in elderly persons and constipated patients; one study of 40 patients showed an average age of 71.6 years. Sigmoidoscopic decompression is advocated, although the rate of recurrence is high, varying between 45 and 90%, and is associated with the need for emergency surgery and a higher mortality. Sigmoidopexy has been shown in the literature to reduce the recurrence of symptoms in up to 75% with one site of adherence; however we advocate two points of fixation on the abdominal wall to effectively reduce the risk of recurrent volvulus as demonstrated by the following case.

Methods: An 84 year old female with a PMH significant for atrial fibrillation, hemiplegia due to prior CVA, peripheral vascular disease, and recurrent sigmoid volvulus presented to the ER with complaints of vague abdominal pain, difficulty moving her bowels, and bloating for the past 3 days. The patient denied any nausea, vomiting or diarrhea, and her routine lab values were within normal limits. Physical exam was remarkable only for distension, with positive bowel sounds and generalized tenderness. Abdominal radiographs were consistent with sigmoid volvulus; however the patient refused surgery and thus was scheduled for proctosigmoidoscopy with placement of 2 percutaneous endoscopic colostomy tubes (PEC). Endoscopic examination revealed a focally dilated segment of sigmoid colon extending 20-45 cm which represented the volvulized segment. Two 20 Fr standard PEG tubes were placed in the sigmoid colon via push technique approximately 10 cm apart. The colon aspects of the tubes were then irrigated with betadine; no immediate complications were noted.

Results: The patient was then discharged and was followed up 2 months later at which time the PEC tubes were removed. APC ablation of the stoma was performed from the colonic aspect prior to endoclip closure. No further episodes of sigmoid volvulus have recurred to date.

Conclusion: In conclusion, we believe the two point fixation method may be superior to single tube placement as has been previously reported. Our case once again establishes endoscopic percutaneous colostomy tube placement as a alternative to surgical therapy in patients with recurrent sigmoid volvulus. We recommend randomized clinical trials to compare the two methods.

Disclosure - Dr. Mukul Arya - Consultant, Cook Medical

P584

IATROGENIC COLON PERFORATION: TO CLIP OR NOT TO CLIP?

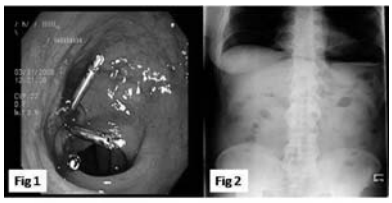
N. L. Badalov, MD, I. M. Wall, DO, J. Braha, DO, K. Vaizman, MD, J. Li, MD, FACG, K. Iswara, MD, FACG, S. Tenner, MD, MPH, FACG. Gastroenterology, Maimonides Medical Center, Brooklyn, NY.

Purpose: Although iatrogenic colon perforation is uncommon,it is a feared and possibly life threatening complication of colonoscopy. Traditionally, colon perforations have been managed by surgery. We report a case of an iatrogenic colon perforation managed endoscopically by closing the defect with endo-clips.

Methods: A 51-year-old gentleman underwent a screening colonoscopy. The colon was well prepped without any residual stool, and 4 right sided colon polyps (less then 1cm each) were removed by snare polypectomy. During withdrawal, a 2 cm laceration of the sigmoid colon with visualization of mesentery and small bowel was noted. The defect was immediately closed with three Resolution Endoclips (Boston Scientific).

Results: Following the procedure, the patient denied abdominal pain nor developed peritoneal signs or fever. Urgent abdominal X-ray revealed free air under the diaphragm. A surgical consultation was obtained. The patient was made NPO and started on intravenous fluids and antibiotics. As the patient remained asymptomatic, clear liquid diet was initiated 48 hours after the procedure. The presence of increased amounts of peritoneal air on a follow-up abdominal x-ray on day 3 prompted a computed tomographic (CT) scan with oral contrast to rule out a colonic leak at the site of the perforation. No leak was appreciated on CT scan. The patient's diet was advanced. He was discharged on the day 4 of the hospital stay and remains well.

Conclusion: Although iatrogenic colon perforations have been managed by surgery, this approach is costly, invasive, and carries a risk for a wide range of complications. This case llustrates that the immediate use of endoscopic clips during colonoscopy may be a safe and effective, less invasive approach to treating iatrogenic perforations.



P585

STRONGYLOIDES DUODINITIS AND MESENTERIC VEIN THROMBOSIS PRESENTING WITH ABDOMINAL PAIN, HYPEREOSINOPHILIA AND ELEVATED IGE

M. Lajin, MD,[1] A. Patel, MD, FACP, FACG,[1] R. Parikh, MD[2]. 1. Gastroenterology, William Beaumont Hospital, RoyalOak, MI; 2. Hematology Oncology, William Beaumont Hospital, Royal Oak, MI.

Purpose: Introduction: Of the various clinical manifestations of Strongyloides Stercoralis,duodinitis with Mesenteric vein thrombosis has not been reported.We present a case of Strongyloides duodinitis and MV thrombosis,Which was discovered in the work up of unexplained pain,eosinophilia and elevated IgE. Case: A 68 year old female presented with a 2 week history of progressive diffuse abdominal pain. Her past medical history included eosinophilia diagnosed 5 years prior to admission,hypertension,osteoporosis and diverticulosis.There was no

history of atopy.She had no allergies.Her medications included Mavik and Premarin.She had never used corticosteroids. She was born in Hungary and emigrated to USA 26 years ago,since then she lived in Michigan with no further travel.She had no risk factors for HIV. Her family history was negative for a clotting disorder. On physical exam her vitals were stable,she had no wheezing,cardiac exam was normal.Her abdominal exam revealed mild diffuse tenderness. Her laboratories showed hypereosinophilia(1200 eosinophils per ml) and a total IgE level of 7200 IU/ml.A CT of the abdomen showed sigmoid diverticulitis,R.sided colitis and MV thrombosis. She was treated with antibiotics and anticoagulation,and a hypercoagulable workup was negative.Stool for occult blood was positive. A follow up CT showed resolution of the diverticulitis and the thrombosis;however she continued to complain of pain. she underwent an upper and lower endoscopy. Biopsies showed intense eosinophilic infiltration,and S.Stercoralis was identified in the duodenal biopsy. Subsequently, serum Strongyloides IgG antibody was positive.Stool studies for parasites were negative. She was treated with Ivermectin,and remains completely asymptomatic. Discussion: This case was unusual in that there was no travel history since she emigrated 26 years ago,and additionally the MV thrombosis was an unexpected finding.It is postulated that she acquired the parasite several decades ago from her native country.Although she had risk factors for thrombosis(her hormonal treatment and diverticulitis),It is unknown if Strongyloides had contributed to the pathogenesis of thrombosis.More importantly,the timely diagnosis of this infection prevented initiating corticosteroids for symptomatic "Idiopathic eosinophilic enteropathy" which could have been fatal.It was fortuitous that the parasite was actually identified in the biopsy. Conclusion: A new possible association of S.Stercoralis duodinitis and Mesenteric vein thrombosis is described.Clinicians should consider S.Stercoralis when evaluating hypereosinophilia of unknown etiology,and consider serologic testing,especially prior to starting corticosteroids.

P586

NEUROENDOCRINE TUMOR OF THE JEJUNUM IN A PATIENT WITH CELIAC DISEASE

J. T. Hlivko, MD,[1] O. Oshilaja, MD,[2] N. Saxena, MD,[2] A. V. Ciraldo, MD,[3] G. N. Mir, MD, FACG,[4] C. H. Kefalas, MD, FACP, FACG[1]. 1. Medicine, Summa Health System, Akron, OH; 2. Pathology, Summa Health System, Akron, OH; 3. Surgery, Summa Health System, Akron, OH; 4. Medicine, Barberton Citizens Hospital, Barberton, OH.

Purpose: Malignancy is a major complication of celiac disease. Small intestine lymphoma and carcinomas of the oropharynx, esophagus, and small intestine are the most common malignancies associated with celiac disease. We report a neuroendocrine tumor of the jejunum. Case Report: An 84 Y/O man who had undergone right hemicolectomy for colon cancer 16 years prior was referred for a second opinion for iron deficiency anemia (IDA). The anemia required weekly blood transfusions. One year prior, he had undergone an evaluation elsewhere. Significant findings included: elevated anti-gliadin IgG antibody; unremarkable colonoscopy; normal appearing duodenal mucosa on EGD with Marsh III findings on duodenal biopsies; and focal villous blunting of the proximal small bowel on WCE. The patient was not on a gluten free diet (GFD) at the time of the second opinion. Because of persistent IDA and weight loss, a repeat evaluation was done. Significant findings included: normal serum IgA level and normal tissue trans-glutaminase antibody; positive HLA DQ2 and negative HLA DQ8; unremarkable colonoscopy; and normal appearing duodenal mucosa and normal duodenal biopsies on EGD. The patient was started on a GFD for celiac disease, based on prior evaluations. At a 3 month follow-up visit, he noted an additional 30 lb weight loss, despite adherence to a strict GFD. A CT of the abdomen revealed abnormal small bowel wall thickening in the left pelvis. A small bowel follow through x-ray confirmed abnormal small bowel loops and abnormal small bowel mucosa. Antegrade double balloon enteroscopy was done and revealed a 4 cm fungating, necrotic jejunal mass. Biopsies revealed poorly differentiated neuroendocrine carcinoma. The patient underwent surgical resection of the mass. Final pathology revealed high grade malignant neuroendocrine carcinoma (WHO grade IV) with lymph node metastasis. The patient tolerated surgery well, had return of bowel function, and was discharged. Chemotherapy was not offered due to poor functional status. Discussion: Celiac disease is associated with an increased risk of malignancy. Neuroendocrine tumors in patients with celiac disease are reported infrequently. This case reports the first neuroendocrine tumor of the jejunum in a patient with celiac disease.

P587

SOLITARY DUODENAL POLYP: A RARE PRESENTATION OF PRIMARY AMYLOIDOSIS

J. G. Cheatham, MD,[1] T. A. Summers, MD,[2] P. D. Patel, MD,[3] J. Horwhat, MD[1]. 1. Gastroenterology, Walter Reed Army Medical Center, Washington., DC; 2. Pathology, Walter Reed Army Medical Center, Washington, DC; 3. Hematology and Oncology, Walter Reed Army Medical Center, Washington, DC.

Purpose: INTRODUCTION: We describe the unusual case of an isolated duodenal polyp formed by submucosal globular amyloid deposition in an asymptomatic 79 year old patient with chronic hepatitis C. The patient had no specific gastrointestinal complaints or signs/symptoms of malabsorption. ENDOSCOPIC FINDINGS: During endoscopic screening for varices, a solitary polyp was found in the duodenal bulb. The consistency was soft when probed, resulting in a positive pillow sign but not completely consistent with a lipoma as the overlying mucosa yielded a healthy pink hue. Utilizing a 12 MHz endoscopic ultrasound probe, the polyp was found to be a 8.2 x 7.3 mm hypoechoic lesion arising within the submucosa and deep mucosa. With bite on bite biopsies a pearly opaque gelatinous material was visualized. Push enteroscopy into the mid-jejunum revealed no further findings. PATHOLOGY/HEMATOLOGY FINDINGS: On hematoxylin and eosin stain the lesion consisted of a large submucosal collection of an amorphous material. Immunohistochemical stains for smooth muscle actin highlighted the muscularis mucosa. Congo red highlighted the material orange; under polarized light, this stain showed the characteristic apple green birefringence expected for amyloid which was deposited around, but did not appear to impinge upon a Brunner's gland. Subsequent evaluation demonstrated an abnormal serum Kappa/Lambda ratio with faint IgG kappa bands on serum electrophoresis, and 3-4% Kappa restricted plasma cells on bone marrow biopsy – but negative for amyloid. DISCUSSION: The patient was diagnosed with MGUS with no evidence of oral, cardiac, hepatic, cutaneous, joint or bone marrow involvement. The patient's chronic hepatitis C has been quiescent for years with normal liver associated enzymes and liver synthetic function. No evidence of cirrhosis or hepatocellular carcinoma. This case is most consistent with AL or primary amyloidosis in the setting of a monoclonal gammopathy. CONCLUSION: Primary amyloid is usually diagnosed with rectal, skin, bone marrow, tongue or subcutaneous fat biopsies that may reveal amyloid deposition within blood vessel walls, muscle layers and the muscularis mucosa of patients suspected of having the disease. It is a rare presentation and to our knowledge represents only the second reported case of globular primary duodenal amyloid deposition.

P588

PSEUDOMELANOSIS OF DUODENUM AND JEJUNUM VISUALIZED ON CAPSULE ENDOSCOPY

D. Anghesom, MD,[1] K. Che, DO,[1] R. Griffin, MD,[2] C. Jackson, MD[2]. 1. Division of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA; 2. Division of Gastroenterology, Loma Linda VA Medical Center, Loma Linda, CA.

Purpose: A 64-year-old man with diabetes, atrial fibrillation, hypertension, hepatitis C, and stage 5 chronic kidney disease not on dialysis was admitted with a 4 day history of weakness, black tarry stools and supratherapeutic INR on coumadin. His hemoglobin had dropped from 11 to 5.3. His current medications include metoprolol, amlodipine, furosemide, hydralazine, and metolazone for hypertension. He had also been taking ferrous sulfate 325mg twice daily supplementation for the past two years. EGD revealed a normal appearing esophagus, small plaque-like lesions in the stomach, and multiple black pigmented spots distributed diffusely throughout the entire duodenum. A colonoscopy done the same day was entirely normal. As no active source of bleeding was found, a capsule endoscopy was performed the next day. This revealed multiple black pigmented lesions beginning in the first portion of the duodenum consistent with previous visualization on EGD but extended to the proximal jejunum. Biopsies revealed scattered pigment-laden macrophages within the intestinal villi and lamina propria which showed hemosiderin deposition with a positive Prussian blue stain consistent with pseudomelanosis. Discussion: Pseudomelanosis involving the jejunum had been described 3 times previously in the literature. Banai et al reported a case in 1997 involving the proximal jejunum in a patient with ulcerative colitis. Weinstock et al reported another case in 2003 involving the stomach, duodenum, and jejunum in a woman with chronic kidney disease also on long term ferrous sulfate medication. Moore et al described a case in 2007 involving the jejunum and ileum diagnosed using capsule endoscopy. Mechanisms of iron deposition on the intestinal walls are unknown. There appears to be a strong association with the use of iron supplementation, kidney disease, and hypertensive medications, namely furosemide and hydralazine, and the incidence of pseudomelanosis. Hemosiderin deposition may also be indicative of chronic, long standing gastrointestinal bleeding, seen in our patient as well as others in previous case studies, possibly secondary to vascular ectasias. Our case is the second described using capsule endoscopy and supports the association of oral iron therapy and hemosiderin deposition causing pseudomelanosis of the proximal small bowel.

P589

ANAPLASTIC INTRA-ABDOMINAL LYMPHOMA AS A CAUSE OF SCLEROSING MESENTERITIS: A CASE REPORT

J. Luther, MD, A. Faje, MD, R. Saad, MD, W. D. Chey, MD. Internal Medicine, University of Michigan Health Systems, Ann Arbor, MI.

Purpose: Sclerosing mesenteritis is a rare inflammatory disorder most commonly affecting the small bowel mesentery. It is generally an idiopathic disorder with variable clinical outcomes. We report a patient with extensive sclerosing mesenteritis secondary to anaplastic lymphoma leading to a fatal outcome. Methods: A 29 year old woman presented with a six month history of diffuse abdominal cramping, jaundice, worsening appetite, and significant weight loss. An exhaustive work-up, including EGD, colonoscopy, bone marrow biopsy, rheumatologic and autoimmune panel, was unremarkable. MRI imaging revealed extensive periduodenal and peripancreatic inflammation as well as portal vein thrombus. Samples obtained from exploratory laparatomy revealed nonspecific inflammatory and fibrotic changes. The patient was eventually transferred to a tertiary care center for further management. Results: After a careful review of her outside records, radiological studies and biopsy specimens, a presumptive diagnosis of sclerosing mesenteritis was made. The patient was initiated on oral steroid treatment with no clear improvement in symptomatology. During the course of hospitalization, the patient developed bacteremia requiring cessation of steroid treatments. Her symptoms progressed rather acutely with fibrotic compression of her vasculature and resultant lactic acidosis and respiratory failure, ultimately leading to death. Autopsy revealed multiple intra-abdominal adhesions involving the visceral organs and peritoneum. A remarkable amount of fibrotic tissue encased the first part of the duodenum as it entered the retroperitoneum, the pancreas, portal vein, and bile duct. Additionally, there was also peri-aortic fibrosis extending from the level of the renal arteries to the bifurcation of the iliac vessels, causing obstruction of bilateral renal vessels, ureters, superior and inferior mesenteric arteries, and inferior vena cava. This extensive fibrosis was eventually identified as secondary to anaplastic lymphoma. Conclusions: This report graphically illustrates that intra-abdominal lymphoma can present in a manner that is clinically identical to sclerosing mesenteritis. Our case suffered a rapidly progressive course with a fatal outcome. These observations emphasize the importance of clinician's awareness of this unusual association.

P590

WHIPPLE'S DISEASE: A RARE CAUSE FOR COMMON COMPLAINTS

E. Karandish, MD, C. Prather, MD, MPH. Gastroenterology and Hepatology, Saint Louis University, Saint Louis, MO.

Purpose: A 52 year-old healthy Caucasian female presented with two weeks of abdominal pain, vomiting, and fevers. She had lost 40 pounds over eight months. She denied diarrhea or family history of gastrointestinal disorders. Physical examination revealed a temperature of 38.2 degrees Celsius. Upper abdomen was tender to palpation. There was no peripheral lymphadenopathy. White blood cell count was 24.7 thousand/mL. Hemoglobin was 9.3 g/dL with MCV 78. Albumin was 2.7 g/dL. Computed tomography of the abdomen and pelvis revealed retroperitoneal and mesenteric lymphadenopathy as well as omental thickening. Excisional omental lymph node resection was performed, yielding architectureal effacement, histiocytic infiltrate, and fatty cysts. On flow cytometry, an aberrant B-cell population was identified, but cytogenetic and molecular testing were normal, as was bone marrow biopsy. Upper endoscopy revealed thickened, boggy folds and white plaques in the duodenum. Distal duodenal biopsies showed thickened, clubbed villi and histiocytic infiltration with a positive periodic acid-schiff (PAS) stain. Electron microscopy was performed, allowing the identification of bacillary organisms with a trilamellar wall. Whipple's disease is a systemic disease caused by Tropheryma whipplei, a gram-positive bacillus closely related to Actinobacter. It is more common in men than women. While any system may be affected, it classically presents with weight loss, chronic diarrhea, and migratory arthralgias. Fever, anemia and lymphadenopathy are also common, which may initially lead to efforts toward diagnosing lymphoma. Neurologic involvement may be isolated from other symptoms and can be irreversible, causing higher morbidity and mortality despite treatment. Diagnosis is secured by distal duodenal biopsy, which reveals thickening or clubbing of the villous architecture and histiocytic infiltration. PAS stain is positive, and electron microscopy reveals the bacillus with the typical trilamellar wall. Polymerase chain reaction is confirmatory but not routinely performed. Treatment with antibiotics is imperative, although the ideal regimen and duration has not been clearly established. A two week course of a third-generation cephalosporin followed by one to two years of trimethoprim/sulfamethoxazole has been generally recommended. This case illustrates both classic and unusual features of Whipple's disease and highlights the necessity of having a high index of suspicion for this rare disease, even when faced with common symptoms.

P591

CHYLOUS MESENTERIC CYST IN ASYMPTOMATIC 60 YEAR-OLD WOMAN

S. H. Barton, MD, V. Nehra, MD. Dept. of Gastroenterology, Mayo Clinic, Rochester, MN.

Purpose: 60-year-old female presented for further evaluation of a large mesenteric cyst noted incidentally on routine abdominal CT scanning performed during a preoperative evaluation for elective kidney donation. Clinically, she denied gastrointestinal symptoms. Past medical history was significant for recurrent episodes of diverticulitis, and hyperlipidemia. No prior history of pancreatitis. No significant family history of malignancy. Past surgeries included a transabdominal hysterectomy and three caesarean sections, all greater than twenty years prior to the current presentation. She reported two motor vehicle accidents in the remote past associated with unspecified abdominal trauma, managed conservatively. Labs showed normal hemoglobin, electrolytes, TSH, and liver function tests. Abdominal CT scan showed a 6.7 x 2.6 multilobulated, septated cystic lesion at the mesenteric root, inferior to the third portion of the duodenum, interpreted as a mesenteric cyst or potentially enteric cyst. The patient underwent endoscopic ultrasound guided biopsy of the mesenteric cyst. Cytology from multiple fine-needle aspirates was negative for malignancy, but showed abundant histiocytes and chronic inflammation. No epithelial cells were present. Approximately 10 cc of milky yellow fluid was aspirated from the cyst. CEA and CA 19-9 levels from the cyst fluid were unremarkable, but revealed elevated cholesterol and triglycerides, 256 mg/dL and 1131 mg/dL, respectively, consistent with a mesenteric chylous cyst. Discussion Mesenteric cysts are rare and frequently cause abdominal pain, distension, or intestinal obstruction due to the mass effect. Chylous mesenteric cysts, notably, are exceedingly rare with few case reports in the literature. Constitutional symptoms of malaise, fatigue, fever, and weight loss may develop though are infrequent. Mesenteric cysts are often large in size, cause acute or chronic symptoms, though have a very low malignant potential and associated morbidity. Underlying etiologies include congenital malformations and scarring of the mesenteric lymphatics due to chronic inflammatory states e.g. mesenteric panniculitis. Cysts are generally unilocular though may present with multiple loculations and, most importantly, lack solid components. Surgical excision is the recommended therapy in clinically symptomatic patients. Cyst drainage alone is not recommended, due to the high frequency of recurrence. Given the absence of clinical symptoms in this case, a conservative approach with observation was recommended.

P592

ANGIOTENSIN CONVERTING ENZYME INHIBITOR (ACEI) INDUCED ANGIOEDEMA OF SMALL INTESTINE IN A TRANSPLANT PATIENT

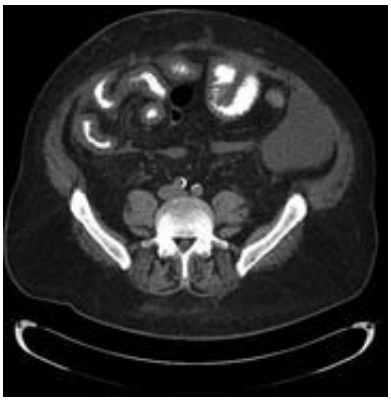
S. Odunsi, MD, MMS, P. S. Kamath, MD. Mayo Clinic Rochester, Rochester, MN.

Purpose: A 65 year old white male with a history of a heart transplant and tricuspid valve replacement presented with an acute onset of abdominal pain and distention a few hours after taking his first dose of lisinopril.

Methods: He denied any fevers, chills, vomiting, diarrhea or constipation. He had no sick contacts or recent travel. He was on immunosuppression and was recently started on lisinopril. He had pain for three days before presenting to the ER. Physical examination revealed no facial edema, a mildly tender and distended abdomen with shifting dullness and bulging flanks. Laboratory examination was unremarkable with the exception of a serum creatinine of 3 and potassium of 5.8. CT scan showed mesenteric congestion, moderate ascites and multiple dilated loops of small bowel.

Results: An ultrasound revealed a normal liver, patent portal and hepatic vessels. A paracentesis provided some symptomatic relief. The total protein in the ascitic fluid was 4. Colonoscopy showed edema of the terminal ileum and biopsies showed no evidence of lymphoma. C1 esterase inhibitor, C3 and C4 were within normal limits. Based on the temporal association of these symptoms with the use of lisinopril, a diagnosis of ACEI induced intestinal angioedema was made. The lisinopril was discontinued and the patient's signs and symptoms improved over a few days. He was discharged and has had no further complaints on subsequent visits.

Conclusion: Peripheral angioedema is a known side effect of ACEI therapy. ACEI peripheral angioedema has a higher prevalence (1% to 4.8%) in patients with cardiac and renal transplant versus 0.2% in the general population. There have been about 20 case reports of visceral angioedema, but only one has been reported in solid organ (liver) transplant patient. The cause for an increased susceptibility to angioedema in patients who have received solid organ transplants is still unclear but immunosuppression has been postulated as a cause. Recognition of this entity is critical in the diagnosis and management in the appropriate patient. The early recognition can save patients unnecessary procedures and surgery.



P593

GIANT LIPOSARCOMA PRESENTED AS INGUINAL HERNIA. UNUSUAL SIZE, PRESENTATION

H. Al Kharrat, MD,[1] O. Shoukfeh, Medical Student,[2] L. Brown, Senior College[3]. 1. West Texas Digestive Disease Center, Lubbock, TX; 2. Texas Tech University Health Sciences Center, Lubbock, TX; 3. Abilene Christian University, Abilene, TX.

Purpose: First described by Rudolf Virchow in 1857, retroperitoneal liposarcoma is the most common retroperitoneal sarcoma and accounts for about 0.1% of all cancers. It is a slow occupying space tumor, that presents after involvement of adjacent organs, or incidentally during PE. We are presenting a patient with an unusual size mass presenting as inguinal hernia.

Methods: The patient is a 64 year old male who noticed an increase and fullness in the right scrotum. He first had this complaint 10 years prior to presentation. At that time he had lipomatous tissue surgically removed as part of inguinal hernia repair. Three years later, the fullness returned and has been progressively worsening. PMH is significant for hepatitis B surface antigen positive, mild hypertension, cervical disc fusion, and colon polyps. Medications are Benicar and ASA. Social history smoker $\frac{1}{2}$ pack/day for 20 years. On PE: the right scrotum had a non-reducible mass. Blood count and chemistry panel, including tumor markers, were normal. CT showed a large 25 cm x 15 cm fatty mass with two solid components in the right abdomen displacing the colon and small bowel to the left abdomen. The mass extended into the right scrotum. No lymphadenopathy was present. The CT results were suspicious for a large liposacroma. Surgery was performed and a 52 lb mass was removed. Pathology confirmed the mass as a well differentiated liposarcoma. CT imaging at 6 months did not show any tumor recurrence.

Results: Although a total of 4 similar cases of liposarcoma presented as inguinal hernia have been reported on OVID between 1950-2008, this is the only case that has this tumor size and bulk on presentation.

Conclusion: This is a unique case because of the size of the tumor and the unusual presentation as an inguinal hernia.

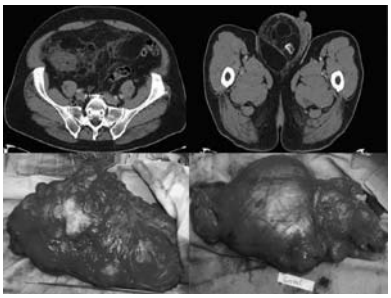


Figure 1: CT and gross pathology correlation.

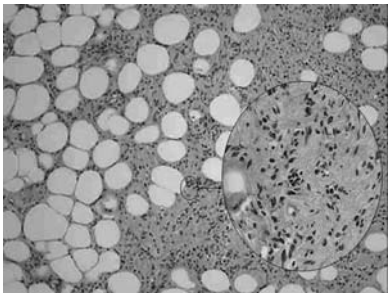


Figure 2, Low and High resolution H&E stain.

P594

DOES EATING BLACK LICORICE MIMIC MELENA OR CAUSE IT?

A. Srivatsa, MD, J. Liu, BS, J. E. McFarland, MD, V. Kaul, MD. University of Rochester, Rochester, NY.

Purpose: We describe a patient with black tarry stools & an elevated INR after eating a pound of Black Licorice. Although literature describes the effects of Licorice root on the cardiovascular & renal systems, there is a paucity of data on interactions between Black Licorice & warfarin. Furthermore, eating Black Licorice colors stools black & may be mistaken for melena in the absence of true bleeding. Vice versa, the patient with true melena may be falsely reassured that the stools are black because of the Licorice.

Methods: An 80-year-old woman with atrial fibrillation anti-coagulated with warfarin ate a pound of Black Licorice 4 days prior to presentation. She then noted black tarry stools but did not seek medical attention because she attributed this to the Licorice. Eventually she developed dizziness, subsequently collapsed & was brought into the Emergency department. There was no hematemesis or abdominal pain. Warfarin had been dosed at 1 mg daily. She had maintained a therapeutic INR, checked weekly for a long time. She was hypotensive & tachycardic, Hematocrit was 14 (baseline 34) & INR 5.5 (baseline 12 days prior was 2.1). The patient had a similar episode related to Black Licorice ingestion in 2004, when she was admitted with black stools & weakness. INR was 9.1 & hematocrit was 16 at that time. She received fresh frozen plasma & packed red blood cells & underwent upper endoscopy. A prepyloric gastric ulcer with a visible vessel at the base was seen & 2 clips were placed. She had an uneventful hospital course & was discharged with a stable hematocrit & therapeutic INR & instructions to avoid Black Licorice.

Results: Black Licorice is derived from the root of the plant, Glycyrrhiza glabra & is known for its anti-inflammatory & mineralocorticoid inducing properties. Licorice has also been implicated for interacting with a number of medicines, e.g. digoxin, thiazides & spironolactone. Gliabridin present in Licorice inhibits the P450 system which metabolizes Warfarin. Glycyrrhizin, also present in licorice, is a thrombin inhibitor & prolongs fibrinogen clotting times. Hence, the anti-thrombotic activity & inhibition of warfarin metabolism may synergistically amplify anti-coagulation.

Conclusion: Black licorice is a commonly available food product. This case report illustrates how Black Licorice may potentiate or cause GI bleeding especially in patients on warfarin. The presence of Black Licorice in stool can obviously mimic melena & confound its clinical presentation. Therefore, till more data is available, health care providers should caution patients who are at risk for bleeding or on warfarin to avoid black licorice.

P595

AN UNUSUAL CASE OF NAUSEA, VOMITING, DIARRHEA AND URINARY RETENTION IN A HEALTHY FEMALE

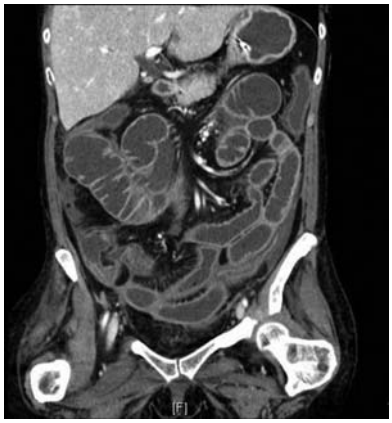
J. Goldman, MD, F. A. Farraye, MD, MSc, FACG. Section of Gastroenterology, Boston University School of Medicine, Boston, MA.

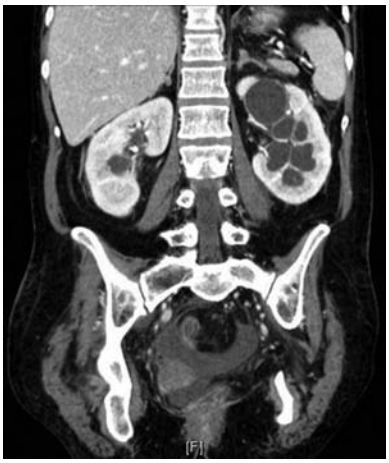
Purpose: Hollow visceral myopathy (HVM) is a form of chronic idiopathic intestinal pseudo obstruction (CIIP). It rarely involves other systems including the urinary tract.

Methods: A 45 year old female was transferred to our hospital with 3 months of nausea, vomiting and watery diarrhea. She had a tender, distended abdomen on physical exam. CT enterography demonstrated thickening and distension of the large and small intestines without a transition point. Bilateral hydroureter/nephrosis was noted.

Results: EGD and colonoscopy were grossly and histologically normal. Ureteral stents were placed without resolution of her hydronephrosis. Laparotomy did not reveal a mechanical obstruction. A full thickness rectal biopsy showed vacuolar smooth muscle degeneration with loss of a majority of muscle fibers c/w HVM. A PET scan and testing for amyloid, scleroderma and HIV were negative. A venting gastrostomy was placed and TPN started with resolution of symptoms. She was discharged to a rehabilitation facility.

Conclusion: Secondary chronic intestinal pseudo obstruction (CIP) is usually due to a paraneoplastic syndrome, scleroderma, amyloidosis or HIV. In contrast, CIIP is due to either a HVM or hollow visceral neuropathy. Involvement of other visceral smooth muscle including the urinary tract and gallbladder has been reported. Although CIIP is usually seen as a familial syndrome, rare sporadic cases have been reported. Treatment of CIIP is primarily supportive with venting, surgical resecton and TPN as needed. Chronic nausea, vomiting and diarrhea with small intestinal dilation and hydroureter should prompt consideration of CIIP.





P596

A RARE CAUSE OF SEVERE ANEMIA AND GASTRO-INTESTINAL BLEEDING: KLIPPEL TRENAUNAY SYNDROME WITH EXTENSIVE VISCERAL INVOLVEMENT

F. Deepinder, MD,[1] A. Albert, MD,[2] N. Iroegbu, MD[1]. 1. Internal Medicine, Saint Joseph Hospital, Chicago, IL; 2. Gastroenterology and Hepatology, Saint Joseph Hospital, Chicago, IL.

Purpose: To diagnose and manage Klippel Trenaunay Syndrome (KTS)

Methods: Case: A 27 year old white male presented with fatigue, pallor, and black stools for 4 months. Past medical history revealed varicosities of right lower extremity since childhood, urinary bladder hemangioma and hemorrhoids. Physical examination was mostly benign except for severe pallor and bluish-purple hemangiomas along with varicose veins of right lower limb. The stool test for occult blood was positive. Hb was 2.8 g/dL and Hct 10.1%. Following transfusion therapy, he underwent upper GI and small bowel follow-through. Multiple phleboliths were noted suggesting residual recurrent hemangiomas. Colonoscopy revealed large dilated veins in the rectosigmoid with hyperemic, edematous and friable mucosa that bled easily on manipulation of the scope. Rectal prolapse with wide rectal dilatation was also noted. The procedure was aborted due to risk of precipitating further bleeding and causing perforation. An emergent CT scan revealed hepato-splenomegaly with prominent hepatic veins. The inferior vena cava and common iliac veins were markedly dilated. Walls of the recto-sigmoid and urinary bladder were tremendously thickened and had multiple calcified phleboliths. Scattered varicosities were also seen throughout the fatty tissue of the retroperitoneum. X-ray showed soft tissue hypertrophy on the lateral aspect of the femur and proximal portion of the lower leg. The constellation of findings including port wine stain, venous abnormalities, and unilateral limb hypertrophy were consistent with the diagnosis of KTS.

Results: Bleeding subsided spontaneously and was accompanied by a gradual rise in Hb to 9.4gm/dL.

Conclusion: KTS is a nonhereditary congenital disorder in which GI involvement may lead to life threatening bleeding. It can often be misinterpreted as internal hemorrhoids, as in our patient. The associated hemangiomas may sequester platelets leading to consumptive coagulopathy further worsening the bleeding. Melena with hepatospleenomegaly in our patient may indicate elevated portal venous pressure and gastric varices due to underlying vascular abnormalities. Conservative management and iron supplementation may be sufficient in those having occasional non-life threatening bleeding. Transfusion dependency and life threatening bleeding episodes necessitate definitive surgical therapy. Debilitating disease localized to the colon can be treated by resection of the involved segment and either a colo-anal anastomosis or permanent colostomy. Endoscopic laser therapy using argon and Nd:YAG lasers may be useful in localized hemangiomas and post-operative residual disease. Vascular embolization can be considered if a distinct bleeding site is encountered with visceral angiography.

P597

A CASE OF OBSCURE GASTROINTESTINAL BLEEDING SECONDARY TO A SMALL BOWEL TUMOR DETECTED BY MAGNETIC RESONANCE ENTEROGRAPHY

F. J. Moawad, MD,[1] T. R. LaRock, DO,[2] M. C. Biondi, MD,[3] B. D. Cash, MD,[2] J. E. Kurland, MD[2]. 1. Gastroenterology, Walter Reed Army Medical Center, Washington, DC; 2. Gastroenterology, National Naval Medical Center, Bethesda, MD; 3. Radiology, National Naval Medical Center, Bethesda, MD.

Purpose: Obscure gastrointestinal (GI) bleeding creates a diagnostic challenge for gastroenterologists. Modern imaging techniques improve the detection and characterization of small bowel tumors and provide important guidance for treatment options.

Methods: A 28 year-old woman presented with symptomatic anemia. She denied abdominal pain, melena, or hematochezia. Her medical history was unremarkable and she denied the use of NSAIDs. Her examination was normal except for a positive FOBT. Initial laboratory values indicated a hemoglobin level of 3.8 g/dl (normal 12-16 g/dl). Upper and lower endoscopy with ileal intubation failed to reveal a bleeding source. Video capsule endoscopy (VCE) demonstrated red blood in the small intestinal lumen 5 hours after swallowing the pill without an apparent source. She subsequently underwent a Meckel's scan and RBC scintigraphy; both were negative studies. A Magnetic Resonance Enterography (MRE) was performed which revealed a 2.9 cm x 3 cm distal jejunal wall mass. While it demonstrated an intraluminal component, the mass was predominantly extramural. She underwent successful laparoscopic resection of the tumor, which stained strongly for C-117 (c-kit) consistent with a diagnosis of gastrointestinal stromal tumor.

Results: The evaluation of obscure GI bleeding can be a challenging task for the gastroenterologist. The majority of cases arise from the small bowel. Its free intraperitoneal location, extensive length, and vigorous contractility make the diagnosis of bleeding difficult. The etiology of obscure bleeding is dependent on the patient's age. In patients under the age of 40, the most common cause is tumors. While intraluminal extension of small bowel tumors may cause symptoms of obstruction, such tumors may also extend extraluminally into the peritoneum and be missed on VCE. Magnetic resonance imaging provides many unique properties and advantages over other imaging modalities to include enhanced visualization of soft tissues without superimposition of loops of bowel, the ability to screen for mural and extraluminal involvement and the lack of exposure to ionizing radiation.

Conclusion: MRE may have a role in the evaluation of patients with obscure GI bleeding and should be considered as a diagnostic option, especially in those under the age of 40 in whom no source can be clearly identified.

P598

A RARE CASE OF THYMOMA ASSOCIATED AUTOIMMUNE ENTEROPATHY

J. Hyun, MD,[1] S. Chokhavatia, MD,[1] X. Gui, MD,[2] N. Harpaz, MD, PhD,[2] L. Mayer, MD[1]. 1. Gastroenterology, The Mount Sinai hospital, New York, NY; 2. Pathology, The Mount Sinai hospital, New York, NY.

Purpose: A 61-year-old female with history of bronchiectasis and resection of benign thymoma presented to The Mount Sinai Hospital with severe weight loss and malnutrition. She reported having chronic watery diarrhea and lower abdominal pain since 2004. A diagnosis of celiac disease was made based on an extensive work up at an outside hospital, which included abnormal small intestinal biopsies, but she had minimal clinical response to a gluten free diet. After a repeat colonoscopy 9 months later, Crohn's disease was diagnosed and she was treated with 4-5 courses of steroid tapering and 6-MP until February 2007, when she was hospitalized twice for severe constipation. On presentation to the Mount Sinai Hospital, she had persistent abdominal pain and reported weight loss of 45 lbs, despite continued gluten restricted diet. On examination, she appeared malnourished and had severe tenderness in left lower quadrant but no palpable mass. Lab data included Hb 10 g/dl, ESR 83, CRP 20.5, albumin 3.5 g/dl and negative HLA-DQ2/DQ8. Immunoglobulin quantitation and absolute T and B cell counts were within normal range. Small bowel series and abdomen CT were normal. On colonoscopy, the colon and terminal ileum appeared normal. Random colonic biopsies revealed loss of goblet cells and Paneth cells, presence of lymphocyte infiltrates in the lamina propria and and multiple apoptotic bodies. The findings were interpreted as autoimmune enteritis (AIE). Indirect immunofluorescence using patient's serum and frozen section of normal small bowel showed linear staining along the gut epithelium, consistent with anti-enterocyte antibodies. The patient resumed a gluten unrestricted diet and started oral prednisone and 6-MP. Her abdominal pain and diarrhea promptly improved and oral prednisone was successfully tapered over the next two months. Clinical remission of GI symptoms was maintained with 6-MP for over 1 year. Worsening bronchiectasis due to recurrent pseudomonas infections resulted in multiple hospitalization and the patient succumbed to respiratory failure in April, 2008. AIE was first described in 1982 by Unsworth and Walker-Smith and characterized by protracted diarrhea, circulating enterocyte antibody and associated autoimmune conditions. Only 3 of 30 reported cases had associated with thymoma. No standard approach for the treatment has not been established and immunosuppressive treatment is required in most cases. 60% of patients respond to steroid and 2/3 of steroid responders require additional immunomodulators for maintenance of remission. AIE should be considered in the differential diagnosis of malabsorption and refractory celiac disease.

P599

MULTICENTER MEDICAL MALPRACTICE RISK REDUCTION STUDY FOR MEDICAL STUDENTS, TRAINEES & PRACTICING PHYSICIANS USING SHORT BURST [SSB] E-MAILED SEMINARS

P. Hookman, MD, FACG,[2] G. Weinberg, MD,[1] M. Pato, MD,[4] R. Gelfand, MD,[5] B. Rosof, MD, FACG,[3] J. Barkin, MD, MACG[2]. 1. Medicine, Mt. Sinai Medical Center, Miami Beach, FL; 2. Gastroenterology, Mt. Sinai Medical Center, Miami Beach, FL; 3. Medicine, North Shore Medical Center, Huntington, NY; 4. Psychiatry, USC, Los Angeles, CA; 5. Gastroenterology, Metro Gastroenterologists, Washington, DC.

Purpose: The purpose of this multicenter study was to evaluate the use of medical malpractice risk reduction seminars in the form of short bursts of e-mailed seminars [SBS].

Methods: SBS to teach medical malpractice reduction strategies [1] were designed for hospital trainees and practicing physicians at several institutions and private practices centers in the Northeast, Southeast & West coasts of the U.S. SBS was e-mailed to coordinators in gastroenterology, internal medicine, psychiatry & other specialties who targeted their audience of students, trainees and practicing physicians. The target audience, performed the sequence of pre test, seminar, post test, and returned the testing on an anonymous basis to the coordinators. One answer on the post-test required a short written response to a medical malpractice case study. Pre and post-tests were graded by the change of post-test answer scores compared to pre test total scores.

Results: Post-test scores showed significant improvements & documented the benefits of an e-mailed medical malpractice/risk reduction seminar. SBS was well accepted by medical students, gastrointestinal trainees and practicing physicians. Residents[2] and department chiefs learned how to teach medical malpractice reduction techniques which provides a potential pool of new teachers. Actual medical malpractice cases were useful as documented by responses given to a case study.

Conclusion: SBS: 1. Offers more convenience, reduces time away from patient care, schedules learning around busy schedules, and can be an ongoing resource to refresh seminar knowledge retention when filed in each participant's e-mail folder. 2. Can be provided in a consistent fashion and specifically tailored to certain levels of training for each specialty. 3. May be delivered in each specialty either as online CME or in a classroom setting by medical schools, teaching hospitals, & medical professional liability insurance companies. 4. Teaches how to teach medical malpractice/risk reduction. 5. More easily connects physicians with risk management specialists with short turn around time to customize contemporaneously in changing risk areas of hospitals &/or different clinical specialties. 6. A medical malpractice case history increases seminar lesson retention. [1] Hookman P. "Medical Malpractice Expert Witnessing: Introductory Guide for Physicians and Medical Professionals" (Hardcover) 592 pages Publisher: CRC; Boca Raton, Fl. ISBN-10: 1420058959; Price $239.95 [2] Aiyer M. et al. "Change in Residents Perceptions of Teaching: Following a One Day "Residents as Teachers" [RasT] Workshop", Southern Medical Journal 2008 101[5]:485

P600

HYPOCUPREMIA: A RARE CAUSE OF GASTROJEJUNAL BYPASS-ASSOCIATED MYELONEUROPATHY AND ANEMIA

2008 ACG/AstraZeneca Clinical Vignette Award, 2008 ACG Presidential Poster Award Recipient

E. H. Choi, MD, W. Strum, MD. Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA.

Purpose: With the mounting number of gastric bypass surgeries for the treatment of morbid obesity, complications of nutritional deficiencies must be recognized. A rare nutritional deficiency after gastrojejunal bypass is hypocupremia, which is clinically indistinguishable from the neurologic deficits of vitamin B12 deficiency. In addition, hypocupremia has been implicated in hematologic abnormalities of anemia and neutropenia. We describe a case with the rare combination of neurologic and hematologic abnormalities secondary to gastric bypass-associated hypocupremia.

Methods: Case Report

Results: A 45 year old white female underwent a Roux-en-Y gastric bypass for morbid obesity six years prior to presentation and complained of 15 months of progressive symptoms of lower extremity paresthesias, dysesthesias, and weakness. She had no other significant past medical or surgical history. On neurologic examination, the patient demonstrated a wide-based gait and a decreased tandem walk. Examination of her lower extremities demonstrated a bilateral absence of vibratory perception, decreased pin-prick to her ankles, strength of +1 and spastic quadriceps muscle stretch reflexes. A serum copper of 24 ug/dL (normal 80-155) and ceruloplasmin of 9 mg/dL (normal 22-58) were demonstrated. Concurrent with her neurologic deficits, the patient had episodes of anemia and neutropenia, which, at their nadirs, were 9.2 g/dL (normal 12-15) and 4.1 K/cumm (normal 4.5-11), respectively. Homocysteine, vitamin B12, ferritin and methylmalonic acid levels were normal. Upper endoscopy identified no abnormalities and biopsies of the small intestine were negative for celiac sprue. A thoracic spine MRI demonstrated a minimally increased focus of T2 signal intensity in the central spinal canal from T4 through T7. The patient was treated with an oral preparation of elemental copper at 2 mg/day, which halted the progression of the patient's neurologic symptoms and resulted in the complete resolution of her anemia and neutropenia within 2 months. She remains stable after 9 months follow-up.

Conclusion: Copper is absorbed in the stomach and proximal small intestine; as a result, gastrojejunal bypass predisposes patients to copper deficiency. Since the recognition of hypocupremia after gastric bypass as a cause of myeloneuropathy, 15 cases have been reported in the literature with a further smaller proportion of patients demonstrating concomitant hematologic disturbances. The aim of this report is to raise the index of suspicion for hypocupremia in post-gastric bypass patients, who present with either neurologic or hematologic abnormalities related to copper deficiency.

P601

SMALL BOWEL MRI DIAGNOSIS OF MECKEL'S DIVERTICULUM

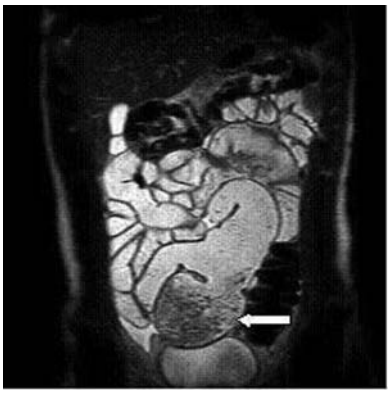
R. Battish, MD,[1] H. N. Shah, MD,[1] A. H. Sherker, MD, FRCP(C),[1] J. D. McFadden, MD[2]. 1. Gastroenterology, Washington Hospital Center, Washington, DC; 2. Radiology, Washington Hospital Center, Washington, DC.

Purpose: Meckel's diverticulum(MD), occurring in 2% of the population, is the most common congenital abnormality of the GI tract. Small bowel MRI(SBMRI) is an emerging imaging modality that allows for transmural evaluation without ionizing radiation. We present a case of MD diagnosed by SBMRI.

Methods: Case.

Results: 17 year old man admitted with lower abdominal pain and maroon stools for the past evening. The patient reported a history of anemia but denied any previous bleeding. Physical examination revealed orthostatic hypotension, benign abdomen and red blood in rectal vault without hemorrhoids or fissures. Hemoglobin was 5.1 Gm/dl with iron deficiency, MCV-62fL and ferritin <15nG/ml. Following volume resuscitation and blood transfusion- Tc-99m pertechnetate and bleeding scans were negative. EGD was normal. Colonoscopy displayed apthous ulcers in the ascending colon and terminal ileum with sparing of the cecum. Biopsy demonstrated changes consistent with Crohn's disease(CD). SBMRI, performed to evaluate extent of CD involvement, revealed a 6.7 cm diverticulum arising from the anti-mesenteric border of the distal small bowel(Figure).

Conclusion: MD, a remnant of the omphalomesenteric duct, is typically diagnosed before age ten due to complicatons. Hemorrhage is the most common presentation of MD in children. Adults typically present with obstruction or diverticulitis. The lifetime risk of developing complications from MD is cited as 6%, and controversy exists whether this risk decreases with advancing age. Giant MD are greater than 6cm in diameter. MD are composed of all layers of the ileal wall and heterotopic tissue is present in half of resected specimens. Gastric mucosa(GM) is found in 50% and panctreatic tissue (PT) in 5-16% of resected specimens. Acidic secretions from heterotopic GM and alkaline secretions from heterotopic PT result in mucosal ulceration. Tc-99m pertechnetate scan with a sensitivity of 75% is the best imaging modality for diagnosis. SBMRI has been advocated for evaluation of submucosal and serosal-mesenteric involvement of CD. Interestingly, a higher prevealence of MD in CD patients has been shown. SBMRI is a valuable addition in the diagnostic armamentarium for MD.



P602

COMPLICATION OF TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT PLACEMENT: STENT MIGRATION INTO PULMONARY ARTERY

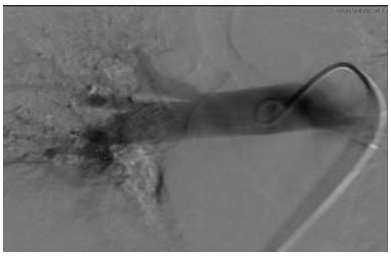
S. K. Tong, MD,[1] C. K. Lau, MD,[1] J. Ahn, MD,[1] H. Ferral, MD,[2] N. Shah, MD,[1] S. M. Cohen, MD[1]. 1. Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL; 2. Interventional Radiology, Rush University Medical Center, Chicago, IL.

Purpose: Transjugular intrahepatic portosystemic shunt (TIPS) is an accepted treatment for complications of cirrhosis. Common complications of TIPS include stenosis of the stent and hepatic encephalopathy. An infrequent complication is stent migration into the portal vein or right atrium, reported in 2-9% of cases in the literature. We report a rare case of stent migration into the pulmonary artery after TIPS.

Methods: A 50 year-old man with Child-Pugh class C, MELD score of 19, alcoholic cirrhosis presented to an outside hospital with ascites and esophageal variceal bleeding refractory to band ligation. He underwent a successful TIPS placement with a nitinol (Zilver) stent. Six weeks later, the patient presented with recurrent ascites. Evaluation of the TIPS revealed a portosystemic gradient of 22 mm Hg and narrowing in the hepatic venous end of the stent. Angioplasty of the stent was performed followed by placement of a second nitinol (Zilver) stent, resulting in a lowering of the gradient to 12 mm Hg. One week later, the patient was transferred to our center for liver transplant evaluation.

Results: A routine chest x-ray demonstrated the stent projecting over the pulmonary hilum. Pulmonary angiogram confirmed the stent to be in the pulmonary artery. Based on the orientation of the stent in the pulmonary artery, removal was not attempted due to the high risk of pulmonary artery perforation. Subsequent chest x-rays showed stable stent position. The patient continued to remain asymptomatic.

Conclusion: An infrequent complication of TIPS is stent migration. Our case of pulmonary artery involvement has been rarely described. Technical aspects of stent placement, such as inappropriate size or type, or inadequate overlap, may contribute to the likelihood of stent migration.



Stent Migration Into Pulmonary Artery After TIPS

P603

GRAFT VERSUS HOST DISEASE AFTER LIVER TRANSPLANT

S. Sohi, MD, S. M. Cohen, MD, N. Shah, MD, D. Van Thiel, MD, J. Ahn, MD. Gastroenterology and Hepatology, Rush University Medical Center, Chicago, IL.

Purpose: Graft versus host disease (GVHD) is most commonly seen after allogenic bone marrow transplantation. We present a rare case of GVHD occurring after liver transplantation.

Methods: A 66-year-old man with non-alcoholic fatty liver disease presented with fever and dysuria one month after undergoing an orthotopic liver transplant (OLT). He was treated with levofloxacin for a presumed urinary tract infection, but continued to have fevers. Subsequently, the patient developed pancytopenia, with a WBC of 1.24 x 10^3/mcL, hemoglobin of 8.3 g/dL, and platelet count of 19 x 10^3/mcL. Two days after admission, he developed a generalized erythematous to violaceous macular skin eruption on his back and lower extremities. Punch biopsy of the skin lesions demonstrated lymphocytic infiltrates and basal epidermal cell vacuolization consistent with GVHD. He received high-dose steroids followed by three doses of basiliximab (20 mg) and one dose of daclizumab (16.5 mg). Antimicrobial prophylaxis was initiated with voriconazole, acyclovir, aztreonam, and daptomycin. G-CSF was administered for neutropenia.

Results: The patient's fever, rash, and diarrhea transiently improved, though he remained pancytopenic. Despite antimicrobial prophylaxis, the patient developed an influenza pneumonia requiring intubation. Oseltamivir was initiated but he subsequently suffered a cardiopulmonary arrest and expired.

Conclusion: The incidence of GVHD after OLT is estimated to be 1-2% based on case series, but the mortality is quite high at 85%. GVHD in this population is thought to occur when 10 ^9-10 donor lymphocytes within the liver graft successfully mount an attack before the recipient is able to reject the organ. Diagnosis of GVHD can often be made on biopsy of affected organs (skin, GI tract, bone marrow), but if biopsy is non-specific, HLA typing can be performed for confirmation. Risk factors for the development of GVHD after OLT are not well elucidated, but may include closely matched HLA status, older age of the recipient, and relative immunodeficiency of the recipient. Treatment protocols have not been standardized, but have included modification of immunosuppression, corticosteroids, anti-lymphocyte agents, and interleukin-2 antibodies. As most patients succumb to death from sepsis, prevention of infection with antimicrobial prophylaxis is of the utmost importance. Clinicians should be aware that GVHD is a rare but serious complication of OLT. Every attempt should be made to diagnose and treat promptly when symptoms arise.

P604

SUDDEN PROGRESSION TO LIVER FAILURE IN A STABLE CIRRHOTIC PATIENT

C. K. Muthiah, MD,[2] J. Ahn, MD, MS,[1] S. M. Cohen, MD[1]. 1. Section of Hepatology, Rush University Medical Center, Chicago, IL; 2. Internal Medicine, Rush University Medical Center, Chicago, IL.

Purpose: Patients with cirrhosis are at risk for hepatic decompensation in case of superimposed acute liver damage. Surgical procedures in cirrhotics can also precipitate hepatic decompensation. We present a case of a stable cirrhotic patient who developed hepatic failure after acquiring acute hepatitis A (HAV) infection, and undergoing surgical procedures.

Methods: A clinical vignette case report is presented.

Results: A 54 year old male with no known liver disease presented with right upper quadrant pain. Laboratory data showed only a mild increase in his transaminases. Right upper quadrant ultrasound showed gallstones. He underwent an uneventful laporascopic cholecystectomy without mention of liver morphology. He presented eight days later with jaundice, malaise, lethargy, and ascites. Laboratory tests revealed bilirubin of 18.8 mg/dl, INR of 1.7, and creatinine of 4.2. No viral serologies were obtained. Imaging studies were inconclusive and the patient underwent exploratory laparotomy for possible retained biliary stone or iatrogenic bile duct damage. Operative findings included a grossly cirrhotic liver, but no biliary obstruction. Biopsy revealed micronodular cirrhosis with extensive acute necrosis. The patient was transferred for liver transplant evaluation. The patient had recently traveled to the Caribbean and his wife had contracted acute HAV infection. Serology confirmed acute HAV infection in our patient. Despite supportive care he did not improve, and subsequently underwent successful liver transplantation.

Conclusion: This case illustrates several important points relating to the care of cirrhotic patients. First, acute HAV infection can have devastating effects in a cirrhotic patient. The overall case-fatality rate of acute HAV is 0.01% to 0.3%, but can reach up to 11.6% in patients with underlying chronic liver disease. Fulminant hepatic failure secondary to superinfection with HAV has been well-documented in patients with cirrhosis and chronic viral hepatitis. The CDC recommends widespread vaccination for HAV in patients with known chronic liver disease. Second, cirrhotic patients undergoing emergent intra-abdominal surgery have a high risk of morbidity and mortality. Prior data has shown peri-operative mortalities in the 10%, 30%, and 70% range for patients with Child's A, B, and C cirrhosis, respectively. Finally, there can be significant mortality (approximately 10%) in any patient undergoing surgery in the face of acute viral hepatitis. In conclusion, patients with chronic liver disease should be vaccinated against hepatitis A and B. Also, clinicians should recognize the high risk of morbidity and mortality in cirrhotic patients and patients with acute viral hepatitis undergoing surgical procedures.

P605

THE DILEMMA OF IDIOPATHIC FULMINANT HEPATIC FAILURE

A. K. Mohanty, MD, E. R. Schiff, MD. Hepatology, University of Miami, Miami, FL.

Purpose: A 20-year-old previously healthy fisherman presented with one week of asymptomatic jaundice. He denied any past medical or family history, and denied use of medications, alcohol, drugs, or supplements. He consumed fresh fish up to three times per week for years and mentioned that he was exposed to permanent marker ink. Vitals and physical exam were unremarkable except for jaundice. Labs revealed normal CBC and BMP. LFT's showed AST 2597, ALT 2306, AP 188, TP 5.2, Albumin 2.6, TB 31.3, DB 24.3. INR was 1.3 with PT of 13.8. Urine drug screen, duplex ultrasound of the liver, CT of the abdomen, and MRCP were normal.

Methods: Other labs were normal including infection (Hepatitis A, B, and C, HIV, EBV, CMV, HSV), iron and TIBC, autoimmune markers (ANA, AMA, anti-smooth muscle antibody, and quantitative immunoglobulins), and alpha-1 antitrypsin. Copper studies were normal including ceruloplasmin, serum copper, and estimated serum free copper. The 24-hour urinary copper test returned elevated at 347 ug/day (normal 3-50). Ophthalmologic exam reported Kaiser-Fleisher rings with 60% confidence.

Results: Over the next four days, the INR rose to 2.3 and decision was made for emergent liver transplant. The patient tolerated the procedure well without complication. The liver was noted to be cholestatic and noncirrhotic. Explanted liver biopsy showed 40-50% panacinar and confluent necrosis with multifocal lymphocytic infiltration. Hepatic copper returned normal.

Conclusion: This case presents the dilemma of idiopathic fulminant hepatic failure in identifying the cause and deciding when transplant is warranted. FHF carries a high mortality rate and affects up to 2,000 person per year. 20% of cases are attributed to idiopathic causes, likely unknown environmental or infectious etiologies. Despite extensive workup, no cause was found. Elevated urine copper levels are found in Wilson disease but also in any disease with extensive hepatocellular necrosis. Other hepatotoxins include mercury in fish, microcystin found in blue green algae, toluene or xylene found in permanent marker, or drugs such as MDMA (ecstacy). The patient later admitted he may have been exposed to MDMA. This drug is not included in standard urine drug screening. This case also demonstrates that clinical judgment is important in determining candidacy for transplant. Although King's College criteria were not fulfilled, liver biopsy confirmed extensive necrosis. The advent of orthotopic liver transplantation has reduced the mortality rate of acute liver failure from 80% to 40%. Our patient's worsening coagulopathy and associated high mortality rate warranted emergent transplant which most likely saved this fisherman's life.

P606

AROMATIC HYDROCARBON-INDUCED ACUTE HEPATOTOXICITY

M. Venu, MD, S. Gawrieh, MD, K. Saeian, MD. Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI.

Purpose: To present an unusual case of acute hepatotoxicity caused by toluene.

Methods: A 21 year old male presented with a 3 week history of jaundice and worsening itching. He noticed dark urine and increased fatigue. He had no history of drug or alcohol abuse. On exam, the patient had scleral icterus, but no hepatomegaly, ascites, abdominal tenderness or stigmata of cirrhosis. Blood chemistries were abnormal: ALT (1496 U/L), AST (878 U/L), total bilirubin (8.8 mg/dl), alkaline phosphotase (132 U/L). CBC, PT/INR, albumin, and ammonia levels were within normal limits. Serologies for Hepatitis A, B, and C were negative. ANA, ASMA and anti-LKM were also negative. Serum ceruloplasmin was normal. 24 hour urine copper was slightly elevated (84mcg/24hour). Testing for ATP7B mutation for Wilson's disease was negative. Abdominal ultrasound was normal. The patient's liver enzymes and bilirubin continued to rise.

Results: Liver biopsy was performed and revealed necrotic hepatocytes and inflammation consistent with drug toxicity. The biopsy was negative for fibrosis as well as iron and copper staining. Additional history revealed that the patient had recently moved to his sister's basement and was applying weather-proofing caulk containing toluene on the windows without using mask or gloves. In the absence of other potential etiologies, it was felt that toluene toxicity was the likely cause of his hepatitis. Cholestyramine was prescribed for itching and the patient was advised to move out of the basement. At his one month follow-up, the jaundice had resolved and liver tests showed continued improvement.

Conclusion: We believe this to be an unusual presentation of acute toluene exposure resulting in hepatotoxicity. Our patient exposed himself to the weather-proofing caulk containing toluene without proper protection during application, and inhaled the solvent while living in the basement. Industrial use of toluene is on the rise. Intentional inhalation of glues, paints, and solvents makes toluene one of the most abused hydrocarbon compounds. The primary route of toluene exposure is via inhalation, and peak concentration in the blood occurs 15 to 30 minutes after inhalation. Nearly 80% of absorbed toluene is oxidized in the liver. Aromatic hydrocarbons are converted by microsomal enzymes in the liver to alkylating agents which produce hepatic necrosis by bonding with tissue macromolecules. Aside from liver injury, they can cause CNS depression, bronchospasms, and cardiac dysrhythmias. The management consists of preventing exposure to aromatic compounds and supportive measures.

P607

A RARE CASE OF SPONTANEOUS CRYPTOCOCCAL PERITONITIS

A. Thai, MD,[1] K. Ransibrahmanakul, MD,[2] D. Yen, MD,[2] L. Do, MD,[2] V. Medici, MD,[2] C. L. Bowlus, MD[2]. 1. Internal Medicine, University of California, Davis Medical Center, Sacramento, CA; 2. Internal Medicine-Gastroenterology and Hepatology, University of California, Davis Medical Center, Sacramento, CA.

Purpose: Cryptococcus neoformans is an encapsulated yeast, most commonly affecting the immunocompromised including patients with HIV/AIDS, hematological malignancies, prolonged steroid use, or organ transplantation. The typical forms of Cryptococcal infection consist of meningoencephalitis, pulmonary infiltration, skin lesions, and osteomyelitis. Cryptococcal infection of ascites is a rare and fatal infection that is often unrecognized due to vague presenting symptoms that resemble spontaneous bacterial peritonitis(SBP). Here, we present a case of Cryptococcal peritonitis in a patient with hepatitis C (HCV) related cirrhosis.

Methods: A 63 y/o HIV-negative Latino male with decompensated cirrhosis due to HCV, undergoing evaluation for liver transplantation, presented to the ED with a 10 day history of increasing confusion. On admission, he was obtunded and unable to communicate clearly. His wife reported a decrease in frequency of his bowel movements. She denied any fevers, chills, nausea, vomiting, abdominal pain, melena, or hematechezia. She reported that the patient was compliant with his Ciprofloxacin prescribed for SBP prophylaxis. Physical exam revealed a somnolent, thin male with bitemporal wasting, scleral icterus, spider angiomas, diffuse abdominal tenderness, and clonus.

Results: Lab results included a normal WBC (6.8), elevated INR (2.8), reduced complement level, venous ammonia level of 52, hypoalbuminemia (1.6), alkaline phosphatase of 87, total bilirubin of 11.3, AST 111, and ALT 46. Urine drug screen was negative. A CT abdomen illustrated cirrhosis and massive ascites. Ascites fluid contained only 67 WBC/mm3 with only 2% neutrophils. On hospital day 4, blood cultures and ascites fluid grew yeast that was later identified as Cryptococcus neoformans. Treatment with IV Fluconazole was initiated and changed to Liposomal Amphotericin B and 5-fluorocytosine once the organism was identified. On hospital day 8 he became acutely hypoxic and hypotensive. In light of the patient's wishes, the family declined mechanical ventilation, and comfort care was initiated.

Conclusion: Cryptococcal peritonitis is a rare but usually fatal infection of ascites. It is often acquired through hematogenous dissemination from subclinical pulmonary infection. Patients with cirrhosis have impaired opsonization, phagocytic dysfunction, and complement deficiency, making them more susceptible to Cryptococcal infection. The mortality rate for Cryptococcal peritonitis with antifungal therapy has been reported to be 73%. Although a rapid antigen test is available, on average, it takes six days for the detection of Cryptococcus in ascites by culture. A low ascites white cell count and fungemia should lead to a heightened suspicion of Cryptococcal peritonitis.

P608

CHRONIC NAUSEA AND VOMITING AND ACCELERATED PROGRESSION TO CIRRHOSIS IN A PATIENT WITH A MITOCHONDRIAL ENZYME DEFICIENCY

O. Stephen, MD,[1] B. A. Neuschwander-Tetri, MD[2]. 1. Gastroenterology & hepatology, U.C. Davis, Sacramento, CA; 2. Gastroenterology & Hepatology, Saint Louis University, St. Louis, MO.

Purpose: Defects in fatty-acid oxidation are generally seen in the pediatric population, characterized by metabolic decompensation during fasting, hypoglycemia, vomiting, encephalopathy, and severe skeletal muscle, heart, and liver dysfunction. The associated mitochondrial deficiencies often lead to microvesicular and macrovesicular hepatic steatosis with subsequent liver failure. Early infant death is common; hence, these disorders are rarely seen in the adult population. We present a rare case of an adult with a mitochondrial enzyme disorder and concurrent hepatitis C, with subsequent rapid acceleration to cirrhosis. Case Report: A 35 year old male was referred to us after work-up of a 5 year history of persistent nausea and vomiting revealed elevated transaminases and hepatitis C, genotype 2. Other symptoms included severe myalgias, episodic confusion, and fasting hypoglycemia. Laboratory studies revealed the following: Total bilirubin 0.8 mg/dl, Alkaline phosphatase 169 U/L, AST 529 U/L, ALT 906 U/L, INR 0.9, glucose 61 mg/dl,aldolase 34.9 IU/L and LDH 329 IU/L. Serologic studies for additional liver disorders were unremarkable. Liver biopsy revealed chronic hepatitis C, grade 2, stage 2, and steatohepatitis. Additional work-up for his symptoms including EGD, colonoscopy, and ultrasound were unremarkable. Metabolic testing revealed reduced carnitine palmitoyl transferase II (CPT II) in cultured skin fibroblasts, consistent with heterozygous CPT II deficiency. He was placed on a low-fat, high carbohydrate diet with some clinical improvement. Interferon therapy for hepatitis C was unsuccessful. He rapidly progressed from stage II fibrosis to cirrhosis within 2 years, subsequently requiring liver transplantation.

Conclusion: We present a patient with a rare deficiency of the mitochondrial enzyme CPT II and concurrent hepatitis C, genotype 2, with steatohepatitis, persistent nausea and vomiting, myalgias, fasting hypoglycemia, occasional encephalopathy, and subsequent rapid progression from stage 2 fibrosis to cirrhosis within two years. CPT II is important in mitochondrial fatty acid oxidation, and deficiency generally results in muscle necrosis. It only rarely presents with hepatic decompensation, except with severe deficiencies. Chronic hepatitis C has a variable rate of progression, but can progress to cirrhosis in as long as 20 years. Macrovesicular steatosis is occasionally seen in hepatitis C, but generally in genotype 3 infections. CPT II deficiency was likely the cause of his emesis and may have contributed to the steatosis and rapid progression to cirrhosis. Subclinical mitochondrial enzyme deficiencies should remain in the differential diagnosis for steatosis and for recurrent nausea and vomiting.

P609

SUBMASSIVE HEPATIC NECROSIS CAUSED BY COXSACKIE A9 VIRUS IN A STEM CELL TRANSPLANT RECIPIENT

D. Victor, MD, J. Feagans, MD, S. Haque, MD, H. Safah, MD, S. Joshi, MD. Internal Medicine, Tulane University School of Medicine, New Orleans, LA.

Purpose: Background: Liver diseases are common after bone marrow transplant, the most common being graft versus host disease (GVHD) and hepatotoxicity due to drugs. Viral hepatitides are less common, usually caused by reactivation of or new infection with hepatitis B, C or herpesviruses. There are few descriptions of Coxsackie hepatitis in the literature. We report a patient who developed submassive Coxsackie hepatitis eight months following allogeneic stem cell transplantation. **Case Report**: A 54 year-old male with non-Hodgkin's lymphoma underwent allogeneic stem cell transplantation after failing chemotherapy. Immunosuppressive drugs and prophylactic antimicrobials and antivirals, including acyclovir, had been discontinued for two months when he developed flu-like symptoms, loose stools, painful oral apthous ulcers, jaundice, a maculopapular rash on the chest and abdomen, and nontender hepatomegaly. Serum alanine (ALT) and aspartate (AST) aminotransferases were elevated (1108 U/L and 1160 U/L, respectively); total bilirubin was 10.8 mg/dL and alkaline phosphatase was 402 U/L. A liver biopsy showed submassive hepatic necrosis with viral features, but no GVHD. Herpes simplex virus (HSV) and Coxsackie virus hepatitis were suspected based on clinical findings and recent discontinuation of prophylactic antivirals. Acyclovir treatment was restarted. Hepatitis A, B and C serologies and antibody titers were drawn for HSV, human herpesvirus (HHV)-6, HHV-8, adenovirus, Epstein Barr virus, cytomegalovirus, HIV, toxoplasma, and Coxsackie viruses. Weekly measurement of ALT, AST, bilirubin and alkaline phosphatase showed a gradual decline; his apthous ulcers healed. A Coxsackie A9 antibody titer was 1:256, Coxsackie B antibody titer was 1:160, and HHV-6 IgG titer was 1:43. Repeat titers after two weeks of acyclovir treatment showed no change in the Coxsackie B and HHV-6 titers, but the Coxsackie A9 titer declined to 1:64. At this point, the diagnosis of Coxsackie A9 hepatitis was confirmed. Viral suppression treatment with acyclovir was continued. Liver chemistries normalized over 12 weeks. **Discussion**: Coxsackie virus infections

in patients undergoing bone marrow transplantation vary in severity from mild viral enteritis to severe fatal myocarditis. Hepatic involvement with Coxsackie infection has been reported, however, submassive hepatic necrosis has not been documented previously in a stem cell transplant recipient. This case illustrates the importance of considering Coxsackie viruses as etiologic agents when evaluating a patient with hepatitis after a bone marrow transplant. Treatment remains largely supportive but acyclovir can be used to prevent fulminant transformation of the disease.

P610

GIANT FOCAL NODULAR HYPERPLASIA PRESENTING AS PSEUDO-MIRIZZI SYNDROME

K. Berman, MD, R. Vuppalanchi, MD. Medicine- Gastroenterology, Indiana University, Indianapolis, IN.

Purpose: Focal nodular hyperplasia (FNH) is a relatively rare benign tumor of the liver typically seen in young to middle aged women. It is usually an incidental finding, with most patients being asymptomatic. We describe a previously unreported presentation of a FNH causing a Mirizzi like syndrome.

Methods: An 18 year-old white female presented with two days of right upper quadrant and epigastric pain associated with nausea, vomiting and chills. She had no prior medical history other than eczema and asthma. She denied taking any prescription or over the counter medications including oral contraceptives. Liver biochemistries revealed elevated total bilirubin 2.9 gm/dL, alkaline phosphatase 270 U/L, AST 104 U/L, ALT 171 U/L and a normal alpha fetoprotein. CT with contrast showed gallbladder thickening and a 9.0 x 7.4 cm mass in segment 4 of the liver demonstrating hyper enhancement on arterial phase with a central hypodense stellate focus (Figure 1). An MRI revealed a 9.2 x 7.8 cm mass with a T2 hyperintense central scar with enlarged gallbladder with wall thickening. Finally, a hepatobiliary scan demonstrated radiotracer throughout the liver, prompt gallbladder visualization and a 0% gallbladder ejection fraction. Given the typical radiographic features of FNH seen with the above studies her mass was felt to be FNH presenting with a Mirizzi like syndrome.

Results: Due to the large size of FNH potentially leading to technical difficulty in performing a cholecystectomy, a cholecystostomy tube was placed to allow for gallbladder decompression. Subsequently, a right sided portal vein embolization was performed to allow left lobe hypertrophy of liver prior to successfully performing a right trisegmentectomy. The resected specimen revealed a 10.4 x 9.5 x 7.6 cm tan, heterogeneous, firm, diffusely nodular, well delineated mass with a central scar abutting the capsule and histology confirmed the presence of FNH. Gallbladder specimen did not reveal choleliths. Her post operative course was uncomplicated.

Conclusion: This is the first case reported of a giant FNH presenting with Pseudo-Mirizzi syndrome.

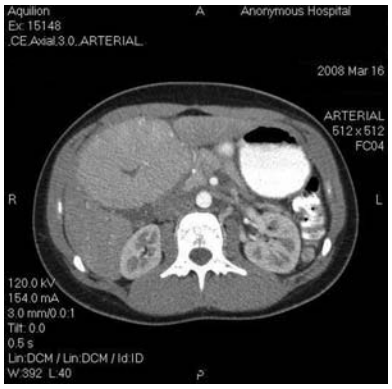


Figure 1. CT arterial phase showing giant FNH with central stellate scar

P611

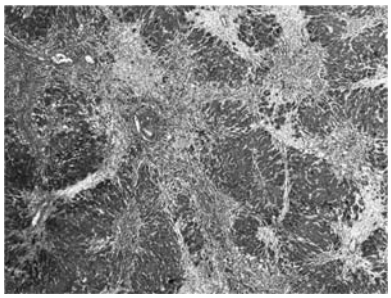
GONE (FROM THE PDR) BUT NOT FORGOTTEN: PROPYLTHIOURACIL (PTU)-ASSOCIATED HEPATIC FAILURE (ALF): A CALL FOR LFT MONITORING

J. Primeggia, MD, J. H. Lewis, MD. Internal Medicine, Georgeotown University, Washington, DC.

Purpose: While no longer listed in the Physicians' Desk Reference, PTU is still commonly used in the management of hyperthyroidism around the world. Serious complications of PTU include agranulocytosis, vasculitis, and hepatotoxicity. We report a case of PTU-associated ALF in a patient whose liver tests were not monitored while on therapy, reflecting US guidelines written in 1995.

Results: A 19 year old female was diagnosed with Graves' disease in August 2007 and treated with PTU. Pre-Tx CBC and LFTs were normal, but no further LFTs were obtained. Three months later she presented with nausea, vomiting, abdominal pain and jaundice. LFTs now revealed a total bilirubin 6.5 mg/dL, AST 1747 IU/L and ALT 1589 IU/L. After 6 days at the outside hospital, she was transferred in acute liver failure with coagulopathy and stage II encephalopathy. Liver transplant evaluation was promptly initiated and she was listed as status 1. PTU was the only medication she had taken and all serologic, autoimmune, and metabolic studies were negative. She demonstrated rapid clinical deterioration while awaiting transplant, requiring intubation and CNS pressure monitoring. On our hospital day 7, she underwent orthotopic liver transplant, but succumbed to tonsillar herniation immediately after surgery. Pathology from her explanted liver revealed marked necrosis and fibrosis, consistent with drug-induced liver injury (DILI) (Figure 1). ALF from non-acetaminophen DILI often has a poor prognosis with a mortality rate as high as 75%. PTU-associated hepatotoxicity has been a well-recognized phenomenon in the clinical literature for >50 years. However, as deaths related to PTU DILI are rare, routine monitoring of LFTs was considered unnecessary in national thyroid society guidelines, although monitoring WBC levels was advised (JAMA 1995;273:808)

Conclusion: Given the wide spectrum of PTU related DILI, ranging from asymptomatic elevations in ALT to fatal ALF, we agree with the advice to obtain baseline and surveillance LFTs to prevent irreversible liver damage, as is being recommended by several non-US groups (Am J Gastro 2001;96:165), and call for a reappraisal of LFT monitoring guidelines in the US.



P612

HEPATIC MANIFESTATIONS OF OVARIAN HYPERSTIMULATION SYNDROME

A. A. Khan, MD, V. Mudunuri, MD, M. G. Mutchnick, MD, E. Puscheck, MD. Gastroenterology, Wayne State University, Detroit, MI.

Purpose: Introduction: Ovarian hyperstimulation syndrome (OHSS) is a rare but serious complication of in-vitro fertilization and iatrogenic ovarian stimulation. Although OHSS has been reported widely in the literature, there is scant data about the hepatic manifestations of OHSS. Abnormalities of liver functions were first reported in 1988 and may be seen in 30-40 % of patients. Our case is unique because it is the second reported case with very high aminotransferase levels and a favorable outcome.

Methods: Case Report: We report a 39-year-old woman who presented with dehydration, decreased urine output, nausea, vomiting, abdominal distension, pedal edema and weight gain 10 days after ovulation induction (using gonalef and menopur).She had a history of recurrent miscarriages,non alcoholic fatty liver disease(NAFLD) with normal liver enzymes and no pharmacotherapy, polycystic ovarian syndrome (PCOS). Physical exam revealed massive ascites and right sided pleural effusion.Patient's liver enzymes have always been within the normal range. During her 23 day hospital stay a gradual rise in liver enzymes was noted. AST showed an increase from 48 to 1132 units/L and ALT increased from 40 to 1604 units/L .Alkaline phosphatase, bilirubin and prothrombin time was normal. Albumin decreased from 2.7 gm/dl to1.4 gm/dl. All other causes of hepatic dysfunction were ruled out and treatment was directed to major manifestations of OHSS including ascites, hypoalbuminemia and hypovolemia.The liver enzymes started trending down and patient showed significant clinical improvement. The patient was discharged in stable condition with viable pregnancy with outpatient follow up.

Conclusion: Conclusion Increased awareness of the hepatic manifestations of ovarian hyperstimulation syndrome is important as very few cases of this entity have been described thus far. All patients undergoing in-vitro fertilization should have close monitoring of liver functions to prevent such complications.

P613

RESOLUTION OF PORTAL HYPERTENSION FOLLOWING STEROID THERAPY FOR HEPATIC SARCOIDOSIS

N. Coelho-Prabhu, MD, P. S. Kamath, MD. Gastroenterology, Mayo Clinic Rochester, Rochester, MN.

Purpose: Granulomatous diseases including sarcoidosis are an unusual cause of pre-sinusoidal portal hypertension. We present a case of a patient with both Hepatitis C and sarcoidosis who had significant improvement in portal hypertension following steroid therapy.

Methods: A 51 year old Caucasian woman was diagnosed in 2001 with chronic Hepatitis C during a workup for elevated liver enzymes. She was offered treatment with interferon and Ribavirin but she refused. In 2002, she developed peripheral edema, severe anemia, grade 2 esophageal varices and significant splenomegaly. A liver biopsy showed grade 2 hepatitis with stage 3 fibrosis. In 2004, she developed jaundice for the first time and had worsened splenomegaly with secondary pancytopenia. She had gastric varices and grade 3 esophageal varices which required banding. She had never developed encephalopathy. She was offered a TIPS procedure and splenectomy but she came to our institution in 2005 for a second opinion. Laboratory studies showed pancytopenia, mildly elevated liver enzymes, normal albumin and INR. Contrasted CT scan showed extensive abnormal lymphadenopathy in the abdomen, massive splenomegaly, extensive portosystemic varices, mild ascites, normal appearing liver and a spontaneous spleno-renal shunt. Her previous biopsy was reviewed at our institution and showed multiple large granulomas consistent with sarcoidosis along with stage 3 fibrosis. Transjugular liver biopsy was repeated and confirmed the findings. Hepatic venogram showed a hepatic venous pressure gradient (HVPG) of 19 mm Hg. Serum angiotensin converting enzyme level was normal. Bone marrow biopsy showed hypercellularity with no evidence of lymphoma. A diagnosis of portal hypertension secondary to sarcoidosis of the liver was made because the fibrosis in the liver was not considered advanced enough to explain the severity of portal hypertension.

Results: Prednisone 60 mg a day was started to treat the sarcoidosis and was slowly tapered. Six months later, a repeat hepatic hemodynamic study showed HVPG of 7 mm Hg, while still on Prednisone 20 mg a day. CT showed resolution of ascites and repeat endoscopy showed no esophageal or gastric varices. In one year, HVPG decreased further to 5 mm Hg. Currently, she is on Prednisone 2.5 mg a day without any further worsening of her portal hypertension.

Conclusion: This is a patient with non cirrhotic stage Hepatitis C who had portal hypertension out of proportion to her chronic viral liver disease. She was found to have extensive sarcoidosis in the liver which ultimately was treated with steroids and the portal hypertension resolved. This report supports the use of steroid therapy in patients with sarcoidosis who have portal hypertension.

P614

SPONTANEOUS INTRAHEPATIC PORTOSYSTEMIC VENOUS SHUNT

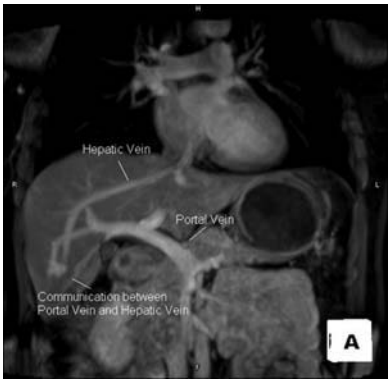
F. DePalma, MD,[1] J. Gellis, DO,[2] J. Kovacs, DO,[3] J. DeSipio, MD[2]. 1. Department of Internal Medicine, Cooper University Hospital, Camden, NJ; 2. Department of Gastroenterology, Cooper University Hospital, Camden, NJ; 3. Department of Radiology, Cooper University Hospital, Camden, NJ.

Purpose: Intrahepatic portosystemic venous shunts are rare and not well recognized. We report the case of a patient with a spontaneous intrahepatic portosystemic venous shunt.

Methods: A 48 year old Hispanic woman was referred for a 1.6 cm enhancing lesion of unclear etiology in the right lobe of the liver identified on a CT scan that was performed by her primary care physician for evaluation of her abdominal pain. At her initial office visit she reported mild abdominal discomfort. Physical exam was revealed tenderness in her right upper quadrant. Laboratory evaluation was unremarkable, including normal LFTs, a normal Alpha-fetoprotein, and negative viral hepatitis serologies. MRI of the liver was performed and demonstrated a vascular malformation in the right lobe of the liver being fed by a branch of the portal vein and drained by a tributary of the hepatic vein. This lesion is compatible with a rare spontaneous intrahepatic portosystemic venous shunt.

Results: Spontaneous intrahepatic portosystemic venous shunts are rare, described mostly in small series or case reports. More commonly these shunts are acquired in the setting of trauma or developed in chronic liver disease, and are generally due to an abnormal communication between the portal circulation and an extrahepatic systemic vein. The clinical significance and treatment of these shunts remains controversial. Instances of intrahepatic portosystemic venous shunts causing encephalopathy and larger fistulas adversely effecting systemic hemodynamics as well as causing liver fibrosis from longstanding diversion of portal flow have been reported. Treatment options include conservative management, surgery, or transcatheter embolization in symptomatic patients. IPSVS found in asymptomatic patients without liver disease are not thought to require treatment.

Conclusion: We report a case of an asymptomatic spontaneous intrahepatic portosystemic venous shunt. The long term sequelae of this anatomic abnormality are not well described.



T1-weighted MRI of the liver demonstrating a vascular malformation in the inferior aspect of the right lobe of the liver being fed by a branch of the portal vein and drained by a tributary of the hepatic vein.

P615

HEPATIC SARCOIDOSIS MIMICKING METASTATIC CANCER

R. Battish, MD, H. N. Shah, MD, A. H. Sherker, MD, FRCP(C). Gastroenterology, Washington Hospital Center, Washington, DC.

Purpose: Sarcoidosis is an idiopathic granulomatous disease commonly affecting the lung. Extrapulmonary involvement occurs in 50% of cases and can be the major manifestation of the disease.

Methods: Case report.

Results: A 40-year-old black man presented with malaise, abdominal pain, jaundice, dark urine, and pruritis of 3 weeks duration. The patient lost 25 lbs and reported intermittent melena. Abdominal exam revealed hepatosplenomegaly. Laboratory values displayed anemia and a predominantly cholestatic pattern of liver associated tests: AP 1789 IU/L, AST 202 IU/L, ALT 113 IU/L, TB 11.2 mg/dl, DB 4.7 mg/dl, Albumin 2.9 and INR 1.2. Hepatitis serologies, AMA, ANA, ASMA, and AFB cultures were negative. ACE was elevated. US displayed hepatosplenomegaly with liver heterogeneity and normal common bile duct. CT further revealed ill-defined masses throughout the liver concerning for diffuse metastatic disease. Endoscopy revealed a 4mm pre-pyloric gastric ulcer with no bleeding. Biopsy of the ulcer displayed a granuloma. Liver biopsy revealed multiple confluent non-caseating granulomas in the portal and periportal zones consistent with sarcoidosis.

Conclusion: Hepatic sarcoidosis covers a broad spectrum from asymptomatic hepatic granuloma formation and slightly deranged liver associated tests to chronic cholestasis, cirrhosis and portal hypertension. Hepatosplenomegaly (15-40%) and abdominal pain (5-15%) are the commonest clinical findings. Constitutional symptoms are rare (5%). Increased serum AP, bilirubin (usually < 5 mg/dL) and slightly elevated transaminase levels may be seen. Increased AP can be found in up to 90% of patients with signs of hepatic disease. Hepatomegaly is found on imaging in up to 50% of cases, and may be accompanied by splenomegaly and abdominal lymphadenopathy. Hepatic granulomas are rarely visualized on CT (<5% of patients) and when confluent must be differentiated from neoplastic conditions. Glucocorticoid treatment is first-line therapy for hepatic sarcoidosis, improving symptoms and abnormal laboratory values but generally having no effect on progression of disease. Subclinical GI tract sarcoidosis is rare, seen in 5-10% of patients with systemic sarcoidosis. Symptomatic GI involvement is less frequent. The stomach is most often involved in GI tract sarcoidosis and is typically asymptomatic. Ulcerative gastric sarcoidosis occurs with mucosal infiltration by granulomatous inflammation. This typically occurs in the antrum, pylorus and lesser curvature. Epigastric pain is the most common symptom of gastric sarcoidosis occurring in 75% of cases and 25% of patients with GI tract sarcoidosis have signs of upper GI bleeding. Our case highlights rare but important manifestations of sarcoidosis.

P616

AN UNCOMMON CAUSE OF ABDOMINAL PAIN

A. Morales, MD, P. Nallapareddy, MD, S. Jain, DO, M. Klamut, MD, S. Yong, MD, K. Islam, MD. Loyola University Medical Center, Maywood, IL.

Purpose: Clinical Presentation A 23 y/o African American female with history of uncontrolled type I Diabetes with gastroparesis, presents with abdominal pain, which is sharp, diffuse and non-radiating. She denies melena, hematochezia, hematemesis, fever or chills. Her pain is controlled with narcotics or NSAID's. Episodes of alternating diarrhea and constipation are associated with nausea and vomiting. She describes intermittent arthralgias, mostly in her knees and has a history of an intermittent rash primarily involving her legs. Her medications include insulin and NSAID's. Her family history is remarkable for her mother having surgery for a "gastrointestinal problem". She smokes 1-2 cigarettes a day and denies alcohol. Work up includes: a. EGD: small ulcerations in the fundus and proximal body. Biopsies revealed non caseating granulomas, h pylori negative. b. Colonoscopy to the terminal ileum: normal mucosa, biopsies of right colon with non caseating granulomas. -CMP, IBD panel normal. Elevated ESR, ACE level pending -inguinal lymph node biopsy in 2005: positive for non caseating granulomas, neg for AFB and fungal organisms. -gastric emptying study in 2005 with 25% emptying at 90 minutes. Discussion Interesting case of a young woman with uncontrolled diabetes and chronic abdominal pain and vomiting with altered bowel habits. The abdominal pain has been presumed to be related to diabetic gastroparesis, but her endoscopic biopsies revealed non caseating granulomas. The differential diagnosis for gastrointestinal granulomas include inflammatory conditions (Crohn's,Sarcoidosis,vasculitis), infectious (TB,histoplasmosis, H pylori,Whipple's), drug induced or idiopathic. In her case, the clinical picture is suggestive for a diagnosis of sarcoidosis. The gastrointestinal manifestations occur in approximately 0.1-0.9% of patients with sarcoidosis, and are usually related either to peptic ulcer disease or to narrowing of the gastric lumen due to granulomatous inflammation and associated fibrosis of the gastric wall; in the latter case diminished peristalsis often results. Peripheral lymphadenopathy can occur in up to 40% of the patients. The stomach is the organ most commonly involved. Endoscopy may reveal nodular changes, gastritis, thickened mucosa, greater or lesser curvature deformities, or ulcers. Segmental mucosal thickening and nondistensibility that mimics linitis plastica are the most common abnormalities on upper GI series. Conclusion Gastrointestinal sarcoidosis is a rare cause of abdominal pain and gastroparesis. High index of suspicion is necessary for diagnosis which requires multiple gastrointestinal biopsies, particularly for patients that present with multi-systemic symptoms.

P617

LYME DISEASE PRESENTING WITH GASTROPARESIS AND CRANIAL NERVE VII PALSY

B. Kavanaugh, MD, B. Seymour, MD, P. L. Kozuch, MD. Gastroenterology & Hepatology, Thomas Jefferson University Hospital, Philadelphia, PA.

Purpose: A previously healthy 62-year-old male from Eastern Pennsylvania was admitted to the hospital with 10 weeks of "band-like" upper abdominal pain associated with nausea, constipation, post-prandial bloating, early satiety and a 30-lb weight loss. These symptoms were preceded by an ovoid, non-pruritic, non-vesicular rash on his right gluteus maximus that spontaneously resolved in 2 weeks. A prior extensive workup including upper and lower endoscopy, abdominopelvic CT,and MRI/MRA, small bowel series, and abdominal ultrasound was unrevealing. Supportive medications included tramadol, hydromorphone, colace, polyethylene glycol, and zolpidem. Physical exam on admission was significant for mild epigastric abdominal tenderness. Laboratory testing revealed an elevated ALT of 53 IU/L (normal < 45) and CRP of 1.4 mg/dL(normal < 0.80). A gastric emptying scan was performed with an emptying half time of 490 minutes (significantly delayed). On hospital day 2, the patient developed a left-sided facial droop. Brain MRI was normal. Lumbar puncture revealed a lymphocytosis, elevated protein, and elevated Lyme IgG titers. Elevated serum Lyme antibody was confirmed by Western blot. The patient was diagnosed with early-disseminated Lyme disease, complicated by cranial nerve VII palsy and gastroparesis. Ceftriaxone was initiated and continued for 4 weeks at home; a gastroparesis diet and metoclopramide were started. At follow-up 3 weeks later, the patient's symptoms were markedly diminished, and he had gained 5 lbs. Two months after discharge, the patient was asymptomatic except for a slight left-sided facial droop; a repeat gastric emptying scan was normal. Gastroparesis is a chronic disorder of delayed gastric emptying without mechanical obstruction. The most common etiologies are diabetes, post-surgical and idiopathic; a subset of the latter category may be associated with post-viral infections. Lyme disease is the most common tick-borne disease in the US and is caused by the spirochete Borrelia burgdorferi, which can elicit a multisystem inflammatory response and is often accompanied by the hallmark rash, erythema migrans. The most common gastrointestinal symptom of Lyme disease is subclinical hepatitis, although dysmotility syndromes including gastroparesis and intestinal pseudo-obstruction have been reported. While the pathogenesis is not completely understood, gastroparesis secondary to Lyme disease may result from an inflammatory neuropathy of the enteric nervous system by direct invasion of B.burgdorferi or an indirect, cell-mediated inflammatory response. This case highlights an unusual presentation of a relatively common (regional) disease.

P618

NEW ONSET ASCITES: A RARE PRESENTATION OF GASTROINTESTINAL STROMAL TUMOR (GIST)

R. Eddi, MD,[1] S. DiGiacomo, MD,[2] R. Shakov, MD,[2] A. Pinzon, MD,[1] W. Baddoura, MD[2]. 1. Internal Medicine, St. Joseph's Regional Medical Center, Paterson, NJ; 2. Gastroenterology, St. Joseph's Regional Medical Center, Paterson, NJ.

Purpose: Gastrointestinal Stromal Tumors (GIST) originate from mesenchymal stem cells and have a mutation in c-kit tyrosin kinase proto-oncogene. The majority of GIST's (60% to 70%) arise in the stomach, while 20% to 30% originate in the small intestine and less than 10% in the esophagus, colon, and rectum. GIST's can rarely occur in extraintestinal sites in the abdomen or pelvis such as the omentum, mesentery, or retroperitoneum.

Methods: A 39 year-old Macedonian male, without significant past medical history, presented to our institution with complaints of increased abdominal girth for 2 months. The patient de-

nied alcohol abuse. Physical examination was unremarkable except for large ascites without stigmata of cirrhosis.
Results: CT scan of abdomen revealed ascites without any other abnormalities. Abdominal paracentesis was performed. Ascitic fluid was grossly hemorrhagic. Analysis of fluid revealed: RBC=94250, WBC=1680 with 5% PMNs, 49% Lymphocytes, 39% Monocytes, Glucose=68, Protein=4.4, Albumin=2.8. SAAG was calculated to be 0.5. Liver function tests as well as hepatitis profile were within normal limits. A PPD test was positive, but CXR did not show any evidence of TB. Abdominal ultrasound, doppler studies of hepatic and portal veins, EGD and colonoscopy were all inconclusive. Imaging of the small bowel is pending. At laparoscopy extensive "caking" of omental surfaces was seen; biopsies were suggestive of an epithelioid malignancy. Immunostaining was positive for CD34 and CD117 consistent with GIST. Patient was started on Imatinib Mesylate (Gleevac®).
Conclusion: This case illustrates a rare presentation of GIST. Extensive work up to date did not reveal any primary tumor in the gastrointestinal tract. The prognosis of this type of presentation remains to be determined. The tyrosine kinase inhibitor Imatinib Mesylate (Gleevac®) has shown promising results in treating metastatic disease. Based on current evidence, lifelong treatment with this agent is required.

P619

DOUBLE PYLORUS: CASE REPORT, REVIEW OF LITERATURE AND EVIDENCE BASED TREATMENT STRATEGY

K. M. Goli, MD,[1] C. S. Lingisetty, MD,[1] S. Ghuge, MD,[1] S. Chaudhari, MD,[1] S. Williams, MD[2]. 1. Internal Medicine, New York Medical College/Metropolitan Hospital Center., New York, NY; 2. Gastroenterology, New York Medical College/Metropolitan Hospital Center., New York, NY.

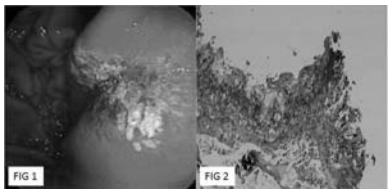
Purpose: Introduction: Double pylorus (DP) is a form of gastro duodenal fistula characterized by presence of an accessory pyloric channel between the distal stomach and duodenal bulb so that the stomach and duodenum are connected by two openings separated by a septum. Endoscopic finding of DP has been increasingly reported. There are no standard guidelines for management of DP. We report a case of acquired DP and discuss the evidence based treatment strategy. Case description: A 69 year old man with past medical history of chronic alcohol abuse was referred to gastroenterology clinic for evaluation of epigastric pain. Esophagogastroduodenoscopy (EGD) revealed mild gastritis involving entire stomach, pre-pyloric ulcer and also showed an accessory pyloric channel leading into duodenal bulb consistent with the DP. Rapid urease test was positive for *H. pylori*. Eradication therapy for *H. pylori* and anti-ulcer therapy was started. Patient improved symptomatically. A repeat EGD after 2 months demonstrated completely healed pre-pyloric ulcer, negative rapid urease test and persistence of DP. Patient remained asymptomatic and has not reported any recurrence of symptoms as of his last clinic visit. Discussion: The implications and management of persistent DP in adults is debatable. We reviewed most of the available literature in English through medline and pub med search. Congenital DP is extremely rare. Acquired type is more common and usually arises secondary to peptic ulcer disease and may be associated with H.pylori infection. The widely accepted hypothesis for its pathogenesis is that the penetration of a peptic ulcer either from the antrum or duodenal bulb leads to adhesion formation between the walls of the stomach and duodenum. Further ulceration results in the formation of an accessory pyloric channel. Recurrent ulcers in the accessory pyloric channel and occult bleeding are potential complications which usually respond to conservative management. Although malignant transformation was not reported in the fistulous tract, theoretically it is possible. Management of DP is usually conservative and good response is expected with anti ulcer therapy. Other factors which worsen PUD such as medications, alcohol, smoking, caffeine and stress need to be appropriately addressed. Spontaneous closure of accessory pyloric channel occurs infrequently even after medical therapy. Persistence of DP is usually well tolerated. About 20% of patients develop refractory symptoms and need surgical intervention. Accessory pyloric channel ulcers can be difficult to treat because of bile reflux. More studies needed to determine whether periodic surveillance endoscopy is needed in patients with persisting DP.

P620

GASTRIC SIDEROSIS PRESENTING AS A BLEEDING GASTRIC ULCER WITH PROFOUND ANEMIA

D. A. Coomaraswamy, MD,[2] I. M. Wall, DO,[1] M. Bernstein, MD,[2] N. L. Badalov, MD,[1] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD, MPH[1]. 1. Department of Internal Medicine Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY; 2. Department of Internal Medicine Division of Gastroenterology, Coney Island Hospital, Brooklyn, NY.

Purpose: Iron deposition in the gastric mucosa, or Gastric Siderosis (GS), is a rare clinical entity resulting from iron overload states, or iron pill ingestion. We present a patient who developed GI bleeding from a gastric ulcer secondary to GS. This rare complication of iron therapy likely occurred in the setting diabetic gastroparesis. A 46 year old woman presented with melena and increasing shortness of breath. Her past medical history was significant for hypertension, poorly controlled type two diabetes, osteoarthiritis, and iron deficiency anemia. The patient had been treated for diabetic gastroparesis in the past. More recently, she had been taking iron supplementation for anemia of unclear etiology. On admission, she was hemodynamically stable; physical exam revealed pale sclera, soft, non tender abdomen, and black tarry stool on rectal exam. Laboratory results showed severe anemia with a hemoglobin and hematocrit of 5.3 g/dl and 18.2% respectively. The iron profile was consistent with iron deficiency anemia. The patient was given intravenous fluids, pantoprazole, and four units of packed red blood cells. Upper endoscopy revealed a gastric ulcer in the body of the stomach along the lesser curvature. The ulcer was not actively bleeding, but had an abnormal dark brown metallic quality that did not wash with repeated flushing (Figure 1). Biopsies revealed a gastric ulcer with superficial mucosal iron deposition consistent with Gastric Siderosis(Figure 2). Secondary GS consists of superficial mucosal iron deposition in the epithelium and is related to oral iron supplementation. Endoscopic findings associated with this form are nonspecific ulcerations, "Iron Pill Gastritis", or dark pigmentation. In therapeutic doses the mechanism of cellular injury is not clearly understood. Likely high local concentrations of iron from pill stasis lead to excessive iron absorption into cells that then catalyzes reactive oxygen species causing localized mucosal injury. Stasis is an important component of the corrosive process of iron pill injury. This patient's underlying gastroparesis likely complicated the local effects of the iron supplementation, leading to localized iron injury to the gastric mucosa, ulceration and upper gastrointestinal bleeding. Clinicians should be aware of this potential complication of iron supplementation in patients with underlying diabetic gastroparesis.



P621

GASTRIC GLOMUS TUMOR: AN ADULT WITH ABDOMINAL PAIN

R. T. Wells, MD,[1] L. R. Peña, MD,[1] K. Schulstad, MD[2]. 1. Division of Gastroenterology, University of Kentucky, Lexington, KY; 2. General Surgery, Harrison Memorial Hospital, Cynthiana, KY.

Purpose: Gastric glomus tumors are rare neoplasms originating from modified smooth muscle cells of glomus bodies. Glomus bodies are temperature sensitive neuromyoarterial receptors that help regulate arterial blood flow. We describe a rare occurrence of a patient with a gastric glomus tumor. Case: A 62 year old white man presented with a one month history of lower abdominal pain radiating to the back, exacerbated by bending or stooping. He complained of decreased appetite, nausea and vomiting, but denied weight loss, fever or chills. On physical exam he was afebrile and vital signs were normal. He was in obvious discomfort. Bowel sounds were normoactive. His abdomen was soft, tender over the RUQ. There was no obvious organomegaly or discrete mass. Labs revealed a WBC count 8.3 k/uL, Hgb 12.9 g/dL and platelets 361 k/uL. Amylase, lipase and complete metabolic panel were unremarkable except for albumin 2.8 g/dL and globulin 4.1 g/dL. CT abdomen without contrast showed a 2.8 cm mucosal mass near the anterior gastric body. Esophagogastroduodenoscopy (EGD) revealed a 3 cm submucosal mass with two small centrally located ulcers in the distal gastric body. Biopsies revealed atypical lymphoid infiltrate suspicious for a lymphoproliferative disorder. Repeat EGD with biopsies was unremarkable for flow cytometry; histology revealed gastric glomus tumor and chronic active *H. pylori* gastritis. Endoscopic ultrasound revealed an oval intramural (subepithelial) heterogeneous lesion originating from the muscularis propria (Layer 4) with well defined outer borders and an intact interface between the mass and adjacent structures, suggesting lack of invasion. Transgastric fine needle aspiration revealed a lesion infiltrated by round, uniform cells with moderate amounts of cytoplasm amid numerous large vessels. Immunostains were positive for muscle specific actin and vimentin and negative for leukocyte common antigen and chromagranin. Cytopathology and flow cytometry were unremarkable. A diagnosis of gastric glomus tumor and chronic active *H. pylori* gastritis was made. Laparoscopic excision of the 2.5 x 2.3 x 1.9 cm tumor was performed with free margins, three (0/3) negative perigastric lymph nodes and no evidence of vascular invasion. Pathology interpreted as glomus tumor of the stomach. Discussion: Although they may be located anywhere in the body, glomus tumors are most commonly found in the distal peripheral soft tissues of the fingers and toes. Gastric glomus tumors are rare, and generally considered benign solitary neoplasms. However, cases of multiple glomus tumors of the stomach and gastric glomus tumor with liver metastasis have been described and therefore, surgical resection is generally recommended.

P622

INCOMPLETE CARNEY TRIAD, METASTATIC GIST, AND JPS IN A YOUNG WOMAN: A CASE REPORT AND LITERATURE REVIEW

M. C. Hatara, MD,[1] G. Aragon, MD,[2] M. L. Borum, MD, EdD, MPH[2]. 1. Internal Medicine, George Washington University, Washington, DC; 2. Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC.

Purpose: We report a rare case of incomplete Carney triad with metastatic Gastrointestinal Stromal Tumor (GIST), extra-adrenal paraganglioma and a rare association with Juvenile Polyposis Syndrome (JPS).
Methods: A 16-year-old female presented with symptoms of dyspnea on exertion and fatigue. Initial evaluation revealed iron-deficiency anemia and she was placed on iron supplementation. When her anemia continued to worsen, a CT scan of the abdomen was obtained, which revealed a large gastric mass. She underwent EGD and biopsies showed a GIST which was eventually resected. The large tumor extended through the gastric wall to involve subserosal fat without lymph node involvement. Immunohistochemistry confirmed the diagnosis of GIST. There were also multiple benign gastric polyps in the gross pathologic specimen, consistent with JPS. Restaging with an EGD, seven years later, showed a benign gastric polyp. However, CT of the abdomen showed a 1.5-cm retroperitoneal mass that was later found to be an extra-adrenal paraganglioma with immunohistochemical staining positive for neuroendocrine markers. A PET scan showed several new hepatic nodules consistent with metastatic GIST. She was started on Gleevec and eventually underwent right adrenalectomy, resection of the right liver lobe and thermal ablation of the liver metastasis.
Results: Carney triad is an extremely rare syndrome, with fewer than 30 cases reported with all three tumors present, and fewer than 100 incomplete cases having two of the three tumor types present. Typically, GISTs and chondromas are encountered in incomplete cases. We describe a case of incomplete Carney triad with two elements of Carney triad: metastatic GIST, extra-adrenal paragangliomas and a rare association with JPS, previously not described in the literature. The third element, a pulmonary chondroma, has yet to be detected. Carney triad predominately affects females in over 80% of cases, with the first tumor appearing in the teenage years. The first tumor identified most often is a gastric GIST. Due to a time lapse of many years between identification of the first tumor and appearance of the second type of tumor, all pediatric GIST cases should be considered as potential Carney triad cases. The prognosis is better compared to GIST alone in adults, with a slow course of progression even after metastasis has occurred. The natural course of disease, although indolent, was associated in many cases with severe morbidity due to multiple resections of pulmonary chondromas and paragangliomas.
Conclusion: The case illustrates the need for early recognition to detect the component tumors at a stage when surgery may be curative. Careful long-term follow-up is needed because of the tendency to develop other malignant tumors.

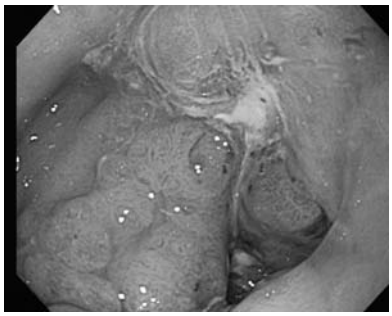
P623

AN UNUSUAL CASE OF AMYLOIDOSIS MASQUERADING AS GASTRIC CANCER

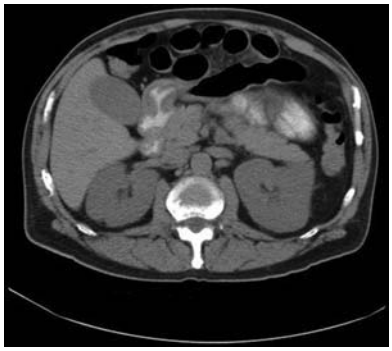
A. Reddy, MD, MPH,[1] J. Altawil, MD,[2] F. Antaki, MD[1]. 1. Gastroenterology, Wayne State University, Detroit, MI; 2. Medicine, Wayne State University, Detroit, MI.

Purpose: Gastrointestinal involvement in amyloidosis is well recognized and involves infiltration of the muscularis propria with amyloid leading to dysmotility. While the oral cavity, small bowel and rectum are most commonly affected, gastric involvement is rare, more likely to be of lambda subtype, and usually presents with symptoms of gastroparesis. We present a 59 yr old male with a recent diagnosis of end-stage renal disease who was evaluated for progressive nausea, vomiting and weight loss. Endoscopy revealed a fungating circumferential mass in the antrum with near complete gastric outlet obstruction, very suspicious for malignancy. Forceps biopsies taken on 2 separate occasions showed an inflammatory process with granulation tissue formation and focal eosinophilic deposition. Congo red staining suggested amyloid material in the deep parts of the biopsies. CT scan showed antral mucosal thickening with luminal narrowing. Due to persistent suspicion for malignancy, the patient was referred for surgery. An antral mass was palpated and antrectomy with Bilroth-II gastrojejunostomy were performed. Pathology showed infiltration of the muscularis propria with amyloid material. Workup revealed increased kappa light chains in the urine and a monoclonal spike on serum protein electrophoresis. Bone marrow analysis confirmed multiple myeloma.

Conclusion: Although gastrointestinal amyloidosis is well known, gastric involvement is uncommon. So far, only two other cases of gastric outlet obstruction from amyloidosis have been reported. This case illustrates an unusual presentation with gastric outlet obstruction and a mass lesion mimicking malignancy in association with multiple myeloma.



Endoscopic View



Apple-core lesion on CT

P624

MAKING A STRONG CASE FOR DELAYED GASTRIC EMPTYING

A. B. Cummins, MD, MS, L. Nguyen, MD. Gastroenterology, California Pacific Med. Center, San Francisco, CA.

Purpose: A 79 year old Fijian female, was admitted to an outside hospital for progressively worsening shortness of breath over the preceding 6 months, for which she had been treated intermittently with oral steroids without relief. She had an extensive work up including CT of the chest which was negative for pulmonary embolism but revealed cystic bronchiectasis. Subsequent brochoscopy showed only nonspecific inflammatory cells. She was thus treated with high dose IV steroids for cystic bronchiectasis and COPD exacerbation, with no history of tobacco use. Approximately 1 month into her hospitalization, she developed dysphagia, nausea, vomiting, diarrhea and weight loss. She had an upper endoscopy that showed an esophageal ulcer, and biopsies showed HSV and *H. pylori*. She was treated for both with acyclovir and triple therapy respectively. However, despite treatment she still had complaints of dysphagia and weight loss. A gastric emptying study showed delayed gastric emptying. She was treated with NG decompression, Metaclopramide and Erythromycin without improvement. She eventually became TPN dependent. After 1 month without improvement in her GI symptoms, she was transferred to our institution for further management and evaluation for a gastric neuro-stimulator. At our institution, she had confirmed gastroparesis with a 4 hour gastric retention of 75%. EGD showed Candida esophagitis, antral punctuate hemorrhagic lesions and duodenal edema, congestion and erythema. Limited biopsies of the duodenum were done since the patient was on Plavix. Esophageal manometry showed diffuse esophageal spasm. The antroduodenal manometry showed a neuropathic pseudo-obstruction. However, biopsy results showed larva in the duodenal glands consistent with Stonglyloides Stercoralis infection. This diagnosis helped explained both her pulmonary and gastrointestinal symptoms, likely exacerbated by her chronic steroid use. She was slowly tapered off her steroids and treated with Ivermectin and Mebendazole. Within 1 week of therapy, her symptoms improved and she was able to start eating again without nausea and vomiting.

Results: S.Stercoralis can present with vague gastrointestinal symptoms such as nausea, vomiting, diffuse abdominal pain and malabsorption. In hyper infection syndrome there may be complete disruption of the mucosal wall, ulcerations, and paralytic ileus. The definitive diagnosis is often difficult to make but is usually made on the basis of detection of larvae in the stool. Treatment is often difficult as well, as S. Stercoralis requires complete eradication to remove the potential danger of hyper infection and death. Ivermectin is the best studied and currently recommended for treatment.

P625

SWEET'S SYNDROME: A CLUE TO GASTRIC CANCER

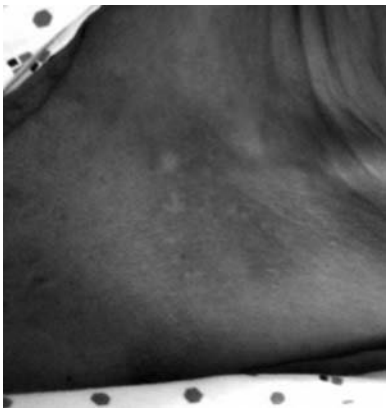
N. Anand, MD, D. Greenwald, MD. Gastroenterology, Montefiore Medical Center, Bronx, NY.

Purpose: A case of a patient with gastric cancer presenting with Sweet's syndrome.

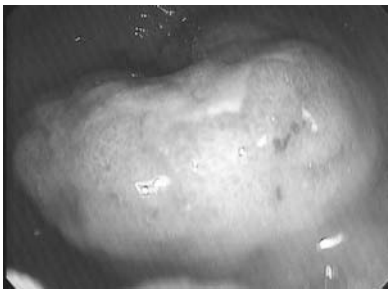
Methods: case report; review

Results: A 52 yr old Dominican man, with a history of HTN and PUD, presented to our institution complaining of nausea, vomiting, abdominal pain and a rash for 3 months. The rash was a tender erythematous rash that had appeared at the base of his neck. The patient underwent an EGD with endoscopic ultrasound, which demonstrated gastric cancer, stage T3N1. A biopsy was done and the pathology was consistent with poorly-differentiated adenocarcinoma. An exploratory laparotomy revealed diffuse cancer with extension to the peritoneal cavity. In addition, dermatology was consulted and a biopsy of the rash present on the upper chest revealed Sweet's syndrome or acute febrile neutrophilic dermatosis. The patient was treated with topical steroids with resolution of the rash. He had a lengthy hospital stay, but ultimately was discharged to follow-up for palliative chemotherapy.

Conclusion: Sweet's syndrome was originally described in 1964. It now is commonly divided into classic Sweet's syndrome and a malignancy-associated form. It appears that about 10-20% of patients with Sweet's syndrome have an associated malignancy. Of these, about 85% are associated with hematologic malignancies and 15% are associated with solid tumors. Sweet's syndrome is characterized by fever, neutrophilic leukocytosis, painful erythematous cutaneous plaques, neutrophilic infiltration of the dermis, and a rapid therapeutic response to steroids. The skin lesions typically are tender, gradually enlarge and are located on the upper extremities, head and neck. The treatment of choice is corticosteroids.



Classic erythematous rash of Sweet's syndrome



Endoscopic images of the patients gastric cancer.

P626

A MIMICKER OF CROHN'S DISEASE: LINITIS PLASTICA

E. H. Choi, MD, W. Strum, MD. Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA.

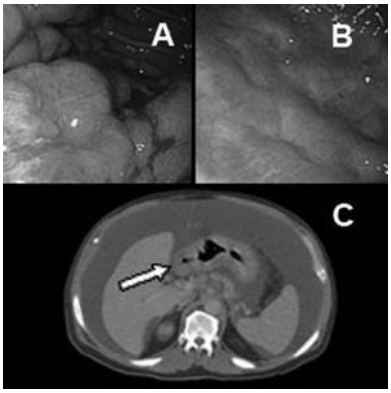
Purpose: Linitis plastica is the diffuse type of gastric adenocarcinoma in which the individual cells infiltrate the gastric wall without forming a discrete mass. It typically presents in younger patients and portends a poorer prognosis than the intestinal type of gastric adenocarcinoma. We present a case of metastatic linitis plastica, which was initially misdiagnosed as Crohn's disease.

Methods: Case report

Results: A 55 year old male presents with pain on defecation, tenesmus, intermittent hematochezia and epigastric abdominal pain. His symptoms began 7 months prior to presentation, during which time he lost 30 lbs. The patient underwent an upper endoscopy and colonoscopy, demonstrating gastric mucosal erythema as well as a stricture and area of erythema in the dis-

tal sigmoid. Biopsies of the gastric and colonic mucosa demonstrated "inflammatory changes". The patient was diagnosed with Crohn's disease and started on a course of steroids and mesalamine. Despite two months on this regimen, the patient's condition did not improve and the patient was referred to a tertiary care center. A repeat endoscopy demonstrated a poorly distensible stomach (Fig A) and a loss of rugal folds in the body of the stomach (Fig B). Colonoscopy again demonstrated a stricture in the sigmoid colon. Biopsies from both the stomach and sigmoid colon demonstrated a diffuse, poorly differentiated carcinoma with signet ring cells. A CT scan of the abdomen and pelvis demonstrated diffuse wall thickening of the stomach (Fig C) and the rectum. The patient was diagnosed with linitis plastica with metastases to the colon. The patient decided to pursue hospice care.

Conclusion: In the setting of mucosal inflammation, endoscopic forcep biopsies may not reveal an underlying layer of malignant tissue, which can lead to a delay in diagnosis as in the case presented. However, the combination of a poorly distensible stomach, a diffuse loss of rugal folds in the body of the stomach and a history of weight loss should raise suspicions of malignancy, and specifically linitis plastica. Although a relatively uncommon malignancy, a high index of suspicion and recognition of the characteristics of this malignancy aid earlier diagnosis.



P627

ZINC-INDUCED HYPOCUPREMIA: A RARE CAUSE OF ANEMIA AND NEUTROPENIA IN THE POST-GASTRIC BYPASS PATIENT

E. H. Choi, MD,[1] K. Antonio, MD,[2] W. Strum, MD[1]. 1. Gastroenterology and Hepatology, The Scripps Clinic, La Jolla, CA; 2. Internal Medicine, The Scripps Clinic, La Jolla, CA.

Purpose: Copper is absorbed in the stomach and small intestine, and patients with gastric bypasses are at risk for hypocupremia. Zinc, which is critical in cell growth, wound healing and host immunity, induces an increase in the protein, metallothionein, which preferentially binds copper within the gastrointestinal tract and prevents copper absorption. Zinc supplementation is frequently provided to patients after gastric bypass to prevent zinc-deficiency. We report a rare case of zinc-induced hypocupremia in a Billroth II patient, resulting in anemia and leukopenia.

Methods: Case Report

Results: An 81 year old male with a remote history of severe upper gastrointestinal bleeding related to peptic ulcer disease, necessitating a Billroth II operation 20 years ago, presented with exercise intolerance. The patient had a history of hypertension-related chronic renal disease with a Hgb of 11 g/dL (normal 12-15) and a normal absolute neutrophil count (ANC) at baseline. However over the course of 6 months, the patient's Hgb and ANC declined to 7.7 g/dL and 0 K/cumm, respectively. Despite treatment with darbepoetin, the patient's anemia did not improve. A bone marrow biopsy was performed, which demonstrated vacuolated RBC and WBC precursors, characteristic of hypocupremia (Figure 1). Further blood work demonstrated a copper level of 2 ug/dL (normal 80-155) and a ceruloplasmin of 4 mg/dL (normal 22-58). The patient was on zinc supplements since his Billroth II operation. Zinc level was 137 ug/dL (normal 60-120). The patient was diagnosed with zinc-induced hypocupremia as the cause of his anemia and neutropenia. His zinc supplements were stopped and an oral copper preparation was initiated. On two month follow-up, the patient's Hgb and WBC counts normalized.

Conclusion: Copper is absorbed in the proximal gastrointestinal tract. A Billroth II operation in conjunction with the antagonistic effects of zinc on copper absorption predisposed our patient to hypocupremia, resulting in anemia and neutropenia. Zinc-induced hypocupremia represents a rare condition. Only 25 cases have been described since its first report in 1977. The aim of this case report is to raise awareness of the possible deleterious effects of zinc supplementation in the post-gastric bypass patient.

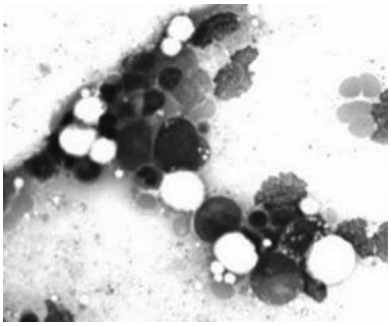


Figure 1

P628

GRANULOMATOUS GASTRITIS IN TWO PATIENTS WITH *HELICOBACTER PYLORI* INFECTION

R. Concha, MD,[1] A. Aytaman, MD,[2] M. Butt, MD,[1] R. Wieczorek, MD,[3] F. Desoto-Lapaix, MD,[3] G. Fruchter, MD[2]. 1. Gastroenterology and Hepatology, SUNY downstate Medical Center, Brooklyn, NY; 2. Gastroenterology, VA New York Harbor Health Care System, Brooklyn, NY; 3. Pathology, VA New York Harbor Health Care System, Brooklyn, NY.

Purpose: To support the possible role of *H. pylori* infection in the development of granulomatous gastritis. Case 1: A 25 year old male with no prior medical history presented with epigastric pain. EGD showed diffuse antral erythema with a beefy red appearance of the mucosa. Representative biopsies revealed severe chronic inflammation with scattered non-caseating granulomas. *H. pylori* organisms were identified. Stains for acid-fast bacilli and fungi were negative. PPD was negative. ESR was normal. CT chest was negative for hilar adenopathy. Patient was given clarithromycin based triple therapy for 14 days and his epigastric pain resolved. EGD repeated 6 weeks later demonstrated severe antral erythema with a nodular appearance. Biopsies revealed a single non-caseating granuloma, chronic inflammation and no *H. pylori* seen. Case 2: 64 year old male presented with upper GI bleed. EGD was performed and showed nodular antral mucosa with multiple shallow ulcerated lesions. Biopsies showed marked chronic active gastritis and non-caseating granuloma. *H. pylori* organisms were identified. Stains for acid-fast bacilli and fungi were negative. CRP, C-ANCA, and ACE-1 levels in serum were normal. CXR was normal. Patient received clarithromycin based triple therapy for 14 days. EGD repeated 6 weeks later revealed complete healing of the antral ulcerations. Biopsies revealed a single non-caseating granuloma, chronic inflammation, and no *H. pylori* infection seen. Discussion: Isolated granulomatous gastritis (IGG) is a very rare entity. It refers to an idiopathic chronic granulomatous reaction limited to the stomach. The diagnosis of IGG is made by the exclusion of other granulomatous diseases, such as Crohn's disease, sarcoidosis, infections (e.g., tuberculosis, histoplasmosis, syphilis), foreign bodies, malignancy, or vasculitis. Miyamoto et al. recently described a possible association of IGG with H pylori since the granulomatous gastritis resolved in two patients one year after successful eradication of H pylori. In our cases we observed clinical improvement with *H. pylori* eradication. However, incomplete resolution of granulomas was noted, possibly due to the short term endoscopic follow up after *H. pylori* eradication. The natural history and the optimal therapy of IGG have not been yet established.

P629

AZATHIOPRINE-INDUCED EOSINOPHILIC LUNG NODULES IN A PATIENT WITH CROHN'S DISEASE

M. Rivera, MD,[1] A. Conde, MD,[2] J. R. De Jesus, MD,[3] J. Santana, MD,[2] M. Correa, MD,[3] E. A. Torres, MD, MACP, MACG, AGAF[4]. 1. Gastroenterology Section, Department of Internal Medicine, UPR school of Medicine, San Juan, PR; 2. Infectious Diseases Section, Department of Internal Medicine, UPR School of Medicine, San Juan, PR; 3. Department of Pathology, UPR school of Medicine, San Juan, PR.

Purpose: Case Report of an unusual case of azathioprine induced eosinophic lung nodules in a patient with Crohn's Disease

Methods: Clinical Vignette

Results: Azathioprine- induced Eosinophilic Lung Nodules in a Patient with Crohn's Disease

Conclusion: An 11-year-old girl with fistulizing Crohn's Disease (CD) for 18 months presented with multiple bilateral lung nodules. She was initially treated with metronidazole and methylprednisolone. Azathioprine was added after tapering down steroids and continued for 16 months. Two weeks after discontinuation of medications she developed abdominal pain, fever, weight loss, bloody stools, and active perianal disease. She was admitted to our center with active Crohn's Disease. On admission, she had leukocytosis with eosinophilia. A Chest X-ray showed bilateral nodular infiltrates. Chest CT scan revealed multiple scattered nodular infiltrates with cavitations within the soft tissue densities and no lymphadenopathy. Abdominopelvic CT scan showed diffuse thickening from the transverse colon to rectum. The patient received broad spectrum antibiotics. Infectious workup was negative. Echocardiogram showed no vegetations. Small bowel series, upper endoscopy and colonoscopy revealed focal active colitis with non-specific ileitis, and eosinophilia. Biopsy of the nodules revealed abundant microabscesses of eosinophils and macrophages. Immuno-histochemistry was negative for Langerhan's cell histiocytosis. The diagnosis was drug induced eosinophilic pneumonia. She was discharged on metronidazole, amoxicillin-clavulanate and mesalamine. After two weeks, eosinophilia resolved and a follow up chest CT scan demonstrated complete resolution of the nodules. Infliximab was started for the treatment of fistulizing CD. This is an unusual case of azathioprine induced eosinophic lung nodules in a patient with CD. The most common toxicity reported with this drug is a type 1 and 3 hypersensitivity reaction. Inflammatory bowel disease causes pulmonary complications; and the medications available for treatment are also associated to lung pathology. Multiple lung nodules with micro abscesses of eosinophils is an unusual finding in CD. In the absence of an infectious cause, the possibility of azathioprine induced EP was considered. Peripheral eosinophilia, the presence of eosinophilic nodules in relation to administration of the drug and radiologic resolution after removal of the medication support the diagnosis. No re-challenge was attempted.

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ORAL OR INTRAVENOUS PROTON PUMP INHIBITOR IN PATIENTS WITH PEPTIC ULCER BLEEDING AFTER SUCCESSFUL ENDOSCOPIC EPINEPHRINE INJECTION – A PROSPECTIVE RANDOMIZED COMPARATIVE TRIAL

2008 ACG Presidential Poster Award Recipient

Y. Hsu, MD, T. Yang, MD, W. Hsu, MD, H. Wu, MD, H. Lin, MD. Division of Gastroenterology, Department of Internal Medicine, Lotung Poh-Ai Hospital, Yilan, Taiwan, Yilan, Taiwan.

Purpose: We aim to assess the outcomes of oral versus low-dose intravenous proton pump inhibitor after endoscopic injection of epinephrine in patients with peptic ulcer bleeding.

Methods: This is a prospective randomized controlled trial conducted in a medical center in Taiwan. From January 2007 to December 2007, peptic ulcer patients with active bleeding, non-bleeding visible vessels or adherent clots were enrolled after successful endoscopic hemostasis achieved by injection with 10ml diluted epinephrine (1:10,000). They were randomized to receive either oral rabeprazole (RAB group, 20 mg twice daily for 3 days, and then 20mg orally once daily for 2 months) or omeprazole (OME group, 40 mg intravenous infusion every 12 hours for 3 days, and then 40 mg esomeprazole orally once daily for two months). The primary end point was the 14-day rebleeding rate. The hospital stay, volume of blood transfused, number of surgeries performed, and the mortality rates at day 14 were compared as well.

Results: A total of 156 patients were enrolled, with 78 patients allocated in the OME group and 78 in the RAB group. Rebleeding occurred in 12 patients (15.4%) in the OME group and 13 patients (16.7%) in the RAB group within 14 days (p>0.1). The two groups were not different statistically in the hospital stay (mean: 8.52days in OME group versus 8.86 days in RAB group, p>0.1), volume of blood transfusion (mean: 1231ml in OME group versus 1156ml in RAB group, p>0.1), numbers of patients requiring urgent operation (one patient of each group), and mortality rate (1 patient in OME group and 2 patients in RAB group, p>0.1).

Conclusion: Oral rabeprazole and low-dose intravenous omeprazole are equally effective in preventing rebleeding in patients with high-risk bleeding peptic ulcers after successful endoscopic injection with epinephrine.

Clinical variables of patients at entry to the study

	OME (n=78)	RAB (n=78)
Age (mean,year)	69.4	67.9
Sex (M/F)	55/23	58/20
Locations of bleeders		
Stomach	42	39
Duodenum	32	37
Esophagus	4	2
Endoscopic findings		
Spurting	3	0
Oozing	28	33
NBVV#	24	18
Clot	23	26
Gastric contents		
Blood	25	20
Coffee grounds	33	35
Clear	20	23
No. in shock	21	16
No. with medical illness	50	51
Mean ulcer size (cm)	1.06	1.12
No. with H.pylori infection	48	51
Mean hemoglobin (g/l)*	9.81(9.32~10.48)	10.31(9.83~10.85)

 # NBVV is the abbreviation of non-bleeding visible vessel
*** mean (95% confidence interval)**
No statistical significance between both groups

Outcomes of patients received oral versus low-dose intravenous proton pump inhibitor

	OME (n=78)	RAB (n=78)
Volume of blood transfusion after therapy (ml)*	1231 (487~1995)	1156 (489~1569)
No. achieving initial hemostasis	78	78
No. of rebleeding	12	13
No. of surgery	1	1
Hospital stay (days)*	8.52 (7.42~9.55)	8.86 (7.32~9.67)
No. of deaths	1	2

*** mean (95% confidence interval)**
No statistical significance between both groups

P631

DOES TRAINEE INVOLVEMENT IN COLONOSCOPY AFFECT CECAL INTUBATION AND POLYP DETECTION RATES?

L. M. Kogan, MD, M. A. Cerulli, MD. Division of Gastroenterology and Hepatology, New York Methodist Hospital, Brooklyn, NY.

Purpose: There is an increased interest in endoscopic performance indicators. Currently cecal intubation rates along with adenoma detection rates and colonoscope withdrawal time are being viewed as such performance indictors. A number of studies have been done to assess factors that could potentially affect these indicators. Factors such as inpatient status, female sex, and immobility, among others, have been associated with decreased cecal intubation rates. Trainee involvement could be another factor affecting quality indicators. There are very few studies that evaluated performance indicators in relation to trainee involvement. AIM: To determine whether trainee involvement affect cecal intubationand polyp detection rates.

Methods: We retrospectively reviewed 6,027 consecutive colonoscopies that were performed on adults by six full-time gastroenterologists between mid-2003 and 2007 at a high-volume endoscopy unit in a large urban hospital. All colonoscopies by trainees were supervised by teaching attendings. For each colonoscopic procedure, trainee involvement, polyp findings, extent of the exam, type of anesthesia, patients age, sex, inpatient or outpatient status, were summarized and analyzed using Student t-test and Fischer's exact tests as indicated. P<0.05 was considered to be significant.

Results: Overallcecal intubation rate was 93%. Trainees participated in 28% of all colonoscopies. Colonoscopies with trainees' involvement had 94% cecal intubation rate compared with colonoscopies performed by attending gastroenterologists alone, 93%. The difference was statistically insignificant, P=0.4. Trainees had 42% polyp detection rate compared with attending gastroenterologists, who had 41% detection rate, P=0.5. Mean age of the patients undergoing colonoscopy with trainee involvement was older as compared to colonoscopies done by attending gastroenterologists alone, 60 (SD 13) and 58 (SD 14) respectively, P=0.0005. Female patients constituted 63% of both groups. The percentage of outpatient colonoscopies was the same for trainees and attendings (88%).

Conclusion: Results of this study do not suggest a significant effect of trainees' participation on cecal intubation andpolyp detection rates.

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SCREENING COLONOSCOPY IN OLDER MEDICARE BENEFICIARIES. DO WE CONSIDER PROGNOSIS?

D. Koya, MD, MSCR,[1] J. G. Chen, MD, PhD,[2] W. P. Moran, MD, MS[2]. 1. Division of Digestive diseases & nutrition, University of South Florida, Tampa, FL; 2. Internal Medicine, medical University of South Carolina, Charleston, SC.

Purpose: Due to lack of clinical trial data to support colon cancer screening in adults older than 75 years and also due to the heterogeneity of this population with varying health states, an individualized approach to colon cancer screening considering their prognosis is recommended. Since Medicare began to reimburse for screening colonoscopy in average risk adults in year 2001, there has been a steady increase in screening colonoscopy rates in older adults. However it is unclear whether screening colonoscopy is targeted to healthy older adults who would benefit the most and avoided in those with limited life expectancies. We sought to determine the relationship between 4-year mortality risk (prognosis estimate) and use of colonoscopy in the elderly Medicare population in a cross-sectional study using Medicare Current Beneficiary Survey 2003 (MCBS) data.

Methods: The MCBS is a survey of a nationally representative sample of Medicare beneficiaries, which provides comprehensive information of their health status & physical function and health services. We analyzed colonoscopy use in the previous 5 years, across 4 strata of mortality risk in Medicare beneficiaries, ≥ 75 years old. Beneficiaries with colorectal cancer history were excluded. 4-year mortality risk was derived from a published and validated prognostic index with 4 strata of increasing probability of death in four years (risk groups 1, 2, 3 and 4 with 4%, 15%, 42% and 64% risk of 4-year mortality, respectively). Multivariable logistic regression was used to assess the independent association between 4-yr mortality risk and colonoscopy use.

Results: Mean age of the population is 80 yrs ; 60% females. Of the 6,732 (un-weighted sample) surveyed, 40.6% reported receiving colonoscopy in the last 5 years. There was a significant decreasing trend in the use of colonoscopy with risk groups 1, 2, 3 and 4 (42.5%, 43.5%, 38% and 35.5%, respectively; trend test p < 0.001). The adjusted odds of colonoscopy use were greatest in the low mortality risk group and show a gradual decline with increasing mortality risk ({OR (CI) for risk groups 1,2,3 and 4 were 1.00, 0.88 (0.72 – 1.08), 0.66 (0.52 – 0.83) and 0.58 (0.46-0.73) respectively }). Other factors significantly associated with higher colonoscopy use were male gender, black race, higher education, higher income, number of office visits, and HMO coverage.

Conclusion: The use of colonoscopy was inversely associated with 4-year mortality risk suggesting that current colon cancer screening patterns among older Medicare patients include consideration of their prognosis. Prospective studies are needed to explore the clinical application of the 4-year mortality risk prognostic index as a colon cancer screening decision tool in the elderly.

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ANEMIA WITHOUT LOW FERRITIN - DO THEY WARRANT A GI WORKUP? A PRELIMINARY HOSPITAL BASED STUDY

V. Kurupath, MD, , M. Singh, MD, , K. Mazumdar, MD, , N. Sonpal, MD, , S. Anand, MD, . Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY.

Purpose: Endoscopic evaluation of the gastrointestinal tract in patients with iron deficiency in men and postmenopausal women is warranted by most guidelines. The yield of endoscopy in patients with normal and high ferritin levels is unknown. In hospitalized patients with other acute medical problems, the ferritin levels can be elevated and may mask a true iron deficiency anemia. The aim of the study is to analyze the yield of endoscopy in patients with anemia but with a normal or high ferritin.

Methods: Retrospective review of adult men and postmenopausal women that were admitted with anemia to a teaching community hospital for a period of nine months. Only the patients who had an anemia workup with hematological indices were included. A ferritin level of over 100ng/ml was considered as normal or high. Endoscopic procedure reports and pathology reports were analyzed. Gastrointestinal(GI) lesions that were counted as a cause or contributing to the anemia were malignancy, angiodysplasias, polyps, colitis, high grade esophagitis, erosive and hemorrhagic gastritis and extensive diverticulosis.

Results: In the nine month period 340 patients had anemia work up with hematological indices documented. The mean age was 62.2 years with 34% males and 66% females. 209 patients fit the subset of anemia with normal or high ferritin levels. 70 of these patients had a GI workup. 50% had both upper endoscopy and colonoscopy. 32% had upper endoscopy alone and 18% had colonoscopy alone. The findings were: malignancy 11% (10% colon carcinoma and 1% gastric carcinoma), colitis 2.8%, erosive/hemorrhagic gastritis 14%, grade C esophagitis 4%, peptic ulcer 2.8% and angiodysplasia 4.2%.
Conclusion: Anemia with normal or high ferritin does not conclusively rule out anemia due to blood loss in a hospitalized patient. GI workup will be beneficial in these patients especially because of the incidence of malignancies noted. A prospective or large retrospective study will need to be undertaken to prove this hypothesis.

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PERSPECTIVES AND ATTITUDES OF INTERNAL MEDICINE RESIDENTS TO CHAPERONS USE DURING RECTAL EXAMINATIONS – A DISCONCERTING DISCOVERY

V. Kurupath, MD, ,[1] N. Sonpal, MD, ,[2] S. Mathur, MD, ,[2] C. Bastien, MD, ,[2] M. Arya, MD, [2]. 1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Gastroenterology, Wyckoff Heights Medical Center, Brooklyn, NY.

Purpose: Among residents, there is wide discrepancy for the use of chaperons during various aspects of the physical examination. Reasons typically cited to justify the use of a chaperon include medico-legal protection for the physician, the need for an assistant and patient comfort. To further explore the issue of residents and their use of chaperons during rectal exams
Methods: Seventeen question survey was developed and distributed to all residents in the Internal Medicine training program at four community based hospitals. The survey was broken into three parts; attitudes towards chaperons, practicality, and performance
Results: 147 residents were surveyed (60% male; 40% female) and upon compilation of their surveys, it was found that nearly 71% of residents do not feel chaperons are required for rectal examinations and don't routinely use them; but more startling was that 84% of these residents perform a rectal sometimes or never at all. Additionally 73% of the residents do not feel a chaperon is necessary for the examination of the patient of the same sex; yet 43% stated the sex of the patient does influence their decision on whether a chaperon is needed. The top three reasons cited for need of a chaperon were medical legal, patient comfort, and physician safety. Yet the top three impediments for chaperon use in a hospital is unavailability of ancillary staff, lack of privacy for the overall exam, and time constraints. The ancillary staff members most often sought out were nurses, technicians, and finally clerks. When gauged if having a chaperon present, affects the resident's performance 34.6% said it increased their comfort, 30% said it decreased apprehension, while 48% said it affected their anxiety. Upon queries regarding chaperon presence would increase patient comfort, 99% stated in the positive. Finally 60% stated they would conduct a rectal exam regardless of w chaperon is presence; if the exam was pertinent.
Conclusion: From these results it is evident that residents should understand the issues and possible medico-legal consequences of not using chaperons. We feel that issues involving the use of chaperons should be specifically addressed during medical student and resident training.Furthermore data from patient's perspective attitude and comfort with chaperon is limited.

P635

COST-EFFECTIVENESS OF EMPIRIC PPI THERAPY IN THE TREATMENT OF LARYNGOPHARYNGEAL REFLUX SYMPTOMS

R. H. Lee, MD. Division of Gastroenterology, University of California San Diego, San Diego, CA.

Purpose: Because of the association between Laryngopharyngeal Reflux (LPR), and Gastroesophageal Reflux Disease (GERD), experts have recommended empiric proton pump inhibitor (PPI) therapy for the treatment of LPR symptoms. The primary aim of this study was to determine the cost-effectiveness of this approach among a hypothetical cohort of patients with typical LPR symptoms.
Methods: A decision tree (Figure 1) was constructed to compare four strategies: 1) Empiric PPI therapy 2) 24-hour pH testing and treatment with PPI's if positive 3) Upper endoscopy and PPI treatment if there is evidence of erosive esophagitis (EE) 4) "Do Nothing" strategy. Cost estimates were from a third-party payer perspective. The primary outcome was the cost per additional case of GERD successfully treated at 3 months.
Results: Under base case conditions "Do Nothing" was the cheapest but least effective approach (Figure 2). Compared to "Do Nothing," empiric PPI therapy was the most cost-effective strategy with an incremental cost-effectiveness ratio (ICER) of $4244 per additional case of GERD successfully treated. 24-hour pH testing was only slightly less cost effective with an ICER of $4667. Upper endoscopy was dominated through the concept of extended dominance. Tornado analysis determined that the model was most vulnerable to uncertainty in: 1) Response to empiric PPI therapy 2) probability of a positive pH test 3) cost of empiric PPI therapy. Empiric PPI therapy was the most cost-effective approach if the probability of response was greater than 49% and the cost of treatment was less than $906. pH testing became the more cost-effective strategy when the probability of a positive pH test was greater than 50%.
Conclusion: Empiric PPI therapy is the most cost-effective approach to LPR symptoms but only within the context of a given set of clinical and economic parameters.

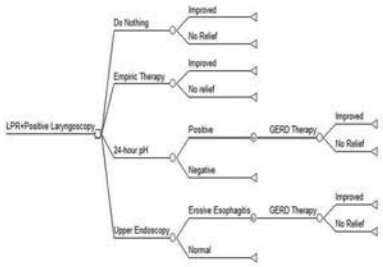

Figure 1: Decision Tree

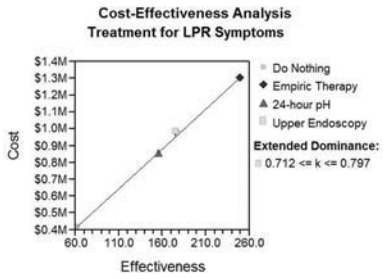

Figure 2: Cost-Effectiveness Frontier

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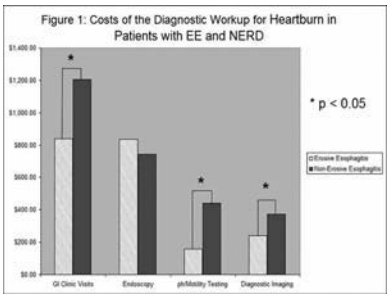
A COST ANALYSIS OF THE DIAGNOSTIC WORKUP OF HEARTBURN SYMPTOMS IN PATIENTS WITH EROSIVE AND NON-EROSIVE REFLUX DISEASE

R. H. Lee, MD,[1] J. S. Weissman, MD[2]. 1. Division of Gastroenterology, University of California San Diego, San Diego, CA; 2. Internal Medicine, University of California San Diego, San Diego, CA.

Purpose: Gastroesophageal Reflux Disease (GERD) is the most common cause of outpatient visits to gastroenterology clinics in the United States. While many studies have examined the epidemiologic differences between patients with Non-Erosive Reflux Disease(NERD) and Erosive Esophagitis (EE), very few have compared the utilization of health care resources in these two patient groups. Our goals were: 1) Compare the costs of the diagnostic workup for heartburn symptoms in patients with NERD and EE 2) Identify the key areas which account for disparities in health care costs.
Methods: A chart review was performed on 122 patients who underwent upper endoscopy for heartburn symptoms at the San Diego Veterans' Affairs Hospital from 2000-2007. Patients were then divided into two categories: 1) EE based upon the presence of esophageal erosions on upper endoscopy (n=56) 2) NERD based upon the absence of endoscopic erosions (n=66). Using cost data, we then calculated the per patient cost of performing a diagnostic workup for heartburn symptoms in these two patient groups.
Results: There were no significant differences in the age, gender, BMI or the presence of hiatal hernia in the two groups (table 1). 54% of the NERD group had a concomitant psychiatric disorder compared with 37.5% in EE (p=0.03). The cost of the diagnostic workup for NERD was $2793.26 per patient compared with $2091.00 per patient in the EE group (p=0.027). While the utilization of endoscopy was similar in both groups, utilization of GI clinic visits, pH/motility testing, and diagnostic imaging was greater among patients with NERD (Figure 1). Overall, pH/motility testing and GI clinic visits accounted for 40% and 51% respectively of the extra costs found in the NERD group.
Conclusion: Health care utilization is greater in NERD than in EE. This may be a consequence of the fact that patients with NERD have a lower response rate to PPI therapy, thus prompting more frequent clinic visits. In addition, the over-utilization of motility/pH testing and diagnostic imaging in NERD may also drive up costs. The increased rate of co-morbid psychiatric disease in NERD raises the possibility that somatization may lead to the increased use of health care resources.

Table 1: Patient Characteristics

	Non-Erosive Esophagitis (n=66)	Erosive Esophagitis (n=56)	p
Age	56	56	ns
Gender	Male (84%) Female (16%)	Male (90%) Female (10%)	ns
Hiatal Hernia	42%	35%	ns
Psychiatric Co-morbidity	54%	37.5%	0.03



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TRIPLE VERSUS QUADRUPLE THERAPY AS PRIMARY TREATMENT FOR *HELICOBACTER PYLORI* INFECTION: A META-ANALYSIS OF EFFICACY AND TOLERABILITY

J. Luther, MD,[1] P. Schoenfeld, MD,[1] P. Moayyedi, MB ChB, PhD, MPH,[2] N. Vakil, MD,[3] S. George, PharmD, MS,[4] W. D. Chey, MD[1]. 1. University of Michigan Medical Center, Ann Arbor, MI; 2. McMaster University, Hamilton, ON, Canada; 3. University of Wisconsin Medical School, Milwaukee, WI; 4. Conexus Health, Tampa, FL.

Purpose: The American College of Gastroenterology guideline recommends 2 first line therapies for *H. pylori* infection: PPI, clarithromycin, & amoxicillin (triple therapy) or PPI, bismuth, tetracycline, & metronidazole (quadruple therapy). A number of randomized trials have compared the efficacy and tolerability of these therapies. We performed a meta-analysis to compare the efficacy and tolerability of triple versus quadruple therapy as first-line treatment of *H. pylori* infection.

Methods: Search Parameters: Databases reviewed include OVID MEDLINE, CCTR, CDSR, ACP Journal Club, DARE, CLCMR, CLHTA, and CLEED. Additionally, abstracts of literature cited in selected papers were also reviewed. Search terms included: "*Helicobacter pylori*", "triple therapy", "quadruple therapy", "PPI", "omeprazole". Lansoprazole", "amoxicillin", "clarithromycin", "bismuth", "flagyl", "metronidazole", "tetracycline", "eradication", and "treatment". Criteria for Inclusion: (1)Randomized, controlled trials (2)Year of Publication after 1990 (3)Abstracts available in English (4)Trial included treatment with triple therapy and quadruple therapy (5)Same Duration of treatment with triple and quadruple therapy (6)Main Outcome Measure = ITT eradication rate. Statistical Analysis: Given homogeneity between studies, a fixed-effects model was assumed with Mantel Haenszel method used to calculate odds ratios.

Results: Eight RCTs (n=1585) met our inclusion criteria and were included in this analysis. The main results can be found in the table. Quadruple therapy achieved eradication in 77.6% of patients, while triple therapy achieved eradication in 76.1%, with no statistically significance differences between the two groups. There was heterogeneity amongst the studies included in the analysis (p=0.051). Of the three studies (n=457 patient) published since 2003, quadruple therapy achieved eradication in 71.0% vs. 68.3% for triple therapy. Compliance between the quadruple therapy and triple therapy groups were similar (OR: 0.43, 95% CI=0.19-1.01). There were also no statistically significance differences in side effects reported by patients treated with quadruple vs. triple therapy (OR: 1.03, 95% CI=0.68-1.55).

Conclusion: Quadruple and triple therapies are equally effective in eradicating *H. pylori* infection. Patient compliance and side effects were similar for quadruple and triple therapies. Quadruple and triple therapies can be considered equivalent first-line treatment options for *H. pylori* infection.

	Quad Rx (95% CI)	Triple Rx (95% CI)	OR (95% CI)
Hp Cure overall	77.6 (74.6-80.1)	76.1 (73-78.9)	1.09 (0.68-1.73)
Hp Cure since 2003	71.0 (64.7-76.5)	68.3 (62-73.9)	1.14 (0.68-1.90)
Compliance	92.5 (90.1-94.3)	96.6 (94.9-97.8)	0.43 (0.19-1.01)
Side Effects	30.1 (26.3-34.2)	30.0 (26.3-34.1)	1.03 (0.68-1.55)

Disclosure - P. Moayyedi - Axcan - consultant N. Vakil - AstraZeneca, Axcan, Eisai, TAP - consultant; AstraZeneca - research grant S. George - Axan - speaker and consultant W.D. Chey - Axcan, TAP - speaker and consultant

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AFFECT OF ADVANCING TECHNOLOGY ON THE ACCURACY IN NODAL STAGING OF GASTRIC CARDIA CANCERS BY ENDOSCOPIC ULTRASOUND: A META-ANALYSIS AND SYSTEMATIC REVIEW

S. R. Puli, MD, J. BK Reddy, MD, M. L. Bechtold, MD, A. Choudhary, MD, M. R. Antillon, MD. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO.

Purpose: To evaluate if advancing technology affected the accuracy of endoscopic ultrasound (EUS) in nodal staging of gastric cardia (GC) cancers. This was analyzed by grouping EUS studies into two time periods to standardize the change in EUS technology and the change in EUS criteria for nodal invasion. These time periods were 1990 to 1999 and 2000 to 2008. The aim of this meta-nalaysis was to evaluate the affect of technology on the accuracy of EUS in nodal staging of GC cancers.

Methods: Study Selection Criteria: Only EUS studies confirmed by surgery were selected. EUS criteria used for nodal invasion were: larger than one centimeter, hypoechoic, and round instead of elliptical. Only studies from which a 2 X 2 table could be constructed for true positive, false negative, false positive, and true negative values were included. Data collection & extraction: Articles were searched in Medline, Pubmed, Ovid journals, Cumulative index for nursing & allied health literature, International pharmaceutical abstracts, old Medline, Medline non-indexed citations, and Cochrane controlled trial registry. Two reviewers independently searched and extracted data. The differences were resolved by mutual agreement. 2 X 2 tables were constructed with the data extracted from each study. Statistical Method: Meta-analysis for the accuracy of EUS was analyzed by calculating pooled estimates of sensitivity, specificity, likelihood ratios, and diagnostic odds ratios. Pooling was conducted by both Mantel-Haenszel method (fixed effects model) and DerSimonian Laird method (random effects model). The heterogeneity of studies was tested using Cochran's Q test based upon inverse variance weights.

Results: Initial search identified 2,340 reference articles. Of these, 239 relevant articles were selected and reviewed. 7 studies (N=442) which met the inclusion criteria were included in this analysis. During the time periods of 1990 to 1999, 3 studies met the inclusion criteria. Four studies met the inclusion criteria for the time period between 2000 to 2006. Pooled estimates for these time periods are shown in table 1. All the pooled estimates, calculated by fixed and random effect models, were similar. The p for chi-squared heterogeneity for all the pooled accuracy estimates was > 0.10.

Conclusion: EUS is a good diagnostic tool to evaluate nodal metastasis of GC cancers. This meta-analysis shows that EUS specificity has improved but the sensitivity did not increased over time. EUS is an excellent diagnostic tool; however, improvements in technology and diagnostic criteria are needed to increase the sensitivity for nodal staging of GC cancers.

Table 1: Pooled diagnostic accuracy estimates of EUS for different time periods with 95 % confidence intervals

Time Period	No of Studies	Pooled Sensitivity	Pooled Specificity	Pooled Positive Likelihooe Ratio	Pooled Negative Likelihooe Ratio	Pooled Diagnostic Odds Ratio
1990 to 2000	3	77.8% (65.5 - 87.3)	92.7% (80.1 - 98.5)	7.2 (2.8 - 18.2)	0.28 (0.11 - 0.71)	36.2 (10.3 - 127.5)
2001 to 2008	4	81.3% (74.3 - 87.0)	73.6% (65.8 - 80.5)	3.0 (2.0 - 4.6)	0.28 (0.19 - 0.38)	12.6 (7.2 - 22.0)

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DOES ENDOSCOPIC ULTRASOUND'S TECHNOLOGY AFFECT ITS ABILITY TO PREDICT RECTAL CANCERS OR LARGE POLYPS THAT CAN BE RESECTED ENDOSCOPICALLY? A META-ANALYSIS AND SYSTEMATIC REVIEW

S. R. Puli, MD, J. BK Reddy, MD, M. L. Bechtold, MD, A. Choudhary, MD, F. Rashid, MD, M. R. Antillon, MD. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO.

Purpose: Rectal cancers or large polyps that are confined to the mucosa (T0) can be resected endoscopically. This can help the patient avoid transabdominal surgery. The published data on affect of changes in endoscopic ultrasound's (EUS) technology to predict T0 stage of rectal cancers or large polyps has been varied. The aim of this meta-analysis was to evaluate the accuracy of EUS technology in T0 staging of rectal cancers or large polyps.

Methods: Study Selection Criteria: Only EUS studies confirmed by surgery were selected. T0 was defined as tumor confined to the mucosa. Only studies from which a 2 X 2 table could be constructed for true positive, false negative, false positive, and true negative values were included. Data collection & extraction: Articles were searched in Medline, Pubmed, Ovid journals, CINAHL, International pharmaceutical abstracts, old Medline, Medline nonindexed citations, and Cochrane controlled trial registry. Two reviewers independently searched and extracted data. The differences were resolved by mutual agreement. 2 X 2 tables were constructed with the data extracted from each study. Statistical Method: Meta-analysis for the accuracy of EUS was analyzed by calculating pooled estimates of sensitivity, specificity, likelihood ratios, and diagnostic odds ratio. EUS studies were grouped into two time periods to standardize the changes in EUS technology and also to standardize the changes in EUS criteria for tumor staging. These time periods are 1994 to 1999 and 2000 to 2008. Pooling was conducted by both the Mantel-Haenszel method (fixed effects model) and by the DerSimonian Laird method (random effects model). The heterogeneity among studies was tested using Cochran's Q test based upon inverse variance weights.

Results: Initial search identified 3,460 reference articles. Of these, 349 relevant articles were selected and reviewed. 10 studies (N=1791) which met the inclusion criteria were included in this analysis. Pooled accuracy data for T0 staging over last two decades is shown in table 1. All the pooled estimates, calculated by fixed and random effect models, were similar. The p for chi-squared heterogeneity for all the pooled accuracy estimates was > 0.10.

Conclusion: Sensitivity and specificity of EUS to diagnose T0 stage improved over the past two decade. This is important information when considering endoscopic treatment for these patients. EUS should be strongly considered for T staging of rectal cancers.

Table 1: Shows the affect of EUS technology to diagnose T0 stage of rectal cancers

	Year	No: of Studies	Pooled Sensitivity	Pooled Specificity	Pooled Positive Likelihood Ratio	Pooled Negative Likelihood Ratio	Pooled Diagnostic Odds Ratio
T0	1994 to 1999	6	96.3% (91.6 - 98.8)	95.3% (92.4 - 97.3)	16.3 (9.4 - 28.3)	0.08 (0.03 - 0.21)	279.1 (84.0 - 926.9)
	2000 to 2006	5	100.0% (92.6 - 100.0)	96.6% (95.5 - 97.5)	25.9 (18.9 - 35.6)	0.07 (0.02 - 0.23)	540.3 (131.3 - 2223.7)

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DIFFERENCES AMONG HEPATITIS C VIRUS PATIENTS WITH SUSTAINED VIROLOGIC RESPONSES AND NON-RESPONDERS TO STANDARD TREATMENT AT A NURSE-MANAGED VETERANS AFFAIRS CLINIC

S. R. Puli, MD,[1] M. L. Matteson, FNP/GNP-BC,[1] S. Opperman, APN,[2] M. L. Bechtold, MD[1]. 1. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO; 2. Department of Gastroenterology and Hepatology, Harry S. Truman Veteran Memorial Hospital, Columbia, MO.

Purpose: Hepatitis C virus (HCV) is becoming a widely recognized pathological entity, especially in the veteran population. The veterans at a midwestern VA hospital represent a significantly rural population in which the prevalence of hepatitis C is presumed to mirror urban facilities. No data has been published to fully evaluate the differences among HCV RNA sustained virologic response (SVR) and non-responders (NR) in a rural-based VA hospital using pegylated interferon and ribavirin. The aim of this study is to evaluate the differences among patients with SVR and NR in a nurse-managed clinic in a rural midwestern VA hospital.

Methods: After IRB approval, the VA database was searched from 2000 to 2008 for all the HCV patients who underwent treatment with pegylated interferon and ribavirin. SVR was defined as serum HCV RNA < 50 IU/ml at 24 weeks of treatment. NR was defined by less than a

2-log drop in the baseline viral load by week 12. Categorical variables were compared by Fisher's exact test and chi-square test. Continuous variables were compared by parametric tests. Comparisons were made by univariant and multivariant analysis.
Results: Search identified a total of 395 patients with HCV. Of these, 113 patients were treatment with pegylated interferon and ribavirin. Complete data was available from 94 patients to determine sustained virologic responders versus non-responders or relapsers. 56 patients had SVR and 38 patients were non-responders. Table 1 shows the differences among patients with SVR and NR with the corresponding p values.
Conclusion: The rural Midwestern veteran non-responders had increased fibrosis (p=0.002) and more comorbidity (p=0.001) than hose veterans who achieved SVR, regardless of genotype, age, race, or BMI.

Table 1: Showing differences of patients with SVR and NR

	SVR	NR	p
Age	49.09±6.34	49.38±5.47	0.82
Body mass index	30.93±6.86	30.80±5.24	0.92
Fibrosis	1.70±1.36	2.53±1.09	0.002
Co-morbid illnesses	23/36	31/12	0.001
Male	56/1	38/4	0.0001
Race	56/0	34/4	0.02

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COST-EFFECTIVENESS OF NATALIZUMAB IN PATIENTS WITH CROHN'S DISEASE WHO HAVE FAILED ANTI-TNFα THERAPY
B. Sands, MD, MS,[1] D. Wolf, MD,[2] S. Panjabi, PhD,[3] T. Niecko, PhD,[4] S. Hass, PhD,[3] L. Lacey, PhD[5]. 1. Gastrointestinal Unit / MGH Crohn's and Colitis Center, Massachusetts General Hospital and Harvard Medical School, Boston, MA; 2. Atlanta Gastroenterology Associates, Atlanta, GA; 3. Pharmacoeconomics, Elan Pharmaceuticals, Inc., South San Francisco, CA; 4. Niecko Health Economics, LLC, Escondido, CA; 5. Pharmacoeconomics, Elan Pharmaceuticals, Ltd., Dublin, Ireland.
Purpose: To compare the cost-effectiveness (CE) of natalizumab (NAT) to tumor-necrosis factor alpha inhibitors (anti-TNFα) in patients with Crohn's disease (CD) who failed previous anti-TNFα treatment.
Methods: A decision analytic framework was used to model treatment for patients with moderate to severe CD (Crohn's Disease Activity Index scores ≥220 and <450). Patients are assumed to have failed treatment with corticosteroids, immunomodulators, and an anti-TNFα agent. The model compared natalizumab (NAT) 300 mg, infliximab (INF) 5 mg/kg or 10 mg/kg, adalimumab (ADA) 40 mg dosed every other week (EOW) or weekly (QW), and certolizumab 400 mg. The model includes an induction period (induction dose and schedule as per product package insert) followed by a 2-year maintenance phase. At the end of induction and each of the four 6-month maintenance cycles, patients were assigned to 1 of 3 efficacy states (remission, response, nonresponse) based on estimates from the published literature and NAT clinical data. Patients entering the nonresponse health state at any point were assumed to remain in that state for the duration of the model. Medical costs associated with resource use—including hospitalizations, surgeries, physician visits, and laboratory tests—were estimated for patients in each health state from a database assembled by Health Benchmarks International. Wholesale acquisition drug costs were obtained from published price lists. The drug costs for INF and ADA were weighted by dose (maintenance phase) based upon the distribution observed in phase 4 studies.
Results: Modeled estimates of total costs and efficacy (per person-year in remission) over the 2-year maintenance period and adjusted by dose for each comparator are presented in the table below. NAT had the lowest CE ratio using all of the following outcome measures of efficacy: remission, steroid-free remission, and response and remission. CE ratios were insensitive to increases in NAT costs (up to 100%) or decreases in NAT efficacy (up to -25%).
Conclusion: This model, based on estimates from the available published literature, projected NAT to have the lowest cost-efficacy ratio among comparator biologics for patients who had failed prior anti-TNFα therapy.

2-Year Modeled Outcomes	Natalizumab	Infliximab	Adalimumab	Certolizumab
Total Cost (Drug and Medical)	$67,090	$61,378	$60,561	$56,865
% Cost Difference Relative to NAT	-	-9%	-11%	-18%
Efficacy (Person-years in Remission)	0.37	0.19	0.23	0.17
% Efficacy Difference Relative to NAT	-	-95%	-60%	-117%
CE Ratio	$181,086	$321,727	$264,492	$333,112
% Increase in Cost/Year to Achieve Remission Over the Most Cost-effective Agent	-	+78%	+46%	+84%

Disclosure - Dr. Sands - grant support and honoraria for consulting services and for speaking: Elan Pharmaceuticals; Dr. Wolf - consultant and speakers' bureau: Elan Pharmaceuticals; Dr. Panjabi - employee, stock: Elan Pharmaceuticals; Dr. Niecko - consultant: Elan Pharmaceuticals; Dr. Hass - employee, stock: Elan Pharmaceuticals; Dr. Lacey - consultant: Elan Pharmaceuticals
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COMPARISON OF TWO GENERATIONS OF FORCEPS IN GASTRIC BIOPSY
D. Sussman, MD,[1] A. Deshpande, MD,[1] R. Grimes, MD,[2] R. Poppiti, MD,[2] J. Barkin, MD, MACG[1]. 1. Gastroenterology, Mount Sinai Medical Center/University of Miami Leonard Miller School of Medicine, Miami Beach, FL; 2. Pathology, Mount Sinai Medical Center, Miami Beach, FL.
Purpose: Obtaining high-quality endoscopic biopsy specimens is vital in making successful diagnoses or affecting a treatment plan. New forceps are continually being designed to improve yield from biopsies, but whether the newer generations are actually better is unknown. Boston Scientific (Natick, MA, USA) has designed a newer generation of large capacity biopsy forceps with jaw dimensions which are intended to provide better histologic samples. The aim of this single-center, prospective, pathologist-blinded, randomized, controlled trial was to identify whether the newer generation of large capacity forceps obtains specimens of superior size when compared to the previous generation. Secondary aims will identify superiority in adequacy, depth, crush artifact, and diagnostic yield of specimens.
Methods: 63 consecutive patients undergoing endoscopic gastric biopsy for diagnostic purposes were enrolled in the study. Patients were randomized to undergo initial biopsy from either the previous generation large-capacity, serrated jaw biopsy forceps with needle (Radial Jaw 3, RJ3) or the newer generation large-capacity, serrated jaw biopsy forceps with needle (Radial Jaw 4, RJ4). Subsequently, biopsy with forceps from the alternate arm was performed in the same patient. Biopsies were performed on random gastric mucosa and discrete masses were excluded. Biopsy specimens from each forceps were interpreted blindly by a trained pathologist for size of sample (maximal dimension measured in mm), adequacy, depth of penetration (assessed by deepest layer of tissue visualized), presence of crush artifact, and diagnostic yield.
Results: The difference between means for size of tissue biopsied was 0.45 mm (mean for RJ3 forceps: 2.87 mm, mean for RJ4 forceps: 3.32, p-value 0.013). Tissue samples were deemed adequate with ability to make diagnosis in all subjects with the RJ3 forceps (n=63, 100%) and 98.4% (62/63) of subjects with the RJ4 forceps. For the RJ3 forceps, the deepest layer reached was muscularis mucosa in 37 specimens; for the RJ4 forceps, the deepest layer reached was muscularis mucosa in 44 specimens. For crush artifact, no statistical difference was observed between forceps.
Conclusion: The Radial Jaw 4 newer generation biopsy forceps yields specimens of increased size with deeper layers of epithelium reached for gastric biopsy specimens when compared to the prior generation Radial Jaw 3 forceps. Both forceps are able to provide adequate tissue for diagnosis. No difference was observed between forceps with respect to crush artifact.
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BARRIERS TO COMPLETION OF OUTPATIENT ENDOSCOPIC PROCEDURES: THE MEMPHIS REGIONAL MEDICAL CENTER EXPERIENCE
J. I. Bessoff, MD, S. R. Kaptik, MD, K. Whitt, MD. Gastroenterology, University of Tennessee, Memphis, TN.
Purpose: To identify factors which lead to patient non-attendance in an open access endoscopy center serving a predominately underinsured minority patient population which has experienced no-show rates of 26-45% and same day cancellation rates of 26% with the hope that correction of these factors will lead to decreased no-show rates.
Methods: Patients scheduled for an outpatient colonoscopy at the Regional Medical Center in Memphis, TN between January and March 2006 were included. All patients were administered a telephone survey by a trained GI technician after their scheduled endoscopic appointment. Patients were grouped based on attendance vs. non-attendance of the procedure. Non-attendance was defined as failure to appear for the scheduled colonoscopy without notification or cancelation within 24 hours of the procedure. The non-attendance group was asked why they did not attend, if they received pre-procedure reminders, and if they had their own transportation. In addition, race, type of patient (new or returning), referral source, previous endoscopy experience, day of the week and week of the month of the scheduled colonoscopy, and a prior history of failure to attend an endoscopy appointment were determined.
Results: 522 patients were scheduled for colonscopy during the study period. 193 (37%) failed to attend and 106 patients (20%) canceled within 24 hours of their scheduled procedure. 67 patients (35%) were successfully contacted by phone. There was no significant difference between those who attended and those who did not in terms of age, sex, telephone contact one week before the procedure, week of the month, source of transportation, origin of referral, or whether or not this was their first endoscopic procedure. A significant increase in non-attendance rates was seen in patients having a previous history of missing scheduled endoscopies (p=0.0014), patients contacted by telephone at 48 hours (47 vs. 32; p=0.01) but not at 24 hours, and patients scheduled on Monday (p= 0.03) or Friday (p=0.03). 58% of successfully contacted non-attending patients cited poor communication on the part of the referral center as the main reason for non-attendance.
Conclusion: Poor communication between providers and patients was largely responsible for failed attendance at outpatient GI procedures. Other issues such as a history of not keeping appointments, day of the week of the procedure, and reason for colonoscopy play a less important role in non-attendance. While reasons for non-attendance may vary by institution, use of open ended surveys is an effective way to ascertain the reasons for non-attendance. Further studies are planned to see if better communication will improve the rate of non-attendance.

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PATIENT AND PHYSICIAN SATISFACTION WITH PROTON PUMP INHIBITORS (PPI) FOR GERD SYMPTOMS – ARE THERE OPPORTUNITIES FOR IMPROVEMENT?

W. D. Chey, MD, AGAF, FACG,[1] R. Mody, PhD, MBA,[2] E. Izat, BS, MMR[2]. 1. Division of Gastroenterology, University of Michigan Health System, Ann Arbor, MI; 2. TAP Pharmaceuticals Products Inc., Lake Forest, IL.

Purpose: Though PPIs are frequently used for the management of GERD symptoms, there is limited information on patient and physician satisfaction with PPI therapy. The purpose is to better understand the level of patient and physician satisfaction with PPI therapy and to identify predictors of satisfaction.

Methods: An Internet survey was conducted among adult GERD patients, primary care physicians (PCP) and gastroenterologists (GE). Respondents were asked to provide information on use/recommended use of PPIs and other GERD medications, level of satisfaction with current PPI therapy on a 7-point Likert scale, level of agreement to various statements regarding PPI characteristics and demographics. Multivariate regression models were employed to determine the predictors of satisfaction with PPI therapy.

Results: The study included 1013 GERD patients with mean age of 50.9 years (SD=13.5) and 1002 physicians (675 PCP and 327 GEs) with average of 16.8 years (SD=7.7) of clinical practice experience. Overall, 36% of GERD patients and 31% of physicians perceived that their patients were not very or completely satisfied with their PPI therapy. Unadjusted analysis showed that a significantly lower proportion of GERD patients on BID PPI therapy were very or completely satisfied with their therapy compared to those on QD PPI therapy (50.4% vs. 68.7%). Results of the multivariate analysis showed that complete symptom relief was the strongest predictor of satisfaction with PPI among both GERD patients and physicians. Over 35% of patients on QD PPI and 54% on BID PPI indicate that their PPI regimen fails to provide complete symptom relief. Approximately 30% of patients report experiencing breakthrough symptoms at least once a week and more than 60% of patients with breakthrough symptoms take a non-prescription medication to control their breakthrough symptoms. In addition, nearly half (47%) of all GERD patients take additional over-the-counter medications to supplement their PPI.

Conclusion: Approximately one in three GERD patients and physicians report not being very or completely satisfied with available PPI treatments. In addition, a substantial proportion of GERD patients experience breakthrough symptoms and supplement their PPI with OTC medications. These results highlight the need for additional research to further understand the pathophysiology of GERD and to identify effective therapies for patients with GERD symptoms despite traditional PPI therapy.

This research was supported by an industry grant from TAP Pharmaceutical Products Inc.

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INFLUENCE OF RESPONDER DEFINITION ON PLACEBO RESPONSE: INSIGHTS GAINED FROM PHASE III CLINICAL TRIALS WITH LUBIPROSTONE FOR IBS-C

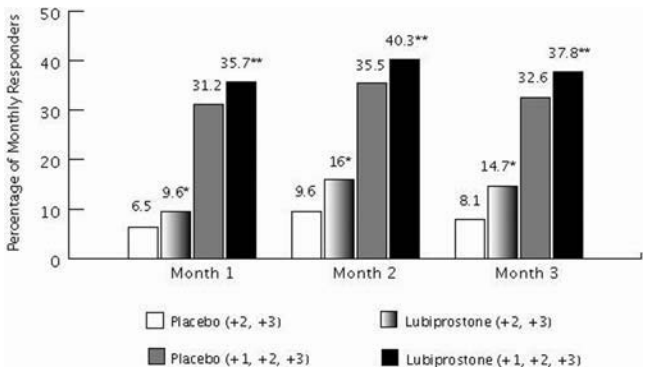
W. D. Chey, MD,[1] D. A. Drossman, MD,[2] C. Baum, MD, MS,[3] R. Ueno, MD, PhD, PhD[4]. 1. University of Michigan Health System, Ann Arbor, MI; 2. UNC Center for Functional GI and Motility Disorders, University of North Carolina, Chapel Hill, NC; 3. Takeda Pharmaceuticals North America, Inc., Deerfield, IL; 4. Sucampo Pharmaceuticals, Inc., Bethesda, MD.

Purpose: Clinical trials of pharmaceutical agents using global responder analyses in patients with irritable bowel syndrome with constipation (IBS-C) report a wide range of placebo response rates. One explanation may be the difference in the responder criteria.

Methods: A post-hoc pooled analysis of 1071 patients enrolled in 2 Phase III placebo-controlled trials of lubiprostone was performed to determine the impact of responder definitions on placebo response rates. Patients rated their relief of IBS-C symptoms over the past week compared to before they entered the study using a 7-point balanced Likert Symptom Relief Scale (-3=significantly worse to +3=significantly relieved). Monthly responder percentages in each treatment group were defined in a stringent analysis as those reporting "+2-moderately relieved" for all 4 weeks or "+3-significantly relieved" for at least 2 weeks and in a less stringent analysis as "+1-a little bit relieved" for all 4 weeks or at least "+2-moderately relieved" for at least 2 weeks within the month. Patient outcomes were reviewed to determine treatment effect differences.

Results: Inclusion of "+1-a little bit relieved" dramatically increased the placebo and lubiprostone response (Figure). Statistical comparison across patients treated with lubiprostone compared to placebo showed a significantly greater percentage of lubiprostone patients as responders in both the stringent (*p<0.0005) and less stringent (**p<0.03) analyses (p values represent a combined analysis). The overall therapeutic gain observed with lubiprostone was primarily the result of subjects with stable symptoms, dropouts and subjects who demonstrated symptom worsening shifting into the responder group.

Conclusion: Lubiprostone significantly improves the symptoms of IBS-C compared to placebo. Inclusion of "a little bit relieved" as a criterion for treatment response resulted in a greater placebo response but had little effect on the overall therapeutic gain. Treatment response definitions require consideration when evaluating individual trial findings and when making comparisons across clinical treatment trials in patients with IBS-C.



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RISK FACTORS FOR GASTROINTESTINAL ULCER DISEASE IN THE U.S. POPULATION

D. A. Garrow, MD, MSc,[1] H. E. Thompson, MD,[2] M. H. Delegge, MD[1]. 1. Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC; 2. General Internal Medicine, Medical University of South Carolina, Charleston, SC.

Purpose: Gastrointestinal (GI) ulcers are frequently seen in patients with multiple chronic medical conditions. Approximately one out of ten Americans will suffer from GI ulcer disease during their lifetime. GI ulcers cause an estimated 1 million hospitalizations and 6500 deaths per year. In the United States, annual health care costs of GI ulcer disease have been estimated at nearly $6 billion: $3 billion in hospitalization costs, $2 billion in physician office visits, and $1 billion in decreased productivity and days lost from work. Few studies have described the overall prevalence, comorbidities or risk factors associated with this diagnosis. We sought to determine among a US national dataset if individuals with certain medical comorbidities are in fact at increased risk for gastrointestinal ulcer disease, while controlling for relevant confounders. The ultimate question is whether primary prophylaxis for GI ulcer disease is necessary in certain patients with multiple chronic medical illnesses.

Methods: Data source is the National Health Interview Survey (NHIS), a comprehensive nationally-representative survey conducted by the National Center for Health Statistics, combined years 1997-2003. The NHIS was analyzed to find patients with a self-reported history of GI ulcer disease. We determined the prevalence of GI ulcer via chi-square testing and potential risk factors for GI ulcer via multivariable logistic regression.

Results: The overall prevalence of GI ulcer was 8.4%. An increased probability of ulcer history was associated with older age (OR: 1.67), African-Americans (OR: 1.20) current (OR: 1.99) and former (OR: 1.55) tobacco use, former alcohol use (OR: 1.29), obesity (OR: 1.18), chronic obstructive pulmonary disease (COPD) (OR: 2.34), chronic renal insufficiency (OR: 2.29), coronary heart disease (OR: 1.46) and 3 or more doctor visits in the last year (OR: 1.49). There was only a borderline association with diabetes (OR: 1.13), female gender (OR: 1.08) and overweight status (OR: 1.06). Hispanics were significantly less-likely to report a history of GI ulcer (OR: 0.81).

Conclusion: This large U.S population-based study reports on a number of demographic, behavioral and chronic medical conditions associated with higher risk of gastrointestinal ulcer disease. Further prospective investigation is warranted to validate these findings. This paper is the first step in addressing the question of whether primary prophylaxis for GI ulcer disease is necessary in certain at-risk populations.

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COST SAVINGS OF TRANSNASAL ENDOSCOPY VERSUS STANDARD ENDOSCOPY

I. Hepburn, MD,[1] T. Watts, MD,[2] G. Postma, MD,[2] A. Chaudhary, MD,[1] R. R. Schade, MD[1]. 1. Medicine, Medical College of Georgia, Augusta, GA; 2. Otolaryngology, Medical College of Georgia, Augusta, GA.

Purpose: Transnasal endoscopy (TNE) has been found to be an effective, safe, and well-tolerated method for examining the hypopharynx, esophagus, stomach, and duodenum that can be performed as an in-office procedure without the need for sedation.

Methods: To compare cost between TNE and standard upper endoscopy (EGD), we retrospectively examined billing records of 10 patients who had office-based TNE and compared these charges to 10 patients who underwent EGD in the hospital endoscopy suite. CPT code 43200 was used to identify patients. All patients undergoing TNE received nasal spray with oxymetazoline (0.05%) and lidocaine (4%) the Pentax VE 1530 TNE scope was employed. In EGD cases, conscious sedation was achieved with midazolam and fentanyl, and upper endoscopy was performed using standard Olympus instruments. Cost was determined by reviewing billing records and the dollar amounts were averaged for each procedure.

Results: The average cost for TNE was $1336; supply charges were negligible. Inclusive within the facility fee were charges for depreciation, cleaning, and maintenance. CPT code 43200 was used to determine the physician fee. In contrast, traditional EGD generated charges of $3700. These included the cost of medication for sedation as well as costs for nursing recovery,depreciation and cleaning and maintenance of the endoscope. The cost difference between the two procedures was $2364. In addition, since the patient does not need to miss a whole day of work and does not require a companion to accompany him home total savings are much greater than the mere charge differences.

Conclusion: TNE is well-tolerated and convenient for the patient; it is significantly less expensive than hospital-based EGD. Since no sedation is used, recovery time is minimal, there is no need for a separate appointment or driver, and normal daily activities can be resumed almost immediately after the procedure, greatly diminishing total procedure and patient costs. The TNE endoscope is significantly smaller than the EGD equipment (OD 5.1 mm in TNE vs. OD 8.6-11mm in EGD endoscope). The biopsy channel in TNE is only 2 mm (compared with 2.8 mm in EGD), allowing only small biopsies to be obtained as needed. Transnasal esophagogastroduodenoscopy offers significant savings and convinience when compared to standard EGD. It can be performed in an unsedated patient in the office setting quickly and easily. Gastroenterology training programs should offer instruction in this important technique which can also be used for the evaluation of swallowing disorders.

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CAN USE OF CAPSULE EDOSCOPY REDUCE PRISON HEALTH CARE COSTS?

I. Hepburn, MD,[1] A. Chaudhary, MD,[1] E. Bailey, MD,[2] R. R. Schade, MD[1]. 1. Medicine, Medical College of Georgia, Augusta, GA; 2. Georgia Correctional Health Care, Medical College of Georgia, Augusta, GA.

Purpose: Delivery of health care within a prison population poses unique problems. Prisoners, although largely a younger population (mean age 35.97y),have often engaged in risky behaviors, e.g. intravenous drug use and alcohol abuse, putting them at risk for chronic HCV and cirrhosis. The prevalence of HCV in prisoners is estimated at 17% to 30%. Variceal hemorrhage can be a catastrophic event requiring emergency transport. Screening for varices and treating those with high risk stigmata by prophylactic banding may reduce hemorrhage risk. The Georgia State prison system consists of 37 prisons across the state, many in rural areas. The non mental health-care budget for the 60,000 prisoners is $178 million per year. EGD is performed only at a limited number of sites such as the Augusta State Medical Prison, necessitating costly patient transport. We performed a pilot trial using capsule endoscopy (Pillcam Eso 2) to evaluate patients with cirrhosis for varices and to determine if this procedure could reduce costs. We hypothesized that by bringing the equipment and the procedure to the patient, total costs would be reduced.

Methods: Methods: five patients with cirrhosis required evaluation of varices based on the history of HCV and cirrhosis. Pillcam Eso 2 was employed in the usual manner: the prisoner ingested the video capsule in the supine position with videocapture for 2 minutes, then was sequentially raised to 30 and 60 degrees with corresponding vedeocapture for 2 minutes in each position, and then was studied in the erect posture for 10 minutes. Video studies were examined in the standard manner. Costs were gauged based on the estimated expense for inmate transfer and standard charges for procedures.

Results: Results: Three patients had no varices,one had grade one varices, and the fifth had grade three varices. The estimated cost for patient transport is $1000 to move from one prison facility to another by prison bus. Standard charges for EGD are approximately $3700. In contrast, the video capsule can be brought to the patient at the place of incarceration for an immediate $1000 savings. The capsule costs $450 and the interpretation fee is $50 (Medicare rate) for a total savings of approximately $4200.

Conclusion: Conclusion: By shipping the equipment to the incarceration site, where a trained nurse can administer the test, and then interpreting results remotely significant cost savings can be accomplished when screening for varices in a prison population. This may also prove to be a cost effective way to evaluate patients with chronic reflux symptoms or to look for Barrett's esophagus in this population. In fact, this screening method may be a useful tool for delivering care to patients in remote and rural settings.

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DELAYED RADIONUCLEOTIDE GASTRIC EMPTYING STUDIES PREDICT MORBIDITY IN DIABETICS WITH SYMPTOMS OF GASTROPARESIS

B. Hyett, MD, F. J. Martinez, MD, S. Mehra, MD, B. Gill, MD, D. Leffler, MD, A. J. Lembo, MD, C. P. Kelly, MD. Beth Israel Deaconess Medical Center, Boston, MA.

Purpose: Gastroparesis is a serious complication of diabetes mellitus (DM). However, little is known regarding the health implications of gastroparesis in diabetics. The specific aims of this study were to test the hypotheses that diabetic patients with proven gastroparesis differ from those with normal gastric emptying: 1: In the number of days spent in hospital per 1000 patient days, 2: In the prevalence of other manifestations of autonomic neuropathy and microvacular disease and 3: In blood glucose control.

Methods: This was a parallel cohort study with 3 separate groups of DM patients (both Type 1 and Type 2) treated between 2000 and 2008. Group A: Gastroparesis diagnosed by both classic symptoms and a delay in gastric emptying on a radionucleotide gastric emptying study. Group B: Classic symptoms of gastroparesis but with a normal gastric emptying study. Group C: Patients without symptoms of gastroparesis (no gastric emptying study performed). We gathered data on subsequent health outcomes and resource utilization including: number of days hospitalized, number of office visits, number of ED visits, number of hospitalization and deaths in this eight-year period. We also collected data on HbA1C levels, medication use, medical history and complications of DM.

Results: There were 94 subjects in each group. By univariate analysis Group A had significantly more Hospital Days per 1000 patient days than Group B. (See Table 1). Group A also had significantly more hospitalizations, office visits and ED visits. There was a trend toward more deaths per 1000 patient days in Group A compared to Group B. Compared to Group C, Group A again had significantly more days in hospital, hospitalizations, office visits and ED visits. None of these measures differed significantly between Group B and Group C with the exception of more office visits for Group B. HbA1Cs were similar in the 3 groups. Group A patients were more likely to have vascular disease (CAD, HTN, retinopathy) but not more likely to have neuropathy. On multivariate analysis, Group A maintained a significant difference vs. B and C and the differences between Groups B and C disappeared.

Conclusion: In this study, a positive radionucleotide gastric emptying study for gastroparesis in diabetics was predictive of greater healthcare utilization in terms of number of hospitalizations, number of office visits, number of ED visits and number of days in hospital. Risk of death was also increased but did not reach statistical significance. We also identified a correlation between diabetic gastroparesis and CAD and HTN which has not previously been reported. These data suggest that a positive radionucleotide gastric emptying study is of clinical and prognostic significance.

Table 1

	Group A	Group B	Group C	
Number Enrolled	94	94	94	
Avg. Age	55	56	55	
HBA1C	7.66	7.09	8.10	p<0.05 C vs. B
PeripheralNeuropathy	70%	76%	88%	p<0.05 A and B vs.C
Retinopathy	32.98%	24.47%	11.70%	p<0.05 A vs. C
Hypertension	63%	52%	43%	p<0.05 A vs. C
CAD	19.15%	13.83%	6.38%	p<0.05 A vs. C
Avg. Days In Hospital	25.46	5.11	2.32	p<0.01 A vs. B and C
Avg. Number of Hospitalizations	3.60	1.16	0.61	p<0.01 A vs. B and C
Avg. Number of ED Visits	3.69	0.97	0.59	p<0.01 A vs. B and C
Avg. Number of Office Visits	55.69	36.82	19.40	p<0.01 A vs. B and C
Deaths	0.28	0.11	0.00	

P650

THIAZOLIDINEDIONE USE AND RECTAL CANCER IN DIABETICS: A POPULATION BASED CASE-CONTROL STUDY

M. D. Long, MD, MPH,[1] L. C. Vinikoor, MSPH, PhD,[2] C. Martin, MSPH,[1] J. Galanko, PhD,[1] T. O. Keku, PhD,[1] R. S. Sandler, MD, MPH[1]. 1. Gastroenterology and Hepatology, University of North Carolina- Chapel Hill, Chapel Hill, NC; 2. Epidemiology, University of North Carolina-Chapel Hill, Chapel Hill, NC.

Purpose: Diabetes mellitus is a risk factor for colorectal adenomas and cancer. In vitro data suggest that medications for insulin resistance, such as thiazolidinediones, may reduce the risk of cancer. We aimed to determine the association between thiazolidinedione use and rectal cancer, and to assess whether this association differs by race.

Methods: We conducted a population-based case-control study of incident rectal cancer in North Carolina between 2001-2006. Data on diagnosis of diabetes mellitus, thiazolidinedione use, demographics and risk factors were obtained via interviews. An odds ratio and 95% confidence interval for the association between thiazolidinedione use and rectal cancer was estimated via an unconditional logistic regression model. Covariates were eliminated from the model based on a backwards elimination strategy, using the change in estimate approach. The analyses were repeated by strata of race.

Results: There were a total of 182 diabetics with rectal cancer and 158 diabetic controls. On multivariate analysis, ever use of thiazolidinediones was associated with a decreased risk of rectal cancer (odds ratio 0.64, 95% CI 0.36-1.16). When stratified by race, there was a protective effect of thiazolidinediones in African Americans (OR 0.37, 95% CI (0.12-1.13), but not in Caucasians (OR 0.88, 95% CI 0.41-1.87).

Conclusion: Thiazolidinedione use may be associated with a reduced incidence of rectal cancer among African Americans with diabetes.

P651

THE OPERATIONAL EFFECT OF A GI HOSPITALIST SERVICE ON A UNIVERSITY-BASED GASTROENTEROLOGY PRACTICE

P. Manchikalapati, MD, D. Nompleggi, MD, Phd, J. Levey, MD. Gastroenterology, University of Massachusetts, Worcester, MA.

Purpose: In a traditional setting, inpatient gastrointestinal care is provided by individual Gastroenterologists or members of the gastroenterology group who take turns covering the hospital for a specific period of time (weekly or monthly basis). A higher acuity level of hospitalized patients coupled with busy office and endoscopy schedules increased the importance of having a physician on site all the times. These developments led to the new concept of dedicated GI Hospitalist service for our practice. Our GI hospitalists are internists who devote 100% of time managing inpatients with gastrointestinal and liver problems. They admit new patients, participate in rounding, supervise interns and residents, and provide explanation of treatment plans to patients and family members while coordinating with the gastroenterologists and assisting with issues related to discharge and follow-up.The aim of the present study is to evaluate the operational effect of a GI Hospitalist service on a University-based gastroenterology practice at an academic medical center.

Methods: Using percentage changes compare RVUs (relative value units), endoscopy volumes, clinic volumes, gastroenterologist/hospitalist ratio and cash receipts between the financial year 2005-06(pre- Hospitalist) and 2006-07(Hospitalist). Chi distribution technique was adopted to test the statistical difference between the two fiscal years.

Results: Please see table 1

Conclusion: A dedicated GI hospitalist service for a gastroenterology practice appears to increase RVU-based productivity, as well as, endoscopy and clinic volumes. These percentage changes between FY2005-06 and FY 2006-07 are statistically significant (p<0.0001). There is also an increase in Part B cash receipts during this period. During the study period, there were no major fluctuations in gross or net collection ratios. In our experience, the annual return on investment (ROI) for hiring two dedicated GI hospitalists was 282%. Future studies should examine patient satisfaction, readmission rates, length of stay and inpatient mortality rates.

	FY 2005-06	FY 2006-07	% change
Endoscopy volumes	11,542	12,003	+4.3
Clinic Volumes	15,841	18,485	+16.7
Cash Receipts (Part B)	---------	---------	+18.9
Gastroenterologist : Hospitalist ratio	9:0	8:2	
Gastroenterologist RVUs (excluding Hospitalist's)	67,186	72,776	+8.3

P652

A STRUCTURED GI REFERRAL SCHEDULE IMPROVES OUTCOMES IN PATIENTS DISCHARGED FROM THE CHEST PAIN CENTER

M. Mellow, MD, A. L. Kanatzar. INTEGRIS Center for Digestive Health, Oklahma City, OK.

Purpose: Chest pain centers (CPC) represent an important advance in the diagnosis and rapid treatment of patients presenting with chest pain of cardiac ischemic origin, as patients undergo a structured protocol to rapidly identify and treat acute cardiac ischemic injury. However, we previously reported that a majority of patients undergoing phone interviews 30 to 60 days after discharge from a CPC with a (-) cardiac work up still had chest pain (CP). Additionally, though many had symptoms of GI origin, they were rarely referred to a gastroenterologist (GE) by their primary care provider.

Methods: An on call schedule for GI consultation was established. Every effort was made for personal contact by the on call physician or staff member prior to CPC discharge. If not feasible, patient was given name and number of GI consultant. 50 consecutive patients were contacted for phone interview ≥ 30 days after CPC discharge. We inquired whether appointment was kept, whether diagnostic tests were performed, whether medications were prescribed, and whether the patient's presenting symptoms to the CPC was gone, present but better, or unchanged.

Results: 47 of 50 patients agreed to interview. 12 did not follow up with GE; in 9, pain did not recur and appointment was cancelled.1 was certain that pain was musculoskeletal and 2 declined consultation. Of the 35 patients who obtained GI consult 24 reported complete pain relief, 10 had pain improved and 1 persisted unchanged. This contrasts with results of patients discharged from CPC prior to on call schedule- 22 of 39 patients continued to have symptoms; only 2 had been referred to GE. Of the current patients who saw GE, 34 of 35 had EGD. 26 received PPI Rx. Of these, 20 reported complete pain relief, 6 reported pain better. Of 9 patients not receiving PPI Rx, 4 had pain resolution, 3 improved, 2 remained unchanged. 20 were able to report their endoscopic findings and diagnosis.

Conclusion: 1. Of patients discharged from a CPC with (-) cardiac evaluation, significantly more CPC patients had complete CP relief after structured GI referral than before on call schedule was initiated (P<0.05). 2. Complete pain relief was more common in patients given PPI Rx, than those not receiving PPI (20 of 26 vs 4 of 9) presumably reflecting the fact that acid peptic cause of CP is typically easy to treat, if appropriately diagnosed. 3. Despite good results, only 20 patients were able to describe their endoscopic findings and define their diagnosis.

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UTILIZATION AND COSTS OF MEDICAL SERVICES AMONG GASTROESOPHAGEAL REFLUX (GERD) PATIENTS USING 'REAL WORLD' DATA

R. Mody, PhD, MBA,[1] B. Meissner, Pharm D, PhD,[2] N. J. Shaheen, MD, MPH[3]. 1. TAP Pharmaceuticals Products Inc., Lake Forest, IL; 2. Xcenda, Palm Harbor, FL; 3. Center for Esophageal Diseases and Swallowing, University of North Carolina, Chapel Hill, NC.

Purpose: To examine overall and GERD-related medical services utilization and costs among patients diagnosed with non-erosive GERD (NERD), erosive esophagitis (EE) and Barrett's esophagus (BE).

Methods: This study applied an observational cohort design to electronic medical records obtained from a fully integrated health delivery system located in the mid-Atlantic region of the US. Adult patients with a diagnosis of BE, EE, or NERD between July 1, 2004 and January 25, 2007 and with at least 6 months of encounter data before and 12 months of encounter data following index diagnosis were included in the study. Patients with a BE, EE, or NERD diagnosis or use of a proton-pump inhibitor during the 6-month pre-period were excluded. Outcomes assessed were use of overall and GERD-related medical services (office visits, hospitalizations, emergency room visits, and procedures) and associated costs at 8, 12, 24 and 52 weeks post diagnoses. All costs represent 2008 dollars and reflect those incurred by the health delivery system for providing care. Descriptive statistics were used to compare the three cohorts with NERD as the reference group.

Results: 19,696 patients met the study inclusion criteria including 78.6% NERD, 20.0% EE and 1.5% BE patients. The mean ages of NERD, EE and BE cohorts were 52.9 yrs (SD=17.2), 54.3 yrs (SD=16.3; p<0.0001) and 57.7 yrs (SD=13.8; p<.0001), respectively. Females represented 62.0% of NERD, 61.2% of EE (p=0.32) and 34.7% of BE (p<0.0001) patients. Based on the Charlsons' Comorbidity Index, the comoribty burden was NERD=0.6; EE=0.6 (p= 0.0131); and BE=0.8 (p= 0.0004).The mean number of GERD-related office visits at 52 weeks post index diagnosis was 1.5 for NERD, 1.7 for EE (p<0.0001) and 2.1 for BE (p<0.0001). At all time points, EE and BE patients had higher GERD-related medical costs than NERD patients (Table 1). The GERD-related medical costs as a % of overall medical costs were also higher for EE (37.5%, 33.1%, 28.8%, 24.8%) and BE cohort (30.7%, 29.4%, 30.0%, 32.7%) as compared to the NERD cohort (31.8%, 27.4%, 23.3%, 20.6%).

Conclusion: Although the prevalence of EE and BE is lower than NERD, they demonstrate more intensive use of medical services throughout the study period. The disease-related costs of GERD as a proportion of the overall medical costs are substantial and related to manifestation of the disease.

Table 1. Overall and GERD-related Medical Care Costs

Cohort	Time Period	Overall Medical Care Costs	GERD-related Medical Care Costs
	In weeks	Mean (SD)	Mean (SD)
NERD	8	$787 ($4,089)	$250 ($1,551)
	12	$1,079 ($5,399)	$296 ($1,976)
	24	$1,891 ($7,670)	$440 (2,821)
	52	$3,315 ($9,965)	$683 ($3,620)
EE	8	$841 ($3,234)	$315 (2,137)
	12	$1,072 ($3,854)	$355 ($2,213)
	24	$1,857 ($5,181)	$534 ($2,948)
	52	$3,579 ($8,746)	$889 ($4,090)
BE	8	$1,292 ($4,380)	$397 ($1,209)
	12	$1,893 ($6,049)	$557 ($2,046)
	24	$3,268 ($9,425)	$979 ($3,292)
	52	$6,364 ($14,171)	$2,081 ($6,323)

NERD - Non-erosive Reflux Diease, EE - Erosive Esophagitis, BE - Barretts' Esophagus

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P654

A RETROSPECTIVE CHART REVIEW INVESTIGATING THE USE OF COLONOSCOPY IN THE ELDERLY

M. Raphael, DO, J. DiNubila, DO, M. Biederman, DO. Gastroenterology, Botsford Hospital, Farmington Hills, MI.

Purpose: Currently, there are no guidelines regarding colonoscopy in the elderly population, excluding cancer screening. There is conflicting data regarding the use of colonoscopy in patients over the age of 80. There exists a significant population in the elderly undergoing colonoscopy for screening, fecal occult blood positive results, hematochezia, and change in bowel habits.

Methods: A retrospective chart review from 11/01/04 to 10/13/06 was performed on all patients who underwent a colonoscopy at a community hospital. Patient age, sex, indication for colonoscopy, adverse events during the procedure, findings during colonoscopy, and results of biopsy or polypectomy, if completed, were all documented. A colonoscopy performed for a screening exam, fecal occult blood positive, hematochezia, and change in bowel habits were included.

Results: A total of 173 colonoscopic examinations took place that met the strict inclusion/exclusion criteria of the study. Four adverse events occurred in our study population. Two colonic perforations and two events of aspiration occurred. Additionally, seven patients had incomplete exams due to a poor colon preparation.Of the 173 examinations, only 1 examination revealed a malignant process. This malignancy was found in a patient with change in bowel movements. No malignant lesions were found in the hematochezia and screening population of the study.

Conclusion: Colonoscopy in patients over the age of 80 demonstrated minimal diagnostic yield. Colonoscopy itself does carry risk of adverse events that must be considered, especially when diagnostic yield is extremely minimal. Further research is necessary to establish guidelines

Colonoscopy in the Elderly

Indication for colonoscopy	Number of patients	Malignant lesions found
Hematochezia	60	0
Screening/FOBT positive	48	0
Change in Bowel Habits	65	1

P655

IMPROVED BONE MASS AFTER ILEAL POUCH-ANAL ANASTOMOSIS FOR PATIENTS WITH ULCERATIVE COLITIS

2008 ACG Presidential Poster Award Recipient

H. Lu, MD, PhD, R. Lopez, MS, B. Shen, MD. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH.

Purpose: Low bone mineral density (BMD) is prevalent in patients with inflammatory bowel disease and in patients with ileal pouch-anal anastomosis (IPAA). Whether IPAA procedure has beneficial or detrimental effects on BMD is not clear. The aim of this study is to assess whether BMD improved during the course of ulcerative colitis (UC) in patients who underwent IPAA.

Methods: Patients with underlying UC who underwent IPAA and at least twice (pre- and/or post-) dual X-ray absorptiometry (DEXA) were recruited from our subspecialty Pouchitis Clinic. Bone mineral density was measured by DEXA in the lumbar spine, total left hip, and left femoral neck. Pouch patients with underlying familial adenomatous polyposis were excluded. Student t and Wilcoxon signed rank tests were used.

Results: Of 53 eligible UC patients after IPAA who had two times of BMD scores were enrolled from the Pouchitis Clinic. Eleven patients had pre- and post- IPAA DEXA scan, with 7 being male (63.6%) and the mean age of 43.6 ± 13.8 years. The mean interval from the first preoperative DEXA scan to IPAA was 25.1 ± 20.7 months and the mean interval from IPAA to the 1st post-IPAA DEXA scan was 30.9 ± 35.9 months. There was a significant increase in the lumbar BMD after IPAA (Table 1). The pre- and post- IPAA body mass index did not change significantly (24.6 ± 4.6 vs. 24.9 ± 6.3 kg/cm2, P > 0.05). Forty-two patients had DEXA scan

twice after IPAA, with 23 being male (54.8%) and the mean age of 45.8 ± 12.4 years. The median interval from IPAA and the first post-operative IPAA DEXA scan was 53.8 (interquartile range 20.3-98.5) months, and the median time interval between the two post-IPAA DEXA scans was 27.1 (interquartile range 22.8-33.7) months. There was a significant increase in the hip BMD on the 2nd post-IPAA as compared with the 1st post-IPAA (Table 2). The post-IPAA body mass index did not change significantly (24.6 ± 3.6 vs. 25.1±4.1 kg/cm2, P > 0.05).
Conclusion: IPAA procedure appeared to improve BMD, and this beneficial effect seemed to sustain during the course of the ileal pouch.

Table 1. Changes in Bone Mineral Density Pre- and Post- IPAA

	N	Pre-IPAA DEXA (g/m2)	Post-IPAA DEXA (g/m2)	Changes in Bone mineral Density
Lumbar Density	10	1.03 ± 0.22	1.06 ± 0.19	0.12 ± 0.15*
Hip Density	11	0.95 ± 0.2	0.92 ± 0.17	-0.01 ± 0.05
Femoral Neck Density	9	0.92 ± 0.29	0.92 ± 0.2	-0.02 ± 0.06

***p= 0.039**

Table 2. Changes in Bone Mineral Density After IPAA

	N	1st Post IPAA DEXA (g/m2)	2nd post IPAA DEXA (g/m2)	Changes in Bone Mineral Density
Lumbar Density	42	1.06 ± 0.17	1.08 ± 0.17	0.00 (-0.02, 0.04)
Hip Density	38	0.89 ± 0.15	0.92 ± 0.12	0.02 (-0.01, 0.03)*
Femoral Neck Density	32	0.86 ± 0.12	0.86 ± 0.15	0.02 (-0.01, 0.03)

***p=0.04**

P656

CHARACTERIZATION OF CLINICAL AND SEROLOGIC FEATURES OF CROHN'S DISEASE AND ANTI-TNFα USE IN A CHINESE COHORT
H. Lu, MD, PhD,[1] R. Zhang, MD,[2] B. Shen, MD,[2] J. Hammel, MD,[1] B. Shen, MD,[1] J. Qian, MD[2]. 1. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH; 2. Gastroenterology, Peking Union Medical College Hospital, Beijing, China.
Purpose: A rising incidence of Crohn's disease (CD) as well as ulcerative colitis has been observed in Asian countries. The clinical phenotypes and disease course of CD in the Chinese population is not well characterized. With availability of anti-TNFα agent in China, the frequency of its use has not been described.
Methods: Consecutive patients with CD were enrolled in the Peking Union Medical College Hospital, a major tertiary referral center for the whole country, between 1980 and 2007. Demographic, clinical, endoscopic, laboratory (including perinuclear antineutrophil cytoplasmic [ANCA] and anti-Saccharomyces cerevisiae [ASCA] antibodies), and radiographic data were collected. Clinical phenotypes of CD were classified based on the Montreal Classification. Descriptive statistics were used.
Results: Of one hundred and thirty-six patients were enrolled, with 93 (68.4%) being male, the mean age at onset of 33.5 ± 15.5 years, and the mean age at diagnosis was 37.3 ± 15.1 years. The mean duration of follow-up was 99.9 ± 86.8 months. Two patients (1.5%) had family history of IBD and 23 (17.2%) had a history of appendectomy. Thirty-two patients (24.2%) were smokers or ex-smokers. 38.8% (26/67) of patients were ASCA positive and 5.7% (5/88) of patients were ANCA positive. 3% (3/99) of patients ever received anti-TNFα therapy. 85 patients (62.5%) required at least one CD-related bowel resection surgery during the follow-up. The number of bowel resection surgery was 1 in 51 patients (37.5%), 2 in 23 patients (16.9%), and 3 in 11 (8.1%). 51 patients (37.5%) had bowel obstruction complication; 26 (19.1%) had abdominal mass, and 8 patients (5.9%) had significant GI bleeding (>800cc). Of extraintestinal manifestations, 19 patients (14.0%) had arthropathy, 8 (5.9%) had primary sclerosing cholangitis, and 3 (2.2%) had ocular lesions.
Conclusion: In this Chinese cohort, CD was characterized by a low prevalence of family history of IBD and a low prevalence of positive ASCA. Penetrating, structuring, or perianal phenotypes were common. Despite the fact that the majority of the patients required bowel-resection surgery, only 3% had ever received anti-TNFα therapy.

Location and Behavior based on Montreal Classification of Crohn's Disease

Disease Location		Disease Behavior	
Terminal ileum	56 (41.2%)	Non-penetrating non-stricturing	53 (39.3%)
Colon	23 (16.9%)	Stricturing	36 (26.7%)
Ileocolonic	53 (39.0%)	Penetrating	16 (11.9%)
Upper GI	0 (0%)	Non-penetrating non-stricturing +Perianal	12 (8.9%)
Terminal ileum + Upper GI	1 (0.74%)	Stricturing +Perianal	12 (8.9%)
Colon + Upper GI	2 (1.5%)	Penetrating+Perianal	6 (4.4%)
Ileocolonic + Upper GI	1 (0.74%)		

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FACTORS ASSOCIATED WITH CONVERSION OF AN ULCERATIVE COLITIS DIAGNOSIS TO CROHN'S DISEASE
2008 ACG Presidential Poster Award Recipient
A. J. Wiesen, MD, S. Katz, MD MACG FACP, B. Fung Liu, MD, D. Oustecky, MD, C. Sommers, MD, N. Krohn, MD. Gastroenterology, Long Island Jewish Medical Center, Glen Oaks, NY.
Purpose: Despite clinical, radiographic, endoscopic and histological examinations, approximately 10% of inflammatory bowel disease (IBD) patients can not be definitively diagnosed with either ulcerative colitis (UC) or Crohn's Disease (CD). A population of patients initially thought to have UC might manifest characteristics of Crohn's colitis years later. Henriksen et al. noted a conversion rate of 2.7% of newly diagnosed UC patients to CD within 5 years. Our experience is that approximately 15% of patients with a diagnosis of UC ultimately "convert" to a diagnosis of CD. Melmed et al. evaluated several clinical "red flags" to help predict a diagnostic change. 3 features were more common in patients whose diagnosis changed from UC to CD: non-bloody diarrhea, weight loss > 10% of premorbid weight, and greater length of colon involvement.
Methods: A retrospective case control study of patients in a community gastroenterology practice with over 30 years of experience in treating IBD was performed. Patients with a diagnosis of UC and CD were identified by ICD-9 codes. The diagnoses were verified by endoscopic and histologic criteria. Patients who converted from a diagnosis of UC to CD were identified. The red flags evaluated by Melmed were reviewed as well as methods of initial diagnosis, reasons for change in diagnosis, time from UC diagnosis to CD diagnosis, and initial GI and extraintestinal complaints. Analysis was performed to identify features that are associated with conversion of diagnosis. The Prometheus IBD serology-7 panel ® was obtained on 17 converters.
Results: The charts of 335 IBD patients were evaluated, of which 41 were converters and 160 were UC non-converters. Of the red flags identified by the Melmed study, only a family history of CD was more prevalent in the converter population (32.5% vs. 18% p<.07). Converters had a younger mean age of diagnosis (29 years old) compared to UC non-converters (36 years old) (P<.02). The length of diseased colon at presentation was comparable in both CD and UC populations. Converters were more likely to develop arthralgias (p<.07), pyoderma gangrenosum(p<.05), fistulas(P<.01), abscesses (p<.01) and to undergo appendectomy or other bowel surgery (p<.01). Prometheus serology 7 test was not useful in distinguishing Crohn's colitis from UC.
Conclusion: It remains difficult to predict which patients with UC may ultimately have their diagnosis changed to CD. Recognizing the overlap of both diseases will better prepare UC patients for the possibility of diagnosis conversion and allow physicians to select appropriate medical and surgical therapy.
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P658

Poster Withdrawn

P659

EFFICACY AND SAFETY OF ADALIMUMAB IN THE TREATMENT OF CROHN'S DISEASE OF THE ILEAL POUCH
B. Shen, M. D, F. Remzi, M, D, L. Shen, Mr. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH.
Purpose: Approximately 3 -10% of pts with a preoperative diagnosis of ulcerative colitis would develop Crohn's disease (CD) of the pouch after restorative proctocolectomy. Scant data are available on its treatment.
Methods: 14 ileal pouch pts with inflammatory (N = 6), fibrostenotic (N=3), or fistulizing (N = 5) CD treated with adalimumab were enrolled. Inclusion criteria were CD of the pouch who failed non-biological therapy and were otherwise indicated for pouch diversion or excision. Exclusion criteria included pouchitis and surgically-associated complications. All qualified pts received a regimen of adalimumab SQ (160 mg,wk 0; 80mg wk 1; then 40mg QOW). Follow-up evaluation was performed at wk 4 and thereafter. Clinical complete response was defined as resolution of symptoms, including stop of fistular drainage and partial response as improvement in symptoms, including reduction in fistular drainage. Endoscopic inflammation pre-and post-therapy was calculated, using the Pouchitis Disease Activity Index endoscopy subscores. Pouch failure was defined as pouch excision or permanent diversion.
Results: The mean age was 39 ± 15 yrs and 4 were female (29%). 4 pts (28%) were current or ex- smokers. 13 pts underwent colectomy for medically refractory UC. 4 pts (29%) had preoperative use of biologics (infliximab) and none of 14 pts had post-op use of infliximab. The mean duration of IBD was 18 ± 9 yrs and the mean duration of the pouch was 9 ± 6 yrs. At the time of the initiation of adalimumab therapy, 12 pts were on long-term antibiotic therapy, 5 on oral steroids, 3 on oral 5-ASAs, none on immunomodulators, 5 had endoscopic stricture dilations, and 2 had incision & drainage procedures. These concurrent medicines were continued during the trial. The median follow-up after the initiation of adalimumab injection was 10 wks (8 - 25 wks). Overall symptom response rate was 64%. Pouch failure rate was 21%. Of the 10 pts had follow-up pouch endoscopy: 4 (40%) had complete resolution of pouch/afferent limb inflammation; 4 (40%) had improved endoscopic inflammation of the pouch/afferent limb; and 2 (20%) showed no improvement. The 3 pts with fibrostenotic CD of the pouch had persistent endoscopic strictures after the biological therapy and endoscopic stricture dilations with topical injection of long-acting steroid or endoscopic needle knife stricturoplasty was performed. 2 pts (14%) developed transient headache after adalimumab injection.
Conclusion: Adalimumab appeared to be well tolerated and efficacious in treating CD of the pouch, as shown 64% of response rate. It may be considered as a rescuing agent before pouch excision or permanent diversion. A randomized trial with a longer follow-up is warranted.

Efficacy of Adalimumab in 14 Patients with Crohn's Disease of the Pouch

	At 4 Weeks	At Last Follow-up Visit
Number of Cases with Complete Response	5 (35.7%)	5 (35.7%)
Number of Cases with Partial Response	4 (28.6%)	4 (28.6%)
Number of Cases with No response	5 (35.7%)	5 (35.7%)
Number of Cases with Pouch Failure	0	3 (21.4%)

Disclosure - Abbott, Honorarium UCB, Honorarium Salix, Honorarium Centocor, Honorarium Axcan, Ad Board

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DIAGNOSTIC VALUE OF EGD IN PATIENTS WITH ILEAL POUCH-ANAL ANASTOMOSIS

B. Shen, MD, L. Shen, R. Lopez, MS, E. Queener, LPN. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH.

Purpose: BACKGROUND: Inflammatory and non-inflammatory complications of ileal pouch-anal anastomosis (IPAA) are common after restorative proctocolectomy of ulcerative colitis. Some of the patients can have upper gastrointestinal pathology. The diagnostic role of EGD in these patients has not been evaluated. The aims of the study were to estimate the prevalence of upper GI diseases detected by EGD either as a conclusive diagnosis or an incidental finding and to assess factors associated with EGD findings.

Methods: IPAA patients with underlying inflammatory bowel disease undergoing diagnostic EGD were recruited from subspecialty Pouchitis Clinic. Diagnostic yield and incidental findings of EGD were evaluated. 23 variables were evaluated including age, gender, UC duration, IPAA duration, Pouchitis Disease Activity Index scores, pouch type, pre-IPAA diagnosis, and disease category of the pouch. Univariable and multivariable analyses were performed. Stepwise selection with 0.35 and 0.10 as entry and exit criteria.

Results: 66 patients undergoing EGD were enrolled in the study, of whom 64 (97%) patients had a concomitant pouch endoscopy. Indications for EGD include anemia, upper abdominal pain, weight loss, nausea and vomiting, and persistent diarrhea refractory to antibiotic therapy. A total of 17 subjects (25.8%) had a conclusive diagnosis and 14 (21.2%) had an incidental finding. Overall, 44% of subjects had upper GI disease detected by the EGD (conclusive diagnosis and/or incidental finding). The most common abnormal findings on EGD were Crohn's disease (N = 8; 12%), peptic ulcer disease (N = 2; 3%), gastritis/duodenitis (N = 7; 11%), Candida esophagitis (N = 2; 3%), and arteriovenous malformations (N = 2; 3%). Other findings included gastric outlet obstruction from malignancy, celiac disease, gastric fundic gland polyps, duodenal polyps, and hiatal hernia. In multivariable analysis, factors associated with conclusive EGD diagnosis were the Pouchitis Disease Activity Index endoscopy score (odds ratio=1.8; 95% CI: 1.09, 2.9; p = 0.02) and pouch types other than original J pouch, i.e. S, Kock, or redo J pouches (odds ratio = 5.9; 95% CI: 1.08, 32.2; p = 0.041).

Conclusion: EGD evaluation can yield valuable diagnostic information in selected symptomatic patients with IPAA. Inflammation of the afferent limb and a non-J pouch IPAA condition appeared to be associated with a high risk for concurrent upper GI disease.

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RISK FACTORS ASSOCIATED WITH CROHN'S DISEASE RECURRENCE IN NEO-TERMINAL ILEUM AFTER DIVERTING ILEOSTOMY

2008 ACG/Centocor IBD Abstract Award

N. Alkhouri, MD,[1] B. Shen, MD,[2] R. Lopez, MS,[2] A. King, BS[2]. 1. Pediatric Gastroenterology, Cleveland Clinic Foundation, Cleveland, OH; 2. Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH.

Purpose: Fecal diversion and ileostomy have been used to achieve clinical remission in intractable Crohn's disease (CD). The efficacy of fecal diverting surgery in treating CD has not been systemically evaluated. As the majority of patients with recurrent CD would have the disease located at the distal neo-terminal ileum, retrograde ileoscopy via stoma could be a valuable tool to assess CD activity in these patients. The aims of this study were to assess the prevalence of recurrent CD in patients with stoma using ileoscopy and to assess the risk factors associated with CD recurrence.

Methods: Eighty-seven patients with CD who underwent ileoscopy via stoma between 2001 and 2007 were identified from our endoscopy database. Inclusion criteria were: patients with age > 18 years with confirmed diagnosis of CD and ileostomy, with at least 1 ileoscopy via stoma. Recurrence of CD was defined as endoscopic inflammation, ulcers, or strictures on the retrograde ileoscopy. Demographic, clinical, endoscopic and histological data were collected. Univariable and multivariable analyses were performed.

Results: Clinical phenotypes of CD were inflammatory in 17%, stricturing in 33% and fistulizing in 50% of patients. Before the fecal diverting surgery, disease location was ileocolonic in 69%, colonic in 22% and the small bowel alone in 9%. Perianal disease was present in 32%. A total of 243 ileoscopies via stoma were performed. The most common indications for ileoscopy were CD activity assessment in 34.5%, abdominal pain in 33.3%, diarrhea in 26.4%, and small bowel obstructive symptoms in 18.4%. Recurrence of CD in the neo-terminal ileum was diagnosed by ileoscopy in 58 cases (66.7%). The median interval from the 1st ileostomy to the disease recurrence was 7 (IQR 3, 15) years. The most common findings during ileoscopy were erythema 36.2%, ulceration 32.8% and stricture in 24.1%. Risk factors associated with CD recurrence after ileostomy are listed in Table 1.

Conclusion: Retrograde ileoscopy via stoma detected 67% of patients with evidence of CD recurrence. Risk factors for postoperative recurrence of CD in these patients were the total duration of CD, years from CD diagnosis to the first ileostomy, perforating disease, small bowel disease, and the requirement of biologics.

Factors Associated with Recurrence after Ileostomy: Multivariable Cox Proportional Hazards Analysis

Factor	HR (95% CI)	P-value
Duration of CD (yrs)	0.91 (0.86, 0.95)	<0.001
Years from CD Diagnosis to 1st Ileostomy	1.09 (1.03, 1.2)	0.002
Perforating CD vs. Other Indications	2.1 (1.2, 3.7)	0.009
Small Bowel vs. Colon	4.4 (1.3, 14.8)	0.019
Ileocolonic vs. Colon	1.6 (0.76, 3.5)	0.21
Use of Biologics after Ostomy	2.6 (1.4, 4.7)	0.002
Current Smoker	1.4 (0.73, 2.8)	0.29

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EFFICACY AND SAFETY OF ADALIMUMAB FOR THE TREATMENT OF JAPANESE PATIENTS WITH MODERATELY TO SEVERELY ACTIVE CROHN'S DISEASE: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

T. Hibi, MD,[1] M. Watanabe, MD, PhD,[2] A. Camez, MD,[3] M. Khan, PhD[4]. 1. Keio University School of Medicine, Tokyo, Japan; 2. Tokyo Medical & Dental University, Tokyo, Japan; 3. Abbott GmbH & Co. KG, Ludwigshafen, Germany; 4. Abbott Laboratories, Parsippany, NJ.

Purpose: Adalimumab (ADA) is approved for the induction and maintenance of remission in adults with active Crohn's disease (CD).

Methods: We sought to determine the efficacy of ADA in inducing remission in Japanese patients (pts) with moderate to severe CD. M04-729 was a Japanese multicenter, randomized, placebo-controlled, double-blind study of 90 pts with moderately or severely active CD (Crohn's Disease Activity Index [CDAI] 220–450). Pts were randomized to receive induction therapy at Weeks 0/2 with ADA 160/80 mg, ADA 80/40 mg, or placebo. At Week 4, pts with a clinical response (decrease in CDAI by ≥70 points from baseline [CR-70]) rolled over into a 52-week, placebo-controlled, double-blind study. Nonresponder pts continued the trial until Week 8. The primary endpoint was demonstration that the point estimation of clinical remission (CDAI<150) at Week 4 in the ADA groups was greater than in the placebo group. Secondary endpoints at Week 4 included CR-70 and decrease in CDAI by ≥100 points (CR-100). Post-hoc statistical analysis of rates of clinical remission and response was also performed using Fisher's exact test.

Results: Mean pt age was 31 years (male, 58%), 44% had baseline CDAI≥300, and mean duration of CD was 9.5 years. In addition, 58% of pts had prior infliximab exposure, 16% were receiving concomitant steroids, 4% 5-aminosalicylates, and 1% immunosuppressants and CD-related antibiotics. The point estimates of remission at Week 4 were greater for both ADA groups vs. placebo. Week 4 efficacy data, including remission, CR-70 and CR-100, are provided (Table). ADA was well-tolerated, with 6% serious adverse events (SAEs; vs. 9% in placebo group) including 1 infectious SAE (cytomegalovirus), and no lupus, demyelinating diseases, or deaths.

Conclusion: ADA treatment was efficacious in inducing remission and response at Week 4 compared with placebo for Japanese pts with moderate to severe CD. The 160/80 mg dosage group demonstrated numeric superiority for remission at Week 4, with a trend toward better efficacy of ADA 160/80 mg over 80/40 mg. The results for CR-70 and CR-100 at Week 4 are in line with the results for remission. Efficacy was similar to results in non-Japanese trials, and the rate and type of SAEs were consistent with ADA experience in a non-Japanese CD population. This research was funded by Abbott Laboratories, Abbott Park, IL.

Week-4 Efficacy of Adalimumab in Japanese Patients

Population	Remission	CR-100	CR-70
ADA 160/80 mg (n=33)	33%	46%*	70%*
ADA 80/40 mg (n=34)	18%	50%*	59%
Placebo (n=23)	13%	17%	30%

***p<0.05 vs. placebo.**

Disclosure - Dr. Watanabe - Ajinomoto Pharma Co., Ltd., Otsuka Pharmaceutical Co., Ltd., ZERIA Pharmaceutical Co., Ltd., Mitsubishi Tanabe Pharma Corporation, Nisshin Kyorin, Pharmaceutical Co.,Ltd., UCB Japan Co. Ltd., Abbott Japan Co. Ltd., Eisai Co. Ltd.; Dr. Camez - Employee: Abbott, Stocks: Abbott; Dr. Khan - Employee: Abbott.

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IMAGING OF CROHN'S DISEASE IN THE ERA OF RADIATION SAFETY: EXPERIENCE WITH 100 CONSECUTIVE MR ENTEROGRAPHY EXAMS

D. L. Kerstetter, MD,[1] D. J. Grand, MD,[2] L. Camara, RTRCV,[2] S. A. Shah, MD[1]. 1. Medicine, Divison of Gastroenterology, Brown University, Providence, RI; 2. Radiology, Brown University, Providence, RI.

Purpose: Patients with Crohn's disease may be exposed to substantial radiation doses given the younger age of most diagnosis and the requirement for multiple imaging examinations. We describe our initial experience with 100 MR enterography(MRe)consecutive exams in 95 patients, which can provide diagnostic information similar or superior to CT enterography without exposure to ionizing radiation.

Methods: 95 consecutive outpatients referred for evaluation of known or suspected Crohn's disease underwent 100 MRe (5 patients with 2 MRe each). Average patient age was 41 years (range 14 to 73 years). MR sequences used were: multiplanar steady-state-free-precession; multiplanar single-shot-fast-spin-echo; multiplanar 3D-spoiled gradient echo T1-weighted fat-saturated and coronal real-time cine TrueFisp images. All patients received intravenous gadolinium-DTPA and a 1% barium oral contrast(Volumen). Total exam time averaged 20 minutes. Active inflammation was defined as the presence of T2 hyperintensity within the bowel wall. Chronic inflammation was defined as thickening of the bowel wall without evidence of increased T2 signal. Strictures were identified as narrowed bowel segments which persisted throughout the examination and on real-time cine images. Clinicians were surveyed on the the utility of the MRe in managing the patient on a 3 point scale: 0 useless, 1 somewhat useful, 2 very useful. They were also asked if would utilize MRe for future evaluations. Where available within 3 months of the MRe exam, MRe information was compared to other radiologic imaging, endoscopic findings and findings on pathology after surgical resection. The study was IRB approved.

Results: Imaging the 95 consecutive outpatients demonstrated an entire spectrum of Crohn's disease: normal examinations in 32; acute inflammation of the terminal ileum in 39; colonic involvement in 14; skip lesions in 6; fistulae in 10; strictured segments in 18; and chronic changes in 16 patients. One patient had an abscess and a separate patient had active involvement of the appendix. Surveys were returned from 15 clinicians for 68 of the studies. 76% found the MRE very useful and 19% somewhat useful for patient assessment and management and 94% would use MRE in the future. MRe appears to correlate with endoscopic and surgical pathology findings when available for comparison.

Conclusion: MR enterography is technically feasible and provides useful diagnostic information without exposure to ionizing radiation or iodinated contrast. The exquisite soft-tissue contrast and sensitivity to fluid allows superior discrimination of active from chronic changes. Clinicians found the MRe to provide useful information in patient management the vast majority of cases.

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DETECTION OF TISSUE EOSINOPHILS AND EVIDENCE OF EXTENSIVE DEGRANULATION IN BIOPSIES OF INFLAMMATORY BOWEL DISEASE (IBD) PATIENTS

J. A. Leighton, MD,[1] G. De Petris, MD,[2] S. F. Pasha, MD,[1] R. I. Heigh, MD,[1] S. R. Gurudu, MD,[1] C. Protheroe, Tech,[3] S. Janarthanan, MD,[3] M. Crowell, PhD,[1] J. J. Lee, PhD[3].
1. Gastroenterology & Hepatology, Mayo Clinic College of Medicine, Arizona, Scottsdale, AZ;
2. Laboratory Medicine and Pathology, Mayo Clinic College of Medicine, Scottsdale, AZ;
3. Biochemistry and Molecular Biology, Mayo Clinic College of Medicine, Scottsdale, AZ.

Purpose: The exact etiology and pathogenesis of IBD is not well defined. In particular, colonic immune responses and the importance of specific pro-inflammatory cells remain controversial. However, the ubiquitous presence of eosinophils (EOS) in the gut submucosa together with hypotheses implicating EOS as potential regulators of the immune tissue microenvironment, suggest these cells may play a role in IBD patients. We tested the hypothesis that tissue biopsies from ulcerative colitis (UC) and Crohn's disease (CD) patients would display more robust EOS infiltrate associated with degranulation when compared to controls.
Methods: To validate our hypothesis, we used a novel anti-eosinophil peroxidase (EPO) mouse monoclonal antibody capable of reliably detecting both tissue EOS and evidence of released EPO using formalin-fixed paraffin-embedded tissues by immunohistochemistry. We assessed for tissue infiltration of EOS and the release of secondary granule proteins (i.e., degranulation) in colon biopsies from clinically-defined UC and CD pts compared to normal controls. Specifically, the extent of the EOS infiltration and the level of EOS activation (defined by degranulation) were tested as metrics of inflammation. All data are presented as mean±SD.
Results: 5 patients with UC (mean age 42±19yrs, F80%), 5 patients with CD (mean age 44±15yrs, F50%), and 5 healthy patients (mean age 63±12yrs, F80%) were studied. The groups were not statistically different in terms of age or gender. This novel IHC assay confirmed that EOS are increased in IBD patients (i.e., relative to "normal" controls) and, these infiltrates are associated with significant levels of EOS degranulation. Interestingly, CD was associated with an intense and diffuse massive release of EOS granule protein compared to UC which was much more focal and patchy and less intense. UC patients also had a unique vascular ring pattern.
Conclusion: Our new anti-EPO monoclonal antibody-based assay demonstrates that IBD is associated with increased EOS and extensive degranulation. These results suggest that EOS activation may be an important component of immune/inflammatory responses in the colon of IBD patients, CD more than UC, and may have future implications in understanding the pathogenesis and treatment of these diseases.

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RISING INCIDENCE OF INFLAMMATORY BOWEL DISEASE AMONG CHILDREN: A 12-YEARS STUDY

H. M. Malaty, MD, PhD,[2] X. Fan, PhD,[3] A. A. Opekun, PA,[1] C. Thibodeaux, RN,[1] G. D. Ferry, MD[1]. 1. Pediatrics, Baylor College of Medicine, Houston, TX; 2. Medicne, Baylor College of Medicine, Houston, TX; 3. Biostatistics, Medical College of Wisconsin,, Milwaukee, WI.

Purpose: To assess the trends in the incidence of IBD in children over time and describe the clinical constellation and risk factors associated with IBD in children
Methods: We conducted a retrospective clinical epidemiologic investigation by identifying a cohort of children diagnosed with IBD in the period 1991-2002 and registered in the IBD -Center at Texas Children's Hospital. This center in Houston, Texas sees approximately 500 children with IBD each year. We identified the following variables: the year of IBD diagnosis, age at diagnosis, gender, self-reported race/ethnicity, and the IBD subtypes; Crohn's disease (CD), ulcerative colitis (UC), and indeterminate colitis (IC). IBD was diagnosed based on clinical, radiological, endoscopic, and histological examinations.
Results: A total of 272 children with first diagnosis of IBD were eligible for the analysis of the current study. Children were identified from the IBD registry in the period 1991-2002 (56% CD, 22% UC and 22% IC). The overall ratio of male to female patients was 1.2:1 in CD, 0.6:1in UC and 0.8:1 in IC. The highest age-related occurrence for CD and UC was found among the10-14-year-old age group. The mean age of diagnosis of patients with CD was not statistically different from those with UC or IC (11.7 +/- 3.4, 10.7 +/- 4.1, 10.4 +/- 4.4, respectively, P>0.5 0). The overall incidence rate of IBD doubled between 1991 and 2002; from 1.1/100,000 per year (95% CI, 0.85-1.36) to 2.4/100/1000/year (95% CI: 2.10-2.77). This trend was valid for CD but not for UC. Significantly, more Caucasians had higher incidence rate of IBD than African-Americans or Hispanic children; 4.15/100,000/year (95%CI=3.48, 4.82) vs. 1.83 /100,000/year (95%CI=1.14, 2.51) and 0.61/100,000 (95% CI=0.33, 0.89), respectively. Furthermore, we examined the ratio of CD:UC for each race/ethnic group separtely. Although CD was more diagnosed among the three groups, the CD:UC ratio differed among African Americans children as they predominantly had CD than UC.
Conclusion: Our results demonstrate a clear evidence of the rising incidence of IBD among children in the United States with more clear evidence of CD than UC. These findings imply that the clinical field of IBD is evolving and affecting all races and ethnicities, all ages, and both boys and girls. Recognition of these results will have important implications for diagnosis and management of the disease. The childhood IBD registries are valuable tools for further epidemiologic and genetic research.
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HISTOLOGIC PREDICTORS OF FUTURE ULCERATIVE COLITIS DISEASE SEVERITY

J. Melson, MD,[1] D. Giusto, MD,[2] P. Eichenseer, MD,[1] S. Jakate, MD,[2] M. Kwasny, ScD,[1] A. Keshavarzian, MD[1]. 1. Digestive Diseases, Rush University Medical Center, Chicago, IL; 2. Pathology, Rush University Medical Center, Chicago, IL.

Purpose: Accurate prediction of future disease severity course may optimize management of ulcerative colitis (UC)including tailoring "top-down" versus "step-up" approaches to therapy. We sought to determine if specific histologic variable could predict future clinical UC disease severity.
Methods: The initial histopathology parameters from 19 patients with UC that later(≥6 months) underwent colectomy for severe disease (colectomy/severe course group) were compared to those from 25 patients who did not require colectomy (no colectomy/mild course group) from 1998-2007. The pathology variables assessed were cryptitis, cryptopenia, crypt branching, crypt abscesses, ulcerations and mucin depletion. The predictive value of disease extent, endoscopic severity, and initial serum albumin were also assessed. Groups were compared using Chi-square, Mann-Whitney or t-test with a significance level of 0.05. Patients with dysplasia were excluded.
Results: Patients were followed for a median of 3 years. Median age was 39 years in no colectomy group versus 34 years in colectomy group (NS). Severe cryptitis occurred in 16/19 (84%) in colectomy group versus 13/25 (52%) in no colectomy group (p=0.026). Cryptopenia was present in 11(58%) colectomy group versus 10(40%) no colectomy group (p=0.239). In colectomy group, crypt abscesses were present in 16(84%), crypt branching 16 (84%), mucin depletion 18 (96%), ulceration 6 (24%) at the initial histopathology. The prevalence of crypt abscess, crypt branching, cryptopenia, mucin depletion, ulceration were all not significantly different in the colectomy (severe course) versus no colectomy (mild course) group. A Mayo Score ≥2 on initial endoscopy was not significantly more common in colectomy group 13 (69%) versus no colectomy group 18 (75%) (p=0.228). The initial albumin was significantly lower in the colectomy group 2.9 g/dL (SD± 0.88) versus noncolectomy group 3.5 g/dL (SD± 0.57) (p=0.040). Pancolitis at initial endoscopy was not more prevalent in the colectomy group (32%) versus noncolectomy (32%). Immunosuppressant usage was not statistically different between groups: colectomy group (24%) versus no colectomy (32%).
Conclusion: Cryptopenia, mucin depletion, crypt branching and crypt abscesses are common findings in UC but do not predict future clinical disease severity. The initial serum albumin and cryptitis were the only variables predictive of future progression to colectomy. Histopathology with extensive cryptitis was more predictive of future severe disease that eventually required colectomy than was the initial endoscopic severity or disease extent. Future prospective studies are required to confirm the prognostic value of diffuse cryptitis to predict a future colectomy in UC.

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EFFECT OF CONCOMITANT STEROID OR IMMUNOSUPPRESSANT TREATMENT ON ADALIMUMAB RESPONSE IN PATIENTS WITH CROHN'S DISEASE: RESULTS FROM THE CARE STUDY

W. Reinisch, MD,[1] R. Lofberg, MD,[2] E. Louis, MD, PhD,[3] M. Kron, PhD,[4] A. Camez, MD,[4] P. F. Pollack, MD[5]. 1. Gastroenterology and Hepatology, Medical University of Vienna, Vienna, Austria; 2. IBD-Unit, Karolinska Institutet, Stockholm, Sweden; 3. Gastroenterology, University of Liège, Liège, Belgium; 4. Abbott GmbH & Co. KG, Ludwigshafen, Germany; 5. Global Statistics and Data Mgmt, Abbott Laboratories, Parsippany, NJ.

Purpose: Adalimumab (ADA), a fully human, anti–TNF monoclonal antibody, is approved for the treatment of Crohn's disease (CD). ADA induces and maintains remission in CD patients (pts) naïve to or experienced with anti-TNF therapy.
Methods: In the Crohn's Patients Treated with Adalimumab: Results of a Safety and Efficacy Study (CARE), we evaluated efficacy and safety of ADA in a large population of patients whose treatment approximated usual clinical practice. Pts with Harvey Bradshaw Index [HBI] score >7 enrolled in this multicenter, open-label European Phase IIIb trial. Pts received induction therapy of 160 mg/80 mg ADA at Weeks 0/2, followed by ADA 40 mg every-other-week maintenance therapy through at least Week 20. Endpoints included response (decrease in HBI≥3) and remission (HBI<5). Results were analyzed by concomitant steroids and immunosuppressants (IMM).
Results: Of 945 pts, 60% were female, 68% were <40 years old, 48% failed prior IFX therapy, 43% had concomitant steroid use, and 55% had concomitant IMM therapy. Week-4 and Week-20 remission data are provided (table). ADA was well-tolerated, with 17% serious adverse events (SAEs), 5% infectious SAEs, 1% opportunistic infections, <1% malignancies, one case of demyelinating disease and no lupus, TB, or deaths.
Conclusion: ADA therapy led to substantial efficacy at Week 4, sustained at Week 20. Neither concomitant steroids nor IMM notably affected the results. Remission rates are consistent with those reported in pivotal clinical trials. ADA was well-tolerated, with safety consistent with prior reports in CD. This research was funded by Abbott Laboratories, Abbott Park, IL.

Week-4 and Week-20 Remission Rates*

	Week 4	Week 20
All patients, ITT	43% (405/945)	52% (493/945)
Concomitant steroid use	45% (183/404)	53% (213/404)
No concomitant steroid use	41% (222/541)	52% (280/541)
Concomitant IMM use	46% (237/517)	55% (283/517)
No concomitant IMM use	39% (168/428)	49% (210/428)

***Nonresponder imputation.**
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OUTCOMES OF MEDICAL THERAPY OF STRICTURE AND INTERNAL PERFORATING CROHN'S DISEASE: A RETROSPECTIVE COHORT STUDY

R. Samimi, MD,[1] M. H. Flasar, MD, MS,[1] K. Tracy, PhD,[2] R. Cross, MD, MS[1]. 1. Medicine, University of Maryland, Baltimore, Baltimore, MD; 2. Epidemiology and Preventive Medicine, University of Maryland, Baltimore, Baltimore, MD.

Purpose: To assess outcomes of medical therapy for stricturing and internal perforating (IP) Crohn's disease (CD).

Methods: Adults with stricturing and IP CD that underwent medical treatment at the University of Maryland IBD program from 2004 to 2008 were evaluated. We assessed 30, 90, and 180 day response rates to medical treatment, time to clinical relapse in responders, time to surgery after medical treatment, and postoperative complications.

Results: 53 patients underwent medical therapy. 60% had stricturing disease, 11% had IP, and 28% had stricturing and IP disease. Disease location was ileal in 38%, colonic in 2%, and ileocolonic in 60%. 92% of patients were diagnosed before the age of 40 years. At 30 days, 54% experienced a partial or complete response to medical therapy. At 90 and 180 days, 60% and 64% respectively experienced a partial or complete response to medical therapy. At 30 days, 75% of patients with ileal CD had partial or complete response to therapy compared to 38% of patients with ileocolonic CD (p=0.026). No variables affected outcomes at 90 and 180 days. 64% of patients required surgery following medical therapy. Time to surgery was a median of 0.71 years. Patients with ileocolonic disease required surgery at 0.55 years versus 1.07 years in patients with ileal disease (p=0.023). Race and disease location were important factors for time to relapse or surgery in 30-day responders. African Americans (AA) had a median of 0.27 years to relapse or surgery versus 1.30 years in Caucasians(p=0.02). Patients with ileocolonic disease had a median time to relapse of 0.405 years versus 2.23 years in ileal disease and 0.63 years in colonic disease(p=0.015). 24% of patients experienced an intraabdominal septic complication [IASC](anastomotic leak, fistula, or abscess) within 30 days of surgery. Only biologic therapy had an effect on post-operative complications with 32% of those receiving biologics having IASC compared to 0% of those that did not receive biologics(p=0.059).

Conclusion: The outcomes of medical treatment of strictures or IP CD are poor as 64% ultimately require surgery. However, the short term response rate to medical therapy is 54%. Important factors that seem to be associated with either failed therapy, clinical relapse or need for surgery include ileocolonic or colonic disease location. Further, AA require surgery or relapse earlier than Caucasians. We report a high rate of IASC, especially in patients treated with biologic therapy. This should be considered prior to attempted medical therapy. Further study is needed to determine which, if any, patients should be treated with medical therapy for strictures or IP CD.

Disclosure - Dr. Cross: Speakers Bureau and Grant Support: Centocor, Speakers Bureau and Grant Support: Abbott, Speakers Bureau: UCB

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MONITORING PATIENTS WITH ULCERATIVE COLITIS IN COMMUNITY-BASED PRACTICE TO IMPROVE ADHERENCE

I. Shafran, MD, P. Burgunder, ARNP. Shafran Gastroenterology Center, Winter Park, FL.

Purpose: Current available evidence indicates that nonadherence to medical therapies in the treatment of ulcerative colitis (UC) is a widespread problem. Previous studies have reported adherence rates as low as 40% in patients with inactive UC and average adherence rates in chronic illness ranging from 43% to 78%. As high adherence rates have been consistently shown to correlate with improved outcomes, innovative methods that encourage patient-clinician communication while remaining unobtrusive will become increasingly valuable. We practice an interactive exchange, open communication, and frequent disease re-education that will ultimately lead to improved adherence and promote disease remission while improving our patients' quality of life. In our community-based private practice, it is our goal to identify poor adherence behaviors and intervene, ultimately by implementing an interactive web-based tool that will combine disease questionnaires, adherence reminders, and continuing education into a novel tracking system.

Methods: We currently apply this approach to our patients with UC, monitoring both the Ulcerative Colitis Disease Activity Index (UCDAI) and the Short Inflammatory Bowel Disease Questionnaire (SIBDQ) scores, as well as treatment and adherence information. Eighty-nine patients with confirmed UC were seen for routine or emergency office visits from September 2007 through May 2008 and had baseline UCDAI and SIBDQ scores captured. Patients' self-reported medication adherence scores were obtained via questionnaire and ranged from 0% to 100%; an adherence score ≥90% was considered adherent.

Results: Seventy-nine patients completed the self-reported medication adherence section of the questionnaire, with 87% (69 patients) reporting adherence of ≥90%. The SIBDQ and partial UCDAI scores in the adherent group (ie, patients with adherence score ≥90%) were favorable, with a mean SIBDQ score of 54.4 (median, 56; range, 30-70) and a mean partial UCDAI score of 1.9 (median, 2; range, 0-9).

Conclusion: These data suggest a positive correlation between medication adherence, improved quality of life, and disease activity. While we acknowledge the limitations of patient-reported adherence and subjective questionnaires, routinely utilizing interactive methods to score and follow patients may allow clinicians to observe trends and patient responses to a variety of medical therapies. Continued development of a web-based, interactive tracking system will allow more frequent access to changing patient conditions and may have a significant role in the improvement of adherence and outcomes in UC community-based settings.

Disclosure - Shafran (Salix Pharmaceuticals) Consultant, Speakers Bureau, Investigator for clinical trials; Burgunder (Salix Pharmaceuticals) Investigator for clinical trials

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COMPARISON OF COMPUTED TOMOGRAPHIC ENTEROGRAPHY WITH STANDARD DIAGNOSTIC ASSESSMENTS FOR DETECTING ACTIVE CROHN'S DISEASE

I. Shafran, MD, P. Burgunder, ARNP. Shafran Gastroenterology Center, Winter Park, FL.

Purpose: Computed tomographic enterography (CTE) is a noninvasive method for visualizing the colon and small bowel that may complement standard assessment tools (eg, colonoscopy, capsule endoscopy) for evaluating Crohn's disease (CD) activity. Computed tomographic enterography provides high-resolution visualization of the entire bowel wall and may be particularly effective at identifying strictures, wall thickening, and other phenomena consistent with active CD. Current evidence suggests a positive correlation between diagnostic results of CTE and those of more invasive procedures.

Methods: To further validate the diagnostic benefit of CTE, medical records for consecutive adult patients with suspected or confirmed CD who had undergone CTE for active disease assessment or routine evaluation were retrospectively reviewed, and agreement between CTE results and those of other diagnostic and investigational methods (ie, colonoscopy, capsule endoscopy, and surgical evaluation) was assessed.

Results: Ninety-three patients (mean age at time of CTE, 46 y; range, 20-84 y) were included in the analysis; 51 patients had a confirmed prior diagnosis of CD and 42 had a suspected diagnosis of CD. Of the 51 patients with history of CD, 18 had disease involving the small bowel only, 12 had isolated colonic or anal/rectal disease, and 21 had disease in multiple sites; 9 patients also had fistulae. Additional diagnostic assessments for CD were conducted within 31 weeks of CTE (median, 3 wk; range, 0-31 wk) and included colonoscopy (n=85), capsule endoscopy (n=9), and evaluation during surgical intervention (n=5). Overall, CTE results agreed with those of all additional assessments in 64 of 93 patients (69%). The results of CTE assessments agreed with those of colonoscopy in 59 of 85 patients (69%), with capsule endoscopy in 6 of 9 patients (67%), and with surgical evaluation in 3 of 5 patients (60%). Among 39 patients in whom colonoscopy detected evidence of active CD, CTE results failed to detect active disease in 15 patients (38%). However, in 11 of 93 patients (12%), CTE assessments detected signs of active disease or abnormalities missed by colonoscopy or other diagnostic methods.

Conclusion: These findings demonstrated that CTE results were consistent with those of standard, more invasive diagnostic methods in the majority of cases, suggesting that CTE may complement, but not replace, colonoscopy and other methods in the diagnosis of CD. Because of its noninvasive nature, CTE remains a desirable approach for diagnosing CD and, when employed in addition to standard methods, may improve diagnostic sensitivity in the clinical setting.

Disclosure - Shafran: (Salix Pharmaceuticals) Consultant, Speakers Bureau, Investigator for clinical trials Burgunder: (Salix Pharmaceuticals) Investigator for clinical trials

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P671

VITAMIN D DEFICIENCY IN INFLAMMATORY BOWEL DISEASE PATIENTS: ASSOCIATION WITH DISEASE ACTIVITY AND QUALITY OF LIFE

A. Ulitsky, MD, A. N. Ananthakrishnan, MD, MPH, S. Skaros, PA-C, K. Lemke, PA-C, J. Knox, PA-C, Y. Zadvornova, MD, MBA, D. G. Binion, MD, M. Issa, MD. Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI.

Purpose: Vitamin D (VitD) deficiency is one of the most common nutritional deficiencies observed in Inflammatory Bowel Disease (IBD; Crohn's disease (CD) and Ulcerative Colitis (UC)). New evidence suggests that VitD modulates immunity with insufficiency being linked to immune disorders. However, it is unknown if VitD deficiency parallels disease activity in IBD. We determined the prevalence of VitD deficiency in our IBD cohort and examined its relationship with disease activity, complications and disease related quality of life (QOL).

Methods: This was a retrospective cohort study evaluating all IBD patients who had levels of 25-OH Vitamin D (25-OHD) measured. VitD deficiency was defined as a 25-OHD level <20ng/dl with severe deficiency being <10ng/dl. Demographic information, disease location and behavior, maintenance regimen, medical hospitalizations and surgeries were recorded. Disease activity was assessed using the Harvey-Bradshaw Index (HBI) and UC disease activity index (UCDAI) for CD and UC respectively. The Short inflammatory bowel disease questionnaire (SIBDQ) scores were used as measures of QOL. Multivariate logistic regression was used to identify independent predictors of VitD deficiency as well as its association with disease activity and QOL.

Results: There were 504 IBD patients (403 CD and 101 UC) included in our study. The mean disease duration was 15.5 yr and 10.9 yr in CD and UC respectively. The mean 25-OHD in our cohort was 23.3ng/dL with similar values between UC (24.1ng/dL) and CD (23.5ng/dL). Overall, 49.8% were VitD deficient with 10.9% having severe deficiency. VitD deficiency was associated with older age (P=0.004) and older age at diagnosis (p=0.03). However, VitD deficiency was not associated with IBD type (CD vs. UC), anatomic involvement in CD (small vs. large bowel), disease behavior, smoking status, immunomodulator or biologic use. In our cohort, VitD deficiency was significantly more prevalent in the summer compared to winter months (p=0.004). VitD deficiency was not predictive of medical or surgical hospitalizations. VitD deficiency was independently associated with lower QOL (-2.21, 95% CI -4.10 to -0.33) in CD but not UC (0.41, 95% CI -2.91 to 3.73). VitD deficiency was also independently associated with increased disease activity in both CD (1.07, 95% CI 0.43 to 1.71) and UC (1.28, 95% CI -0.05 to 2.31).

Conclusion: VitD deficiency is common in IBD. Older age and age at diagnosis were the only clinical predictors of low vitamin D levels. VitD deficiency is independently associated with lower QOL and greater disease activity in CD. There is a need for prospective studies to assess this correlation and examine the impact of VitD supplementation on disease course.

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A NEW TOOL TO MEASURE THE BURDEN OF CROHN'S DISEASE AND ITS TREATMENT: DO PATIENT AND PHYSICIAN PERCEPTIONS MATCH?

A. R. Wilcox, MD, C. Dragnev, ARNP, C. J. Darcey, MD, C. A. Siegel, MD. IBD Center, Dartmouth-Hitchcock Medical Center, Lebanon, NH.

Purpose: Quality of life is difficult to efficiently measure in the clinic setting. Our aim was to develop and test a simple tool to measure the burden of Crohn's disease and its treatment and to compare how patients and their physicians perceive the impact of Crohn's disease on quality of life (QOL).

Methods: A cross sectional, self-administered survey was developed, revised and tested for understanding using cognitive interviews in patients with Crohn's disease. The questionnaire was composed of closed response answers including the SIBDQ and a recently validated "feeling thermometer" to measure disease and treatment burden. The questionnaire was distributed to consecutive patients with Crohn's disease in the Dartmouth-Hitchcock IBD clinic. At the time of the visit, the patient's provider completed a questionnaire which contained the feeling thermometer and the Harvey Bradshaw index (HBI). Results are reported as simple descriptive statistics and Pearson's correlation coefficients were calculated to compare the response to a

single thermometer question to the SIBDQ or HBI and to compare responses between patients and their physicians.
Results: 113 surveys were completed. The mean age of respondents was 41.9 years (range 19-77) and 68% were female. Mean disease duration was >10 years. 73% had previously required hospitalization and 55% underwent prior surgery. 70% of patients had taken oral steroids, 53% received IV steroids, 63% had taken an immunomodulator, and 42% received at least one dose of infliximab. Using the feeling thermometer (scale 0-100), the mean current health of participants was 64.4 (SD 21, range 10-99) with projected improvement to 87.5 (SD 13.9, range 20-100) without symptoms of Crohn's disease. This resulted in a disease burden of 24.3 (SD 18.3, range 0-78). When asked how treatment impacts QOL, the treatment specific burden was 12.7 (SD 15.2, range 0-70). Physicians perceived their patients' mean current health as 71.3 (SD 22, range 11-100) with a disease burden of 19 (SD 18.7, range 0-85). Mean SIBDQ score was 46.2 (SD 13, range 12-70) and mean HBI was 2.9 (SD 3.6, range 0-16). The correlation between the thermometer current health question and SIBDQ was "good to very good" (r=0.74). Physicians' response to the thermometer QOL question performed less well compared to the HBI (r=-0.62). The correlation between patient and physician perception of current health was 0.69.
Conclusion: A single question using the feeling thermometer provides an accurate assessment of QOL in patients with Crohn's disease. The burden of disease is greater than the burden of treatment for patients. Physicians fairly accurately perceive the impact of Crohn's disease on their patients' QOL.

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SAFETY PROFILE OF ONCE-DAILY 1.5-G GRANULATED MESALAMINE AS MAINTENANCE THERAPY FOR MILD-TO-MODERATE ULCERATIVE COLITIS: RESULTS FROM 2 PHASE 3 TRIALS
S. Zakko, MD,[1] U. Murthy, MD,[2] R. Pruitt, MD,[3] K. Merchant, PhD,[4] A. Shaw, PhD,[4] J. Yuan, PhD,[4] E. Bortey, PhD,[4] W. Forbes, PharmD[4]. 1. Connecticut Gastroenterology Institute, Bristol, CT; 2. Syracuse VA Medical Center, Syracuse, NY; 3. Nashville Medical Research Institute and the Maria Nathanson Center at Saint Thomas Hospital, Nashville, TN; 4. Salix Pharmaceuticals, Morrisville, NC.
Purpose: Maintenance of ulcerative colitis (UC) remission is an important goal of therapy. Easy-to-administer therapeutic agents with a favorable safety profile can have a substantial impact on patient quality of life and compliance. A unique formulation, granulated mesalamine capsules, provides both delayed and extended release of 5-aminosaliyclic acid directly to the terminal ileum and colon for once-daily dosing. Granulated mesalamine is currently in late-stage development for maintenance of UC remission.
Methods: Data from 2 identically designed, randomized, multicenter trials of granulated mesalamine 1.5 g (4 capsules) once daily (n=367) for 6 months versus placebo (n=185) in patients who were in UC remission (assessed by revised Sutherland Disease Activity Index: rectal bleeding subscore = 0; mucosal appearance subscore <2) were pooled to evaluate the safety profile of granulated mesalamine. Assessment of adverse events (AEs), including UC relapse, clinical hematology, blood chemistry, and urinalysis, was conducted at baseline; months 1, 3, and 6/last study visit while on study medication; and 2 weeks posttreatment and by telephone (AEs only) at week 2 and months 2, 4, and 5.
Results: Demographics and baseline characteristics were similar between the 2 groups. Mean exposure to study medication was higher with granulated mesalamine (145 d) than placebo (126 d). Fewer patients who received granulated mesalamine (28%) withdrew versus patients who received placebo (43%) due to disease relapse (12% vs 21%, respectively) or AEs (11% vs 16%, respectively). For granulated mesalamine versus placebo, the most common AEs were UC flare (11% vs 24%, respectively), headache (11% vs 8%, respectively), and diarrhea (8% vs 7%, respectively). There was a low and similar incidence of renal, hepatic, or pancreatic AEs in patients in the granulated mesalamine (6%) and placebo (5%) groups. The percentage of patients who experienced serious AEs was small in both the granulated mesalamine (1%) and placebo (2%) groups, and no event reported in the granulated mesalamine group was considered drug-related. No deaths occurred during the study.
Conclusion: Granulated mesalamine appears to have a favorable safety profile which, when combined with its low tablet load and convenient once-daily dosing, may support its administration as first-line therapy for maintenance of UC remission.
Disclosure - Dr. Zakko - Consultant: TAP, Novartis, Pfizer; Grant/Research Support: Salix Pharmaceuticals; Patent Holder: Gallstone Dissolution - CalQlus Systems; Other: Royalties from Uptodate Online Dr. Murthy - Grant/Research Support: Salix Pharmaceuticals, Schering Plough Dr. Pruitt - Grant/Research Support: AstraZeneca, Salix Pharmaceuticals, Centocor, Abbott Dr. Merchant - Employee: Salix Pharmaceuticals Dr. Shaw - Employee: Salix Pharmaceuticals Dr. Yuan - Employee: Salix Pharmaceuticals Dr. Bortey - Employee: Salix Pharmaceuticals Dr. Forbes - Employee: Salix Pharmaceuticals
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P674

CERTOLIZUMAB PEGOL, ADALIMUMAB AND INFLIXIMAB DRAMATICALLY REDUCE THE LEVELS OF TLR2, TLR4 AND CD14 EXPRESSION ON LPS-STIMULATED MONOCYTES
G. Fossati, PhD, A. Nesbitt, PhD. UCB-Celltech, Slough, United Kingdom.
Purpose: Purpose: Certolizumab pegol, adalimumab and infliximab have been shown to dramatically inhibit the LPS-stimulated production of inflammatory cytokines such as IL-1β by monocytes, whereas etanercept is considerably less potent at mediating this effect.1 This function is thought to be initiated by signaling through membrane TNFα, although the exact mechanism is not completely understood. The aim of this study was to examine the effect of these anti-TNFα reagents on the levels of cell surface molecules such as Toll Like Receptor (TLR) 2 (CD282), TLR4 (CD284) and CD14, which are involved in the response to LPS. TLR2 and 4 levels have been shown to be upregulated during inflammation, particularly in Crohn's disease.
Methods: Heparinised whole blood from healthy volunteers was incubated for 1 hour at 37oC with 10 μg/mL of 1 of the 4 anti-TNFα reagents to allow signaling through membrane TNF. Then 100 ng/mL LPS was added for 2 hours. The cells were stained with either phycoerythrin labeled anti-TLR2, -TLR4 or -CD14 antibody, and a fluorescein isothiocyanate labeled CD33 antibody. Erythrocytes were removed by hypotonic lysis and the samples were analysed by flow cytometry. The level of staining on monocytes was determined by gating the cells using the CD33 antibody staining and side scatter.
Results: Certolizumab pegol, adalimumab and infliximab reduced the geometric mean level of TLR2 to 12.2, 18.1 and 14.6, respectively (LPS control was 50.6), TLR4 to 6.1 5.8 and 5.0, respectively (LPS control was 13.2), and CD14 to 47.0, 66.9 and 48.2, respectively (LPS control was 107). Etanercept reduced, to a lesser degree, the level of these 3 surface markers to 37.9, 11.1 and 60.6 for TLR2, TLR4 and CD14, respectively.
Conclusion: Certolizumab pegol, adalimumab and infliximab, which have been shown to potently inhibit the LPS driven cytokine production by monocytes, all dramatically reduced the level of TLR2, 4 and CD14 on the cell surface of monocytes activated with LPS. This reduction in the levels of the surface markers could explain the unresponsiveness to LPS as there are less of these proteins on the cell surface to bind LPS and transfer the inflammatory signal into the cell. Etanercept did not reduce the levels of TLR2 and 4 to the same degree and does not potently inhibit the LPS-driven cytokine production. This mechanism of action could be important in Crohn's disease where bacteria are a major part of the inflammatory process. Reference: 1. Nesbitt A, et al. Inflamm. Bowel Dis 2007:13:1323–1332.
Disclosure - Dr Fossati - Employee, UCB; Dr Nesbitt - Employee, UCB
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P675

PLACEBO IS BECOMING MORE EFFECTIVE IN CROHN'S DISEASE
W. C. Gallahan, MD,[1] D. Case, PhD,[2] R. S. Bloomfeld, MD[1]. 1. Gastroenterology, Wake Forest University Baptist Medical Center, Winston Salem, NC; 2. Public Health Sciences, Wake Forest University School of Medicine, Winston Salem, NC.
Purpose: Randomized, placebo controlled trials are typically used to assess the efficacy of new therapies for Crohn's Disease. The placebo response and remission rates vary among different studies. The purpose of this study was to analyze how the placebo response and remission rates in Crohn's trials have changed over time in the new era of parenteral biologic therapies.
Methods: A comprehensive search for randomized, placebo-controlled trials of parenteral biologic therapies for the induction of active Crohn's disease was conducted using online databases. Those trials with an open-label induction were excluded, as were phase I studies. For each trial, the placebo response and remission rates and the study week at which those rates were assessed were recorded. Using logistic regression, the placebo response and remission rates were then analyzed as a function of when the trial was published and the study week at which they were assessed.
Results: A total of 19 trials, published from 1997 through 2007, were included in the study. As shown in Figure 1, the placebo remission rate increased significantly with each successive year of publication (OR 1.05 [C.I. 1.01 – 1.08], p=0.0051), meaning the odds of a placebo-induced remission increased by 5% per year. The increase in placebo response over this time was not statistically significant (OR 1.01 [C.I. 0.98 – 1.04], p=.5340). The odds of a placebo induced remission (OR 1.15 [1.12 – 1.18], p <.0001) and response (OR 1.12 [1.09 – 1.14], p <.0001) significantly increased as the week of evaluation increased.
Conclusion: The remission rate in the placebo arm of trials of parenteral biologic therapies for Crohn's disease has significantly increased over the past decade. The placebo response rate has not seen a significant increase. The placebo response and remission rates increase with the week of evaluation. There are multiple factors that contribute to this increase in placebo induced remission in Crohn's Disease over time, and accurate estimates of the placebo response and remission rates are crucial in the design of new trials for Crohn's therapies.

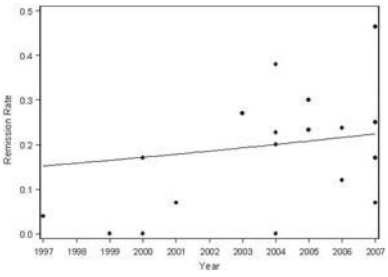


Figure 1
Disclosure - Dr. Bloomfeld: Abbott- speaker's bureau, Centocor- speaker's bureau, Prometheus- speaker's bureau

P676

Poster Withdrawn

P677

LATE-ONSET ULCERATIVE COLITIS: A HISTORICAL ANALYSIS OF THE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE EXPERIENCE

C. Y. Ha, MD, M. Ciorba, MD. Division of Gastroenterology, Washington University School of Medicine, St. Louis, MO.

Purpose: The clinical course of late-onset UC has yet to be defined. Disease behavior and response to therapy among UC patients who are diagnosed at an older versus younger age may be different. We aimed to determine the clinical behavior and therapeutic requirements of patients diagnosed with UC at age 50 years or greater.

Methods: A retrospective chart review was performed for all patients over age 50 presenting with a new diagnosis of UC from 2001-2006. Patients were seen predominantly by 2 gastroenterologists specialized in Inflammatory Bowel Disease care at Washington University School of Medicine. Data were collected on UC-related risk factors, disease extent and symptom severity at presentation, medication history in the 1st year of diagnosis, and remission at one year.

Results: In total, 108 patients over the age of 50 presented to our clinics with a new diagnosis of UC (48% M, avg age 60). 54% of patients were former smokers and 9% had a family history of UC. Disease extent and symptom severity at the time of diagnosis, using the Montreal Classification (Sastangi et al. Gut 2006;55:749-753), are shown in Tables 1 and 2. Symptom severity assessment at one year (Fig 1) revealed that 70% of patients achieved steroid-free symptomatic remission. Importantly, nearly two-thirds (65%) of patients in steroid-free remission were on a 5-ASA regimen alone (67% F, 63% M). Two patients required colectomy and no deaths occurred during the initial year after diagnosis.

Conclusion: Earlier literature suggested older patients present with limited disease but more severe symptoms. However, only 9% of our late-onset UC population had proctitis alone and 86% had moderate or severe disease. Despite having greater disease extent and severity, ~2/3 of these older-onset patients achieved steroid free remission at 1 year with a 5-ASA alone. This striking response to therapy may be due to age dependent differences in intestinal barrier and immune cell function, or instead resultant from this population's tendency to more rapidly seek evaluation and treatment. Regardless, our findings indicate that the prognosis for steroid free remission in late-onset UC may be greater than previously reported, and that 5-ASAs are a highly effective therapy in this population.

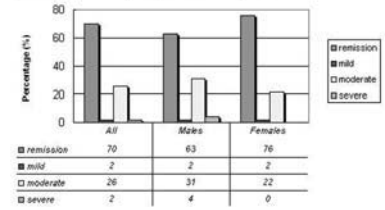
Table 1. UC disease extent at diagnosis.

	All (%)	Male (%)	Female (%)
Proctitis	9	8	9
Left-sided	51	63	41
Extensive	40	29	50

Table 2. UC symptom severity at diagnosis.

	All (%)	Males (%)	Females (%)
Mild	14	12	16
Moderate	74	80	68
Severe	12	8	16

Figure 1. Symptom severity one year after UC diagnosis



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SHORT- AND LONG-TERM EFFICACY OF ADALIMUMAB FOLLOWING INFLIXIMAB FAILURE: SYSTEMATIC REVIEW AND META-ANALYSIS

C. Ma, BSc, R. Panaccione, MD, S. J. Heitman, MD, MSc, S. Devlin, MD, G. G. Kaplan, MD, MPH. Inflammatory Bowel Disease Clinic, Department of Medicine, University of Calgary, Calgary, AB, Canada.

Purpose: Adalimumab therapy has been shown to be effective in Crohn's disease in patients who have lost response or are intolerant to infliximab. To summarize the current state of the literature, we conducted a systematic review of the literature and meta-analysis to determine the short- and long-term efficacy of adalimumab in Crohn's disease patients who were primary or secondary non-responders to infliximab.

Methods: Electronic searches of EMBASE and MEDLINE databases up to April 1, 2008, supplemented by hand-searches through the conference proceedings of the AGA (2006,2007), ACG (2006, 2007), and UEGW (2006, 2007) international meetings, were used to identify randomized-controlled trials (RCT) or open-labeled trials (OLT) that evaluated the short- and/or long-term efficacy of adalimumab in infliximab failures. We identified 715 citations of which 9 (8 full publications and 1 abstract) met inclusion criteria for full text review and data extraction. The overall response rate for short- (clinical response at 4 weeks) and long-term (clinical remission at 6 and 12 months) efficacy were recorded and weighted using the inverse of the variance method. Because the Mantel-Haenszel test statistic demonstrated heterogeneity we used a random effects model for our summary estimates.

Results: There were 2 RCTs among the 9 selected articles. The 1st was a RCT whose primary outcome was to evaluate the short-term efficacy of adalimumab among infliximab failures, while the 2nd assessed infliximab failures in a subgroup analysis. The remaining 7 were non-controlled OLTs. The majority of studies evaluated Crohn's disease patients who either lost response to infliximab or were intolerable to infliximab; though, 2 OLT permitted patients refractory to infliximab. Among the 7 articles that assessed short-term efficacy, the weighted clinical response rate was 62.1% (52.8%-71.4%). Only 3 articles evaluated long-term efficacy at 6 and 12 months and clinical remission rates were 38.1% (7.1%-69.0%) and 36.7% (20.4%-52.9%), respectively.

Conclusion: Nearly 2/3 of Crohn's disease patients who fail infliximab therapy will have an initial clinical response to adalimumab and 1/3 will maintain clinical remission 6 and 12 months after initiating therapy. However, these response rates need to be interpreted cautiously because of the paucity of RCTs that have evaluated this distinct subgroup in primary analyses.

Disclosure - Dr. Kaplan: Abbott Laboratories, Honararium; Scherring Plough, Honararium. Dr. Heitman: none Christopher Ma: none Shane Devlin: Schering Plough, Advisor, speaker's bureau, honouraria; Abbott, Advisor, speaker's bureau, honouraria. Remo Panaccione: Schering Plough, Advisor, speaker's bureau, honouraria, research support; Centocor, Advisor, speaker's bureau, honouraria, research support; Abbott, Advisor, speaker's bureau, honouraria, research support.

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OUTCOMES OF ILEAL POUCH ANAL ANASTOMOSIS IN AFRICAN AMERICAN PATIENTS

L. D. Moore, BA,[2] R. Lopez, MS,[1] B. Shen, MD[1]. 1. Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, OH; 2. Cleveland Clinic Lerner College of Medicine, Cleveland Clinic Foundation, Cleveland, OH.

Purpose: It has been recognized that inflammatory bowel disease (IBD) has a higher prevalence in African American populations than once thought. Recent studies have suggested that there are differences in disease behavior, surgical rates, response to medical therapy, and extraintestinal manifestations between races. The effects of race on the outcomes of patients with ileal pouch anal anastomosis (IPAA) have not been studied.

Methods: Eleven African American patients and 611 consecutive Caucasian patients with IPAA who presented to the Pouchitis Clinic from 2002 to present were included in this study. We compared pouch failure, Crohn's disease of the pouch, and chronic pouchitis rates between African American and Caucasian patients. In addition, we also assessed 14 demographic and clinical variables.

Results: There were no significant differences in the frequency of pouch failure, Crohn's disease (CD) of the pouch, or rates of chronic pouchitis between African American and Caucasian patients. There was also no significant difference found in rates of pouch-related hospitalization and extraintestinal manifestations of IBD. African Americans were found to have significantly shorter duration of IBD (11.8 years vs. 17.2 years, p=.001) as well as significantly shorter duration of pouch (3 years vs. 7 years, p=.026). The age of African American patients who presented at the Pouchitis Clinic appeared to be younger (Table).

Conclusion: While there were no significant differences in pouch outcome between the races, African American patients appeared to be younger at presentation, with a shorter duration of IBD and ileal pouch. The data suggest that natural history of ulcerative colitis and disease course after restorative proctocolectomy may be different between the racial groups. Further studies are needed.

	African American (N=11)	Caucasian (N=611)	p- Value
Age (yrs)	38.6 (10.2)	45.4 (14)	0.053
Duration of IBD (yrs)	11.8 (3.9)	17.2 (10.1)	0.001
Duration of Pouch (yrs)	3 (1,9)	7 (4,12)	0.026
Pouch Failure	1 (9.1)	37 (6.1)	0.5
Crohn's Disease of the Pouch	2 (18.2)	128 (21.0)	0.99
Chronic Pouchitis	1 (9.1)	197 (32.2)	0.19
Pouch-related Hospitalizations	2 (18.2)	86 (14.1)	0.66
Primary Sclerosing Cholangitis	1 (9.1)	28 (4.6)	0.48

Values presented are mean (SD) for age and duration of UC, median (P25, P75) for duration of pouch, and N (%) for all categorical variables.

p-Values correspond to Student's t-tests for age and duration of UC, Wilcoxon rank sum tests for duration of pouch, number of visits, and duration of follow-up, and Fisher's Exact tests for all categorical variables.

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IMMUNOMODULATOR AND CORTICOSTEROID USE ARE NOT ASSOCIATED WITH PROLONGED SUCCESS WITH INFLIXIMAB

M. H. Rosen, MD,[1] T. Ullman, MD,[2] A. Swaminath, MD,[2] M. Abreu, MD[3]. 1. Internal Medicine, Mount Sinai School of Medicine, New York, NY; 2. Gastroenterology, Mount Sinai School of Medicine, New York, NY; 3. Gastroenterology, University of Miami, Miami, FL.

Purpose: Infliximab (IFX), a chimeric monoclonal antibody to tumor necrosis factor-alpha, is an effective treatment for Crohn's disease (CD) and ulcerative colitis (UC). Some patients, however, do not respond to IFX or lose response with subsequent infusions, often requiring dose adjustments. The aim of this study was to identify factors associated with a loss of response to IFX in inflammatory bowel disease patients in a study population from an academic medical center's infusion center.

Methods: Patients receiving IFX between 1998 and 2007 for CD or UC at a university infusion center were identified by chart review. Demographic data, IFX dosing schedules, concurrent medications and laboratory values were collected. Kaplan-Meier testing with log-rank evaluation was performed to determine which variables were associated with IFX discontinuation.

Results: Charts of 106 patients who received IFX for CD or UC between 1998 and 2007 were reviewed. 83 patients met inclusion criteria and were followed for a median of 16.6 months. 70

patients (84%) had CD; 13 (16%) had UC or indeterminate colitis. Dosing schedules ranged from a minimum 5 mg/kg every 8 weeks to a maximum of 22.5 mg/kg every 4 weeks. At the end of follow-up, 52 (63%) were on IFX; 29 (35%) were maintained on 5 mg/kg every 8 weeks. 10 (12%) of the patients were discontinued from IFX secondary to infusion reactions. Use of immunomodulators (p=0.61), corticosteroids (p=0.24), or either (p=0.46) was not associated with discontinuation. Ashkenazi Jewish heritage, fistulizing disease, small bowel location (versus ileocolonic or colonic), or CD (vs. UC) were likewise not associated with IFX discontinuation.
Conclusion: A minority of patients discontinue IFX once initiated. Concurrent medication with corticosteroids or immunomodulators was not associated with prolonged IFX usage. Monotherapy may be appropriate in the treatment of patients on IFX.

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MINIMAL EFFECT OF A HIGH-FAT MEAL ON THE PHARMACOKINETICS OF ONCE-DAILY GRANULATED MESALAMINE

A. Safdi, MD,[1] H. Pieniaszek, PhD,[2] A. Grigston, PhD,[3] W. Forbes, PharmD[3]. 1. Ohio Gastroenterology & Liver Institute, Cincinnati, OH; 2. HPP Consulting & Services, Inc, Darlington, MD; 3. Salix Pharmaceuticals, Morrisville, NC.

Purpose: The main goals of treatment for patients with ulcerative colitis (UC) are to induce and maintain remission of disease, thereby improving patient quality of life. Granulated mesalamine delivers the first-line therapeutic agent, 5-aminosalicylic acid (5 ASA), directly to the colon and allows for once-daily (q.d.) dosing via delayed- and extended-release mechanisms. This study evaluated the effect of a high-fat meal on the pharmacokinetics (PK) of a single 1.6-g dose of granulated mesalamine.
Methods: Thirty healthy adults (23 male, 7 female; mean age, 24 y; range, 18-43 y) completed the crossover study. Participants received a single oral dose of granulated mesalamine 1.6 g q.d. after an overnight fast or consumption of a high-fat breakfast. Plasma, urine, and feces were collected during the 4 days after dosing to assess the effect of a high-fat meal on the PK of 5-ASA and its metabolite, N-Ac-5-ASA. Maximum concentration (Cmax), area under the concentration-time curve from time 0 to infinity (AUCinf), and time to maximum concentration (Tmax) were determined.
Results: Plasma Cmax values for 5-ASA and N-Ac-5-ASA were equivalent in the fed and fasted conditions (Table). After the high-fat meal, 5-ASA AUCinf was slightly increased, which was not considered clinically significant. The Tmax was prolonged for 5-ASA and N-Ac-5-ASA after the high-fat meal. The high-fat meal had no effect on cumulative fecal and urinary excretion of 5-ASA plus N-Ac-5-ASA but did result in a 29% decrease in mean fecal excretion of 5-ASA, a 17% increase in mean N-Ac-5-ASA fecal excretion, and a 30% increase in mean 5-ASA urinary excretion compared with fasted-condition excretion values.
Conclusion: These findings suggest that the overall systemic absorption of 5-ASA and N-Ac-5-ASA is low and essentially unaltered by a high-fat meal. Granulated mesalamine utilizes a delayed- and extended-release mechanism, with initiation of 5-ASA delivery at the terminal ileum and continuous release throughout the colon. Convenience of once-daily dosing and ability to take granulated mesalamine with or without food may improve patient compliance and enhance treatment success.

Plasma Pharmacokinetics (Mean ± Standard Deviation)[a]

Parameter	Fasted (N=30)	Fed (N=30)	Fed/Fasted Ratio (90% CI)
C_{max}, µg/mL			
5-ASA	2.56±1.45	2.51±1.27	104 (87-125)
N-Ac-5-ASA	3.72±1.85	3.63±1.38	103 (90-117)
AUC_{inf}, µg●h/mL			
5-ASA	12.98±6.09	13.76±5.70	111 (96-128)
N-Ac-5-ASA	44.91±18.47	43.42±23.56	95 (84-108)
T_{max}, h			
5-ASA[b]	4.00 (3.00-8.00)	8.00 (3.00-20.00)	-
N-Ac-5-ASA[b]	6.00 (2.00-16.00)	8.00 (3.00-24.00)	-

CI, confidence interval. [a]Ratios and CIs calculated from geometric means of log transformed results; ratios mutiplied by 100. [b]Median (range).
Disclosure - Dr. Safdi- Consultant: Salix Pharmaceuticals, Elan, Speaker's Bureau: Salix Pharmaceuticals, Elan, Grant/Research Support: Salix Pharmaceuticals, Advisory Committee/Board Member: Salix Pharmaceuticals, Elan; Dr. Pieniaszek- Consultant: Salix Pharmaceuticals; Dr. Grigston- Employee: Salix Pharmaceuticals; Dr. Forbes- Employee: Salix Pharmaceuticals
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MULTIPLE-DOSE PHARMACOKINETICS OF GRANULATED MESALAMINE, A UNIQUE FORMULATION PROVIDING DELAYED AND EXTENDED RELEASE OF 5-ASA

A. Safdi, MD,[1] H. Pieniaszek, PhD,[2] A. Grigston, PhD,[3] W. Forbes, PharmD[3]. 1. Ohio Gastroenterology & Liver Institute, Cincinnati, OH; 2. HPP Consulting & Services, Inc, Darlington, MD; 3. Salix Pharmaceuticals, Morrisville, NC.

Purpose: Although mesalamine is a well-established first-line treatment in patients with ulcerative colitis (UC), a high frequency of administration can lead to low adherence, resulting in suboptimal outcomes. Granulated mesalamine (5-aminosalicylic acid [5-ASA]), for maintenance of UC disease remission, is formulated for both delayed and extended release of mesalamine directly to the terminal ileum and colon. This open-label, phase 1 study was conducted to evaluate the multiple-dose pharmacokinetics (PK) of once-daily (q.d.) and twice-daily (b.i.d.) granulated mesalamine.
Methods: Healthy adult volunteers received granulated mesalamine 1.6 g q.d. or 0.8 g b.i.d. for 4 days. Plasma, fecal, and urine samples were collected to assess the PK of 5-ASA and its metabolite, N-Ac-5-ASA. The primary PK parameters evaluated were the following: area under the concentration-time curve (AUC), maximum concentration (Cmax), and time to maximum concentration (Tmax).
Results: Thirty healthy volunteers (age range, 19-45 y) were randomized and 28 completed the study. Systemic exposure to 5-ASA and N-Ac-5-ASA was comparable for the q.d. and b.i.d regimens (Table). Maximum plasma concentrations were higher for 5-ASA and N-Ac-5-ASA in the q.d. regimen versus the b.i.d. regimen. The Tmax for both analytes was shorter in the q.d. regimen than in the b.i.d. regimen. Fecal and urinary 5-ASA and N-Ac-5-ASA levels were comparable for q.d. and b.i.d. administration.
Conclusion: The PK profile of granulated mesalamine 1.6 g q.d. was consistent with an extended release of mesalamine to the terminal ileum and throughout the colon. Additionally, systemic absorption of mesalamine was low and comparable whether administered q.d. or b.i.d. The convenience of once-daily dosing may improve patient adherence and enhance treatment success.

Plasma Pharmacokinetics (Mean ± Standard Deviation)[a]

Parameter	Granulated Mesalamine 1.6 g q.d.	Granulated Mesalamine 0.8 g b.i.d.	Ratio q.d./b.i.d. (90% CI)
C_{max}, µg/mL			
5-ASA	3.0±1.7	1.8±0.7	153 (113-208)
N-Ac-5-ASA	4.5±1.8	3.6±1.2	118 (98-143)
AUC,µg●h/mL			
5-ASA	14.8±6.5	14.8±5.5	96 (76-121)
N-Ac-5-ASA	45.8±19.7	46.4±15.4	93 (78-112)
T_{max}, h			
5-ASA[b]	3.0 (2.0-16.0)	16.0 (0-24.0)	-
N-Ac-5-ASA[b]	3.0 (2.0-24.0)	16.0 (0-24.0)	-

CI, confidence interval. [a]Ratios and CIs calculated from geometric means of log transformed results; ratios multiplied by 100. [b]Median (range).
Disclosure - Dr. Safdi- Consultant: Salix Pharmaceuticals, Elan, Speaker's Bureau: Salix Pharmaceuticals, Elan, Grant/Research Support: Salix Pharmaceuticals, Advisory Committee/Board Member: Salix Pharmaceuticals, Elan; Dr. Pieniaszek- Consultant: Salix Pharmaceuticals; Dr. Grigston- Employee: Salix Pharmaceuticals; Dr. Forbes- Employee: Salix Pharmaceuticals
This research was supported by an industry grant from Salix Pharmaceuticals

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A PHARMACOKINETIC AND SCINTIGRAPHIC COMPARISON OF MMX™ MESALAMINE AND DELAYED-RELEASE MESALAMINE

H. Wray, PhD,[1] R. Joseph, MD,[2] M. Palmen, PhD,[2] D. Pierce, PhD[2]. 1. Pharmaceutical Profiles Ltd, Nottingham, United Kingdom; 2. Shire Pharmaceuticals Inc., Wayne, PA.

Purpose: To compare the plasma pharmacokinetic (PK) profiles, regional gastro-intestinal transit time and tablet disintegration time between a single dose of MMX mesalamine (1.2g/tablet; Lialda®; Shire Pharmaceuticals Inc., Wayne, PA, USA) and pH-dependent delayed-release mesalamine (DRM [Asacol® 400mg; Giuliani SpA, Italy]).

Methods: This was an open-label, two-way cross-over study in healthy male subjects aged between 18 and 65 years. Subjects (n=8) were randomized to: MMX mesalamine (1x1.2g tablet radiolabeled with 1.5MBq 153Sm) or DRM (3x400mg tablets each radiolabeled with approximately 0.5MBq 153Sm), respectively. Subjects were admitted to the unit during the evening of Day -1 and were fasted for 8 hours prior to, and until 4 hours post, dosing. On Day 1, all subjects received their allocated treatment. Subjects also ingested 20 radio-opaque beads immediately after intake of study drug. A series of PK, scintigraphic and safety assessments were performed until 96 hours post-dose when the subjects were discharged from the unit and asked to collect their stool samples until all radio-opaque marker beads had been recovered.

Results: MMX mesalamine and DRM appeared to have similar PK profiles (possibly due to both formulations initially releasing 5-ASA in the terminal ileum where the majority of systemic absorption occurs). There were numeric between-treatment differences in measured parameters (Table 1). Initial tablet disintegration appeared to occur earlier in the GI tract for MMX mesalamine than for DRM (Table 2). Complete disintegration occurred later for MMX mesalamine compared with DRM (Table 2). GI transit was complete in approximately 70 hours after administration of either formulation.

Conclusion: These data suggest that MMX mesalamine releases 5-ASA in a steady fashion throughout the left side of the colon. In contrast, DRM appears to release the majority of its 5-ASA load in the ascending colon. PK analysis did not discriminate between the differences in release profile between the two formulations.

Table 1. Pharmacokinetic parameters of 5-ASA (mean±SD)

Formulation	Lag time (hrs)	Time to max. concentration (hrs)	Max. concentration (ng/mL)	Area-under-curve 0-96 hrs (ng.hr/mL)
MMX mesalamine	3.5±1.4	7.0±3.0	711±540	4,069±3,028
DRM	4.3±2.5	8.8±3.2	790±626	4,444±2,610

Table 2. Tablet disintegration (hours post-dose [mean±SD])

Disintegration	Initial	Complete
MMX mesalamine	4.75±1.31	17.37±8.63
DRM	6.16±1.80	7.27±2.13

Disclosure - Dr H Wray - Lead study investigator, study funded by Shire Pharmaceuticals Inc; Dr R Joseph, Dr M Palmen and Dr D Pierce: Employees of Shire Pharmaceuticals Inc.

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A PROSPECTIVE, CONTROLLED LONGITUDINAL STUDY OF THE EFFECTS OF ORAL STEROIDS AT 3, 6 AND 12 MONTHS ON BONE MINERAL DENSITY (BMD) IN PATIENTS WITH IBD

J. Hyun, MD, A. Kornbluth, MD, J. George, MD, P. Legnani, MD, S. Lichtiger, MD, M. Kissous-Hunt, RPA-C, M. Lewis, MS. Gastroenterology, The Mount Sinai hospital, New York, NY.

Purpose: Patients with IBD are at risk for steroid induced BMD loss. However, the duration of prednisone use required to produce bone loss, and the natural history of BMD after cessation of prednisone is not well described in IBD, The objective of this prospective study is to determine the rate and course of bone loss at 3, 6 and 12 months in patients treated with a 3 month course of prednisone (Pred), compared to a control group matched for disease activity, not treated with prednisone (non-P).

Methods: 18 Pred patients (n=18) underwent baseline DEXA to determine BMD at the lumbar sacral spine (LSS), and bilateral hips, and were compared to 15 non-P patients with active disease; all patients underwent serial DEXA measurements at 3 and 6 and 12 months. All patients were treated empirically with oral calcium 1500 mg/d and vitamin D 600 U/d. Baseline disease activity was assessed using the modified Mayo score for UC, and the Harvey Bradshaw Index for CD.

Results: 17 UC patients and 16 CD patients, 23 males and 10 females were studied. There were no demographic differences or baseline risk factors between groups. The proportion of patients with osteoporosis at baseline were similar in the Pred and non-P groups (17 vs. 20%.). The decline in mean LSS t scores at 3 months, compared to baseline, was greater in the Pred group at the LSS, compared to non-P (-0.15 vs. 0), as well as at the hip (- 0.23 vs. 0). There was no further decline in mean t scores from 3 to 6 and 12 months at either the LSS or hip in the Pred group. At 3 months, 5 of 18 (28%) patients in the Pred group had >5% decline in BMD at the LSS and 3 of 18 (17%) in the Pred group had a >5% decline in BMD at the hip. At 6 months no additional patients in the Pred group developed >5% BMD loss at the LSS, and 4 of 18 (22%) improved to < 5% BMD loss at the LSS by 12 months. Between 3 and 12 months 1 additional Pred patients had > 5% BMD loss at the hip.

Conclusion: A 3 month course of prednisone led to a greater decline in mean t scores at both the LSS and hip than in control patients by 3 months. However, in this group of patients who had discontinuation of prednisone by 3 months, and maintained on calcium and Vitamin D supplementation, there was no additional loss in BMD at the LSS or hip in prospective follow-up at 6 and 12 months. A short course of prednisone, therefore did not lead to progressive bone loss beyond the duration of its use for up to 1 year.

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IMPACT OF NARCOTIC USE ON REQUIREMENT OF COLECTOMY IN INPATIENTS WITH ULCERATIVE COLITIS

L. Lian, MD, V. Fazio, MB;MS, B. Shen, MD. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH.

Purpose: Narcotics have been commonly used to treat diarrhea and abdominal pain. The effect of narcotic use in the disease course of ulcerative colitis (UC) has not been studied. The aim of the study was to evaluate of the impact of narcotic use on the requirement of colectomy in inpatients with UC.

Methods: All patients with UC admitted to GI service for disease flare-ups between 2002 and 2007 were included. Exclusion criteria: 1) patients with UC admitted to colorectal surgery service for emergent or elective colectomy; 2) patients with Crohn's disease. Demographic, clinical, and laboratory data were reviewed. The definition of narcotics use was oral or IV administration of the agents at the time of admission or hospital transfer. Proctocolectomy was defined as the operation performed during the current or subsequent hospitalization. Stepwise multivariable analysis was performed.

Results: 105 patients were included. 23 (21.9%) patients were on oral or intravenous narcotics at the time of admission or hospital transfer. 38 (36.2%) patients had colectomy eventually. 53 were males. 30 (28.6%) patients were transferred from outside institution. 18 had colectomy during hospitalization and 20 had colectomy during subsequent hospitalization. There was no significant difference between patients with and without narcotic use regarding age, gender, disease extent, steroid use, hemoglobin, white blood cell count, platelet count, rate of readmission, and rate of colectomy (39.1% vs 35.4%, p=0.11). On multivariate analysis, only steroid use remained in the model as an independent risk factor of predicting colectomy (Odds ratio, 2.412, 95% confidence interval, 1.235~4.713, p=0.016). Narcotic use was not an independent risk factor of colectomy in this study (p=0.924).

Conclusion: Narcotic use was common and was observed in 1/4 patients with UC who were admitted to GI service. However, the narcotic use appeared not to have an independently significant impact on the colectomy rate in inpatients with UC. In contrast, the requirement of steroid treatment was associated with an increased risk for colectomy.

Association between Variables and Colectomy-Multivariate Logistic Regression Model

Variables	Odds Ratio (95% CI)	p value
Age	1(0.9, 1)	0.8
Gender	1.6(0.6, 4)	0.4
Duration	1(1, 1)	0.9
Disease extent	0.9(0.4, 2)	0.8
Narcotic use	1.2(0.4-3.5)	0.74
Steroid use	2.3(1.2-4.6)	0.01
Hemoglobin	1.1(0.8-1.4)	0.6
WBC	1(1-1.2)	0.3
Platelet	1(1~1)	0.4
Albumin	0.6(0.2-1.7)	0.3

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USE OF A BLOOD IFN-γ RELEASE ASSAY (QUANTIFERON-TB GOLD TEST) FOR TUBERCULOSIS SCREENING IN INFLAMMATORY BOWEL DISEASE (IBD)

B. Qumseya, MD,[1] A. N. Ananthakrishnan, MD, MPH,[2] M. Issa, MD,[2] S. Skaros, PA-C,[2] J. Knox, PA-C,[2] K. Lemke, PA-C,[2] A. Ward, RN,[2] D. G. Binion, MD[2]. 1. Internal Medicine, Medical College of Wisconsin, Milwaukee, WI; 2. Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, WI.

Purpose: Reactivation of latent Mycobacterium tuberculosis (TB) is a major infectious complication associated with anti-TNF-α therapy in IBD. Tuberculin skin tests (TST) may have high rates of false negatives due to concomitant immunosuppressive therapy. Newly developed blood IFN-γ release assays may improve accuracy for detection of prior TB exposure. We evaluated the performance of a commercially available assay (QuantiFERON-TB Gold test (QFT-G)) for TB screening in a cohort of IBD patients.

Methods: We performed a retrospective, observational study of all patients who were initiated and/or maintained on an anti-TNF-α agent in a single IBD referral center over a 5 year period. Modality of initial or follow-up TB screening (QFT-G vs. Tuberculin Skin Test; TST) was recorded and their performance was analyzed.

Results: Among 148 IBD patients, 20% (n=30) had the QFT-G as the initial method of testing (Group A), while 80% (n=118) patients had TST. The two groups were similar in demographic characteristics. In Group A, the QFT-G test was negative in 96.7% of patients (n=29), and was indeterminate for 3.3% (n=1). These patients were followed for an average of 14 (± 9.5) months. None of these patients has developed TB to date. In Group B, the TST was negative in 93.2% of patients (n=110), and positive in 6% (n=7). One patient (0.8%) had an allergic reaction to TST. The patients were followed for a period of 23 (± 18.6) months with no sign of TB to date. Six of 7 patients who had a positive TST were tested with QFT-G. Three of those had negative results and were subsequently started on infliximab with no signs of TB infection/reactivation (mean follow-up 14 months (range 8 – 24 months). Forty-nine of the 111 patients who initially tested negative with TST for initial screening were later tested with QFT-G for follow-up. The QFT-G was negative in all of the patients. Since their last QFT-G, the patients were followed for a period of 17 (± 11) months, with no signs of TB to date.

Conclusion: QFT-G is a useful test in screening IBD patients for TB exposure, initially and during annual screening. QFT-G interferon gamma release assays may help to facilitate TB screening in IBD patients prior to initiation of anti-TNF- α therapy, as they do not require return visits and will give a result following a single encounter.
Disclosure - Dr. Binion - Consultant, Speaker's Bureau, Grant/Research Support: Centocor. Consultant, Speaker's Bureau: Abbott. Consultant, Speaker's Bureau: UCB Pharma.

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THE PREVALENCE OF POSITIVE SEROLOGIC TESTS FOR CELIAC SPRUE DOES NOT DIFFER BETWEEN IRRITABLE BOWEL SYNDROME (IBS) PATIENTS COMPARED WITH CONTROLS

Y. Saito-Loftus, MD, MPH,[1] T. L. Brantner,[1] J. M. Zimmerman,[1] N. J. Talley, MD, PhD,[2] J. A. Murray, MD[1]. 1. Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Department of Internal Medicine, Mayo Clinic, Jacksonville, FL.

Purpose: In a systematic review, Cash, et al. have reported that routine performance of serologic tests for celiac disease may be useful in patients with IBS but have suggested that validation of studies indicating an increased prevalence of celiac disease in this population is needed. Spiegel, et al. performed a cost-effectiveness analysis and found that testing for celiac disease has acceptable cost when the prevalence is above 1%. The aim of this study was to compare the prevalence of celiac disease in patients with and without IBS.
Methods: As part of a large, family case-control study conducted at a major Midwestern medical center, outpatients with a physician diagnosis of IBS and age, gender, race, and region group-matched outpatients without IBS were recruited and asked to complete a validated bowel disease questionnaire and provide a blood sample. Medical chart review was also performed to confirm or refute an underlying IBS diagnosis and other gastrointestinal comorbidities including celiac disease. The blood sample was separated into DNA and serum, and stored serum was used for tissue transglutaminase (TTg) IgA testing using validated assays for screening, followed by testing for endomysial antibodies (EMA) using immunohistochemistry in those with positive or weakly positive TTg test results. Individuals were considered to have celiac disease if both test results were positive. Chi-square analysis was performed to compare the prevalence between the two groups.
Results: Serum was studied from 566 case- and 555 control-probands. 80% of participants were female with a median age of 50. 69% of cases and 0% controls met Rome I or II criteria for IBS. 7 cases and 5 controls had a positive or weakly positive TTg test. 6 cases (1%) and 3 (0.5%) controls were confirmed to have celiac disease by EMA testing (NS, p>0.05). Of the IBS cases with celiac, 2 reported normal bowel habits in the last 30 days, 2 reported constipation, and 2 reported constipation and diarrhea. All controls with celiac disease reported normal bowel habits.
Conclusion: Our study found no difference in the prevalence of celiac disease between patients with IBS and patients without IBS seen at a tertiary medical center. Furthermore, the prevalence of celiac disease was only 1%, suggesting that testing for celiac disease is not cost-effective.
This research was supported by an industry grant from NIH and Solvay Pharmaceuticals

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IS HIGH-DEFINITION MANOMETRY A COMPREHENSIVE TEST OF ANAL SPHINCTER FUNCTION: COMPARATIVE STUDY WITH MANOMETRY AND ULTRASOUND

2008 ACG/AstraZeneca Senior Fellow Abstract Award

K. Tantiphlachiva, MD,[2] J. Paulson, BS,[1] A. Attaluri, MD,[1] S. Rao, MD, PhD, FRCP[1]. 1. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA; 2. Division of Colorectal Surgery, Chulalongkorn University, Bangkok, Thailand.

Purpose: Anorectal manometry (ARM) provides useful information on anal sphincter function, and anal ultrasound (AUS) on morphology. Hypothesis: High-definition manometry (HDM) provides comprehensive information on integrated anal sphincter function. Aim: To examine the anal sphincter structure and function with a novel technique, HDM, and to compare its yield with ARM and AUS in subjects with fecal incontinence (FI), constipation (CC) and healthy controls (HV).
Methods: The HDM probe (Sierra Scientific Instruments) is 6 cm long, 1 cm diameter with 256 pressure sensor elements arranged in 16 axial sites at 16 levels with a lumen for balloon inflation. ARM was performed with 6-sensor-solid-state probe (Gaeltec,UK) and AUS with 7 mHz probe (B&K medicals, Denmark). Anal sphincter pressures were measured during rest, squeeze, party balloon inflation and straining. The 3D-tubular view and unfolded 2D-view were used to define sphincter pressure and anal pressure symmetry. The presence, location (quadrant), size of anal sphincter defects (partial/hemi-sector/total defect) assessed by AUS and sphincter cross sectional area profile with HDM were compared. Statistical Analysis: Anal sphincter pressures were compared with ANOVA and correlation with Spearman.
Results: Six HV (F/M=4/2, mean age 34 yrs), 5 FI (F/M=3/2, mean age 58 yrs) and 7 CC (F/M=5/2, mean age 43 yrs) subjects were examined. Anal sphincter pressure profiles and sphincter length (mean ± 95%CI) showed good correlation between ARM and HDM (r=0.536, p=0.022). AUS showed anterior sphincter defects in 1 HV, 3 FI and 3 CC subjects. HDM showed anal sphincter defects in 1 HV, 4 FI, and 2 CC subjects. Agreement for detection of sphincter defect was (100% in HV, 40% in FI, 57% in CC). Mean procedure related discomfort rated on VAS (10=worse discomfort) were 3.4, 4.7 and 4.0 for ARM, AUS and HDM, respectively (p = 0.44).
Conclusion: HDM is feasible, well tolerated and provides comparable information to that obtained with ARM and AUS. The circumferential array gives superior definition of anal sphincter length, relaxation and paradoxical contraction. HDM also provides vector manometry profile, and its 3D display provides both functional and anatomical information of anal sphincter, all in a single test.

Anal Sphincter pressure profiles measured by ARM and HDM

	ARM			HDM		
	Resting (mmHg)	Squeeze (mmHg)	Length (mm)	Resting (mmHg)	Squeeze (mmHg)	Length (mm)
HV	50.3 ± 14.5	200.3 ± 69.4	35.8 ± 3.0	75.4 ± 21.0	274 ± 90.3	38.3 ± 6.8
FI	40.2 ± 15.7	101.8± 57.4	26.0 ± 5.5	50.3 ± 13.3	126.6 ± 82.8	30.0 ± .0.0
CC	57.3 ± 17.6	150.9 ± 76.0	28.6 ± 3.8	56.6 ± 26.4	169.4 ± 104.1	33.6 ±9.0

***p<0.05**

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TRANSLUMBAR AND TRANSSACRAL MOTOR EVOKED POTENTIALS IN PATIENTS WITH RECTAL HYPOSENSITIVITY

K. Tantiphlachiva, MD,[2] J. Remes-Troche, MD,[3] A. Attaluri, MD,[1] J. Paulson, BS,[1] T. Yamada, MD,[4] S. Rao, MD, PhD, FRCP[1]. 1. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA; 2. Division of Colorectal Surgery, Chulalongkorn University, Bangkok, Thailand; 3. Digestive Physiology and Motility, Medical-Biological Research Institute, Veracruz, Mexico; 4. Neurology, University of Iowa, Iowa City, IA.

Purpose: Rectal hyposensitivity (RH) may contribute to the pathogenesis of fecal incontinence and constipation, but the underlying neurobiologic mechanisms, and more specifically the integrity of peripheral lumbospinal nerves in RH is unknown. Aim: To investigate anal and rectal motor evoked potentials after translumbar and transsacral magnetic stimulation and sensory thresholds after electrical stimulation in subjects with RH and healthy controls.
Methods: Subjects with RH defined as abnormally prolonged sensory thresholds for first sensation, desire or urgency to defecate (during rectal balloon distention) were tested by magnetic stimulations, performed with a Cadwell Focalpoint Coil™ (9-cm) placed over the right and left of midline at L3-L4 and S1-S3 levels using 80-100% intensity. A novel anorectal probe containing 2 pairs of bipolar steel ring electrodes (Koningsberg, CA) was used to record motor evoked potentials(MEPs); namely lumbo-anal (TL-aMEP), lumbo-rectal (TL-rMEP), the sacro-anal (TS-aMEP), sacro-rectal (TS-rMEP). Pudendal nerve latency test and rectal sensory thresholds after electrical stimulation were also performed. Student t-test and Spearman's correlation analyses were performed.
Results: Thirty-eight subjects with RH (M/F 8/30, mean age 40.2 ± 13.7 yrs) were enrolled. Presenting symptoms were constipation (n=29) or fecal incontinence (n=9). Sixteen patients had history of spinal cord injury. Fourteen healthy subjects (M/F 5/9, mean age 42.9 ± 10.0 yrs) served as controls. The bilateral lumbo-anal (TL-aMEP), lumbo-rectal (TL-rMEP), sacro-anal (TS-aMEP), and sacro-rectal (TS-rMEP) motor evoked potentials in subjects with RH were significantly prolonged compared to controls (Table (mean±95%CI). After electrical stimulation, the rectal sensory thresholds for first sensation in mA (31±4.37, 21±2.79 (p=0.026)) and for pain (72±6.22, 46±4.96, p=0.013) were significantly prolonged compared to healthy controls. PNTML was prolonged bilaterally (p<0.01) in RH subjects compared to controls. However, correlation between PNTML and MEPs were inconsistent (r ranged from -0.1-0.7).
Conclusion: Subjects with RH demonstrate prolonged motor evoked potentials of the peripheral lumbo-sacral spinal nerves bilaterally indicating that abnormal sensory perception is associated with significant neuropathy of these nerves. Thus, these patients may have both afferent and efferent neurovisceral dysfunction. The inconsistent correlation between PNTML and MEP's suggest that different neurologic pathways may be involved in the pathogenesis of RH. Translumbar and transsacral MEPs provide an objective tool for quantifying the presence of and severity of RH in patients with anal and rectal neuropathy.

	Left		Right	
	Hyposensitivity	Healthy	Hyposensitivity	Healthy
TL-rMEP	3.41±0.66*	2.37± 0.62	3.65±1.1*	2.23±0.43
TL-aMEP	4.33± 0.97*	2.56±0.42	5.38±1.33*	2.80±0.49
TS-rMEP	4.08±1.27*	2.72±0.55	3.24±0.61*	2.52±0.66
TS-aMEP	5.12± 1.73*	3.09±0.75	3.79±0.68*	2.71±0.53
PNTML	2.69± 0.74*	1.77±0.22	2.79±0.59*	1.64±0.69

*** significantly different from healthy subjects**

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NOVEL GENOMIC BIOMARKERS THAT DIFFERENTIATE BETWEEN IRRITABLE BOWEL SYNDROME AND NORMAL PATIENTS USING PERIPHERAL BLOOD SPECIMENS

C. C. Harris, MS,[1] T. Y. Ma, MD, PhD,[2] J. A. Leighton, MD,[3] L. Tang, PhD,[1] P. Doherty, RN,[1] F. Zhou, PhD,[1] T. Williams, MD,[4] L. Davis, PhD,[1] J. Alsobrook II, PhD[1]. 1. Exagen Diagnostics, Inc., Albuquerque, NM; 2. Internal Medicine, Division of Gastroenterology and Hepatology, University of New Mexico, Albuquerque, NM; 3. Division of Gastroenterology and Hepatology, Mayo Clinic, Scottsdale, AZ; 4. Pathology, University of New Mexico, Albuquerque, NM.

Purpose: Accurate laboratory diagnosis of Irritable Bowel Syndrome (IBS) would have great clinical utility for primary care physicians and gastroenterologists. We describe here a gene expression biomarker set that distinguishes patients with an IBS diagnosis from normal patients.

Methods: In an effort to discover a molecular profile diagnostic for IBS we investigated 10 genes that were previously identified by applying Exagen's proprietary *in silico* data analysis engine[1] Coperna™ to publicly available full-genome expression microarray data from 85 IBD patients and 42 normal controls[2]. The expression levels of those 10 discovery phase genes were assayed in a pilot study of independently ascertained prospective cohorts of 98 patients with IBS and 98 healthy individuals free from GI symptoms. Each IBS patient was diagnosed by a board-certified gastroenterologist using Rome I criteria. All protocols were IRB approved; informed consent was obtained and peripheral blood samples and clinical data were collected from all patients. Expression data was obtained from peripheral whole blood samples (with no mononuclear enrichment) by isolating total mRNAs, synthesizing cDNAs, and performing real-time quantitative PCR. Expression levels of the 10 candidate biomarker genes were assayed on each patient specimen and normalized to a within-patient reference gene.

Results: An optimal scoring algorithm for classification of patients as IBS or normal was derived based on 4 of the 10 tested genes (BLCAP, UBE2G1, TH1L, HIST1H2BK). The classification of patients by clinical diagnosis and test result is given in Table 1. The diagnostic performance of the classification is summarized in Table 2. The NPV for an adjusted 25% prior probability of IBS (a rule-out scenario) is 96%. The PPV for an adjusted 75% prior probability of IBS (a rule-in scenario) is 93%.

Conclusion: The genes identified as diagnostic of IBS in this pilot study, if confirmed in a larger clinical validation study, have potential as a clinical laboratory diagnostic test for IBS.**References** [1] http://images.apple.com/science/pdf/Exagen_WP.pdf [2] Burczynski et al. J Molec Diag 8(1):51-61, 2006.

Table 1. Classification by 4-gene IBS biomarker

		Clinical Diagnosis	
		IBS	Normal
Biomarker Classification	IBS	87	21
	Normal	11	77
Fisher's exact Odds Ratio (2-sided) = 28.3, $p < 2 \times 10^{-16}$			

Table 2. Diagnostic performance of 4-gene IBS biomarker

accuracy*	84%
sensitivity	89%
specificity	79%
positive predictive value*	81%
negative predictive value*	88%
AUC-ROC	0.92

*** result based on study prevalences**

Disclosure - Mr. Harris - Employee: Exagen Diagnostics, Inc.; Dr. Ma - Advisory Board Member: Exagen Diagnostics, Inc.; Dr. Leighton - Advisory Board Member: Exagen Diagnostics Inc.; Dr. Tang - Employee: Exagen Diagnostics, Inc.; Ms. Doherty - Employee: Exagen Diagnostics, Inc.; Dr. Feng - Employee: Exagen Diagnostics, Inc.; Dr. Williams - Employee: Exagen Diagnostics, Inc.; Dr. Davis - Employee: Exagen Diagnostics, Inc.; Dr. Alsobrook - Employee: Exagen Diagnostics, Inc;

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RIFAXIMIN SIGNIFICANTLY IMPROVES QUALITY OF LIFE VERSUS PLACEBO IN PATIENTS WITH DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME

W. D. Chey, MD,[1] N. J. Talley, MD,[2] A. Lembo, MD,[3] J. Yu, PhD,[4] E. Bortey, PhD[4]. 1. University of Michigan Health System, Ann Arbor, MI; 2. Mayo Clinic, Jacksonville, FL; 3. Beth Israel Deaconess Medical Center, Boston, MA; 4. Salix Pharmaceuticals, Inc, Morrisville, NC.

Purpose: A randomized, double-blind, multicenter, phase 2 trial showed the nonabsorbed antibiotic rifaximin 550 mg twice daily (b.i.d.) significantly improved IBS symptoms versus placebo in patients with diarrhea-predominant IBS (IBS-D). Secondary analyses from that study evaluated the efficacy of rifaximin for improving quality of life (QOL) measures in patients with IBS-D.

Methods: Adults diagnosed with IBS-D (Rome II criteria) received rifaximin 550 mg b.i.d. or placebo for 14 days. Both groups received placebo for an additional 14 days after the initial 2-week treatment. Quality of life was assessed with the 34-item IBS-QOL questionnaire at baseline and 4 weeks after initiating treatment. Each item was scored on a 5-point scale (1=not at all; 2=slightly; 3=moderately; 4=quite a bit; and 5=extremely or a great deal). Results for composite and subscale scores were converted to a scale ranging from 0 to 100, with higher scores indicating better QOL. Analyses included all randomized patients.

Results: A total of 388 patients were treated at 75 centers in the United States; 191 patients received rifaximin and 197 patients received placebo during the 2-week initial treatment period. The mean improvement from baseline in overall QOL scores at week 4 was significantly greater with rifaximin compared with placebo (Table). Patients in the rifaximin group reported significantly greater mean improvement from baseline in QOL scores for dysphoria, body image, health worry, social reaction, and relationship subscales compared with placebo (Table). Rifaximin was well tolerated, with similar incidence of adverse events compared with placebo.

Conclusion: In patients with IBS-D, rifaximin 1100 mg/d for 14 days significantly improved QOL measures compared with placebo. These findings, along with previously reported data, suggest a potential therapeutic role for rifaximin 550 mg b.i.d. for improving symptoms and QOL in patients with IBS-D.

Mean Change From Baseline in IBS-QOL Scores at Week 4

Domain	Rifaximin 1100 mg/d (n=191)	Placebo (n=197)	Improvement with rifaximin over placebo, %	*P* value
Overall score	20.4	15.8	28.7	0.020
Dysphoria	24.8	19.8	25.3	0.027
Interference with activity	22.2	18.1	22.2	0.083
Body image	20.1	14.6	37.4	0.012
Health worry	16.0	12.2	30.6	0.047
Food avoidance	25.0	20.5	22.1	0.088
Social reaction	17.3	13.2	31.6	0.047
Sexual	13.6	10.9	24.9	0.199
Relationship	14.9	10.7	39.5	0.030

Disclosure - Chey, Talley, Lembo, (Salix Pharmaceuticals) Speakers Bureau, Consultant Yu, Bortey (Salix Pharmaceuticals) Employee

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NO EVIDENCE FOR ASSOCIATION OF TEGASEROD WITH CARDIOVASCULAR ADVERSE ISCHEMIC EVENTS (CVIE) IN ROUTINE CLINICAL PRACTICE

2008 ACG Presidential Poster Award Recipient

J. D. Seeger, PharmD, DrPH,[1] J. Loughlin, MS,[1] E. Rivero, MD, MPH,[2] D. L. Earnest, MD,[3] S. G. Quinn, MA,[1] J. Huang, MD, PhD,[3] P. Rueegg, MD,[4] E. Dennis, MD, MBChB, FCP(SA),[3] J. Kralstein, MD[3]. 1. i3 Drug Safety, Waltham, MA; 2. Novartis Farmaceutica SA, Barcelona, Spain; 3. Novartis Pharmaceuticals Corporation, East Hanover, NJ; 4. Novartis Pharma AG, Basel, Switzerland.

Purpose: Tegaserod, a partial 5HT4 agonist previously approved for treatment of irritable bowel syndrome with constipation and chronic idiopathic constipation, was suspended from marketing in the US in 2007 based on results of a pooled analysis of CVIE from 29 placebo controlled trials of tegaserod (18,645 patients). There were more CVIEs in patients treated with tegaserod (13: 0.11%) than placebo (1: 0.01%) (P<0.001). Our aim was to evaluate the association of tegaserod with CVIE in a setting representing routine clinical practice.

Methods: Within a large US health insurance database, we conducted a matched cohort study of 52,229 patients who initiated tegaserod and 52,229 patients with similar characteristics (diagnoses, medications and health care utilization) who did not initiate tegaserod as of entry into the cohort. Matching was based on highly predictive propensity scores incorporating over 200 characteristics associated with tegaserod initiation. Subjects were followed for up to 6 months for the occurrence of CVIE comprised of cardiovascular events (i.e, myocardial infarction, acute coronary syndrome and coronary revascularization) and cerebrovascular events (i.e., stroke). CVIE were identified using insurance claims and were confirmed by medical records (85% reviewed). We conducted as-matched analyses providing adjusted hazard ratios (HR) and 95% confidence intervals (CI), along with as-treated analyses accounting for changes in dispensed therapy up to 6 months after cohort entry which provided adjusted rate ratios (RR).

Results: The tegaserod initiator and non-initiator cohorts were essentially identical with respect to age, gender, concomitant medical conditions, medication use and geographic distribution at the start of follow-up. There was no increase for any component CV event or stroke with tegaserod vs the matched comparator group; totals are presented in the table below. These results were largely unaffected by adjustment for numerous characteristics and in subgroups defined by a wide range of stratification variables.

Conclusion: This large cohort study of patients within a US clinical practice setting found no evidence of increased risk for myocardial infarction, cardiac revascularization or other cardiovascular ischemic event in tegaserod initiators or users relative to non-initiators or non-users.

As-Matched Results			
Confirmed Outcomes	Tegaserod Initiators (n=52,229)	Non-Initiators (n=52,229)	HR; 95% CI
Total CV Events	107	115	0.95; 0.73-1.23
Stroke	16	18	0.90; 0.46-1.77
As-Treated Results			
Confirmed Outcomes	Current Tegaserod Users (events/person-yrs)	Tegaserod Non-Users (events/person-yrs)	RR; 95% CI
Total CV Events	59/10,359	114/21,848	1.14; 0.83-1.56
Stroke	9/10,365	18/21,870	1.09; 0.49-2.42

Disclosure - JD Seeger - Employee - i3 Drug Safety J Loughlin - Employee - i3 Drug Safety E Rivero - Employee: Novartis Farmaceutica SA DL Earnest - Employee: Novartis Pharmaceuticals Corporation SG Quinn - Employee - i3 Drug Safety J Huang - Employee: Novartis Pharmaceuticals Corporation P Rueegg - Employee: Novartis Pharma AG E Dennis - Employee: Novartis Pharmaceuticals Corporation J Kralstein - Employee: Novartis Pharmaceuticals Corporation. The epidemiologic study described herein was conducted by i3 Drug Safety. The funding for this study was provided by Novartis.
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THE RISK MANAGEMENT PROGRAM (RISKMAP) IS EFFECTIVE IN MITIGATING SERIOUS OUTCOMES OF ISCHEMIC COLITIS AND COMPLICATIONS OF CONSTIPATION WITH MARKETED USE OF ALOSETRON SINCE REINTRODUCTION

V. Z. Ameen, MD, K. Tong, PharmD, H. Pan, MD, PhD. Science and Technology, Prometheus Laboratories, San Diego, CA.

Purpose: The 5HT3 receptor antagonist alosetron hydrochloride (ALO) was withdrawn from the US market in November 2000 after 9 months of marketing due infrequent but serious adverse events (SAEs) of ischemic colitis (IC) and complications of constipation (CoC), which resulted in hospitalization, and rarely blood transfusion, surgery, and death. ALO was reintroduced with a narrowed indication for women with chronic, severe, diarrhea-predominant irritable bowel syndrome (IBS-D) in November 2002 under a comprehensive risk management action plan (RiskMAP) that includes the Prescribing Program for Lotronex™ (PPL). The incidence rates (IRs) of IC and CoC associated with the use of ALO over 5 years of marketing since reintroduction are summarized.
Methods: The safety data were obtained from adverse events (AEs) reported from use of marketed product (MP) from November 2002 through 31 December 2007. AE reports included spontaneous reports by patients, from healthcare professionals (HCP), and unsolicited reports via the voluntary RiskMAP patient survey. SAE reporting is required by physicians under the PPL.
Results: During the 5 years since reintroduction of ALO, approximately 26,000 patients received 160,000 prescriptions under the PPL. IC was reported in 18 patients with 15 confirmed by medical documentation, colonoscopy, sigmoidoscopy ± biopsy, and CoC by 15 patients with 5 confirmed by healthcare professionals. There were no reports of mesenteric ischemia. No risk factors for IC or CoC were identified. None of these events resulted in outcomes of surgery, transfusions, or death. The IRs of IC and CoC before and after reintroduction are shown in Table 1.
Conclusion: A very limited number of patients with severe IBS-D have been prescribed ALO since reintroduction under the PPL. IC and CoC associated with the use of ALO have been rarely reported, resolved on prompt withdrawal of therapy, and were not associated with clinically significant sequelae. IRs of medically confirmed cases of IC and CoC are similar to those prior to reintroduction and has remained stable over the 5 years following reintroduction to the US market. The etiology and risk factors for IC and CoC associated with ALO remain unclear. The RiskMAP program is effective in mitigating serious outcomes of IC and CoC in the limited number of patients who have been prescribed ALO under the PPL.

Incidence of IC and CoC During Post-Marketing Surveillance of Alosetron: Before and After Reintroduction in June 2002 with RiskMAP

	Before June 2002	After June 2002
Number of Patients	316,882	26,000
Number of Prescriptions	586,000	160,000
Patient-yrs	48,829	13,150
Ischemic Colitis		
All reported cases	1.7 per 1000 pt-yrs	1.4 per 1000 pt-yrs
ConfirmedCases	0.96 per 1000 pt-yrs	1.14 per 1000 pt-yrs
Complications of Constipation		
All reported cases	2.0 per 1000 pt-yrs	1.14 per 1000 pt-yrs
Confirmedcases	0.59 per 1000 pt-yrs	0.38 per 1000 pt-yrs

Disclosure - Dr. Henry Pan Employee of Prometheus Laboratories Dr. Venessa Z Ameen Employee of Prometheus Laboratories Dr. Keeneth Tong Consultant Prometheus Laboratories

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MUCOSAL MASTOCYTOSIS AS A HISTOLOGICAL MARKER IN DIARRHEA PREDOMINANT IRRITABLE BOWEL SYNDROME

P. Basu, MD,[1] K. Rayapudi, MD,[2] J. Esteves, MD,[2] T. Crook, MD[3]. 1. Department of Gastroenterology, New York Hospital Queens, New York, NY; 2. Department of Gastroenterology, North Shore University Hospital at Forest Hills, Forest Hills, NY; 3. Pathology Department, Caris Laboratories, Irving, TX.

Purpose: Irritable Bowel Syndrome (IBS) affects approximately 1 in 5 (20%) adults in the USA, particularly women. An exact etiology of IBS is controversial; however it is a functional disarray of the brain-gut axis, changes in the intestinal flora and gut immune dysregulation. ROME III criteria are the gold standard. No specific serological, immunological or histological markers exist. We propose rectal mucosal mast cell aggregation in the pathogenesis of IBS.
Methods: 120 patients (72 women, 48 men, age range-20 to 50 years, met ROME III criteria) with diarrhea predominance (>3 bowel movements (BM) per day, n=78), pure constipation (<3 BM per week, n=8) and mixed symptoms (n=34) were included. Detailed clinical history including onset, pattern and symptom duration was taken. Laboratory tests included blood counts, Basic Metabolic Panel, thyroid function, Inflammatory Bowel Disease (IBD) and celiac panels, stool analysis for *C. difficile* toxin, ova and parasites. Patients with blood in stool, weight loss, celiac disease, systemic mastocytosis and IBD were excluded. All patients had flexible sigmoidoscopy and rectal biopsies (Caris Labs, Irvin,TX).
Results: Despite a normal macroscopic appearance, 109/120 (91%) patients [diarrhea predominant 78/78 (100%), pure constipation 7/8 (87.5%) and mixed symptoms 24/34 (70.5%)] had >20 mast cells per high power field (hpf) with Tryptase immunostain.
Conclusion: We propose a unique histological entity, mast cell proctopathy (MCP), that appears to be a specific histological marker for diarrhea predominant IBS and may play a role in the immuno-pathogenesis. A large prospective trial with random biopsies throughout the colon will further establish this feature.

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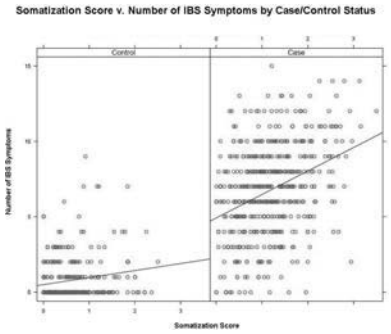
DEFINING IRRITABLE BOWEL SYNDROME: GI SYMPTOMS ARE STRONGLY LINKED TO SOMATIZATION

J. Y. Chang, MD, MPH,[1] G. Locke, III, MD,[1] N. J. Talley, MD, PhD,[3] J. J. Larson, BS,[2] E. Atkinson, MS,[2] Y. A. Saito Loftus, MD, MPH[1]. 1. Enteric NeuroScience Program, Division of Gastroenterology and Hepatology, Mayo Clinic College of Medicine, Rochester, MN; 2. Department of Health Sciences Research, Division of Biostatistics, Mayo Clinic College of Medicine, Rochester, MN; 3. Department of Internal Medicine, Mayo Clinic Jacksonville, Jacksonville, FL.

Purpose: Patients with the irritable bowel syndrome (IBS) may experience a wide range of somatic complaints. However, the relationship between somatization and the symptom burden of IBS as defined by the Rome criteria is unknown. The aim of this study was to determine if a higher symptom burden in IBS is explained by somatization as well as assess if the relationship differs between those with and without IBS.
Methods: In an ongoing family case-control study, subjects with IBS and age- and gender-frequency matched controls were recruited at a large tertiary-care center and asked to complete a valid self-report questionnaire that included 15 gastrointestinal (GI) symptoms that comprise the symptoms of the Rome criteria for IBS, and the Somatic Symptom Checklist (SSC), a valid measure of somatization. Pearson's correlation coefficient was generated comparing the number of endorsed IBS symptoms and somatization level. Linear regression models were fit to assess the relationship between somatization score and IBS symptoms for cases and controls separately along with a model that included interaction terms to assess if there is a different relationship between somatization score and number of IBS symptoms endorsed by cases and controls.
Results: Data from 494 cases and 334 controls with complete participation in the study were analyzed. The Pearson correlation between the number of IBS symptoms endorsed and somatization level was 0.35 ($p<0.0001$) for cases and 0.17 ($p = 0.0014$) for controls, indicating a moderate relationship between somatization score and IBS symptoms in patients with IBS. The correlation was significantly stronger among the cases than among the controls ($p=0.0002$) [FIgure]. The correlation of somatization score and number of IBS symptoms was not found to differ between subtypes of IBS (p-value = 0.48).
Conclusion: There is a positive but moderate correlation between somatic complaints and symptoms of IBS, with the relationship differing between IBS and controls. In patients with IBS, the more IBS symptoms they report, the more extra-intestinal comorbidity or somatization they also experience and report. Counting the number of IBS symptoms endorsed provides additional information on the likely presence of extra-intestinal symptoms.



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EVALUATING BREATH METHANE AS A DIAGNOSTIC TEST FOR CONSTIPATION PREDOMINANT IBS

L. Hwang, BS, K. Low, BA, R. Khoshini, MD, A. Sahakian, MD, M. Makhani, MD, V. Pokkunuri, MBBS, M. Pimentel, MD, FRCP(C). Cedars-Sinai Medical Center, Los Angeles, CA.

Purpose: Recent research in IBS has suggested that patients with irritable bowel syndrome (IBS) who produce methane on lactulose breath test (LBT) have constipation predominant symptoms. Methane has also been demonstrated to slow intestinal transit. Further data implies that treating methane positive subjects with antibiotics results in a clinical improvement in C-IBS. In this study, we prospectively evaluate the strength of methane as a diagnostic test for C-IBS.

Methods: Consecutive patients with Rome I positive IBS referred for a lactulose breath test were eligible to participate. Subjects were excluded if they had a history of IBD or intestinal surgery. Subjects were asked to complete a symptom questionnaire to grade their bloating, diarrhea and constipation on a VAS scale (0-100mm). Once completed, a physician interviewed and in the same way, graded the three symptoms. In addition, the physician was asked to determine if they felt that the patient suffered from D-, C- or M-IBS. Both the subject and the physician were blinded to the breath test findings.

Results: A total of 56 (42 female and 14 male) Rome I positive IBS subjects were enrolled in the study. Of these, the lactulose breath test demonstrated 28 subjects to be hydrogen only producers and 28 methane producers. There were no demographic differences between methane and non-methane subjects. The agreement between physician and patient symptom severity was good for constipation (R=0.69), diarrhea (R=0.69) and bloating (R=0.62). Using physician scoring, the severity of constipation was greater in the methane group (49.3±28.7) when compared to the hydrogen group (25.3±31.47) (P<0.01). In contrast, diarrhea was less severe in the methane group (12.3±21.0) when compared to the hydrogen group (36.7±32.4) (P<0.01). Out of the 56 patients, the physician diagnosed C-IBS in 23 subjects. When methane was used to predict the assignment of C-IBS compared to non-C-IBS, it had a sensitivity of 91.3% and a specificity of 78.8% (OR=39.0, CI=7.9-184.7).

Conclusion: Methane has a robust ability to identify C-IBS. More importantly, the high specificity may allow the identification of an antibiotic treatable group of patients since methane may be the culprit in causing constipation.

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YOGURT CONTAINING THE PROBIOTIC BACTERIA *BIFIDOBACTERIUM LACTIS* BB12 AND PREBIOTIC INULIN SIGNIFICANTLY IMPROVES COLONIC TRANSIT TIME IN SUBJECTS WITH FUNCTIONAL BOWEL SYMPTOMS

T. Ringel-Kulka, MD, MPH,[1] O. S. Palsson, PhD,[2] D. Maier, MPAS, PA-C,[2] Y. Ringel, MD, FAGA, FACG[2]. 1. School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC; 2. Division of Gastroenterology and Hepatology, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Purpose: Functional gastrointestinal symptoms are very common complaints in primary care and GI clinics; however, the etiology still remains unknown and effective treatments are limited. Evidence suggests that intestinal bacteria play a role in the pathophysiology of these symptoms and that modulation of intestinal microbiota may have beneficial effect/s on the altered intestinal physiology in subjects with these symptoms. **Aim:** To investigate the physiologic effect of a yogurt drink containing the probiotic bacteria *Bifidobacterium animalis ssp. lactis* Bb12 (Bb12) and the prebiotic inulin in subjects with chronic functional bowel symptoms.

Methods: Subjects with chronic functional bowel symptoms who met the Rome II criteria for IBS, or functional diarrhea, or functional constipation, or functional bloating were enrolled in a prospective double-blind, placebo-control clinical trial. Following two weeks run-in period subjects were randomized to receive either a yogurt drink containing $6x10^9$ cfu total probiotic bacteria Bb12 and inulin 1.0g (active arm) or acidified dairy drink (placebo arm) once daily for 6-weeks. Colonic transit time (CTT) was measured following established protocol using commercially available capsules (Sitzmark capsules; Konsyl Pharmaceuticals) containing 20 identical radio-opaque rings. Subjects ingested one capsule each morning for 3 days and an abdominal X-ray was taken on the fourth day. Total and segmental colonic transit times were calculated at the end of the run-in and six weeks intervention periods according to the distribution of the markers throughout the colon.

Results: A total of 36 (probiotic n=17; placebo n=19) subjects were enrolled. Study population consisted of 82% females, 61% whites, and mean age of 36.7 years. Baseline demographics were similar among the two groups. Total colonic transit time was significantly shortened in the active group (30.5h vs. 21.3h, p=0.016) and showed a trend of shortening transit time in the left (descending + rectosigmoid) colon (16.2h vs. 8.3h, p=0.056). No effect was noticed on CTT in the placebo arm (23.0h vs. 25.0h, p=0.61 for the total CTT; and 9.8h vs. 9.7h, p=0.95 for the left side CTT).

Conclusion: Daily supplementation of diet with yogurt containing probiotic bacteria Bb12 and inulin shortens total and left side CTT in subjects with functional bowel symptoms. In view of the current lack of effective intestinal promotility agents, this dietary intervention may be a useful addition to the management of subjects with slow transit-related functional bowel symptoms. Further studies are needed to correlate these physiologic findings with improvement in clinical symptoms. (Supported by grants K23 DK075621, RR00046, and General Mills Inc.)

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THE EFFICACY OF PROBIOTICS IN THE THERAPY OF IRRITABLE BOWEL SYNDROME (IBS): A SYSTEMATIC REVIEW

P. Moayyedi, FRCP, PhD, FACG,[1] A. C. Ford, MRCP, MD,[1] L. J. Brandt, MD,[5] A. E. Foxx-Orenstein, DO,[3] F. Cremonini, MD,[3] N. J. Talley, MD, PhD,[2] E. M. Quigley, MB, BCh, BAO[4]. 1. Gastroenterology, McMaster University, Hamilton, ON, Canada; 2. Gastroenterology, Mayo Clinic, Jacksonville, FL; 3. Gastroenterology, Mayo Clinic, Rochester, MN; 4. Gastroenterology, University College Cork, Cork, Ireland; 5. Gastroenterology, Montefiore Medical Center, New York, NY.

Purpose: IBS is common and can be difficult to treat. Bacteria may be important in the pathogenesis of IBS and altering the microbial environment with probiotics may be an effective therapy. Randomized controlled trials (RCTs) have been conflicting so we conducted a systematic review for the updated ACG monograph on IBS.

Methods: Medline (1966-2007), Embase (1988-2007) and the Cochrane Controlled Trials Register (2007) electronic databases were searched as were abstracts from DDW and UEGW and contacted authors for extra information. We included only parallel group RCTs with at least one week of therapy comparing probiotics with placebo or no treatment in adults with IBS according to any acceptable definition. Studies had to provide abdominal pain or global IBS symptom improvement as an outcome. Eligibility assessment and data extraction were performed by two independent researchers. Data was synthesized using relative risk (RR) of symptoms not improving for dichotomous data and standardized mean difference (SMD) for continuous data using random effects models.

Results: We identified 19 RCTs (18 papers) in 1628 IBS patients. The quality of the trials was reasonable with 8 reporting adequate methods of randomization and 5 reporting method of concealment of allocation. Fifteen RCTs were double blind. There were 9 RCTs involving 836 patients that gave outcomes as a dichotomous variable. Probiotics were statistically significantly better than placebo (RR of IBS not improving = 0.67; 95% CI = 0.49 to 0.91) with an NNT = 4 (95% CI = 2 to 20) and significant heterogeneity (I2 = 75%, Cochran Q = 32.2, df = 8, p<0.0001). There were 15 trials assessing 1351 patients that reported improvement in IBS score as a continuous outcome. There was a statistically significant effect of probiotics in reducing symptom score (SMD = -0.35; 95% CI = -0.62 to -0.09) with significant heterogeneity (I2 = 79%, Cochran Q = 67.8 df=14 p<0.0001). Four trials evaluated lactobacillus alone and there was no statistically significant benefit over placebo. There were 9 trials using combinations of probiotics (all but one including bifidobacterium) that did suggest a significant improvement in IBS symptoms score with active treatment (SMD – 0.5; 95% CI = -0.91 to -0.09). There was evidence of funnel plot asymmetry (Egger test = -2.92; 95% CI = -5.10 to -0.74, p = 0.017) for the continuous data but not the dichotomous data.

Conclusion: Probiotics may be efficacious in IBS particularly when used in combinations that contain bifidobacterium. There is evidence of publication bias or other small study effects however and it is therefore possible that the efficacy of probiotics has been overestimated.

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THE PREVALENCE AND COSTS TO TREAT COMORBIDITIES IN PERSONS WITH CONSTIPATION AND IRRITABLE BOWEL SYNDROME WITH CONSTIPATION IN THE 6 MONTHS AFTER DIAGNOSIS: AN EMPLOYER'S PERSPECTIVE

R. A. Brook, MS, MBA,[1] N. L. Kleinman, PhD,[2] A. K. Melkonian, MD,[2] N. J. Talley, MD, PhD,[3] G. Locke, MD,[4] R. W. Baran, PharmD[5]. 1. Retrospective Analysis, The JeSTARx Group, Newfoundland, NJ; 2. Research Services, HCMS Group, Cheyenne, WY; 3. Internal Medicine, Mayo Clinic, Jacksonville, FL; 4. Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 5. Medical Outcomes Research, Takeda Global Research and Development Center, Inc., Deerfield, IL.

Purpose: Both constipation (C) and irritable bowel syndrome with C (IBS+C) are known to be costly. Whether the costs of C are driven by the same factors that drive IBS costs is unknown. We aimed to assess the cost and prevalence of comorbidities for C without and with IBS (IBS+C).

Methods: A retrospective analysis was conducted using medical, payroll, and demographic data from a database of US-based employers from 2001-2005. ICD-9 Codes were used to include employees in the C cohort: 564.0 (C), 564.00 (Unspecified), 564.01 (Slow Transit), and 564.09 (Other). Employees with C and an ICD-9 for IBS (564.1x) during the study period were assigned to the IBS+C cohort. Propensity scores (PS) based on demographics, job-related variables, region, existence of medical claims, and pre-index-date Charlson Comorbidity Index score were used to match 5 C employees and 180 Controls to each IBS+C employee. The index date was the date of the first C or IBS claim, respectively. Controls used the average index date of the C and IBS+C cohorts. Claims data were adjusted to 2006 dollars.

Results: Data were available for 309 persons with IBS+C, 1,545 PS-matched C subjects, and 55,620 PS-matched Controls. The table presents the prevalence and costs for C, IBS+C, and control cohort during the 6-month period after the index date for selected Agency for Healthcare Research and Quality (AHRQ) categories.

Conclusion: Patients with C have comorbidities similar to those with IBS+C, and both are different than controls. Costs for comorbidities are not different between C and IBS+C.

Category	Prevalence (% of Cohort) [1]			Adjusted Mean 6-Month Costs per Patient ($) [2]		
	C	IBS+C	Control	C	IBS+C	Control
Gastrointestinal Disorders						
Abdominal pain	35.86†‡	44.66†‡	6.90	236†	357†	36
Anal and rectal conditions	4.85†	3.24†	0.48	56†	13	3
Hemorrhoids	12.49†‡	17.80†‡	1.10	46†	83†	5
Intestinal obstruction w/out hernia	1.49†	2.91†	0.12	22	23	3
CNS / Psychiatric Disorders						
Affective disorders	6.67†‡	11.33†‡	3.63	45†	68†	19
Other mental conditions	6.60†	8.41†	4.12	12	24	11
Other Disorders / Conditions						
Malaise and fatigue	11.07†	14.24†	5.28	10†	8	5
Nausea and vomiting	5.31†‡	8.41†‡	1.38	18†	39†	3
Musculoconnective Tissue						
Other connective tissue diseases	14.82†	18.77†	11.47	53	92	41
Other non-traumatic joint diseases	10.87†‡	15.53†‡	8.41	18†	40	27
Sprains and strains	6.21‡	10.36†‡	6.81	14	28†	29
Neoplasms						
Cancer of colon	0.39†	0.32	0.05	21	0†	3
Cancer of rectum and anus	0.26†	0.65†	0.12	2	4	9

Differences were assessed using Satterthwaite *t* tests[1] and z-scores of log odds ratios[2]
Group Comparisons (*P*≤0.05): Cohort vs. Control; IBS+C vs. C

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EFFICACY OF RIFAXIMIN FOR THE TREATMENT OF SYMPTOMS ASSOCIATED WITH IRRITABLE BOWEL SYNDROME

J. Jolley, MD. University of California San Francisco, San Rafael, CA.

Purpose: Emerging evidence suggests that intestinal bacteria, including small intestinal bacterial overgrowth, may play an important role in the pathophysiology of irritable bowel syndrome (IBS) and that antibiotic treatment may have therapeutic benefits for patients experiencing IBS symptoms. Rifaximin is a nonabsorbed antibiotic with minimal systemic absorption (<0.4%) and broad-spectrum activity against intestinal pathogens. Results from clinical studies suggest that rifaximin may improve gastrointestinal (GI) symptoms associated with IBS. This retrospective chart review evaluated the efficacy of rifaximin alone or in combination with other IBS treatments for improving IBS symptoms.

Methods: Medical records were identified for consecutive adults with IBS who had lactulose breath tests between October 2006 and July 2007. Analyses included those who had received rifaximin 400 mg three times daily for 10 days. Global symptom improvement and improvement in specific IBS symptoms were evaluated.

Results: Of the 159 patients (mean age, 58 y) included, 44 (28%) were diagnosed with diarrhea-predominant IBS (IBS-D), 33 (21%) with constipation-predominant IBS (IBS-C), and 24 (15%) with alternating IBS; 58 patients (36%) had no reported IBS subtype diagnosis. Baseline symptoms included abdominal pain (n=83; 52%), bloating (n=114; 72%), constipation (n=79; 50%), diarrhea (n=97; 61%), and gas (n=118; 74%). During rifaximin treatment, 76 patients (48%) received concomitant treatment with other antibiotics, tegaserod, or probiotics. Of the 118 patients for whom percentage global improvement was reported, 65 (55%) achieved ≥50% improvement and 21 (18%) had ≥90% improvement at the first follow-up visit within approximately 1 month of completing rifaximin treatment. The mean percentage global improvement after rifaximin treatment was 45%. At follow-up, ≥50% improvement of abdominal pain, bloating, constipation, diarrhea, and gas was reported in 16%, 12%, 10%, 15%, and 11%, respectively, of patients who reported the specific symptom at baseline. The percentage of patients with ≥50% improvement in the predominant GI symptom after rifaximin treatment was higher for patients with IBS-D versus IBS-C. Similarly, among patients with available global improvement data, those with IBS-D reported a higher percentage mean global improvement after rifaximin treatment compared with patients with IBS-C (55% vs 34%). Rifaximin was generally well tolerated.

Conclusion: These findings suggest that rifaximin 1200 mg/d administered for 10 days alone or in combination with other IBS treatments improved GI symptoms in patients with IBS and support the potential therapeutic benefit of rifaximin for the treatment of IBS.

Disclosure - Jolley - Salix Pharmacueticals - Speakers Bureau

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P701

RESIDENT PHYSICIANS' COMFORT WITH MANAGING IRRITABLE BOWEL SYNDROME AT THE COMPLETION OF INTERNAL MEDICINE RESIDENCY

M. J. Reyes, MD, H. Nguyen, MD, J. Gladden, MS, S. Zeddun, MD, M. Borum, MD, EdD, MPH. Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC.

Purpose: Irritable bowel syndrome (IBS) is a common gastrointestinal disorder. It is one of the top ten diagnoses seen in primary care practices and one of the top three diagnoses in gastroenterology practices. It is important that internal medicine resident physicians are comfortable managing IBS. This study evaluted internal medicine resident physicians' comfort level in managing IBS and evaluated the effectiveness of various learning modalities.

Methods: An anonymous survey addressing core gastroenterology topics was distributed to all PGY-3 internal medicine resident physicians at an urban university medical center. Information was collected about the benefit of various teaching modalities during residency training and resident physicians' comfort level with gastroparesis management. The teaching modalities evaluated included attending rounds, autopsy conference, didactic rounds, direct patient care (inpatient and outpatient), grand rounds, individual reading, journal club, morning report and noon conference. Information was obtained on whether resident physicians participated in a gastroenterology elective. A database was developed. Statistical analysis was performed using Chi-square tables with statistical significance set at p<0.05.

Results: Twenty of 29 (69%) completed surveys were returned. Outpatient care and individual readings were reported as the two most beneficial teaching modalities. Formal teaching such as didactic rounds and grand rounds were not reported to be beneficial. There was a statistically significant difference (p=0.0042) showing that the care of outpatients was a better instructional method for IBS management when compared to didactic rounds. Additionally, there was a statistically significant difference (p=0.00057) showing care of outpatients to be a more effective method of teaching IBS management than grand rounds. 60% of resident physicians completing a gastroenterology elective felt that more emphasis should be placed on IBS management in the residency curriculum. Only 25% of residents reported comfort in managing IBS at the completion of training.

Conclusion: Irritable bowel syndrome is a common gastrointestinal disorder. It is important that physicians can manage IBS effectively. Care of outpatients is an effective modality for resident physicians to learn IBS managment. However, the majority of resident physicians were uncomfortable in managing IBS upon completion of training. Exposing resident physicians to more outpatients with IBS and the development of educational initiatives should be considered to improve internal medicine resident physicians' comfort with IBS management and to enhance the internal medicine residency curriculum.

P702

EFFECTS OF AGE AND GENDER ON ANORECTAL FUNCTION IN CHRONIC CONSTIPATION

J. Baker, BS, R. Saad, MD, J. Rubenstein, MD, MSc, W. D. Chey, MD. University of Michigan, Ann Arbor, MI.

Purpose: Little information exists on the age-related changes in anorectal function as measured by anorectal manometry (ARM) in patients with chronic constipation (CC). Through analysis of a large cohort of ARM studies, we assessed the impact of age and gender on anorectal function and sensation in patients with CC.

Methods: A retrospective chart review was performed on ARM studies performed at a single tertiary care center from 2002 to 2007. Data recorded included age and gender; length of high pressure zone (sphincter length); resting sphincter pressure; maximum sphincter pressure; and threshold, urge and maximum tolerated rectal volume. Comparisons of normally distributed variables were made using a t-test.

Results: A total of 438 ARMs were performed in patients with CC. 371 ARMs were performed in women (315 under age 65 yrs) and 67 in men (43 under age 65 yrs). The main results from our analyses are summarized in the 2 tables. Anal sphincter length, resting sphincter tone and maximum sphincter strength were significantly lower in constipated young women compared to constipated young men. Similar differences in sphincter characteristics were observed in elderly women and men with CC. Constipated elderly women demonstrated a lower maximum tolerated rectal volume compared to constipated elderly men. There was a significant decrease in anal sphincter length and resting tone in constipated elderly women compared to constipated younger women. There was a significant decrease in maximum squeeze pressure in constipated elderly men compared with constipated younger men.

Conclusion: Gender and age influence anal sphincter parameters and rectal sensation in patients with CC. Our data suggest that age and gender should be taken into consideration when interpreting ARM results. Further, it is possible that age and gender related differences in anorectal function and sensation may offer insights into the pathogenesis of CC in these populations.

ARM Parameters Based on Gender in Young and Elderly Adults with CC

	Age < 65			Age ≧ 65		
	Women	Men	p value	Women	Men	p value
High pressure zone length (cm)	3.9	4.3	0.0021	3.4	3.9	0.1099
Resting sphincter pressure (mm Hg)	80.5	105.8	0.0026	66.1	86.7	0.0232
Maximum squeeze pressure (mm Hg)	126.5	191.7	<0.0001	118.1	155.4	0.003
Threshold volume (ml)	51.7	61.9	0.2824	52.8	67.5	0.2311
Urge volume (ml)	107	110.8	0.6682	101.5	117.8	0.1957
Maximum tolerated volume (ml)	163.8	180.5	0.1157	149.6	187.5	0.0186

ARM Parameters Based on Age in Men and Women with CC

	Women			Men		
	Age < 65	Age ≧ 65	p value	Age < 65	Age ≧ 65	p value
High pressure zone length (cm)	3.9	3.4	0.0004	4.3	3.9	0.22
Resting sphincter pressure (mm Hg)	80.5	66.1	0.0017	105.8	86.7	0.11
Maximum squeeze pressure (mm Hg)	126.5	118.1	0.23	191.7	155.4	0.02
Threshold volume (ml)	51.7	52.8	0.84	61.9	67.5	0.70
Urge volume (ml)	107	101.5	0.46	110.8	117.8	0.65
Maximum tolerated volume (ml)	163.8	149.6	0.11	180.5	187.5	0.71

P703

EFFICACY OF NITAZOXANIDE IN GAS-RELATED INTESTINAL SYMPTOMS

V. Bremer, MD. Clinica Central INPPARES, Lima, Peru.

Purpose: Gas-related intestinal symptoms are prevalent manifestations of irritable bowel syndrome (IBS) and small intestinal bacterial overgrowth (SIBO). While the pathogenetic mechanisms underlying IBS remain unclear, evidence suggests a potential role of bacterial overgrowth in patients with IBS. Other studies demonstrate the abnormal fermentation of colonic flora to be responsible for the increased gas production. Therefore, targeting enteric bacteria with suitable antibiotics represents a logical approach for the control of these complex clinical conditions. Nitazoxanide (NTZ) is a thiazolide antibiotic, with demonstrated activity against a wide variety of microorganisms by interfering with the pyruvate: ferredoxin-oxidoreductase enzyme essential to anaerobic energy metabolism. NTZ and tizoxanide NTZ's main active metabolite reach a high GI concentration with 2/3 of the oral dose not absorbed and excreted in the stool. This study assesses the efficacy and safety of NTZ in controlling chronic functional gas-related symptoms often associated with IBS and SIBO.

Methods: Open label study consisting of treatment with NTZ 500 mg BID for three days in patients with bloating, dyspepsia, flatulence and belching for more than three months. Primary efficacy endpoint was a self-assessed symptom relief scale: much better (5), better (4), a little better (3), equal (2), and worse (1). A symptom score was recorded and calculated from a symptom diary. Initial follow-up was performed after the end of treatment at day 7 and the second follow-up remained open as required.

Results: The study enrolled 103 patients (69 females and 34 males) with a median age of 44 years (range 18-70) and 74 (72%) patients had been previously diagnosed with IBS. In total, 81 (79%) reported symptom improvement: much better 35 (33%), better 31 (30%), a little better 15 (15%). Six months after treatment, 53 (51%) patients returned with symptom recurrence. All of them reported previously sustained improvement for a period of at least 4 months. No major adverse effects were noted, one patient reported a rash, and 17 (16%) noted abdominal pain and diarrhea.

Conclusion: NTZ is an effective treatment for gas-related intestinal symptoms, including patients with IBS. Based on published data utilizing other antibiotics for SIBO and IBS, enhanced efficacy may be obtained by prolonging therapy up to 10 days. Further trials are needed to assess the efficacy of long-term use of NTZ in functional colonic disorders.

P704

EFFECT OF ORAL CYCLIC GMP ON TNBS-INDUCED COLITIS AND VISCERAL HYPERSENSITIVITY IN RATS

L. P. Bueno, PhD, Dres SC,[1] H. Eutamen, PhD,[1] M. Gillet, MSc,[1] V. Theodorou, PhD,[1] C. Beaufrand, PhD, Dres Sc,[1] A. Bryant, PhD,[2] M. Curry, MD,[2] T. Reza, PhD[2].
1. Neurogastroenterology Unit, INRA, Toulouse, France; 2. Pharmacology, IRONWOOD, Cambridge, MD.

Purpose: Activation of intestinal guanylate cyclase C receptors (GC-C) results in the production and secretion of cyclic guanosine monophosphate (cGMP) and elicits fluid secretion, intestinal transit and decreased visceral pain. Linaclotide, a therapeutic in development for the treatment of irritable bowel syndrome with constipation, is an agonist of GC-C and causes marked elevations in enteric cGMP levels. The aim of the present study was to determine whether cGMP may be an important mediator of the anti-noiciceptive effects of linaclotide by testing whether it has anti-inflammatory and/or antinociceptive properties when dosed orally to rats with TNBS-induced colitis.

Methods: Male Wistar rats received cGMP (3, 10, 30, 50 and 100 mg/kg) or vehicle by intragastric gavage 2 hours before intracolonic TNBS administration and twice daily for 4 days thereafter. Following the treatment period, animals were sacrificed and macroscopic damage score (MDS), myeloperoxidase (MPO) activity and microscopic scores (MS) in the colon were assessed. In a parallel study, rats implanted with abdominal intramuscular electrodes, received an oral dose of cGMP (3, 30 and 50 mg/kg) or vehicle 60 min prior to colo-rectal distension (CRD) using a fogarty probe inflated in steps of 0.4 to 1.2 mL. Abdominal contractions (index of visceral pain) were recorded under basal and post-inflammatory conditions.

Results: Vehicle treated animals, with TNBS-induced colitis, had higher MDS, MPO activity and MS ($p<0.05$) compared with control animals. cGMP (30 and 50 mg/kg) significantly reduced ($p<0.05$) all measured inflammatory markers with a maximal effect observed at 50 mg/kg. Under basal conditions, CRD caused a significant increase in the number of abdominal contractions from a volume of 0.8 mL. Basal visceral sensitivity was not modified by cGMP treatment. In the post-inflammatory state, CRD significantly increased the number of abdominal contractions for the volume of 0.4 mL. Treatment with cGMP (3 mg/kg) significantly decreased ($p<0.05$) the number of abdominal contractions induced by TNBS.

Conclusion: These findings indicate that oral administration of cGMP has anti-inflammatory effects (30 and 50 mg/kg) and reduces visceral hypersensitivity triggered by inflammation (3 mg/kg) in rats. One possible reason for the disparity in active doses may be that cGMP acts via different mechanisms on visceral pain and gut inflammation. This hypothesis is further supported by the reduction in visceral pain by linaclotide in non-inflammatory models.

Disclosure - Dr. Bryant pharmacologist IRONWOOD Inc. Dr. Reza Pharmacologist IRONWOOD Inc. Dr. Currie Clinical trial coordinator IRONWOOD Inc.

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P705

EUS STAGING OF PRIMARY AMPULLARY NEOPLASMS IN PATIENTS WITH VERSUS WITHOUT A BILIARY STENT

2008 ACG Presidential Poster Award Recipient

J. K. LeBlanc, MD, MPH, P. Kongkam, MD, L. McHenry, MD, FACG, J. M. DeWitt, MD, T. F. Imperiale, MD, S. Sherman, MD, FACG. Gastroenterology and Hepatology, Indiana University School of Medicine, Indianapolis, IN.

Purpose: Currently, endoscopic ultrasound (EUS) is widely used for tumor staging (T staging) of ampullary neoplasms, despite a few recent studies demonstrating a higher accuracy rate with intraductal ultrasound (IDUS). However, accuracy may be affected when a biliary stent is present. To the best of our knowledge, only 1 study thus far compared accuracy rate of EUS T staging in patients with versus without an indwelling biliary stent. Our aim was to compare the accuracy of EUS T and N staging in ampullary neoplasms in patients with versus without a plastic biliary stent.

Methods: EUS, ERCP and surgery databases using keyword related to ampullary neoplasm at Indiana University Medical Center were searched over a 15-year period (1992 to 2007) to identify patients who had ampullary neoplasms. EUS findings were recorded and compared to pathologic staging. Only patients with sufficient pathological specimen for T staging were utilized as gold standard. Pathological T staging was based on AJCC 2002. Adenoma with or without high grade dysplasia and in situ Tumor (Tis) were classified as pathological T1.

Results: 628 cases were identified. 525 cases were excluded for following reasons: no EUS was performed (n=310), normal ampulla on EUS and pathology (n=167), absence of surgical pathology (n=40), neuroendocrine neoplasms (n=6) and pancreatic cancer (n=2), leaving 103 cases (mean age 65.2 ±13.4 years; 52 female, 51 male) for analysis. Biliary stents were present during EUS staging in 41 cases (39.8%). There were no differences in the two groups (stent versus no stent) with respect to proportion of patients in each pathological T stage, mean age, and gender. There were more positive pathological lymph nodes in the stent group compared to the no stent group [18/41 (43.9%) versus 15/62 (24.2%), p =0.036]. The frequency of lymph node metastasis in pathological T1, T2, T3 and T4 were 1/52 (1.9%), 13/23 (56.5%), 14/22 (63.6%) and 5/6 (83.3%), respectively. The accuracy of EUS T staging in the stent group was 19/41 (46.3%) significantly lower than in the no stent group: 43/62 (69.4%) (p = 0.03). EUS overstaging in the stent group was 9/41 (22.0%) compared to 8/62 (12.9%) in the no stent group (p = 0.35). EUS understaging in the stent group was 13/41 (31.7%) versus 11/62 (17.7%)

in the no stent group (p = 0.16). The accuracy of EUS nodal staging in the stent group was 29/41 (70.7%) compared to 48/62 (77.4%) in the no stent group (p = 0.59).
Conclusion: EUS T staging is more accurate in the absence of a biliary stent but does not affect the EUS nodal staging. EUS understaging occured more commonly in the stent group. EUS staging of ampullary lesions should be performed prior to placement of a biliary stent when possible.

P706

THE IMPACT OF NARROW BAND IMAGING IN SCREENING COLONOSCOPY; RESULTS FROM A RANDOMIZED, CONTROLLED TRIAL
F. Radaelli, MD, S. Paggi, MD, A. Amato, MD, G. Meucci, MD, G. Mandelli, MD, V. Terruzzi, MD. Gastroenterology, Valduce Hospital, Como, Italy.
Purpose: Missed lesions are a major concern for colonoscopy. Narrow band imaging (NBI) is a newly developed technology which allows a better definition of mucosal micro-capillaries, increasing the contrast of adenomas with the surrounding mucosa. Whether NBI can increase detection of colonic neoplasms is uncertain. The aim of the study was to evaluate whether the routine use of NBI in the withdrawal phase of the procedure compared to white light (WL) enhances the detection of polypoid and non-polypoid (flat or depressed) lesions in patients undergoing screening colonoscopy.
Methods: Consecutive 50-69 year-old outpatients with positive occult fecal blood test (FOBT), participating to a national screening program and referred to our Unit for colonoscopy were enrolled. Olympus HD 180 series colonoscopes with push button switch from WL to NBI were used. Once reaching the cecum with adequate cleaning conditions of the colon, the patients were randomized to a WL or NBI retraction phase according to a computer generated list. A sample size of at least 208 patients (104 in each arm) was calculated, hypothesizing a difference of 20% in the adenoma detection between WL and NBI (0.05 significance level, 80% power).
Results: From November 2007 to April 2008, 215 subjects (mean age 60 yrs, males 54%) were included. Both arms were well balanced as concerns demographic features, quality of bowel cleansing and examination time during the withdrawal phase. The main results of study are shown in the Table. High grade dysplasia/invasive carcinoma was diagnosed in 13/49 (26.5%) flat or depressed lesions, and in 52/333 (15.6%) polypoid lesions, respectively (p= 0.057)
Conclusion: Routine use of NBI during the retraction phase of colonoscopy does not seem to increase the adenoma detection rate. However, the prevalence of non-polypoid (flat or depressed) adenomas in this setting is substantial, and our study evidences an objective benefit of the NBI technique in the detection of these lesions, which appear to be more aggressive.

	NBI Group (n=108)	LW Group (n=107)	p-value
Pts with at least ≥ 1 adenoma (%)	71 (66)	72 (67)	NS
Pts with at least ≥ 1 advanced adenoma (%)	50 (46)	46 (40)	NS
Pts with ≥ flat lesions	25 (23)	13(12)	0.034
Ratio flast lesions/total adenomas	31/146 (21)	18/169 (11)	0.009

P707

CYST FLUID VISCOSITY PREDICTS MUCINOUS CYSTIC LESIONS OF THE PANCREAS
S. Ram, DO, K. McGrath, MD, M. Sanders, MD, K. Fasanella, MD, A. Khalid, MD. Gastroenterology, University of Pittsburgh Medical Center, Pittsburgh, PA.
Purpose: Mucinous cystic lesions of the pancreas have malignant potential. Cross-sectional imaging and EUS alone cannot reliably differentiate mucinous from non-mucinous cysts. Therefore, sampling of cyst fluid is important for accurate diagnosis. Cyst fluid CEA level obtained via EUS-FNA is currently the standard for the diagnosis of mucinous cystic lesions of the pancreas (Sens 73%, Spec 84%, cutoff 192 ng/ml), but requires at least 1 cc of fluid for measurement. As mucinous epithelium secretes mucin and glycoproteins, a viscous cyst aspirate is felt to correlate with a mucinous cyst. Viscometers can objectively measure cyst fluid viscosity, however these are not standardized. We hypothesized that the subjective finding of viscous cyst fluid predicted the presence of a mucinous cyst.
Methods: A retrospective review was performed to identify patients with a pancreatic cyst who underwent EUS-FNA over a 5 year period at the University of Pittsburgh Medical Center. We describe cyst fluid as watery, slightly viscous or viscous based on whether there is a "string sign" produced when 2 glass slides (1 containing a drop of cyst fluid) are touched together and then pulled apart. Only those patients whose EUS report included a gross description of the aspirated cyst fluid and who reached a final diagnosis (surgical pathology or definitive cytology) were included. EUS findings, cytology, surgical pathology and operative records were reviewed. For the purposes of this study, slightly viscous and viscous descriptors were lumped and considered "viscous"; cytology was recorded as negative or neoplastic; and mucinous cysts included non-neoplastic mucinous cysts, IPMN, mucinous cystadenoma/adenocarcinoma, and adenocarcinoma with cystic degeneration.
Results: 94 patients (60% female, mean age 64 yrs) with a total of 98 cysts were identified. 78 cysts were mucinous based on surgical pathology or definitive cytology; 20 cysts were non-mucinous. Of the 66 cysts with viscous aspirates, 61 were mucinous and 5 were non-mucinous. Of the 32 cysts with watery aspirates, 17 were mucinous and 15 were non-mucinous. The sensitivity, specificity, accuracy, PPV and NPV for classifying a cyst as mucinous via our subjective viscosity assessment were 78%, 75%, 78%, 92% and 47%, respectively.
Conclusion: The gross finding of viscous cyst fluid predicts the presence of a mucinous cystic lesion with moderate operating characteristics, similar to that of cyst fluid CEA. This is helpful if there is not enough fluid to send for CEA measurement. The finding of a watery aspirate does not reliably exclude the presence of a mucinous cyst.

P708

ROLE OF SELF EXPANDING METALLIC STENTS (SEMS) IN THE MANAGEMENT OF MALIGNANT OBSTRUCTION OF PROXIMAL COLON
S. Ramamurthy, MBBS, MRCP,[1] S. S. Dronamraju, MBBS, MRCS, MD,[2] M. Hayat, MBBS, FRCP[1]. 1. Gastroenterology, North Tyneside General Hospital, North Shields, United Kingdom; 2. General Surgery, North Tyneside General Hospital, North Shileds, United Kingdom.
Purpose: Expandable metal stents have shown to be effective in the management of malignant large bowel obstruction both as a bridge to definitive surgery and for palliation. However right colonic lesions account for less than 5% of all reported cases of colonic stenting (Mergener, 2002). The aim of this study was to determine the outcomes following stenting for malignant obstruction of proximal colon (obstructing lesion proximal to splenic flexure).
Methods: Hospital records of patients undergoing colonic stenting for large bowel obstruction at a district general hospital in north England during the period 2001-2007 were retrospectively reviewed. Data was analysed (SPSS version 15) to identify patient characteristics, site of obstructing lesion, intent for stenting and the outcomes measured included relief of obstruction, hospital stay and post procedure complications.
Results: Patient demographics, intent for stenting and outcomes following stenting in the proximal colon group and distal colon group are summarized in Table 1. Stenting was attempted in ninety patients (median age 73 years, 52 male) with large bowel obstruction. Of these 14 (15.5%) patients had lesions in proximal colon including 8 patients with lesions in ascending colon and 6 patients with lesions in transverse colon. Insertion of SEMS was techniquely successful in 12 (87.5%) patients with proximal colonic lesions and stenting was successful in relieving the colonic obstruction in all of these patients. In 2 (12.5%) patients due to inability to pass the guide wire through the completely obstructing tumour stenting was techniquely unsuccessful. Stenting was attempted as a bridge to definitive surgery in 5 patients and for palliation in 9 patients. One patient had post procedural bleeding which was managed conservatively and there was no perforation or stent dislodgement.
Conclusion: Use of SEMS is safe and effective in the management of malignant large bowel obstruction in proximal colon. They can be used both as a palliation in patients with inoperable disease and as a bridge to definitive surgery in patients with operable disease. Technical and clinical outcomes and complications following proximal colon stenting are comparable to those reported with distal colon stenting.

Table 1

	Proximal colon	Distal colon	P value
No of patients (%)	14 (15.6)	76 (84.4)	
Male / Female	9 / 5	40/36	0.4
Bridge group/ palliative group	5 / 9	25 / 51	0.8
Successful stenting (%)	12 (81.7)	60 (78.9)	0.6
Post-stent complications	1 (7.1)	17 (22.4)	0.3
Post stenting hospital stay (days)	1.6	2.0	0.9

P709

DEEP SMALL BOWEL FOREIGN BODY RETRIEVAL USING SPIRAL OVERTUBE-ASSISTED ENTEROSCOPY

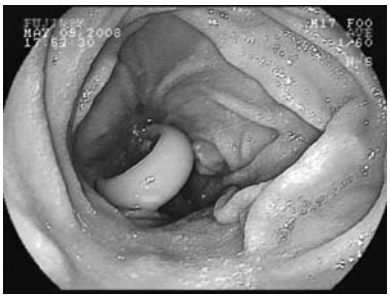
C. Swales, MD,[1] K. Bhattacharya, MD,[1] D. Howell, MD[2]. 1. Medicine, University of Massachusetts, Worcester, MA; 2. Maine Medical Center, Portland, ME.

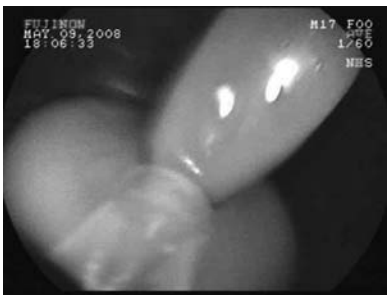
Purpose: Small bowel foreign bodies have traditionally been managed either expectantly or with surgery. This has largely stemmed from the lack of any reliable endoscopic technology to reach and retrieve small bowel foreign bodies. DBE and Spirus have emerged as new technologies to allow for endoscopic therapy of small bowel pathology.

Methods: The patient was a 46 year-old man with a history of ileal Crohn's disease. He was known to have fistulizing disease and an ileal stricture; he had been treated with corticosteroids and adalimumab and was clinically in remission. Several months prior to presentation, he was diagnosed with tonsillar cancer, and was prescribed chemotherapy and radiotherapy. A gastrostomy was placed for nutrition support. He convalesced from the treatment of his cancer, but during an office visit for PEG removal, the tube fractured and the bumper was retained. Despite expectant management, bumper passage was not observed and a plain radiograph revealed the retained foreign body after 3 weeks. An attempt made to retrieve this by standard push enteroscopy with fluoroscopic guidance by an expert endoscopist was unsuccessful.

Results: The patient arrived to the University of Massachusetts in a fasting state, and was taken to theatre. Under general endotracheal anesthesia, using a standard 200 cm enteroscope (Fuji) and a 47 Fr. spiral overtube (Discovery EndoEase SB, Spirus Medical, Stoughton, MA), the small intestine was deeply intubated. The retained PEG bumper was encountered in the distal jejunum, and was retrieved using a snare. There was some minor trauma to the distal esophagus and UES observed on a second-look endoscopy, likely from the PEG bumper. The patient made an uneventful recovery.

Conclusion: Spiral overtube-assisted enteroscopy is a valuable tool in small bowel endoscopy, and can aid in the successful retrieval of a foreign body when traditional endoscopic methods have failed.





P710

SUCCESSFUL POLYPECTOMY OF SMALL BOWEL POLYPS IN PATIENTS WITH PEUTZ-JEGHERS SYNDROME USING DISCOVERY ENDOEASE SB SPIRAL OVERTUBE (SPIRUS)

C. Swales, MD,[1] D. Cave, MD, PhD,[1] P. Akerman, MD,[2] K. Bhattacharya, MD[1]. 1. Medicine, University of Massachusetts, Worcester, MA; 2. Medicine, Rhode Island Hospital, Providence, RI.

Purpose: Small bowel polyps in Peutz-Jeghers Syndrome (PJS) have traditionally been managed either expectantly or with surgery. This has largely stemmed from the lack of any reliable endoscopic technology to reach and retrieve small bowel polyps. Double-balloon enteroscopy (DBE) and recently spiral overtube-assisted enteroscopy (Spirus) have emerged as new technologies to allow for endoscopic therapy of small bowel pathology.

Methods: Two patients with PJS who had documented small bowel polyps on capsule endoscopy were enrolled. One patient had previous antegrade DBE with polyp resection, however more polyps were seen on repeat capsule study. In both cases, procedures were performed in the operating room using general endotreacheal anesthesia; the patient was positioned left-laterally. The enteroscopy was performed in an antegrade fashion using the Discovery EndoEase SB spiral overtube (Spirus Medical, Stoughton, MA).

Results: The mean time to maximal insertion depth was 42+/-12 minutes. The mean polypectomy number was 3.5+/-2.1. The total procedure time was 140+/- 12 minutes. In one case, a tattoo site which marked the previous maximal depth of insertion by DBE was passed. There were no complications

Conclusion: Spiral overtube-assisted enteroscopy is a valuable tool in small bowel endoscopy, and can aid in the successful resection of PJS polyps.

Disclosure - Dr. Akerman - Consultant, Spirus Medical

P711

EVALUATION OF MEDIASTINAL MASSES BY ENDOSCOPIC ULTRASOUND (EUS) AND EUS-GUIDED FINE NEEDLE ASPIRATION: A LARGE SINGLE CENTER EXPERIENCE

B. A. Brunson, MD,[1] T. L. Lopes, MD, MPH,[1] S. Varadarajulu, MD,[1] M. Eloubeidi, MD, MHS,[1] R. Cerfolio, MD[2]. 1. Medicine/Gastroenterology, University of Alabama at Birmingham, Birmingham, AL; 2. Surgery, University of Alabama at Birmingham, Birmingham, AL.

Purpose: Endoscopic Ultrasound (EUS) and EUS-guided fine needle aspiration (EUS-FNA) are effective methods to evaluate posterior mediastinal structures. The purpose of our study is to evaluate the diagnostic yield of EUS and/or EUS-FNA in the evaluation of mediastinal masses.

Methods: The medical records for patients who underwent EUS or EUS-FNA for the evaluation of mediastinal masses from July 2001-July 2007 were retrospectively reviewed. FNA was performed with a 22-gauge needle in the majority of solid or complex lesions and in cystic lesions if atypical features were present. Final diagnosis was based on FNA cytology, surgical pathology, and/or clinical follow-up.

Results: A total of 65 patients were identified (mean age 55.5, age range 10-79, 67% white, 62% male). Sixty two patients had a mediastinal mass identified by CT, one by MRI, and one each by a "bulge" on EGD or barium swallow. Lesions were classified by EUS into three categories: solid, cystic, or complex (both solid and cystic components). Median mass size was 44 x 31 cm. EUS identified solid masses in 39 cases, and FNA was performed in 37. Clinical condition prohibited FNA in one patient, and FNA was not performed in one case with EUS findings consistent with lipoma. Final diagnosis was malignancy in 87% (34/39), inflammation or fibrosis in 10% (4), and lipoma in one case. FNA was 97% accurate in this group with one false negative found to be malignant at thoracotomy. Complex masses were identified in 7 cases, and FNA was performed in all 7 with 100% accuracy. 86% (6/7) were benign with a final diagnosis of cysts in 4 cases, granulomas in 2 cases, and thymus carcinoma in one. Cystic masses were seen in 19 cases, and FNA was performed in 11 that were deemed atypical with dense material or "grunge" present. The final diagnosis in all 19 was benign cyst, and FNA was 100% accurate in all 11 cases in which it was performed. Overall sensitivity and accuracy of EUS-FNA was 97% and 98% respectively. Of note, two of the patients with cystic masses were lost to follow-up so no clinical or surgical confirmation was available. None of the patients experienced a complication; specifically, no mediastinitis was encountered.

Conclusion: EUS can differentiate solid from cystic masses and hence can guide fine needle aspiration. EUS-FNA is a very accurate and safe modality for the diagnosis of posterior mediastinal masses and allows non-invasive tissue acquisition particularly when other modalities have failed or lesions are not amenable to the percutaneous approach or mediastinoscopy. FNA may not be necessary to rule out malignancy if the appearance is classic for bronchogenic cyst by EUS. We reserve FNA for atypical appearance of cysts or in solid and complex mediastinal masses.

P712

POLYETHYLENE GLYCOL BOWEL PREPARATION IS ASSOCIATED WITH HYPOKALEMIA

J. Chang, MD, MS, H. Roy, MD, E. Yen, MD, T. Tsang, MD, D. Shah, MD, M. Borkar, MD, E. Elton, MD, M. Mehta, MD, M. Meiselman, MD, L. K. Bianchi, MD. Evanston Northwestern Healthcare, Evanston, IL.

Purpose: Electrolyte imbalances have been documented in subjects following a sodium phosphate (NaP) bowel purge and significant renal toxicity has occurred in a select few patients. This has prompted clinicians to consider alternate purgative agents in patients who may be at increased risk for developing electrolyte abnormalities. Significant electrolyte abnormalities have not been previously documented with polyethylene glycol (PEG) purgative agents and PEG has been considered a safe alternative in subjects who may not tolerate the transient electrolyte shifts associated with NaP agents.

Methods: This study was a retrospective study of serum electrolytes, creatinine (Cr) and volume status in 49 subjects who underwent bowel preparation with a PEG based agent prior to colonoscopy. Serum BUN/Cr ratio was calculated as a proxy for volume status. 47/49 subjects had day of colonoscopy blood work obtained. Baseline electrolyte values and Cr were available for comparison in 45/47 subjects. Statistical evaluation was performed using Fisher's exact test (gender) and Student's t-test for all other factors.

Results: When day of colonoscopy (post-PEG) potassium levels were compared to baseline potassium levels, a significant drop in potassium was identified (4.02 vs 4.28, p=0.018). There was no evidence of significant volume contraction after PEG purge with Bun/Cr and Albumin levels unchanged from baseline (12.9 vs 14.4, p=0.11; 3.9 vs 4.0, p=0.178, respectively). 5/47 subjects (11%) were frankly hypokalemic (K< 3.5) after PEG purge. The potassium level in this subgroup was 3.0 (vs 4.1, p<0.001). None of these patients had a previous history of hypokalemia. The hypokalemic subgroup did not manifest any changes in Bun/Cr (14.1 vs. 12.7, p=0.52) suggesting that hypokalemia was not simply a result of volume depletion. There was a trend suggesting post-PEG hypokalemic patients tended to be older (58 vs 46 yr, p=.31) and were more likely to be female (80% vs 45%, p=0.18).

Conclusion: When assessing the group in toto, we noted a modest reduction in serum potassium levels after PEG purge which was not explained by volume contraction. 11% of subjects became overtly hypokalemic after PEG. While there were no untoward clinical outcomes noted, this is of concern given the risk of arrhythmias during a potentially stressful procedure especially in patients with underlying cardiac disease. Our study underscores the need for larger prospective trials designed to identify risk factors for significant hypokalemia. If confirmed, it would suggest that the vulnerable subgroup may potentially benefit from risk-mitigation practices (measuring potassium or empiric supplementation in appropriate groups).

P713

A QUALITY INITIATIVE TO DECREASE PATHOLOGY SPECIMEN LABELING ERRORS USING RADIOFREQUENCY IDENTIFICATION IN A HIGH-VOLUME ENDOSCOPY CENTER

D. Francis, MD, MHS,[1] S. Prabhakar, MBA,[1] S. O. Sanderson, MD[2]. 1. Miles and Shirley Fiterman Center for Digestive Diseases, Mayo Clinic, Rochester, MN; 2. Anatomic Pathology, Mayo Clinic, Rochester, MN.

Purpose: Our institution has had problems with mislabeling of tissue specimens in our gastrointestinal and colorectal surgery endoscopy units. Most labeling errors have been due to either the wrong patient label or no label being affixed to a specimen bottle. As a result, an initiative was created to reduce the number of specimen labeling errors. This initiative involved the application of radiofrequency identification (RFID) technology to specimen bottles, moving to a paperless pathology requisition system and confirmation of the correct site, correct patient by both the endoscopy nursing staff and the endoscopist on each specimen bottle.

Methods: We reviewed the number of specimen labeling errors from our endoscopy unit for the first three months of 2007, prior to the implementation of the initiative and the first three months of 2008, 6 months after the initiation of RFID specimen labeling with paperless requisition and two provider confirmation of correct site, correct patient specimen labeling. Specimen labeling errors were categorized as Class 1 (only typographical with no potential clinical consequences), Class 2 (minor error, unlikely to have clinical consequences) and Class 3 (significant error that has the potential to detrimentally impact patient care). The Fischer's exact test was used to compare the rate of specimen bottle labeling errors before and after the initiation of this new system.

Results: In the first three months of 2007, our endoscopy unit sent 8231 specimen bottles to our pathology laboratory for evaluation and 8539 bottles in the first three months of 2008. There were 646 (7.85%) Class 1 errors in the first quarter of 2007 and 35 (0.41%) in the first quarter of 2008 ($p<0.001$). There were 112 (1.36%) Class 2 errors in the first quarter of 2007 and ten (0.12%) in the first quarter of 2008 ($p<0.001$). Finally, in the first quarter of 2007 there were seven (0.09%) Class 3 errors and in the first quarter of 2008, there were two (0.02%) Class 3 errors. However, with the new system in place, both Class 3 errors in the first quarter of 2008 were recognized and corrected prior to the processing of the specimens in the pathology laboratory ($p=.001$).

Conclusion: These data suggest that the initiation of a new specimen labeling system that uses RFID technology, a paperless requisition process and confirmation of the correct site correct patient by two health-care providers significantly decreased specimen labeling errors of every level in a high volume endoscopy center.

P714

THE SIGNIFICANCE OF GASTRIC AND DUODENAL ISCHEMIA REPORTED ON ENDOSCOPIC BIOPSY: A CASE SERIES

J. Herman, MD,[1] D. Chavalitdhamrong, MD,[1] D. Jensen, MD,[1] G. Cortina, MD, PhD,[2] A. Manuyakorn, MD,[2] R. Jutabha, MD[1]. 1. Division of Digestive Diseases, David Geffen School of Medicine at University of California, Los Angeles, CA; 2. Department of Pathology and Laboratory Medicine, David Geffen School of Medicine at University of California, Los Angeles, CA.

Purpose: In clinical practice, endoscopic biopsies taken of lesions from the stomach and duodenum are occasionally reported as consistent with ischemic injury. It is not established in the literature if a pathologic report of ischemia, particularly if unexpected, is suggestive of a specific diagnosis, requires further evaluation or has prognostic significance. This series was compiled to examine the diagnostic and prognostic significance of ischemia reported on gastric or duodenal biopsies.

Methods: A search of the endoscopic pathologic database at UCLA was performed to locate mucosal biopsy reports of the stomach or duodenum that were reported as consistent with ischemia. Cases were characterized by obtaining data including age, sex, presentation, endoscopic or surgical treatment, endoscopic features, radiologic findings, mortality, rebleeding and diagnosis.

Results: Over a ten year period, 15 cases were collected. The dominant indication for upper endoscopy was bleeding (73%). 12 cases were treated medically, three surgically and none endoscopically. Diagnoses included stress ulceration (n=2), complication of chemoembolization (n=2), unknown (n=2), surgical anastamotic ulcer (n=1), hypotension (n=2), mesenteric vein thrombosis (n=2), *Helicobacter pylori* associated ulcer (n=1), portal gastropathy (n=1), vasculitis (n=1) and atherosclerotic disease (n=1). Half of the lesions appeared "aggressive" (large, necrotic, fistula, circumferential, pseudomembrane; 53%). There were six cases of bleeding after initial endoscopy (40%) and four deaths (27%). CT or MRI were obtained in 14 cases but were useful in making a diagnosis in only two cases.

Conclusion: In our series, histological ischemia is nonspecific. It is detected in a multitude of gastric and duodenal diagnoses not limited to vascular processes. Ischemia was more often encountered with bleeding or "aggressive" appearing lesions. CT or MRI was not frequently necessary to establish the diagnosis. Rebleeding rate and mortality relative to historical controls was high suggesting a poor prognosis. The decision to obtain an imaging study or proceed with invasive therapy should be individualized with a conservative bias until larger series become available.

P715

PROSPECTIVE PILOT STUDY TO DETERMINE THE USE OF REAL-TIME VIDEO CAPSULE ENDOSCOPY IN RISK STRATIFICATION OF PATIENTS THAT PRESENT WITH UPPER GASTROINTESTINAL BLEEDING

T. Johnson, MD,[1] S. Verma, DO,[2] F. Chateau, PA,[1] A. Min, MD,[1] H. Bodenheimer, MD,[1] B. Bernstein, MD[1]. 1. Digestive Diseases, Beth Israel Medical Center, New York, NY; 2. Department of Medicine, Beth Israel Medical Center, New York, NY.

Purpose: There are no current studies that exist evaluating the ability of video capsule endoscopy (VCE) to risk stratify patients that present with upper gastrointestinal bleeding (UGIB). The aim of the study is to determine if real-time (RT-VCE) video capsule endoscopy can produce similar Rockall scores, a marker of bleeding risk, compared to standard upper endoscopy (EGD).

Methods: Patients 18 years of age or older from October 2007 to May 2008 presenting to Beth Israel Medical Center, New York, for UGIB were enrolled. Actively bleeding patients requiring immediate endoscopy were excluded. Demographics, pertinent history, and findings on exam were obtained. Within 24 hours of presentation RT-VCE using the M2A(Given) Pillcam was performed. EGD was performed after the duodenum was reached on RT-VCE. Images were officially reviewed at the end of the day (O-VCE). All results were blinded from each other. Questionnaire on tolerability and satisfaction was administered after the procedures. Spearman comparison coefficient and descriptive statistical analysis were performed.

Results: Twenty subjects (13M:7F) were enrolled in the study. Mean age was 65 years (33-96). Mean hemoglobin was 7.5 g/dL (4-14). Seventy percent had co-morbidities. Thirty percent had a history of UGIB. Seventy percent were on high risk medication. Pre-endoscopy PPI use was 100%. Prokinetics were used in 35% of subjects. VCE reached the duodenum in 85% of subjects; 15% not reached (hiatal hernia, equipment malfunction, gastroparesis). The mean gastric emptying time was 24.6 minutes. Rockall scores (0-11) for RT-VCE, EGD, O-VCE were 2.95, 2.90, 3.00 respectively; Spearman coefficient(0-1) was 0.86 for EGD versus O-VCE ($p<0.0001$), 0.97 for RT-VCE versus O-VCE ($p<0.0001$). Rockall scores for EGD and O-VCE agreed perfectly 70% of the time and by one unit 90% of the time. Table 1 shows findings. No endoscopic treatment was performed in any of the subjects. There was no difference in terms of discomfort between the procedures. More subjects preferred VCE and more subjects would have repeat VCE over EGD. There were no complications.

Conclusion: There was significant agreement between the Rockall scores produced by real-time video capsule endoscopy and standard upper endoscopy in subjects presenting with upper gastrointestinal bleeding. No significant bleeding lesions were missed.

Table 1 Comparison of Findings

Category	EGD	O-VCE
Overall Findings	40	47
Non-Erosive Gastroduodenitis (NEG) (%)	12(60%)	8(40%)
Erosive Gastroduodenitis (EG) (%)	2(10%)	2(10%)
NEG/EG Combined (%)	14(70%)	10(50%)
Polyps (%)	2(10%)	1(5%)
Esophagitis (%)	0(0%)	1(5%)
Portal Gastropathy (%)	1(5%)	3(15%)
Unremarkable Exam(%)	2(10%)	2(10%)
Rockall Scores (0-11)(mean)	2.9	3.0
Vascular Lesions(AVM/Red Spot)	1(5%) 4 missed on EGD	5 (25%)
Ulcerative Lesions Patient 1 Patient 2	FINDING Esophageal Ulcer Gastric Ulcer no stigmata	FINDING Esophageal Ulcer Non-diagnostic
Fresh Blood on VCE Patient 1 Patient 2 Patient 3 Patient 4	FINDING Duodenitis Gastroduodenitis Polyp Lipoma	FINDING Fresh Blood Fresh Blood Fresh Blood Fresh Blood

P716

A RETROSPECTIVE STUDY TO DETERMINE THE ABILITY OF VIDEO CAPSULE ENDOSCOPY TO DETECT UPPER GASTROINTESTINAL PATHOLOGY COMPARED TO STANDARD ENDOSCOPY IN PATIENTS WITH OBSCURE BLEED

T. Johnson, MD,[1] S. Verma, DO,[2] F. Chateau, MD,[1] A. Min, MD,[1] H. Bodenheimer, MD,[1] B. Bernstein, MD[1]. 1. Digestive Diseases, Beth Israel Medical Center, New York, NY; 2. Medicine, Beth Israel Medical Center, New York, NY.

Purpose: Currently no dedicated studies comparing upper gastrointestinal findings on video capsule endoscopy (VCE) to standard upper endoscopy (EGD) exist. The purpose of this retrospective study is to examine whether VCE and EGD can detect similar upper gastrointestinal findings in patients with obscure bleeding.

Methods: All patients 18 years or older who presented with obscure bleeding and underwent both EGD and VCE within 1 month of each other at Beth Israel Medical Center were retrospectively reviewed from January 2000 to December 2007. All VCEs were performed with the M2A (Given) Pillcam. Each VCE and EGD report was blindly reviewed and findings were noted for both modalities. Patient demographics, dates, indications, findings, gastric transit time, and post endoscopy Rockall scores were collected. Data was analyzed by Spearman correlation coefficients and descriptive statistics.

Results: Sixty-five (31M: 34F) subjects were enrolled. Mean age was 66.5 years (18-96). The indication was 38% for iron deficiency anemia and 62% for occult bleeding. The duodenum was reached in 100% of subjects. The mean gastric transit time was 35.2 seconds. See Table 1 for findings. One duodenal ulcer was detected on VCE and fresh blood was seen on the corresponding EGD. Unremarkable VCE exams had corresponding non-significant findings on EGD 82% of the time. Post endoscopy Rockall scores for the VCE and EGD were 0.55 and 0.47 respectively, with a Spearman correlation coefficient of 0.29 (p=0.0191). Rockall scores agreed perfectly 55% of the time and by one unit 97% of the time.

Conclusion: Video capsule endoscopy and standard upper endoscopy appear to have similar detection rates for upper gastrointestinal pathology in patients presenting with obscure bleeding. The correlation appears to be strongest for erosive and non-erosive gastroduodenitis. VCE appears to detect more vascular lesions compared to EGD. The majority of unremarkable exams on VCE corresponded to non-significant findings on EGD.

Table 1 Comparison of Findings

Category	VCE	EGD
Overall Findings	145	127
Non-erosive gastroduodenitis(NEG)(%)	29(45%)	30(46%)
Erosive gastroduodenitis(EG)(%)	12(18%)	6(9%)
NEG/EG Combined(%)	41(63%)	36(55%)
Gastroduodenal polyps(%)	6(9%)	4(6%)
Esophagitis(%)	3(5%)	2(3%)
Esophageal varices(%)	1(2%)	4(6%)
Portal gastropathy(%)	4(6%)	2(3%)
Unremarkable Exam(%)	17(26%)	17(26%)
Post endoscopy Rockall score(0-4)(mean)	0.55	0.47
Vascular lesions(AVM/red spot)(%)	11(17%) 9 missed on EGD	5(8%)
Ulcerative lesions Patient 1 Patient 2 Patient 3 Patient 4 Patient 5	FINDING Erosive gastroduodenitis Polyp Unremarkable AVM AVM	FINDING Gastric ulcer no stigmata Gastric ulcer no stigmata Gastric ulcer no stigmata Gastric ulcer no stigmata Gastric ulcer stigmata
Fresh Blood on VCE Patient 1 Patient 2 Patient 3 Patient 4 Patient 5 Patient 6	FINDING Fresh Blood Fresh Blood Fresh Blood Fresh Blood Fresh Blood Fresh Blood	FINDING Gastritis Duodenitis Esophagitis Polyp Fresh Blood Fresh Blood

P717

COLLATERAL DAMAGE FOLLOWING SELECTIVE INTERNAL RADIATION THERAPY (SIRT) FOR HEPATIC TUMORS

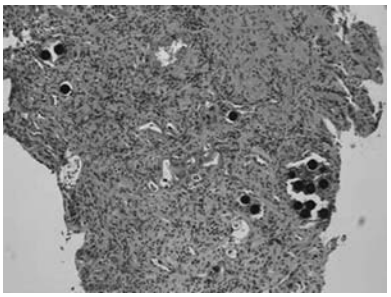
A. Konda, MD,[1] M. C. Duffy, MD, FACG,[1] M. A. Savin, MD[2]. 1. Gastroenterology and Hepatology, William Beaumont Hospital, Royal OaK, MI; 2. Interventional Radiology, William Beaumont Hospital, Royal OaK, MI.

Purpose: Describe the incidence and clinical features of SIRT-induced GI injury.

Methods: A retrospective review of 100 consecutive SIRT patients. Details of all patients who needed endoscopic evaluation after SIRT were obtained.

Results: Five cases of GI injury attributable to SIRT were found among 100 patients (5%). Precautions to prevent GI injury included careful angiography, use of Tc99MAA (macroaggregated albumin) SPECT scanning, preemptive occlusion of gastroduodenal (all cases) and right/left gastric arteries (selected cases) and post procedural prophylaxis with proton pump inhibitors. Symptoms of GI injury began within two days of SIRT and included abdominal pain, intractable nausea/vomiting and odynophagia. Upper GI bleeding occurred in two patients. Gastric antral thickening on CT scan was noted in two patients. The most common endoscopic finding was antral/pyloric channel ulcerations with or without extension into the duodenum. This often lead to stricture formation (three). Biopsy of ulcer margins showed microspheres in the submucosa and lamina propria in four cases (Figure 1). Interestingly one patient with a circumferential distal esophageal ulcer had a previously unrecognized aberrant branch of the left hepatic artery supplying the distal esophagus on angiogram review. Gastric outlet obstruction required repeated endoscopic dilations even a year after therapy in one patient. Three patients died from their underlying disease within 6 months of diagnosis.

Conclusion: Accidental migration of radiation microspheres after SIRT for hepatic tumors causes slow healing antral/pyloric ulcers. Increased awareness of the diagnosis among endoscopists and appraisal of pathologists reviewing the biopsy is needed.



P718

ASSESSMENTS OF PATIENT COMFORT LEVEL DURING ENDOSCOPIC PROCEDURES - NEED FOR A VALIDATED GLOBAL TOOL?

R. Madhotra, MBBS, MD, FRCP, FACG, A. Ignjatovic, MB ChB, MRCP, I. Amin, MBBS, MRCP. Gastroenterology, Milton Keynes NHS Foundation Trust, Milton Keynes, United Kingdom.

Purpose: The aim of the study was: 1. To assess patient level of comfort during endoscopy procedures 2.To compare the level of comfort scores as recorded by the endoscopists, and endoscopy nurses 3. To assess the impact of sedation on comfort levels

Methods: All consecutive patients undergoing gastroscopy, flexible sigmoidoscopy and colonoscopy were assessed prospectively over a period of 4 weeks. The endoscopists and nurses recorded comfort scores (1 none, 2 mild, 3 moderate and 4 severe) independently and blindly of each other. Data was analysed using MS excel.

Results: The 505 patients (267 female, 242 male)with mean age 57 yrs, who underwent gastroscopy (261), colonoscopy (111) and flexible sigmoidoscopy (133) were prospectively analysed for comfort scores. Endoscopists reported a significant higher (42% vs 30%) proportion of patients with no discomfort as compared with nurses. Minimal discomfort was reported similar (47% vs 49%) by endoscopists and nurses . Moderate discomfort was also reported similar by operators and nurses at 11% and 14% respectively. Endoscopists did not report a single patient with severe discomfort while nurses reported severe discomfort 30 (6%) patients. There was no obvious difference in the comfort scores between patients who had sedation and those who did not (none 5% vs. 9%; mild or moderate 79% vs. 81% and severe 15% vs. 9%). The nurses and endoscopists scored the patient comfort level same in 45% of cases. However the nurses scored higher level of discomfort in 200 (40%) patients and lower discomfort level in 15%. There was no clear difference in discomfort reporting dependent on the status of endoscopists (consultants, middle grades or GI trainees). However the junior endoscopy nurses (< 5 yr experience) reported higher level of discomfort in more patients than senior nurses (48% vs 37%).

Conclusion: There is a clear discrepancy in level of comfort as reported by endoscopists and nurses. This audit suggests that endoscopists under-report the discomfort experienced by the patients. The junior nurses report discomfort level higher than senior nurses. The use of sedation in this audit showed very little difference in comfort scores. The endoscopists and nurses assess discomfort levels better with lesser interobserver variation when patients are awake compared to under sedation patients. Overall there is lack of consistency in recording patient level of comfort during endoscopy. There is need for a user friendly validated tool as well as staff training in methods to assess the discomfort levels to reduce interobserver variability.

P719

THE ENDOSCOPIC TREATMENT OF ESOPHAGEAL VARICES WITH GASTRIC EXTENSIONS USING A COMBINED LIGATION AND SCLEROTHERAPY TECHNIQUE

P. J. McDevitt, DO, MSC,[1] M. T. Moyer, MD, MSC,[2] T. Riley, MD[2]. 1. Department of Internal Medicine, The Penn State Hershey Medical Center, Hershey, PA; 2. Department of Gastroenterology and Hepatology, The Penn State Hershey Medical Center, Hershey, PA.

Purpose: Hemorrhage from gastroesophageal varices is the most severe complication of portal hypertension and accounts for 10-30% of all cases of upper gastrointestinal bleeding. The endoscopic treatment of esophageal varices has been well established; however, gastric varices are historically much more difficult to treat with poorer outcomes. We report a novel application using combination sclerotherapy and band ligation to obliterate gastric varices that extend from esophageal varices.

Methods: Five patients who underwent secondary treatment for esophageal varices and were discovered to have gastric extensions of these varices were selected for this retrospective case series. The varix below the Z line was injected with 2-5 cc of ethanolamine and the esophageal component then immediately treated with traditional endoscopic band ligation. The main outcome measurements were variceal obliteration, associated complications, and subsequent variceal bleeding.

Results: The patients received one to three treatments over a period of one to eight months. During an average follow-up period of 29 months, varices were ablated 100% of the time with 0% complications and zero subsequent variceal bleeding episodes. See table 1 for procedure results.

Conclusion: Endoscopic therapy for esophageal varices has been well established, while consistent successful treatment of gastric varices has eluded the endoscopist. Subsequent re-bleeding

is likely to occur when GOV type varices are treated with banding alone. This maybe due to banding causes high intraluminal pressures in the gastric component, which results in secondary gastric varices and thus a propensity for subsequent bleeding. Here we have demonstrated a possible approach to two of the four types of gastric varices; specifically, the types that extend from existing esophageal varices (GOV type). The limitations of extrapolating the results of these five patients to the general population are substantial; nonetheless, our results are encouraging with 100% efficacy to date and a 0% rate of complications or further variceal bleeding. This may represent a potential solution to a difficult clinical problem. A randomized controlled trial with sufficient power will be required to definitively prove clinical value of this approach.

Table 1

Patient	AGE/Sex at Time of Rx (Etiology)	Child Class	# of Prior Treatments	Grade of Varices at Treatment	# of Bleeds Prior	# of Treatments/Time Period	Grade of Varices after Treatment	# of Bleeds after Rx/Time Period
1	58 F (Port v. thr)	A5	0	3-4	1	3/2mos	1	0/14mos
2	66 F (NASH)	A6	1	3	1	2/2mos	0	0/20mos
3	69 M (Idiopathic)	B8	1	3-4	1	3/8mos	trace	0/11mos
4	50 M (Alcohol)	B9	0	3	1	2/1mos	1	0/28mos
5	63 M (Alcohol)	A5	2	3	1	1	0	0/72mos

P720

THUMBS UP: OVERUSE SYNDROMES AMONG ENDOSCOPISTS IN ILLINOIS

G. Ponte, MD,[1] J. Tsai, MD,[1] K. Dhingsa, MD,[1] C. Berkelhammer, MD, FACG[2]. 1. Internal Medicine, University of Illinois, Oak Lawn, IL; 2. Gastroenterology, University of Illinois, Oak Lawn, IL.

Purpose: Overuse syndromes, such as de Quervain's tenosynovitis of the left thumb, have been reported among high volume endoscopists. * Our purpose was to determine the incidence of overuse syndromes among endoscopists in Illinois, and to correlate overuse syndromes with volume of endoscopy and years in practice.

Methods: A brief two-page survey was mailed to members of the American Gastroenterological Association in Illinois. The survey asked for age, years in practice, and number of endoscopies performed per year; the presence and severity of pain in the thumb, hand, wrists, elbow, shoulder, neck and back; and whether the respondents felt their pain was attributable to endoscopy. The injured group was analyzed to correlate injury with endoscopic volume and years in practice. Chi squared and Mann-Whitney U tests were used.

Results: 476 surveys were mailed and 23 surveys were returned undeliverable, for a total of 453 surveys delivered. 157 responses were received (35%). Respondent characteristics: average age 47, 85% male, 93% right-handed. Years in practice of respondents: less than 10 years 29%, greater than 10 years 71%. Volume of endoscopies per year: zero 1%, 1 – 500 19%, 501 – 1000 22%, 1,001 – 1,500 33%, >1,500 25%. Fifty-six percent reported some pain during their endoscopic career whereas 44% experienced no pain. Seventy-three percent ranked their pain as either mild (42%) or moderate (31%), whereas 27% ranked their pain as severe. Overuse syndromes correlated significantly with endoscopic volume ($p = 0.04$). Of respondents who ranked their pain as severe, a greater percent were in practice for greater than 10 years (86%) compared to less than ten years (14%). There was a trend to greater severity of injury in those individuals performing greater than 1000 endoscopies per year.

Conclusion: Overuse syndromes are not uncommon among endoscopists. Most overuse syndromes are mild or moderate, but occasionally can cause severe pain. Increasing volume of endoscopy increased both the risk and severity of overuse syndromes. Methods to reduce overuse syndromes among endoscopists would be of interest. *J Tsai, C Berkelhammer. "Thumbs Up: Endoscopist's Thumb as an Occupational Hazard of High Volume Endoscopy". Am J Gastro 2007; 102: S2, 550 (Abstract).

P721

THE ACCURACY OF PREDICTING OBSTRUCTIVE SLEEP APNEA DURING COLONOSCOPY UNDER CONSCIOUS SEDATION

A. Sharara, MD,[1] K. Maasri, MD,[1] J. Hashash, MD,[1] L. El Zahabi, MD,[1] Z. Kanafani, MD,[2] P. Bou Khalil, MD,[3] A. Husari, MD[3]. 1. Internal Medicine, Division of gastroenterology, American University of Beirut, Beirut, Lebanon; 2. of Internal medicine - division of infectious diseases, American University of Beirut, Beirut, Lebanon; 3. of internal medicine - pulmonary and sleep disorders, American University of Beirut, Beirut, Lebanon.

Purpose: Obstructive Sleep Apnea (OSA) is a common disorder with increasing prevalence with age. It is estimated that 93% of women and 82% of men with moderate to severe sleep apnea are not diagnosed with the disorder. Compared to normal individuals, patients with OSA are more sensitive to the effects of sedation and the disorder may in fact be unmasked by sedation. The aims of this study were to determine the predictive value of preset clinical signs and symptoms for OSA and to identify patients who may deserve prolonged monitoring after moderate conscious sedation for colonoscopy.

Methods: Consecutive patients undergoing outpatient colonoscopy under conscious sedation with meperidine and midazolam were enrolled. Information about body mass index (BMI), neck circumference (NC), day sleepiness (DS), decrease vigilance (DV), mood changes were recorded as well as the oropharyngeal Mallampati score and the Epworth and the Stanford Sleepiness Scales. The endoscopist was blinded to the information prior to colonoscopy. Patients who developed audible snoring for >10s while in the left lateral decubitus position whilst maintaining an oxygen hemoglobin saturation of >90% were suspected of having OSA. The total dose of sedatives used, the duration and difficulty of the procedure were recorded. After informed consent, ambulatory polysomnography was performed on suspected OSA patients and on age-and BMI-matched controls from the study cohort.

Results: 131 patients were enrolled and 24 (3.1%) (22 M and 2 F) suspected of having OSA based on the above criterion. These patients had higher BMI and NC, and were more likely to have a medical history of snoring, DS, chocking or gasping sensation, DV, witnessed sleep apnea, personality and mood changes (all $p<0.05$). They also had predominance of Grade III/IV Mallampati score and higher Standford and Epworth scale scores (all $p<0.01$ compared with controls). There was no difference in the type or dose of sedation or in difficulty of colonoscopy but the total duration of the procedure was significantly higher compared to controls (21.2 ± 5.6 min vs. 18.1 ± 5.6 min; $p=0.01$). 19 patients and 12 matched controls consented to ambulatory portable polysomnography. Moderate or severe OSA was identified in 15/19 patients and in 2/12 controls (78.9% vs. 16.7%; $p<0.01$).

Conclusion: Audible snoring in the left lateral decubitus position during conscious sedation for colonoscopy is highly predictive of the presence of OSA. Colonoscopy time is prolonged in these patients and may also be associated with longer recovery from sedation. Given the serious nature of OSA, such patients need to be carefully identified by the performing endoscopy team and referred for sleep medicine evaluation.

P722

ENDOSCOPIC ULTRASOUND GUIDED PERCUTANEOUS ENDOSCOPIC GASTROSTOMY AFTER FAILED ENDOSCOPIC APPROACH

M. A. Siddiqui, MD,[1] M. R. Majmundar, MD,[1] M. Omer, MD,[1] J. H. Port, MD,[1] M. Owens, MD,[2] K. Ayub, MD[1]. 1. Internal Medicine, University of Illinois/Advocate Christ Medical Center, Oak Lawn, IL; 2. Department of Gastroenterology, University of Washington, Seattle, WA.

Purpose: Percutaneous endoscopic gastrostomy (PEG) is accepted as a safe and effective method for providing enteral access. The traditional endoscopic technique has a failure rate of approximately 5%, often because of lack of adequate transillumination or finger indentation. Frequent reasons for failure include prior gastric surgery, obesity and intervening viscera. In such pts, alternative methods are often used, including open surgery or interventional radiology. The purpose of this study to test the hypothesis that an endoscopic ultrasound (EUS)-directed percutaneous endoscopic gastrostomy (PEG) placement is technically feasible in patients with failed endoscopic approach.

Methods: EUS-directed PEG placement was performed in 3 patients. The first pt was a 31-year-old woman referred for PEG placement because of refractory depression and anorexia. Initial PEG attempt was notable for adequate finger indentation but poor transillumination. Attempt at needle cannulation of the gastric lumen was complicated by brisk hemorrhage. Linear EUS was used for rescheduled attempt at PEG placement. Imaging at 7.5 MHz allowed localization of enlarged left hepatic lobe and an adjacent window for tube access. Finger indentation at the selected site was easily identified by EUS. Subsequent percutaneous needle cannulation of the gastric lumen and snare exchange of guidewire was performed with the linear array endoscope. The second case was a 76-year-old man referred for PEG placement because of cerebrovascular accident and dysphagia. The patient had undergone Billroth II gastrectomy in the remote past. Initial attempt at PEG placement confirmed Billroth II anatomy, and no transillumination or finger indentation could be ascertained. A second attempt at PEG placement used a linear-array echoendoscope. Imaging at 7.5 MHz revealed finger indentation at a site with no intervening bowel or viscera. A blunt-tipped forceps was also used to assist visualization of the external abdominal wall site during EUS imaging. PEG placement was completed with the snare passed through the accessory channel of the linear array echoendoscope. The third pt was a 65-year-old overweight woman with history of stroke. Initial attempt at PEG placement was unsuccessful due to lack of finger dimple or transillumination. Pt had prior splenectomy due to trauma. PEG placement was successful using EUS guided technique.

Results: PEG tube was placed successfully in all 3 pts after failed endoscopic attempt. At 7-week, 3-week and 9-week follow-up, respectively, all patients were doing well

Conclusion: Patients that have clear indications for PEG placement, but are unsuccessful through an endoscopic approach may benefit from EUS guided tube placement.

P723

CRYOSPRAY ABLATION™ FOR THE TREATMENT OF HPV-INDUCED SQUAMOUS CELL CARCINOMA OF THE ESOPHAGUS

J. O. Smith, MD,[1] D. S. BouHaidar, MD,[1] B. S. Sandhu, MD,[1] A. Mills, MD,[2] S. Everette, CGRN,[1] A. Zfass, MD, MACG[1]. 1. Gastroenterology and Hepatology, Virginia Commonwealth University, Richmond, VA; 2. Pathology, Virginia Commonwealth University, Richmond, VA.

Purpose: To determine the efficacy and tolerability of liquid nitrogen cryoablation (CryoSpray Ablation™) for the treatment of HPV-associated lesions of the esophagus.

Methods: The index patient is a 66 year old male referred to our institution for evaluation of esophageal plaques with focal high grade dysplasia (HGD) in the distal esophagus. Biopsy specimens obtained underwent genomic DNA extraction, which was positive for HPV Type 66 DNA, considered a high risk factor for the development of dysplasia and neoplasia of the ororespiratory tract. The patient was treated with photodynamic therapy (PDT) on multiple occasions for recurrent squamous cell carcinoma (SCC) in situ of the esophagus. The patient also developed focal HGD of the posterior cricoid and invasive SCC of the right arytenoids, which was successfully treated with radiation therapy. These lesions all arose in the setting of histologically proven HPV-induced condyloma acuminata. The patient also underwent esophageal dilation on multiple occasions for recurrent PDT-associated stricture. In 2/2008, the patient presented with dysphagia and was found to have a 3cm exophytic mass encompassing 1/3 of the luminal circumference. With the recent availability of cryoablation, the decision was made to treat this new lesion using the CSA System™ (Baltimore, MD) as the index case for an HPV-associated SCC of the esophagus. CryoSpray™ is administered under direct visualization with a low-pressure delivery system of liquid nitrogen at -196°C. The rapid cooling initiates apoptosis and is believed to stimulate the immune response. The entire lesion was treated with 4 cycles of 10 seconds each on initial therapy. Surveillance endoscopy performed at 2 weeks showed the lesion to measure 1.0 x 1.5cm, occupying 1/8 the luminal circumference. Subsequent endoscopy was performed 4 weeks after initial treatment, with the lesion now 2 discreet islands; one 0.4cm in diameter and one 0.7cm in diameter. Each of these lesions was treated with 4 cycles of 10 seconds each of cryoablation.

Results: The patient tolerated both interventional procedures well and was without post-procedure odynophagia or need for esophageal dilation since the initiation of cryoablation therapy. Endoscopy with multiple biopsy specimens at 12 weeks after the initial cryoablation showed no evidence of residual tumor.

Conclusion: In this index case, CryoSpray Ablation™ was safe and effective for the therapy of HPV-induced SCC of the esophagus and should be further investigated for treatment of other squamous cell lesions of the ororespiratory tract.

P724

PREDICTORS OF POOR BOWEL PREPARATION IN COLONOSCOPY

B. Borg, MD, MHS, N. Gupta, MD, G. R. Zuckerman, DO, B. Banerjee, MD. Gastroenterology, Washington University School of Medicine, Saint Louis, MO.

Purpose: A poorly prepared colon can lead to missed lesions and repeated procedures that increase cost and complication risk. The aim of the study was to identify predictive factors of poor colon prep, including obesity, which increases risk of neoplasia.

Methods: Retrospective review of 1815 reports of inpatient(IP) and outpatient (OP) colonoscopies performed from June to October 2007 at a tertiary referral center. Prior colectomy, repeat colonoscopy, incomplete reports were excluded and 1588 reports analyzed. The endoscopist's inability to adequately evaluate the entire colonic mucosa and request for earlier than expected repeat colonoscopy (ACG, ASGE guidelines) were used to determine a poor or inadequate prep (PIP).

Results: Good to excellent prep quality was reported in 400 (25.2%) patients and PIP in 627 (39.5%) patients. Patients with PIP were older (59.57±13.5 yrs) and had higher weight (86.19±23.9kg) and BMI (29.74± 7.84kg/m2) (p<.01). In univariate analysis, male gender, inpatient status (IP), Polyethylene glycol based lavage (PEG), smoking, lack of regular alcohol consumption, diabetes mellitus (DM), hypertension, coronary artery disease (CAD) increased BMI, depression, mental retardation (MR) and use of anti-depressant medications or narcotics were predictive of PIP. However, in multivariate logistic regression analysis, only male gender (OR=0.75, p=0.02), IP status (OR=1.92, p=0.002), smoking (OR=1.62, p=0.003), lack of regular alcohol consumption (OR=0.68, p=0.0003), DM (OR=1.64, p=0.0006), MR (OR=3.54, p=0.0004), narcotic use (OR=3.04, p<0.0001), and PEG (OR=0.53, p=0.0004) were predictors of poor bowel preparation. Modeling for composite outcome using univariate analysis: older age, male gender, IP status, smoking, lack of regular alcohol consumption, DM, hypertension, CAD, increased BMI, depression, obstructive sleep apnea, MR and consumption of anti-depressant medications or narcotics were predictive of PIP. However, in multivariate logistic regression analysis, only older age (OR= 1.009, p= 0.01), male gender (OR=0.71, p= 0.002), IP status (OR=1.55, p= 0.008), smoking (OR=1.35, p= 0.01), lack of regular alcohol consumption (OR=0.7, p=0.01), increased BMI (OR=1.02, p= 0.004), MR (OR=2.17, p= 0.03), use of antidepressant medication (OR= 1.69, p=0.001), and narcotic use (OR= 2.1, p= 0.001) were predictors of PIP.

Conclusion: Poorly prepped colons reduce diagnostic yield. Aborted and repeat procedures greatly increase the cost of colonoscopy. Prior identification and aggressive bowel cleansing of patients with predictive factors of PIP can lead to improved diagnostic yield and cost savings. This needs to be verified in a prospective study.

P725

ASSESSMENT OF PATIENT COMPLIANCE AND EFFICACY OF THREE STANDARD BOWEL PREPARATION REGIMENS

V. Browne-McDonald, MD,[2] K. Tiriveedhi, MD,[1] S. Iqbal, MD,[1] W. Eldarawy, MD,[2] P. Sharma, MD,[2] O. Ajah, MD,[2] M. Mansour, MD,[2] E. Jaffe, MD,[2] M. A. Cerulli, MD[2]. 1. Gastroenterology, New York Methodist Hospital, Brooklyn, NY; 2. Gastroenterology, Interfaith Medical center, Brooklyn, NY.

Purpose: Adequate colonic cleansing is essential for accurate and safe colonic procedures. Patient compliance is enhanced by simplicity and well-tolerated methods. Inadequate preparation of the bowel can result in both missed pathological lesions and cancelled procedures. We planned to prospectively (1) compare the efficacy of standard bowel preparation regimens like Golytely, Miralax, and Nulytely, and (2) the effect of liquid diet compliance, patient bowel habits and level of education on the quality of bowel preparation.

Methods: Data was gathered on consecutive ambulatory outpatients presenting for colonoscopy who were randomized in chronological order to receive Golytely, Miralax, or Nulytely. Informed consent was obtained prior to data collection. Patients who were unable to give their own informed consent or unable to speak English were excluded from the study. Patient demographic, medical history, level of education, previous abdominal surgery, prior colonoscopy, bowel habits, compliance with liquid diet and bowel preparation regimen were noted. The endoscopist evaluated the preparation quality during the procedure using the validated Aronchick scale with 1 as excellent and 5 as inadequate quality. The data was analyzed by Student t-test, Chi square and ANNOVA tests as indicated using SPSS software version 15.0.

Results: Total 157 patients included in the study, were divided into three groups (51 Golytely, 64 Miralax, 42 Nulytely). Mean age was 60 years (range 27 to 81). Gender: F76; M81. There was no statistically significant difference between the three groups in the quality of bowel preparation (p-value 0.861) or baseline characteristics including age, sex, race, level of education, co morbid conditions, prior abdominal surgery, prior colonoscopy, compliance with a liquid diet and bowel preparation compliance rates. However, more patients in Golytely group felt that it was more difficult for them to take the medication than to comply with a liquid diet(64.7% vs. 35.3%; p-value 0.0001 compared with other two groups). The main reasons for this were the large amount and the taste of the Golytely. In a separate analysis, patient's liquid diet compliance rather than bowel habit and level of education had a statistically significant effect on the quality of bowel preparation (p-value 0.0001).

Conclusion: We did not find a statistically significant difference in the efficacy of Golytely as compared to Miralax and Nulytely. However, most patients found Golytely difficult to take due to the large amount and its taste. Moreover, patients' liquid diet compliance rather than perceived bowel habits and level of education better predicted bowel preparation quality.

P726

ARE ENDOSCOPIC FINDINGS PREDICTIVE OF ESOPHAGEAL FUNCTION RESULTS AS TESTED BY MULTICHANNEL INTRALUMINAL IMPEDANCE AND MANOMETRY?

N. Chowdhury, MD,[1] O. Deen, MD,[1] R. Mathew, MD,[1] R. Rackett, LPN,[2] A. Hila, MD[2]. 1. Internal Medicine Residency Program, United Health Services, Johnson City, NY; 2. Gastroenterology, United Medical Associates, Johnson City, NY.

Purpose: Multichannel intraluminal impedance and manometry (MII-EM) is utilized to evaluate esophageal motility and bolus transit. Patients who undergo MII-EM quite often also undergo endoscopic evaluation. The aim of this study is to evaluate if endoscopic findings are predictive of esophageal function results as tested by MII-EM.

Methods: Retrospective analysis of 126 consecutive patients (36 males, 90 females, mean age 54 years) who underwent MII-EM and endoscopy between January 2007 to April 2008. Esophageal function testing was performed with an MII-EM catheter: 4 impedance measuring segments (5, 10, 15 and 20 cm above LES (lower esophageal sphincter)) and 5 solid state pressure transducers (within the LES and 5, 10 15 and 20cm above LES). Each patient received 10 swallows of 5ml of normal saline. An abnormal study was defined when 30 or more of the 10 normal saline swallows showed incomplete bolus transits. Endoscopy findings were evaluated for esophagitis (defined as Grade A or greater) and hiatal hernia (defined as 2cm or greater). The studies were assessed and results were compared using PRISM statistical software.

Results: Among the 126 patients, 20% had incomplete bolus transit. 25 patients had evidence of esophagitis, of whom 12% had incomplete bolus transit. 101 patients did not have any esophagitis, of whom 22% had incomplete bolus transit. There was no statistically significant difference in the presence of incomplete bolus transit whether the patients had esophagitis or not (p=0.43, Man Whitney test). 64 patients had hiatal hernia, of whom 16% had incomplete bolus transit. 62 patients did not have hiatal hernia, of whom 24% had incomplete bolus transit. There was no statistically significant difference in the presence of incomplete bolus transit whether patients had hiatal hernia or not (p=0.39, Man Whitney test).

Conclusion: This initial study indicates that endoscopic findings of esophagitis or hiatal hernia are not predictive of esophageal function testing results. MII-EM clearly is still the way to evaluate the capacity of the esophagus to transit boluses.

P727

STANDARDIZED PROCEDURE EVALUATION (SPE) FOR THE ASSESSMENT OF ESOPHAGOGASTRODUODENOSCOPY SKILLS

S. Duddempudi, MD, M. Singh, MD, V. Ghevariya, MD, M. Krishnaiah, MD, S. Anand, MD. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY.

Purpose: To develop an assessment tool, Standardized Procedure Evaluation (SPE), to objectively evaluate progression of gastroenterology fellows-in-training endoscopic skills.

Methods: Trainees were proctored at the endoscopy unit of The Brooklyn Hospital Center, 450- bed community hospital in New York City. The vast majority of the approximately 2500 EGDs performed yearly are performed by trainees under the guidance of a gastroenterologist. The SPE was designed by two faculty gastroenterologists with extensive endoscopic experience and the chief gastroenterology fellow. A standard EGD including perioperative tasks was itemized into a 26-point grading system (Table 1). Nine gastroenterology fellows (four 3rd year fellows, four 2nd year fellows, one 1st year fellow) were graded prospectively throughout their training. The SPEs were completed by two faculty gastroenterologists during the final three months of each academic year for each fellow. Fellows were graded without their knowledge during ten separate diagnostic endoscopies. An average score was compiled for each fellow during each year of training. The gold standard in each case was that which the attending gastroenterologist could do and what they saw.

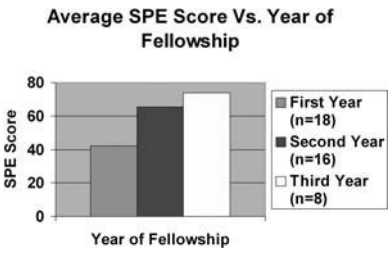
Results: This pilot project demonstrated a difference in endoscopic skill based on level of training (Graph 1). The fellows in the first year attained an average score of 42.2 out of 76. This improved to 65.5 for second years and 73.8 for the third year fellows. Statistical analysis showed the difference of means between SPE scores of each year of training was statistically significant ($p < .05$). The data also revealed an increase in performance score for each individual fellow as they progressed through training.

Conclusion: The SPE that was developed appears to be a good tool for the assessment of endoscopic skills in fellows in training. Further testing with larger number of fellows and evaluators is needed to validate the tool for widespread use.

Table 1 - Esophagogastroduodenoscopy Standardized Procedure Assessment

Focused H&P	1	2	3
Informed Consent	1	2	3
Patient Positioning	1	2	3
Equipment Testing	1	2	3
Assessment of Anesthesia	1	2	3
Intubation of UES	1	2	3
Examination of Esophagus	1	2	3
Assessment of GEJ	1	2	3
Examination of Stomach	1	2	3
Intubation of Pylorus	1	2	3
Assessment of Duodenal Bulb	1	2	3
Ability to Enter 2nd Part of Duodenum	1	2	3
Inspection of 2nd Part of Duodenum	1	2	3
Slow Withdrawl on Duodenal Sweep	1	2	3
Assessment of Angularis	1	2	3
Adequate Retroflexion	1	2	3
Biopsy Technique	1	2	3
Assessment of Greater Curvature	1	2	3
Deflation Prior to Withdrawl	1	2	3
Overall Handling of the Scope	1	2	3
Attention to Patient Safety	1	2	3
Attention to Patient Comfort	1	2	3
Assessment of Pathology Seen	1	2	3
Adequate Report	1	2	3
Appropriate Photo Documentation	1	2	3
Patient Discharge	1	2	3

65 & over: Competent
50-64: Competent with minor remedial action
Below 50: Needs remidial action



P728

CHARACTERIZATION OF NO-SHOW PATIENTS AND THEIR IMPACT ON THE EFFICIENT DELIVERY OF ENDOSCOPIC SERVICES IN THE AMBULATORY ENDOSCOPY CENTER (AEC)

W. Holderman, MD,[1] M. Nickel, MD,[1] B. Mansanarez, BA,[1] S. Ross, BA,[1] J. Bernhard, PhD[2]. 1. Digestive Health Specialists, Tacoma, WA; 2. Mathematics, University of Puget Sound, Tacoma, WA.

Purpose: To identify characteristics of patients who fail to attend a scheduled outpatient endoscopic procedure in a private practice setting and to assess the impact of nonattendance on the utilization of AEC services.

Methods: The study gathered four months of prospective data from 9998 available appointment slots, performed in four geographically related, community-based, single-specialty, private practice AECs. These data were used to obtain estimates of the proportion of shows, no-shows, and non-filled appointments for these AECs. For further analysis, a sample of 258 appointments from the no-shows and a sample of 335 appointments from the shows were randomly selected. For each appointment in these samples, the following data was gathered: patient age, patient gender, patient's insurance provider, indication and procedure type, whether the appointment was open access, endoscopist, and AEC site. For the no-shows, reschedule date (if made) and explanation for nonattendance were collected.

Results: From the analysis, these AECs are estimated to have an efficiency of 89.52 ± 0.60% (95% confidence interval). Out of all available appointment slots, the proportion of no-shows at these AECs is estimated to be 8.27 ± 0.28% (95% CI), the proportion of shows is estimated to be 89.52 ± 0.60% (95% CI), and the proportion of appointments not filled is estimated to be 2.21 ± 0.29% (95% CI). The proportion of no-shows that reschedule is estimated to be 64.34 ± 5.84% (95% CI). No statistically significant evidence was found that the show/no-show ratio varies by patient gender (Fisher's exact test, p=0.56), procedure type (p=0.49), AEC site (p=0.69), and open access appointment (p=0.28). Strong statistically significant evidence was found indicating that the show/no-show ratio varies by patient insurance carrier (p=0.00078) and by endoscopist (chi-square test, p=7.1 × 10-9). Reasons for no shows ranged from prep difficulties 25.8%, patient appointment/work conflict 16.7%, patient error 11.2%, patient sick 10.9%, unknown 8.6%, no ride 7.4%, emergency 7.4%, other 12%.

Conclusion: No-shows appear to be an important factor contributing to a reduction in the efficient delivery of endoscopic services at these AECs. Also, statistically significant evidence was found that patient insurance carrier and individual endoscopist may be useful as predictors of whether a patient will show for an appointment. This suggests that further investigation of these variables is warranted. In addition, strategies to address improving the success of colonoscopic preparation and addressing potential patient logistical failures may be helpful to improve attendance rates and maximize AEC efficiency. Disclosure- Grant support- Procter and Gamble Pharmaceuticals

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P729

PREDICTORS OF DEPTH OF MAXIMAL INSERTION AT DEEP ENTEROSCOPY

M. Khashab, MD,[1] M. V. Chiorean, MD,[1] D. J. Helper, MD,[1] B. D. Galetti, RN,[1] C. S. Johnson, MS[2]. 1. Gastroenterology, Indiana University, Indianapolis, IN; 2. Biostatistics, Indiana University, Indianapolis, IN.

Purpose: The success of deep enteroscopy (DE) depends on the distance reached in the small bowel. Factors predictive of the depth of maximal insertion (DMI) are unknown. We hypothesized that a history of abdominal surgeries and the body mass index (BMI) can impact the DMI.

Methods: All patients enrolled in the DE database at our institution were considered eligible. Exclusion criteria were intra-operative DE, DBERCP and advancement limited by pathology. We stratified patients based on their anterograde or retrograde approach. The factors predictive of the DMI were calculated using ANOVA and Spearman correlation analysis.

Results: A total of 40 patients were excluded (24 pathology limited, 6 instrument malfunction, 5 retrograde access in patients with Roux-en-Y anatomy, 5 other reasons). The remaining 96 patients, average age 62 (range 16-86), 64% female, BMI 27.6 (range 15-51) had 113 procedures, 65 anterograde, 14 retrograde and 17 both. Two patients had bidirectional panenteroscopy. The indication for DE was obscure bleeding in 78%. The average anterograde DMI was 190.2 (range 50-420) cm, retrograde 116.5 (10-275) cm, average procedure time 70.3 and 88 min respectively. Sixty-three patients (66%) had previous abdominal surgeries (range 1-8/patient). A history of any abdominal surgery and surgery excluding appendectomy were negative predictors of the DMI for both the anterograde (ANOVA, $p<0.0006$; $p<0.0005$) and retrograde approaches ($p=0.05$; $p<0.02$) respectively. A history of pelvic surgery, bowel surgery and number of abdominal surgeries were negative predictors only for the anterograde approach ($p<0.002$; $p<0.002$; $p<0.0003$). Patients with 3 or more surgeries had a significantly lower DMI than those with ≤ 1 (216±71.7 cm vs. 135±30.8 cm, $p<0.001$ for anterograde and 148±71.8 vs. 114±49.6 cm, $p<0.001$ for retrograde). There was no significant correlation between the DMI and age, BMI or procedure duration for either approach, likely because most procedures were therapeutic.

Conclusion: Previous abdominal surgeries can significantly impact the depth of maximal insertion at deep enteroscopy. This may explain the differences between the success rates of DE in different populations and may allow clinicians to predict the level of difficulty and yield of DE.

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P730

THE OKLAHOMA EXPERIENCE WITH DOUBLE BALLOON ENTEROSCOPY (DBE): 1ST 100 PROCEDURES

M. Mellow, MD, A. L. Kanatzar. INTEGRIS Center for Digestive Health, Oklahma City, OK.

Purpose: While DBE indications are similar worldwide, patient (pt) population and pathology varies. We report our pt population, predominantly elderly with vasculopathy, often on antiplatelet agents, being evaluated for GI bleeding.

Methods: Between 4/07 and 5/08, 100 DBE procedures were performed on 88 pts. Capsule endoscopy (CE) preceded DBE in nearly all pts. 83 procedures were performed antegrade, 17 retrograde, initial route guided by CE findings and or clinical presentation.

Results: Mean age was 64; 20 pts ≥ 80 years. 75% were ASA class ≥ 3. One pt was hospitalized for hepatic encephalopathy. No other complications occurred. Of 82 pts evaluated for GI bleeding 57 were on single or combination anti platelet agents, anti coagulants, or had intrinsic coagulopathy. 70 procedures were performed for transfusion requiring blood loss (mean 6 units). Mean estimated insertion from the pylorus was 295cm and did not differ in patients ≥ 80 years (330cm). Prior multiple abdominal surgeries or prior adhesionolysis affected antegrade depth of insertion; procedures in 6 of these 8 pts had intubation ≤ 200cm, versus 4 of 75 of remaining procedures. Of 94 procedures performed for blood loss, (+) findings were present in 39 of 60 procedures with gross bleeding, versus 16 of 34 with occult bleeding ($P<0.05$). (+) findings were present in 44 of 70 procedures for patients requiring transfusions, versus 12 of 24 procedures for patients not requiring transfusions. Usually DBE confirmed CE findings. However, in eight patients positive CE findings (6 with blood, 2 with small AVM's) had negative DBE. Conversely, 5 of 8 pts with(-) CE had (+) DBE, with DBE cauterization. DBE allowed treatment or guided therapy in 65% of patients, primarily by cauterizing AVM's, but also by marking surgical lesions, identifying ulcer in bypassed remnant, cauterizing bleeding ulcers and anastomoses.

Conclusion: In these predominantly elderly vasculopathic pts often requiring anti platelet or anti coagulant therapy: 1. Age over 80 did not negatively affect DBE insertion depth; prior multiple operations or adhesionolysis did. 2. DBE can be safely performed in pts ≥ 80 and in patients with ASA class 3 and 4. 3. Pts with overt bleeding and those requiring transfusions are significantly more likely to have positive DBE than those with occult blood loss or not requiring transfusions. 4. CE and DBE are complementary, but not identical: CE sometimes identified blood or pathology that DBE could not confirm and treatable findings occurred in patients with negative CE; therefore, negative CE pts with significant blood loss should undergo DBE. 5. DBE allowed treatment or guided therapy in 65% of pts.

P731

GASTROINTESTINAL COMPLICATIONS ASSOCIATED WITH LEFT VENTRICULAR ASSIST DEVICES

E. D. Miller, MD,[1] D. E. Steidley, MD,[2] F. A. Arabia, MD,[3] A. Das, MD,[1] M. Crowell, PhD,[1] J. A. Leighton, MD,[1] A. Decker, MBBCh, MRCP[1]. 1. Gastroenterology & Hepatology, Mayo Clinic Arizona, Scottsdale, AZ; 2. Cardiology, Mayo Clinic Arizona, Phoenix, AZ; 3. Cardiothoracic Surgery, Mayo Clinic Arizona, Phoenix, AZ.

Purpose: Left ventricular assist devices (LVADs) are surgically-implanted pumps that improve survival in medically-refractory heart failure for patients awaiting cardiac transplantation, and as "destination therapy" for non-transplantation candidates. Little is known about the gastrointestinal (GI) complications of these devices. Our overall aim is to identify GI complications unique to this population, in order to anticipate and manage these complications. This study focuses on GI bleeding.

Methods: Retrospective chart review of patients who had the current-generation LVAD (HeartMate II; Thoratec, Pleasanton, CA) implanted at a single institution. IRB approval was obtained.

Results: Mean age at implantation was 66 years (39-75), 70% were male. Indication for LVAD was ischemic cardiomyopathy (CMP) in 6 and nonischemic CMP in 4 patients. Four of the 10 ultimately underwent heart transplant with removal of the LVAD. Mean time to transplant was 29.5 days. Mean duration of follow-up for the six patients who received LVADs as destination therapy was 320 days. All patients were managed with aspirin 325mg daily and warfarin, goal INR 2-3. GI bleeding occurred in two patients (20%). Each patient presented more than once with a GI bleed, and each required multiple transfusions. Each had one bleed with an INR > 3, and there was only one episode with an INR < 2. One patient presented with anemia and melena, and was found to have a bleeding arteriovenous malformation (AVM), ultimately requiring arterial embolization after failed endoscopic treatment. He returned several months later with anemia. Endoscopy revealed a unique-appearing circular erosion around the gastric fundus, in an area apposed to the LVAD. This was the likely cause of his second bleed. The second patient has presented multiple times with an obscure, likely lower, GI bleed with an INR between 2 and 3. No source has been identified despite extensive investigations.

Conclusion: GI hemorrhage is particularly dangerous in LVAD patients because of their fragile hemodynamic status; gastroenterologists should be aware of the potential for device-related erosions and even perforations. Further, they may also be predisposed to forming AVMs. In addition to anticoagulation, postulated mechanisms for GI bleeding in patients with the newer-generation LVADs include: (1) mechanical trauma from the device itself; (2) altered microcirculatory physiology from the continuous – rather than the normally pulsatile – flow generated by the device; and (3) altered platelet function due to the device. It is not known whether LVAD candidates should undergo pre-implantation endoscopic evaluation, or whether LVAD recipients should undergo periodic endoscopic surveillance. Further studies are needed.

P732

RESIDENT PHYSICIANS' COMFORT WITH MANAGING FEEDING TUBES AT THE COMPLETION OF INTERNAL MEDICINE RESIDENCY

H. Nguyen, MD, J. Gladden, MS, S. Zeddun, MD, M. Borum, MD, EdD, MPH. Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC.

Purpose: Issues in geriatric gastroenterology are increasingly important with the aging U.S. population. Feeding tubes are often used in the elderly. Physicians' familiarity with managing feeding tubes is important. This study evaluated internal medicine resident physicians' comfort with feeding tube management and the effectiveness of various teaching modalities.

Methods: An anonymous survey addressing core gastroenterology topics was distributed to all PGY-3 internal medicine resident physicians at an urban university medical center. Information was collected about the benefit of various teaching modalities utilized during residency training and physicians' comfort level with feeding tube management. The teaching modalities evaluated included attending rounds, autopsy conference, didactic rounds, direct patient care (inpatient and outpatient), grand rounds, individual reading, journal club, morning report and noon conference. Information was obtained on whether resident physicians participated in a gastroenterology elective. A database was developed. Statistical analysis was performed using Chi-square tables with statistical significance set at $p<0.05$.

Results: Twenty of 29 (69%) completed surveys were returned. Care of hospitalized patients and individual reading were reported to be the most beneficial teaching modalities for learning feeding tube management. There was a statistically significant difference ($p=0.00023$) in the rate at which resident physicians report the teaching benefit of inpatient care compared to outpatient care. 50% of resident physicians who completed a gastroenterology elective during residency felt that more emphasis on feeding tubes was needed in residency. Only 20% of resident physicians reported comfort with feeding tube management at the end of residency training.

Conclusion: Issues in geriatric gastroenterology are increasingly important with an aging U.S. population. Feeding tube management should be a component of internal medicine residency training. Physicians encounter feeding tubes in the hospital, primary care clinic, geriatric clinic and in long-term care settings. Resident physicians reported that care of hospitalized patients and individual readings were most beneficial in learning feeding tube management. Outpatient instruction was reported to be of limited benefit. Educational initiatives should be developed to enhance instruction about feeding tubes in internal medicine residency training.

P733

ENDOSCOPY UNIT EFFICIENCY UTILIZING PROPOFOL IN THE PRESENCE OF OPTIMAL ROOM TURNOVER

J. E. Poulos, MD,[2] V. Patel, BS,[1] C. Edge, ADN,[1] B. Perry, ADN,[1] J. Thibodeaux, ADN[1]. 1. Fayetteville Gastroenterology Associates, Fayetteville, NC; 2. Cumberland Research Associates, Fayetteville, NC.

Purpose: To evaluate the efficacy of the endoscopy unit and patient satisfaction utilizing a balanced sedation regime of propofol, fentanyl and midazolam (PFM) in comparison to standard sedation utilizing fentanyl and midazolam (FM).

Methods: A total of 500 patients undergoing endoscopy were randomized equally to two sedation regimens. The PFM group underwent sedation utilizing an initial dose of propofol 10 mg, fentanyl 50 mcg and midazolam 2 mg, with boluses of propofol given in 10 mg increments every 2 minutes as needed. The FM group utilized initial doses of fentanyl 50 mcg and midazolam 2 mg with subsequent boluses given at 2 min intervals. The following times were evaluated; duration that the patient was in the facility, patient room turnover, length of stay in procedure room, and patient recovery. Patients completed a post procedure satisfaction questionnaire in regards to satisfaction with the procedure, memory of the procedure and discomfort during the procedure.

Results: The total time of patient stay within the facility was significantly less in the PFM arm vs the FM arm. (102 vs 111 min $p<0.05$). There was no significant difference in time for procedure room turnover (8 vs 8.6 min,) start of procedure (6.8 vs 7.8 min), or duration of procedure between the two modes of sedation (24.3 vs 24.1 min). Recovery time (PFM 15.4 min vs MF 21 min $p<0.05$) as well as time to patient discharge (PMF 32 min vs MF 37 min) was significantly less in the group receiving propofol ($p<0.05$). Patient satisfaction was greater in the propofol group with less pain, greater awareness and speedier recovery.

Conclusion: When endoscopy room turnaround is optimized, the utilization of balanced sedation with propofol resulted in less patient time in the endoscopy unit, quicker recovery, and faster discharge from the endoscopy unit. The utilization of propofol resulted in greater patient satisfaction, less pain and greater awareness at the end of the procedure.

P734

EFFICACY AND TOLERABILITY OF PANTOPRAZOLE DELAYED-RELEASE GRANULES FOR ORAL SUSPENSION IN A PLACEBO-CONTROLLED TREATMENT-WITHDRAWAL STUDY IN INFANTS 1 THROUGH 11 MONTHS OF AGE WITH SYMPTOMATIC GERD

G. M. Comer, MD, FACG,[1] P. Kum-Nji, MD, MPH,[2] S. H. Mahomedy, MBChB, FCPaeds(SA),[3] J. Kierkus, MD,[4] M. Hinz, MS,[1] H. Li, MS,[1] M. K. Maguire, PharmD,[1] H. Winter, MD, FACG[5]. 1. Wyeth Research, Collegeville, PA; 2. Children's Pavilion, Virginia Commonwealth University, Richmond, VA; 3. Hiway Medical Centre/Westville Medical Centre, Durban, South Africa; 4. Department of Gastroenterology, Hepatology and Immunology, The Children's Memorial Health Institute, Warsaw, Poland; 5. MassGeneral Hospital for Children, Boston, MA.

Purpose: To assess the efficacy of pantoprazole granules administered as a suspension in infants with symptomatic GERD.

Methods: This was a multicenter, randomized, double-blind, placebo-controlled treatment withdrawal study. Infants 1 through 11 months of age remaining symptomatic after 2 weeks of conservative GERD treatment entered an open-label (OL) phase, receiving pantoprazole 1.2 mg/kg/day for 4 weeks and then entered a 4-week randomized, double-blind, placebo-controlled withdrawal phase. Study visits were at weeks –2, 0, 2, 4, 6 and 8, alternating with telephone contact. The primary endpoint was the withdrawal rate due to lack of efficacy in the double-blind phase (Fisher's exact test used for treatment comparisons). Mean weekly GERD symptom scores (WGSSs) based on daily electronic diary assessment of 5 GERD symptoms were compared with baseline scores using a 2-sided paired t-test. Between-group comparisons were performed using an ANCOVA model. Safety assessments included adverse events (AEs), laboratory tests, vital signs, and growth.

Results: A total of 128 patients entered OL treatment and 106 comprised the modified intent-to-treat (mITT) population for the withdrawal phase. Mean age was 5.1 months (82% full-term, 64% male, 66% white). Only 33% of patients entering the OL treatment phase had received a GERD diagnostic test prior to study entry. WGSSs both at baseline and week 4 were similar between groups. WGSSs decreased significantly from baseline during OL therapy ($p<0.001$) with greater changes in patients older than 6 months ($p< 0.005$) or in those patients with higher baseline GERD Symptom Score - Infant (GSQ-I) scores ($p<0.0001$). There were no significant differences in withdrawal rates due to lack of efficacy or in time to withdrawal (pantoprazole group, 6/52, 16 days; placebo group 6/54, 13 days). The greatest difference between groups in WGSS change occurred at week 5 with slightly worse WGSS with placebo ($p=0.09$); this difference was mainly due to the difference in episodes of arching back ($p=0.028$). No other significant differences in WGSS were noted in any other week. No differences were noted between groups in AE frequency. Eight patients had serious AEs; all were reported as unrelated to treatment by the investigators.

Conclusion: Withdrawal rates in the 4-week double-blind, placebo-controlled phase were comparable between placebo and pantoprazole. Four weeks of OL pantoprazole therapy was associated with significantly improved GERD symptom scores in infants 1 through 11 months of age. Pantoprazole was generally safe and well tolerated.

Disclosure - Dr Comer, Dr Maguire, Ms Li, Ms Hinz are Wyeth employees Dr. Winter has performed Consulting services for Wyeth Drs Kum-Nji, Mahomedy and Keierkus have no relevant financial relationships

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P735

AGE AT MENARCHE AND LONGITUDINAL GROWTH IN PEDIATRIC-ONSET INFLAMMATORY BOWEL DISEASE

2008 ACG/AstraZeneca Senior Fellow Abstract Award, 2008 ACG Presidential Poster Award Recipient

N. M. McGreal, MD,[1] D. Huo, MD, PhD,[2] R. Harry, BS,[1] M. Toth, MPH,[1] M. Tierney, MS,[1] B. S. Kirschner, MD[1]. 1. Pediatric Gastroenterology, University of Chicago, Chicago, IL; 2. Health Studies, University of Chicago, Chicago, IL.

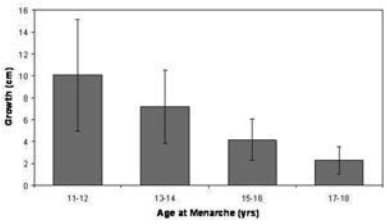
Purpose: The onset of menarche heralds deceleration of linear growth in puberty. Age at menarche influences growth, as girls who menstruate earlier have greater post-menarchal growth potential than those who menstruate later. While previous studies have investigated factors affecting growth in pediatric IBD, none has specifically addressed the effect of menarche and age at menarche on growth potential in this population. The aim of this study is to analyze pubertal linear growth and final adult stature of adolescent girls with IBD in relation to menarche and age at menarche.

Methods: Retrospective review of longitudinal growth from heights at diagnosis, menarche, and final adult height (defined as < 1 cm per year). Heights were obtained using a wall-mounted stadiometer and converted to z-scores using National Center of Health Statistics 2000 reference values. Target height was calculated from mid-parental heights and cumulative steroid dose was tabulated.

Results: 63 adolescent females (44 Crohn's disease (CD), 17 ulcerative colitis (UC), 2 indeterminate colitis (IC) were followed for a mean duration of 9.0 yrs (range 3.7 – 18.4). Mean ages at diagnosis and final height were 10.9 ± 2.5 yrs (range 2.2 – 16.2) and 19.9 ± 2.0 yrs (range 15.4 –26.1), respectively. Menarche was delayed in 85.5% of girls: mean age 14.3 yrs vs. 12.5 yrs for normal reference populations. Disease type of those with delayed menarche included 73% CD,

23% UC, and 2% IC. Mean age at menarche did not differ between girls with CD and UC (14.3 vs. 14.2 yrs). Z-scores for height at diagnosis, menarche, and final adult height were lower for CD than UC. Mean growth after menarche was 6.2 ± 4.0cm (range 0.5–20.5) and varied significantly with age at menarche (p<0.001, Fig 1). Overall, 86% of girls achieved a final adult height within their estimated target height range. Cumulative steroid dose did not correlate with delayed menarche (r=0.12, p=0.36) or final height (r=-0.20, p=0.12).
Conclusion: Despite delayed menarche in many girls with pediatric onset-IBD, a broad range of growth potential exists post-menarche and final adult height is not significantly reduced. Linear growth in the post-menarchal period remains an important marker of disease activity and should be carefully monitored by physicians until final adult height is attained.

Fig 1. Mean Post-Menarchal Growth by Age at Menarche



P736

VALIDATION OF THE PEDIATRIC GASTROESOPHAGEAL REFLUX DISEASE SYMPTOM AND QUALITY OF LIFE QUESTIONNAIRE (PGSQ)
S. Nelson, MD,[1] L. Roberts, MPH,[2] S. Kothari, PhD,[3] S. R. Orenstein, MD,[6] B. Gold, MD,[5] E. Hassall, MBChB,[4] R. Mody, PhD,[3] L. Kleinman, DrPH,[2] O. Dabbous, MD[3]. 1. Pediatrics, Children's Memorial Hospital, Northwestern University, Chicago, IL; 2. Center for Health Outcomes Research, United BioSource Corporation, Bethesda, MD; 3. Health Economics and Outcomes Research, TAP Pharmaceutical Products, Lake Forest, IL; 4. Pediatrics, BC Children's Hospital, University of British Columbia, Vancouver, BC, Canada; 5. Pediatric Gastroenterology, Hepatology and Nutrition, Emory University School of Medicine, Atlanta, GA; 6. Pediatric Gastroenterology, Children's Hospital of Pittsburgh, Pittsburgh, PA.
Purpose: PGSQ is a new tool developed to assess pediatric gastroesophageal reflux disease (GERD). There are 2 versions of the instrument: PGSQ-P (completed by parents of children age 2-8yrs) and the PGSQ-C (completed by children age 9-17yrs). The objective of this study was to determine the psychometric properties of these two age-specific versions of PGSQ.
Methods: The PGSQ was developed using input from patients, parents and physicians. Both versions were validated during a 3-week longitudinal study; 231 participants were enrolled at 11 clinical sites in the US. Subjects included: 75 parents of children 2-8 yrs old with GERD (defined by the treating physician), 41 parents of children 2-8 yrs old without GERD, 75 children 9-17 yrs old with GERD, and 40 children 9-17 yrs old without GERD. Internal consistency was assessed by Cronbach's alpha. Construct validity was assessed by comparing the PGSQ to global symptom questions and the Pediatric Quality of Life (PedsQL) subscales. Discriminant validity was assessed by comparing scores between participants with GERD vs without GERD.
Results: The PGSQ-P and PGSQ-C were analyzed separately. Exploratory Factor Analysis demonstrated four symptom subscales for the PGSQ-P (Extra- Esophageal Symptoms (8 items), Regurgitation (5 items), Sleep (2 items), and Heartburn (2 items) and three symptom subscales for the PGSQ-C [Extra- Esophageal Symptoms (6), Regurgitation (2), Heartburn/General Symptoms (7)]. Both questionnaires also demonstrated an Impact scale (14 and 13 items, respectively) and a School scale (6 items). High to moderate internal consistency reliabilities were observed, ranging from 0.76 (Heartburn) to 0.96 (Impact) for the PGSQ-P and from 0.67 (Regurgitation) to 0.94 (Impact) for the PGSQ-C. Construct validity between the PGSQ Regurgitation subscale and the global questions 'taste throw-up' and 'sick to stomach/need to throw-up' ranged from low to high with correlations of 0.82 and 0.79 for the PGSQ-C and 0.92 and 0.42 for the PGSQ-P, respectively. Correlations between the PGSQ Heartburn subscale and the global question 'hurting/burning in chest' were also moderate to high at 0.74 for the PGSQ-C and 0.64 for the PGSQ-P. Correlations between the PGSQ and PedsQL were low to moderate, ranging from 0.19 to 0.55 for the PGSQ-P and 0.06 to 0.77 for the PGSQ-C. The PGSQ scores also significantly differentiated between participants with GERD vs without GERD for both age groups (p<0.0001, PGSQ-P), (p<0.0022-0.0001, PGSQ-C).
Conclusion: Results support the reliability and validity of both versions of the PGSQ. These two newly developed instruments will serve as useful tools for the measurement of symptoms and life impact associated with pediatric GERD.
Disclosure - Dr. Gold- Consultant for TAP Pharmaceuticals Dr. Hassall- Consultant for TAP Pharmaceuticals Dr. Orenstein- Consultant for TAP Pharmaceuticals Dr. Nelson- Consultant for TAP Pharmaceuticals Dr.Kleinman- Consultant for TAP Pharmaceuticals Ms. Roberts- Consultant for TAP Pharmaceuticals

P737

EFFECT OF HIGH BODY MASS INDEX ON THE COURSE OF PEDIATRIC CROHN'S DISEASE
M. K. Greifer, MD,[1] S. Kugathasan, MD,[1] J. Hyams, MD,[1] T. Lerer, MS,[1] N. Kohn, MA,[2] J. Markowitz, MD[1]. 1. Pediatric IBD Collaborative Research Group,, Hartford, CT; 2. Biostatistics Unit, Feinstein Institute, North Shore-Long Island Jewish Health System, Manhasset, NY.
Purpose: The obesity epidemic in the US appears to be increasing the BMI of children with IBD, such that a recent study has demonstrated that 10% of children with newly diagnosed CD are overweight or obese (Kugathasan, J Pediatr. 2007;151:523). As adipose tissue is an important source of inflammatory cytokines, we hypothesized that the course of children with high BMI would be more severe than that of children with average BMI.
Methods: Data were obtained from the Pediatric IBD Collaborative Research Group Registry, a prospective observational database enrolling children with newly diagnosed IBD since 2002 from 20 centers in the US and Canada. Subjects' clinical and demographic information were prospectively recorded at time of diagnosis and quarterly. CD activity was assessed by physician's global assessment (PGA). Children were classified by their BMI Z-score at diagnosis (high:≥1, average:-.99-+.99, low:≤-1). Severity of CD at diagnosis and over the course of the first year of treatment was assessed.
Results: Among 621 CD children (age ± SD 11.9±2.7 yrs; 58% male) 63 (10.1%) had high BMI, 319 (51.4%) average BMI and 239 (38.5%) low BMI. At diagnosis, 85% of those with low BMI had moderate/severe CD, compared to 63% with average BMI and 56% with high BMI (p<0.0001). To determine whether high BMI affected the course of CD after diagnosis, a subgroup of high BMI subjects (n=58) were matched 1:1 by age, Tanner stage, extent of CD and PGA at presentation with average BMI subjects, and a paired analysis was performed. By 30 days after diagnosis, 78% of average BMI and 84% high BMI subjects had inactive/mild CD (p=NS). Over the first year of treatment, there were no differences in the proportions of subjects receiving steroids, immunosuppressives or infliximab, or in rates of hospitalization or surgery (Table). There were also no differences in the time to start steroids, immunosuppressives or infliximab between groups.
Conclusion: Moderate/severe CD is most common in children with low BMI at diagnosis. Compared to those with normal BMI, high BMI does not appear to affect the severity or course of CD in children over the first year after diagnosis.

Therapies and Outcomes over First Year of Treatment

	Steroids	Immunosuppressives	Infliximab	Hospitalization	Surgery
Average BMI (n=58)	81%	76%	27%	32%	5%
High BMI (n=58)	69%	89%	22%	27%	2%

P738

THE UTILITY OF FECAL LACTOFERRIN IN IDENTIFYING CROHN'S DISEASE ACTIVITY IN CHILDREN
M. Pfefferkorn, MD,[1] J. Nguyen, MS,[3] B. Juliar, MS,[3] M. Davis, BS,[1] J. Boone, MS[2]. 1. Division of Pediatric Gastroenterology, Indiana University School of Medicine, Indianapolis, IN; 2. Research and Development, Techlab, Inc., Blacksburg, VA; 3. Division of Biostatistics, Indiana University School of Medicine, Indianapolis, IN.
Purpose: Fecal lactoferrin (FL) is a noninvasive biomarker that has been shown to be elevated in patients with Crohn's disease (CD) compared to patients with irritable bowel syndrome. The purpose of this study is to further evaluate the utility of FL in identifying children with active vs. inactive CD.
Methods: Fresh stool samples were collected from children with CD scheduled for endoscopy or a clinic visit, and from new outpatients who were scheduled for colonoscopy. FL was determined using a polyclonal antibody-based ELISA. ESR and the Pediatric CD Activity Index (PCDAI) were recorded for CD patients. CD activity was based on physician's global assessment of active or inactive disease and endoscopic findings, when available.
Results: Of 101 study patients (4-20 years old, 66 males), 31 had active CD, 23 had inactive CD, and 37 had non-inflammatory bowel disease (non-IBD) conditions. Four patients with ulcerative colitis and 6 patients with polyposis were excluded from analysis. The median levels of FL were: 280 μg/g (range from 13 to 1170 μg/g) for active CD, 22 μg/g (range from 0.1 to 759 μg/g) for inactive CD, and 0.56 μg/g (range from 0.01 to 67.42 μg/g) for non-IBD patients. FL was significantly elevated in CD vs. non-IBD (Mann-Whitney U test, p<0.001), and in active vs. inactive CD (p<0.001). The PCDAI was higher in active CD (median = 23, range from 0 to 60) vs. inactive CD (median = 0, range from 0 to 13), p<0.001. ESR was higher in active CD (median = 32, range from 1 to 70) vs. inactive CD (median = 8, range from 0 to 39), p<0.001. Univariate and multiple logistic regression analyses were used to construct receiver operating characteristic (ROC) curves with area under the curve (AUC) as a measure of diagnostic accuracy. The AUC's of each parameter for detecting active CD are: PCDAI = 0.93, FL = 0.86 and ESR = 0.86. Using a FL cutoff level of 60 μg/g, FL had 84% sensitivity, 74% specificity, 81% PPV, and 77% NPV for detecting active CD.
Conclusion: FL is a promising biomarker of active CD and may be more practical to use when it is not feasible to obtain all the necessary clinical information for the PCDAI.
This research was supported by an industry grant from Techlab, Inc.

P739

CAUSTIC INGESTION IN CHILDREN: A CORRELATION BETWEEN SYMPTOMS AND ESOPHAGEAL INJURY?

B. Bizzarri, MD,[1] F. Fornaroli, MD,[1] N. de'Angelis, MD,[2] F. Vincenzi, MD,[1] V. Maffini, MD,[1] M. Sommi, MD,[1] S. Errico, MD,[1] G. de' Angelis, MD[1]. 1. Pediatric Gastroenterology, Parma, Italy; 2. General Surgery, Parma, Italy.

Purpose: Accidental corrosive ingestion can produce severe upper gastrointestinal tract injury with different kind of complications as tight esophageal stenosis, perforation, mediastinitis. Corrosive injury occurs due to contact of the caustic with the oesophageal mucosa. The incidence has increased in the last 5 years but there are no universally accepted guidelines about the management of these patients yet. It is still not clear whether initial signs and symptoms are useful in assessing the degree of upper gastrointestinal tract injury. In this study we evaluate the relationship between symptom and degree of gastrointestinal injuries.

Methods: 39 patients (23 male, 16 female, mean age 3,3 years range age 9 months-15 years) with accidental caustic ingestion referred to our Unit in the period between May 2006 and May 2008. All patients underwent heart, lung, chest and abdomen examination; an upper endoscopic exam was performed within the first 48 hours. The grading of esophagitis was classified according to the endoscopic findings as "no injury," "grade I burns" (superficial erythema or mucosal hyperemia), "grade IIa and grade IIb burns" (shallow linear and circular ulcers limited to the mucosa), "grade III burns" (ulceration deep into the muscle or transmural perforation). All patients with grade IIb and grade III burns underwent a control endoscopy within 15 days.

Results: None of the patients required intensive care (i.e., shock, unstable vital sign, respiratory distress, or need for a respirator). Five of them (12,8%) had superficial oral ulcers without clinical symptoms. Twenty-eight patients (71,8 %) did not present any symptoms; sialorrhea occurred in 5 patients (12,8%), nausea and vomiting in 4 cases (10,3%) and abdominal pain in 2 patients (5,1%). Endoscopic examinations showed no injury in 14 cases (35,9%), grade I burns in 13 cases (33,3%), grade IIa and grade IIb burns in 8 patients (20,5%), grade III burns in 4 cases (10,3%).

Conclusion: In our study the clinical presentation and the routine investigations after corrosive ingestion didn't predict the extension and the degree of the esophageal damage and the long lasting prognosis. None of the patients with severe endoscopic lesions presented initial symptoms. In our experience the upper endoscopy seems to be necessary for the evaluation of lesions severity in order to assess an early appropriate therapy.

P740

FEASIBILITY AND APPLICATION OF 3-DIMENSIONAL ULTRASOUND FOR MEASUREMENT OF GASTRIC VOLUMES IN HEALTHY ADULTS AND ADOLESCENTS

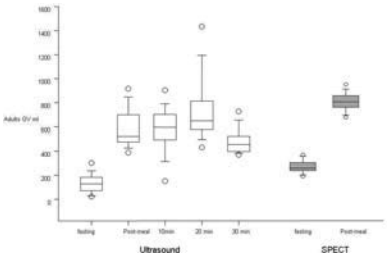
M. Manini, MD,[3] D. D. Burton,[1] D. Meixner,[2] D. Eckert, RN,[1] M. Callstrom, MD,[2] G. Schmit, ND,[2] M. El-Youssef, MD,[3] M. Camilleri, MD[1]. 1. Clinical Enteric Neuroscience Translational and Epidemiological Research (CENTER) program, Mayo Clinic, Rochester, MN; 2. Department of Radiology, Mayo Clinic, Rochester, MN; 3. Division of Pediatric Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN.

Purpose: Abnormal gastric accommodation to a meal results in dyspepsia. Current methods to measure gastric volume (GV) are invasive or involve ionizing radiation. The aims of this study were to: 1. Compare fasting and postprandial (PP) GV measured by 99mTc-SPECT and 3-dimensional ultrasound (3D-US) in adults; 2. Assess the performance characteristics of 3D-US measurement of GV during fasting and postprandially; 3. Develop normative data of GV in 24 healthy adolescents.

Methods: The study included two healthy groups: A. 11 adults underwent SPECT and 3D-US simultaneously to measure GV, and each adult also underwent a second 3D-US within a week from the first study; and B. 24 adolescents (age 13-17 years) underwent one 3D-US measurement. Each 3D-US study included fasting, 300 mL Ensure® meal, and measurements of GV during 0-30 min PP. 3D-US was performed by one operator with a stationary external probe (1.4-5.8 MHz) and mechanized volume data acquisition.

Results: Adult fasting and PP GVs by 3D-US and SPECT are shown in Fig. 1. Median delta (PP-fasting) GV was 444 [422-535 as 25th-75th interquartile range (IQR)] mL for 3D-US and 543 (486-564) mL for SPECT (p=0.15). There were larger interindividual coefficients of variation (COV) for GV by 3D-US (60.3% fasting, 21.3% PP) compared to SPECT (19% fasting, 9.2% PP). Intraindividual COV for two 3D-US measurements were 84% fasting and 44% average PP. Estimated GVs for the adolescent group (median, 25th-75th IQR) were: fasting 33 (18-53) mL, 30 min PP 330 (284-357) mL, and delta GV 281 (240-324) mL.

Conclusion: 3D-US is a promising method to measure GV accommodation to a meal. Large COV reflect the learning stage in development of this promising technique.



P741

PRE-ENDOSCOPY CANCER SCREENING USING A SELF-ADMINISTERED QUESTIONNAIRE HAS A HIGH YIELD FOR IDENTIFYING PATIENTS WHO QUALIFY FOR GENETIC COUNSELING

S. Jakab, MD,[1] G. Vornovitsky, MD,[2] V. Buntic, MD,[2] C. J. Adelmann, MD,[1] W. Hale, MD[1]. 1. Gastroenterology/Hepatology, Norwalk Hospital/Yale University, Norwalk, CT; 2. Medicine, Norwalk Hospital/Yale University, Norwalk, CT.

Purpose: Patients at risk for familial cancer syndromes should undergo evaluation by a genetic counselor, appropriate screening and follow-up. In many cases, personal/family history of cancer is not properly documented, mainly because of time constraints. Gastrointestinal endoscopy offers the opportunity to update the cancer history at the time of the procedure. Our aim was to assess the impact of a simple pre-procedure questionnaire to identify patients at moderate and high-risk for familial colorectal cancer (CRC), who meet guideline criteria for genetic counseling referral.

Methods: Patients presenting for outpatient gastrointestinal endoscopy (8/15/07 – 11/15/07) were asked, at the time of registration for the procedure, to complete a one-page questionnaire regarding personal/family history of CRC, cancer of uterus, ovaries, breast, stomach, small bowel, gallbladder, pancreas, brain, kidney, or sweat glands, as well as previous genetic counseling referral. A higher risk for familial CRC and need for genetic counseling referral was indicated by the presence of one of the following criteria: 1) CRC or endometrial cancer before age 50; 2) multiple relatives on the same side of the family with HNPCC (hereditary non-polyposis colorectal cancer) - related cancers; 3) more than one diagnosis of HNPCC-related cancers in the same individual; 4) rare or unusual tumors (sebaceous carcinoma or adenoma).

Results: 1,495 patients completed the pre-procedure questionnaire. There were 307 patients with a personal/family history of CRC: 27 – personal, 158 – first-degree relatives, 122 – second-degree relatives. 54 patients had a personal/family history of CRC before age 50, and 50 patients had at least 2 persons with CRC on the same side of the family. Out of these 307 patients, 119 should have been referred for genetic counseling. Another 7 patients met the referral criteria without a personal/family history of CRC. Of all 126 patients, only 3 were previously referred for genetic counseling.

Conclusion: A simple pre-procedure questionnaire at the time of gastrointestinal endoscopy has a high yield of uncovering patients who qualify for genetic counseling for familial CRC: 8.4% of all patients. Although most of them (94%) were patients with at least one person with CRC in the family, offering this questionnaire to all patients had further benefits. By including breast cancer history, we identified an additional 102 patients (6.8% of all patients) with higher risk for breast-ovarian cancer. Overall, 15.2% of the patients who presented for an outpatient endoscopy should have been referred to genetic counseling.

P742

OUTCOME OF PATIENTS WITH INADEQUATE COLON PREPARATION ON MISSING COLONIC NEOPLASMS

S. V. Sagi, MD, A. Malhotra, MD, P. Guturu, MD, V. Tran, MD, G. S. Raju, MD, FRCP, FACG, FASGE. Internal Medicine, University of Texas Medical Branch, Galveston, TX.

Purpose: Adequate colon preparation is critical for screening colonoscopy.Inadequate colon preparation limits the quality of examination in up to 25% of cases. Our aim was to study the incidence and outcome of patients (pts) with an inadequate colon preparation.

Methods: Data on pts with inadequate colon preparation for colonoscopy between May 05 & June 06 was extracted from the Endopro ® database. After an index colonoscopy with inadequate bowel preparation,these pts were followed up until June 08 to investigate their outcomes in terms of missed colonic neoplasms. Descriptive statistics were utilized to analyze data.

Results: Incidence: Inadequate colon preparation was observed in 357 (10.4%) of 3430 pts who underwent colonoscopy during one year. Inadequate colon preparation rates after Golytely, phosphosoda, & phosphosoda + bisacodyl were 14.7%, 9%, & 6.9% respectively. **Demographics:** Mean age: 59.2 yrs(21-88); Male vs Female: 182 vs 175. **Index colonoscopy:** ASA score: 2.06(1-4); Outpatient procedures: 274(76.7%); Conscious sedation:327(91.5%); Colon cleansing preparation: golytely, phosphosoda, and phosphosoda + bisacodyl: 40%,38% and 22%; Indication for colonoscopy: screening: 122(34 %), surveillance: 64(18 %) and symptom evaluation: 171(42 %); Extent of exam: Caecum: 196(55%); Ascending colon : 32(9 %); Transverse colon 33(9 %); Descending colon 25 (7 %); Recto-sigmoid: 71 (20 %); Findings: Polyps were identified in 95(26.6%) pts & 71(20 %) pts underwent polypectomy; high risk adenomas(tubular adenomas >1cm or villous adenomas) in 12 (3.3%); & high grade dysplasia(HGD) or cancer in 6 (1.6 %) pts. Barium enema immediately after colonoscopy: 24 (6.7%) pts; 1 pt was found to have polyps. **Follow-up(FU)colonoscopy:** 155 patients (43.4%) underwent repeat colonoscopy; within 3 months 127(82%), 3-6 months 10(6.4%) & > 6 months 18 (11.6%)pts; Inadequate Preparation Quality on FU colonoscopy:36(18.9%)pts; Findings on FU colonoscopy: Neoplasms in 81 pts; polyps in 71 and flat lesions in 10 pts; Histology of neoplastic lesions on FU colonoscopy: High risk adenomas: 10 pts(6.5%)and HGD or cancer:3 (1.9%)pts.

Conclusion: Over half of the pts with inadequate colon preparation failed to undergo a follow up colonoscopy as recommended. It is critical to set-up a rigid protocol for close follow up of these patients along with measures to improve the quality of colon preparation and decrease the risk of missing underlying colonic neoplasms.

P743

DOES THE USE OF A WIDE ANGLE, HIGH DEFINITION COLONOSCOPE ENABLE THE ENDOSCOPIST TO DETECT MORE SIGNIFICANT POLYPS OR HIGH RISK ADENOMA BEARING PATIENTS THAN THE USE OF A CONVENTIONAL COLONOSCOPE?

A. G. Choure, MD,[1] M. R. Sanaka, MD,[2] R. Lopez, MS,[3] C. A. Burke, MD[4]. 1. Internal Medicine, Cleveland Clinic, Cleveland, OH; 2. Gastroenterology, Cleveland Clinic, Cleveland, OH; 3. Cleveland Clinic, Cleveland, OH; 4. Gastroenterology, Cleveland Clinic, Cleveland, OH.

Purpose: High resolution, high definition, imaging colonoscopes with a 170 degree angle of view are now available. We sought to determine if improved resolution imaging and wider field of view colonoscopy would have a positive or negative impact on the detection of polyps, including adenomas, during colonoscopy when compared to standard resolution, 140 degree angle of view, colonoscopy. It has been suggested enhanced resolution might heighten the detection of insignificant, distractive findings, rather than just improve the detection of large and

significant neoplasia or "high risk" patients. The aim of our study was to compare the endoscopic findings between high definition (HD) and conventional colonoscopy (CC). The endoscopic findings included number, pathology and size of polyps. In addition we compared the percentage of patients with adenomas detected and the percentage of individuals classified as "high risk" based upon their adenoma characteristics, between those undergoing colonoscopy by HD versus CC.
Methods: We randomly selected 426 patients undergoing colonoscopy in each cohort (HD vs CC)and matched them by gender, age (+/- 5 yrs) and indication for colonoscopy. Conditional logistic regression was used to assess for differences in polyp detection rates and high risk classification between the two groups. Patients with an inadequate bowel preparation or incomplete colonoscopy were excluded. The number, size, location, and pathology of the polyps were recorded. High risk was defined as an individual with ≥ 3 adenomas or with an adenoma ≥ 10 mm in size or an adenoma with villous features or high grade dysplasia.
Results: The mean age of the 852 patients was 59.7 (+/- 12.3) years and 61.5% were males. The indication for the procedure was CRC screening in 39%, personal history of neoplasia in 28%, family history of neoplasia in 4% and symptoms in the remainder of the patients. A numerically greater percentage of subjects had polyps, adenomas and ≥ 3 polyps detected during HD colonoscopy than CC, but not statistically significantly so (See Table). HD colonoscopy did not result in the detection of smaller or less histologically advanced polyps than CC.
Conclusion: Enhanced imaging technology and wider field of view colonoscopy does not increase the detection of disruptive, unimportant lesions in the colon. In our cohort study, we found no evidence to suggest that high definition colonoscopes are superior to conventional colonoscopes in the detection of polyps of different sizes, histology or multiplicity. The adenoma detection rate and detection of subjects classified as "high risk" is similar between the two technologies.

Polyp and Patient Characteristics as Determined by High Definition vs Conventional Colonoscopy

	High Def. (%)	Conv. Colon (%)	p value
Subjects w/ Polyps	39.9	36.9	0.34
Subjects w/Adenomas	24.7	21.9	0.36
Subjects Classified as High Risk	29.0	25.2	0.23
Subjects w/≥ 3 polyps	12.2	9.4	0.16
Polyp Size 1-5 mm 6-9 mm ≥ 10 mm	 70.1 21.3 8.6	 74.1 16.2 9.7	0.37
Polyp Pathology TA TVA/Ca HP Other	 50.5 2.8 35.9 10.8	 45.8 3.2 40.0 10.9	0.85

P744

METABOLIC SYNDROME IS A RISK FACTOR FOR COLORECTAL CANCER IN THE UNITED STATES

D. A. Garrow, MD, MSc, M. H. Delegge, MD. Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC.

Purpose: Metabolic syndrome has been previously associated with a number of cancers and other chronic medical conditions. A few studies have found a potential risk of colorectal cancer among patients with metabolic syndrome. These studies were limited by small sample sizes and/or non-US populations. We sought to determine in a large US national dataset if individuals with metabolic syndrome are in fact at increased risk for colorectal cancer when compared to subjects without metabolic syndrome while controlling for relevant confounders.
Methods: Data source is the National Health Interview Survey (NHIS), a comprehensive nationally-representative survey conducted by the National Center for Health Statistics, combined years 2002-2003. The NHIS was analyzed to find patients with a self-reported history of metabolic syndrome and colorectal cancer. The metabolic syndrome variable was created by combining affirmative answers to individual's response to a history of hypertension, diabetes and elevated cholesterol. We determined the prevalence of metabolic syndrome via chi-square testing. The risk of colorectal cancer among subjects with metabolic syndrome was determined by multivariable logistic regression, controlling for age, race, gender, obesity, smoking and alcohol use.
Results: We identified 57,561 individuals in the NHIS eligible for analysis, 1,182 who met criteria for metabolic syndrome, 350 who reported a history of colorectal cancer. The patients with metabolic syndrome were indeed at increased risk for colorectal cancer (OR: 1.75, 95% CI = 1.06 – 2.89). Both Caucasians (OR: 2.58, 95% CI = 1.02 – 6.53) and former smokers (OR: 1.55, 95% CI = 1.16 – 2.06) were also found to be at increaed risk of reporting a history of colorectal cancer. Current alcohol consumers were significantly less likely to report a history of colorectal cancer (OR: 0.53, 95% CI = 0.38 – 0.73).
Conclusion: This large U.S population-based study finds that metabolic syndrome is a clinical risk factor for colorectal cancer. Further prospective investigation is warranted to validate these findings.

P745

NON-MEDICAL COSTS OF COLORECTAL CANCER SCREENING USING COMPUTED TOMOGRAPHIC COLONOGRAPHY

R. J. Hilsden, MD, PhD,[1] S. J. Heitman, MD, Msc,[1] F. Au, MA,[1] B. J. Manns, MD, MSc,[3] E. McGregor, PhD[2]. 1. Colon Cancer Screening Centre, University of Calgary, Calgary, AB, Canada; 2. Division of Population Health & Information, Alberta Cancer Board, Calgary, AB, Canada; 3. Medicine & Comunity Health Sciences, University of Calgary, Calgary, AB, Canada.

Purpose: To estimate the non-medical costs of colorectal cancer (CRC) screening using computed tomographic colonography (CTC).
Methods: Consecutive individuals presenting for CRC screening at a Calgary community diagnostic imaging centre were recruited. Subjects completed a questionnaire including items on time-off work both for the subject and any accompanying caregiver, travel details and direct out-of-pocket expenses (bowel prep). Time costs were valued at Government of Canada wage rates. Travel costs included estimated costs for travel by car and actual parking costs and taxi and public transportation fares. Car user's costs were calculated using a Canadian Automobile Association estimate of motoring costs per kilometre. Costs are in 2007 Canadian dollars.
Results: 132 of 325 subjects undergoing CRC screening with CTC between November 2007 and May 2008 consented to receive a questionnaire in the mail. Eighty subjects returned the questionnaire for an overall response rate of 25%. The mean age of the sample was 57, 66% were male and 64% were employed. Thirty-four percent of the subjects required an accompanying caregiver. The non-medical costs (subject ± caregiver) averaged $154. The breakdown of subject ± caregiver time and travel costs is found in the table.
Conclusion: Conclusion: The non-medical costs of CRC screening with CTC are significant, but less than they are for colonoscopy ($308). These costs are important given that they may impact a person's ability to comply with CRC screening. Furthermore, recent guidelines recommend their inclusion in economic evaluations.

Non-medical time and costs of colorectal cancer screening

	Mean	95% confidence interval
Time (hrs)		
Subject -receiving care + travel	2.8	(2.0, 3.6)
Companion	1.4	(0.5, 2.2)
Subject -additional time off work	0.9	(0.3, 1.5)
Companion -additional time off work	0.2	(0.1, 0.4)
Non-medical cost ($)		
Subject time cost	57.50	(40.6, 74.4)
Companion time cost	27.70	(10.1, 45.3)
Subject -additonal time off work	17.60	(5.0, 30.1)
Companion -additional time off work	4.80	(1.3, 8.2)
Travel	37.30	(9.9, 64.8)
Bowel prep	8.70	(7.3, 10.1)
Total costs ($)	153.60	(93.5, 213.9)

P746

COLORECTAL CANCER RISK STRATIFICATION IN A COMMUNITY GASTROENTEROLOGY PRACTICE

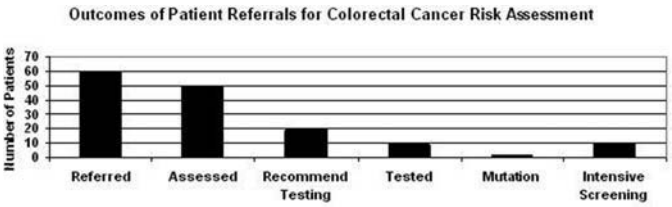
R. McKibbin, MD, B. Mazzei, BSN. Blair Gastroenterology Associates, Altoona, PA.

Purpose: Consensus recommendations ask that an individual patient's colorectal cancer (CRC) risk status be determined well before the earliest potential screening is done. This is generally not done and community data is limited. We initiated a CRC risk stratification program in a community based gastroenterology practice to establish individualized risk stratification with appropriate follow-up surveillance strategy in individuals felt to be at highest risk.

Methods: Patients with a diagnosis of CRC, 10 or more lifetime polyps, polyps prior to age 50, first, second or third degree family history of CRC or known personal or family history of genetic mutation were offered CRC risk assessment. Lifestyle and comorbid illness related risks were determined and patients were counseled regarding risk reduction. Three generation family histories were constructed and a pedigree analysis using modified Bethesda criteria determined if genetic testing was recommended. Informed consent was obtained and testing done in those who agreed. All patients were given CRC surveillance recommendations conforming to National Comprehensive Cancer Network (NCCN) guidelines.

Results: Sixty patients were referred in the first year. Referral indications were history of CRC, 17; 10 or more polyps, 5; family history CRC, 39; family history of HNPCC or FAP/MAP, 1. Some patients had more than one indication for referral. Fifty patients agreed to undergo the assessment. Nineteen patients were recommended to have genetic testing for known mutations. Ten declined testing. HNPCC testing was recommended for 15, and seven declined. Two had positive tests with a variant mutation and a suspected deleterious mutation being found. One AFAP/MAP test was performed and was negative. Three patients declined AFAP/MAP testing. Using NCCN guidelines for surveillance, 10 patients were moved to more intensive colonoscopy regimens, three for annual colonoscopy, two every 1-2 years and five every 1-3 years.

Conclusion: We conclude that there is a high participation rate by patients in CRC risk stratification in community gastroenterology practice, mutations can be discovered and possibly twenty percent of patients will be recommended for more intensive CRC surveillance programs.



P747

BASELINE KNOWLEDGE OF COLORECTAL CANCER SCREENING AND SURVEILLANCE GUIDELINES IN INTERNAL MEDICINE RESIDENTS: TO SCOPE OR NOT TO SCOPE

D. M. Richards, MD, K. K. Leung, MD, A. Madan, MD, FACP. Gastroenterology, University of Texas Health Science Center, Houston, TX.

Purpose: Studies have shown that physicians tend to refer patients for screening colonoscopy more frequently as compared to published guidelines. This may be due to lack of awareness of the current guidelines among referring physicians. We aim to assess the knowledge of current colorectal cancer (CRC) screening and surveillance guidelines from the American Cancer Society(ACS),US Multi-Society Task Force on Colorectal Cancer USMSTF),American Society for Gastrointestinal Endoscopy(ASGE) and American College of Radiology(ACR) in internal medicine residents at all training levels.

Methods: A ten question multiple-choice internet survey was developed based on the current guidelines published by the ACS, USMSTF, ASGE, and ACR. Questions focused on when to refer patients for screening/surveillance, preferred methods for screening/surveillance, and efficiency of screening/surveillance techniques. Survey was administered to residents currently in US internal medicine residency program during the 2007-08 academic year. Responses to the survey were subdivided according to the self reported post graduate year (PGY) of the respondents. Responses were analyzed and percentage of respondents selecting each answer choice was calculated.

Results: Total of 139 residents across all training levels (PGY1-4) responded to the survey. Overall, 134 residents(96.4%) were aware of age of 50 years to initiate screening for average risk patients. Majority of residents (91.3%) chose colonoscopy as preferred method for screening/surveillance. PGY-1 residents less likely preferred colonoscopy as screening method as compared to PGY 2-4 (86% vs 95%). Almost 25% of PGY-3 & 35% of PGY-1 residents did not know to stop screening for colorectal cancer when the life expectancy is less than 10 yrs. Only 21% of residents knew to initiate screening at age 40 in patient with 1st degree relative with colon cancer. Surveillance colonoscopy for hyperplastic polyps at 1, 3, 5, and 10 yrs were recommended by 12%, 26%, 33% and 24% respectively. 47% of residents would repeat colonoscopy before 5 years in a patient with 1-2 adenomas < 1 cm in size. Half of PGY-3 level residents do not know the correct surveillance interval for patients who had curative resection of colon cancer. Regardless of PGY level, 73% residents did not know when to initiate screening patients with a history of Familial Adenomatous Polyposis

Conclusion: Current residents do not adequately know the current CRC screening guidelines and this can lead to unnecessary procedures, possible complications, increased backlog for colonoscopies, and increased national health care costs. Increased emphasis should be placed by training programs to better educate residents about current CRC screening and surveillance guidelines.

P748

MANAGEMENT OF SMALL POLYPS DETECTED BY SCREENING CT COLONOGRAPHY: PATIENT AND PHYSICIAN PREFERENCES

J. Shah, MD, L. Hynan, PhD, D. Rockey, MD. University of Texas Southwestern, Dallas, TX.

Purpose: Appropriate management of small and medium sized polyps found on CT colonography (CTC) is highly controversial and will be critical not only to cancer outcomes but also to cost. We therefore aimed to understand patient and physician preferences for management of small polyps found on screening CTC.

Methods: Patients were given a validated handout and survey and asked to give their preference for evaluation of a "pea-sized" polyp found on CTC. Using an internet survey, primary care physicians and gastroenterologists were queried about how they would manage a hypothetical 52 year-old patient of average colorectal cancer risk after finding a 5mm, 8mm, 12mm or three 5mm polyps on CTC. Survey reliability was assessed using Cronbach's coefficient alpha.

Results: Of the 305 patient respondents, 95% desired to know if the polyp found on CTC was pre-cancerous, 86% stated they would request endoscopic evaluation, and 85% wanted polypectomy. Of the 277 primary care physicians, 71% would refer a 5mm sigmoid polyp for endoscopy; 86% for an 8mm polyp, 97% for a 12mm polyp, and 91% for three 5mm polyps. Of the 461 gastroenterologists, 83% would refer a 5mm sigmoid polyp for endoscopy; 96% for an 8mm polyp, 97% for a 12mm polyp, and 93% for three 5mm polyps. Overall, 75% of physicians indicated the fear of missing a pre-cancerous lesion would prompt referral for colonoscopy.

Conclusion: Both patients and physicians overwhelmingly preferred to follow up small polyps identified by CTC with endoscopy, suggesting that CTC screening programs in which polyps would not be removed may be unpopular and difficult to implement.

P749

POTENTIAL OVERUSE OF COLONOSCOPY FOR POLYP SURVEILLANCE

P. Sood, MD,[1] G. Cooper, MD[2]. 1. Internal Medicine, University Hospitals Case Medical Center, Cleveland, OH; 2. Gastroenterology, University Hospitals Case Medical Center, Cleveland, OH.

Purpose: Colorectal Cancer (CRC) is the third most common cancer and the second leading cause of cancer related deaths among men and women in United States. Early detection and removal of adenomatous polyps is the key to prevention and improved survival as CRC can be diagnosed while still localized. Multisociety surveillance guidelines from 2003 recommended a 5 year interval for single, small (< 1 cm) tubular adenomas, 3 to 5 years for two small adenomas, and a 3 year interval for larger or multiple polyps, or polyps with villous features. We propose that earlier follow up with low-risk adenoma is prevalent and compromises the ability to offer primary CRC screening.

Methods: We searched the endoscopy database at an academic medical center for colonoscopies performed in 2002 and identified patients who had a repeat colonoscopy within three years from the original date. Particular reasons for repeat endoscopies were identified amongst these patients. We further categorized these reasons as pathology revealing high grade dysplasia or cancerous lesions vs. poor quality of preparation for the first colonoscopy vs. clinical symptoms vs. other reasons not specified. Incomplete removal of polyp on initial colonoscopy as the reason for earlier follow up was not rare and was categorized in the not specified reasons.

Results: Data were quantified based on time interval in between the two colonoscopies and the various reasons for which they were repeated in that time interval. Please refer to data table. The colonoscopies repeated in all four time intervals were mostly for unspecified reasons. For the colonoscopies repeated for unspecified reasons, 78.4% were performed by the same endoscopist on initial as well as repeat attempt.

Conclusion: Despite the established guidelines, colonoscopies were repeated sooner mostly for unspecified reasons. This could partially be due to an open access to endoscopy system with patients referred too soon by their PCP. This in turn limits our ability to screen individuals without previous or recent colonoscopy. Potential reasons for divergence from practice guidelines should be studied further.

INTERVAL	#	POOR PREP	PATHOLOGY	SYMPTOMS	NOT SPECIFIED
0-6 MTHS	21	6	1	0	14
6-12 MTHS	16	2	4	4	6
1-2 YEARS	26	2	3	5	16
2-3 YEARS	21	0	1	5	15
	84	11.9%	10.7%	16.7%	60.7%

P750

IMPLEMENTATION OF A PATIENT-ORIENTED VISUAL DECISION AID FOR CRC SCREENING IN AN EFFORT TO INCREASE COMPLETED COLONOSCOPY RATES AMONG AN INNER-CITY POPULATION

S. Akerman, MD,[1] R. Dhirmalani, DO,[2] M. J. Sterling, MD,[2] Z. S. Brelvi, MD,[2] I. Herrera, MD,[3] L. Doliner, MD,[3] M. A. Menna, MPH,[2] M. A. Akerman, BS,[4] A. Natale-Pereira, MD[2].
1. Medicine, Montefiore Medical Center, Bronx, NY; 2. Gastroenterology, UMDNJ - New Jersey Medical School, Newark, NJ; 3. Internal Medicine, UMDNJ - New Jersey Medical School, Newark, NJ; 4. Medicine, Albert Einstein COM, Bronx, NY.

Purpose: Colon cancer is the 2nd leading cause of cancer deaths in the USA, and a major barrier to screening is the poor compliance with scheduling a colonoscopy. The purpose of the study is to increase compliance rates for screening colonoscopy among an inner city population, using a non-physician educator along with a visual decision aid.

Methods: This is a randomized control study. Patients evaluated in the general medicine clinic and referred for screening colonoscopy to the GI clinic were directed to a non-physician educator, and invited to participate in the study. After obtaining consent, patients were randomized to either red (control) or green (intervention) groups, and all patients received a brief demographic questionnaire. Patients in the control group received pamphlets from the American Cancer Society and STOP Colon and Rectal Cancer Society. As is the current standard of care, patients were informed regarding the need to be screened, and would receive a phone call re-

minder 3 days prior to the exam. Patients in the intervention group attended an educational session where they were read a pre-written script and shown a flip-chart (visual decision aid). The education included the risks of colon cancer, natural progression of colonic polyps, a description and illustration of a colonoscopy, and its preparation. Similarly they would receive a phone call reminder 3 days prior to the exam.
Results: To date 46 patients are enrolled, 24 randomized to the control and 22 to the intervention groups. In the control group, 20/24 patients (83.3%) scheduled the initial appointment at GI clinic; only 9/20 (45%) kept the appointment and scheduled a colonoscopy. In the intervention group 18/22 patients (81%) scheduled the initial appointment, with 11/18 (61.1%) keeping the appointment and scheduling a colonoscopy. Of interest, to date all patients that have made appointments for colonoscopy have had them completed. The data provides for a 16.11% increase in completed colonoscopy rates (90% CI = -10.2% to 42.42%), with a Number Needed to Treat of 7.
Conclusion: This is an ongoing study, but based on the initial data there is a statistically significant difference between the groups. The effectiveness of the educational intervention is in helping patients maintain their appointment, thereby reducing the no-show rate in GI clinic. This low-cost intervention could be successfully implemented in an office setting by non-physician staff with the proper education regarding colonoscopy procedures and screening. We have successfully shown our intervention promotes a 16% increase in appointments made when a visual decision aid is implemented to increase patient education regarding the procedure.

P751

DIFFERENCES IN COLORECTAL CANCER SCREENING RATES AMONG ETHNIC GROUPS
J. Braha, DO,[1] N. L. Badalov, MD,[1] I. M. Wall, DO,[1] D. Cohen, MD, MSc,[1] J. Mirchandani, MD,[1] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD, MPH[2]. 1. Medicine, Maimonides Medical Center, Brooklyn, NY; 2. Medicine, State University of New York, Health Sciences Center, Brooklyn, NY.
Purpose: Colorectal cancer is the most common cause of preventable cancer death in the United States. Over the last decade, death rates from colon cancer have decreased due to the widespread implementation of colonoscopy/polypectomy. Unfortunately, many patients have not undergone this potentially life-saving procedure. Prior studies have shown that certain patient groups are an increased risk of morbidity and mortality from colorectal cancer screening. In order to better understand the role of gender, age, language and ethnicity, the following study was performed.
Methods: All patients eligible for colorectal cancer screening seen during a 12 month period in a multi-ethnic clinic in Brooklyn, NY were studied. All patients were offered colorectal cancer screening by colonoscopy. Despite the multilingual nature of the clinic, translators were available. Colonoscopy referrals were made to a Gastroenterology clinic where multilingual translators were also available. Outcome was whether a colonoscopy was performed.
Results: Two-thousand four hundred eighty seven patients eligible for colorectal cancer screening were seen in the clinic during the period off study, mean age 65.2+9.7 years, 1531 female, 956 male patients. 1105 were Caucasian, 631 Hispanic, 321 Asian, 199 African-American, 94 Indian, 78 Middle-eastern, 59 other. Almost 30 languages were spoken, including English, Arabic, Bengali, Chinese, Creole, French, Greek, Hebrew, Russian, Spanish, Urdu, Vietnamese, Italian and Hindi. Of the 2487 patients referred for colonoscopy for colorectal cancer screening, 1642 (66%) completed the examination within 6 months of referral. Women were more likely to undergo colonoscopy compared to men, 546/985 vs 299/657 ($p = 0.03$). Asians (118/321), Middle Eastern (32/78), Indian 41/94) and Caucasians (379/1105) were more likely to undergo colorectal cancer screening compared to African American (59/199) and Hispanic (190/631) patients ($p < 0.02$). Language and age of patients did not appear to play a significant role in undergoing colonoscopy ($p > 0.05$).
Conclusion: We conclude that gender and race are important factors to consider when discussing colorectal cancer screening with patients. These results may explain gender and racial differences in colorectal cancer morbidity and mortality. Male patients, African- Americans and Hispanics may need additional attention from health care professionals when discussing colorectal cancer screening in order to increase compliance.

P752

UTILITY OF INITIAL SCREENING COLONOSCOPY IN ELDERLY PATIENTS
S. R. Kaptik, MD, T. Lyles, MD, F. Harris, MD, M. K. Ismail, MD, C. R. Tombazzi, MD. Gastroenterology and Hepatology, University of Tennessee, Memphis, TN.
Purpose: Despite increasing age and significant comorbidity, patients over the age of 75 are routinely referred for an initial screening colonoscopy. Patients and physicians often question the utility of a first ever colonoscopy in the elderly when no gastrointestinal symptoms exist. We investigated whether the endoscopic findings in individuals 70-80 and ≥80 years of age warranted a recommendation to continue initial screening colonoscopies in these elderly populations.
Methods: All colonoscopies performed at the Memphis Veterans Affairs Medical Center from January 1, 2006 through April 30, 2008 were retrospectively evaluated. Only outpatient screening colonoscopies were included in the review. Exclusion criteria included prior colonoscopy, inpatient status, nursing home residence, and any colonoscopy performed for indications other than routine colorectal cancer screening (acute intestinal bleeding, iron deficiency, abdominal pain, constipation, diarrhea, and abnormal imaging findings). Advanced lesions were defined as any polyp containing villous or adenocarcinoma pathology. All patient data were obtained from the Clinical Outcomes Research Initiative (CORI) and the Computerized Patient Record System (CPRS) databases. Fischer's exact tests were performed to determine statistical significance and were calculated using Statistical Analysis System (SAS) software.
Results: A total of 621 patients met all selection criteria and were included in the study. When stratified by years of age, 463 patients were age <70, 124 were age 70-80, and 34 were age ≥80. The incidence of adenomas and advanced lesions in the age <70 group was 22.7% and 1.3%, respectively. When compared to the age <70 group, patients age 70-80 had significantly more adenomas (33.9%) and advanced lesions (3.2%) ($P<0.01$) with a relative risk of developing adenomas or advanced lesions of 1.5 and 2.5, respectively. Patients age ≥80 also had significantly more adenomas (32.4%) and advanced lesions (8.8%) ($P<0.01$) with a relative risk of developing adenomas or advanced lesions of 1.8 and 6.8, respectively. Interestingly, 33% of advanced lesions were adenocarcinomas in the age <70 group while 100% of advanced lesions were adenocarcinomas in the age ≥70 group.
Conclusion: Elderly patients undergoing initial screening colonoscopy have significantly higher rates of adenomas and adenocarcinomas when compared to younger patients. Surprisingly, nearly 9% of patients older than 80 years were diagnosed with an adenocarinoma. These findings suggest that it is appropriate to perform an initial screening colonoscopy in elderly patients 70 years and older, provided they are healthy enough to tolerate the procedure.

P753

THE POLYMORPHISM INTERLEUKIN 8-251 A/T IS ASSOCIATED WITH REFLUX ESOPHAGITIS IN *HELICOBACTER PYLORI*-NEGATIVE POPULATIONS
T. Ando, MD,[1] E. M. El-Omar, MD,[2] O. Watanabe, MD,[1] N. Ohmiya, MD,[1] Y. Niwa, MD,[1] H. Goto, MD[1]. 1. Department of Gastroenterology, Nagoya University Graduate School of Medicine, Nagoya, Japan; 2. Department of Medicine and Therapeutics, University of Aberdeen, Aberdeen, United Kingdom.
Purpose: Gastro-esophageal reflux disease (GERD) is characterized by increased exposure to gastric acid and interleukin 8-mediated inflammation in the lower esophagus. It is also known that the IL-8-251A/T polymorphism affects IL-8 production. The aim of this study was to determine the association between GERD and IL-8-251A/T polymorphism.
Methods: Three hundred and seventy-two patients with GERD symptoms and 240 asymptomatic controls were studied. Biopsy specimens were obtained from the squamocolumnar junction (SCJ) by upper gastrointestinal endoscopy for histological examination and IL-8 measurement, and IL-8-251A/T polymorphism was genotyped.
Results: Evaluation using the Los Angeles Classification System identified 232 patients (62%) in the GERD group with reflux esophagitis (Grade A: 144, Grade B: 67, Grade C: 20, Grade D: 1) compared to 32 (13%) in the control group (Grade A: 24, Grade B: 8) ($p < 0.01$). GERD patients had significantly higher IL-8 mucosal levels than the controls ($p<0.01$). IL-8-251A/T polymorphism was significantly correlated with both IL-8 mucosal levels at the SCJ and the incidence of reflux esophagitis in the *H. pylori*-negative population.
Conclusion: The risk of reflux esophagitis is associated with a genetic factor, namely the IL-8-251A/T polymorphism. This association is more important in *H. pylori*-negative subjects.

P754

VARIANT ACHALASIA: A RARE DISORDER AND A DIAGNOSTIC DILEMMA, A PROPOSAL FOR NEW DIAGNOSTIC CRITERIA
J. A. Arledge, MD,[1] D. S. Estores, MD,[2] H. Worth Boyce, MD[2]. 1. Digestive Diseases and Nutrition, University of South Florida, Tampa, FL; 2. Center for Esophageal and Swallowing Disorders, University of South Florida, Tampa, FL.
Purpose: Achalasia is a disease best defined by abnormalities present during esophageal manometry. Classic manometric features of achalasia include esophageal body simultaneous, low amplitude contractions 20 to 40 mmHg & failure of lower esophageal sphincter (LES) to relax during deglutition. These result in failure of esophageal function & may progress to a life-threatening condition. Manometric variations for achalasia include high amplitude (greater than 60mmHg) simultaneous esophageal contraction referred to as vigorous achalasia, complete but ineffective LES relaxation, & short segment esophageal aperistalsis. Our objective is to define a rare variation of achalasia (VA). It is important to define these manometric variations from classic achalasia to avoid the misdiagnosis of nonspecific esophageal motility disorder (NEMD), an untreatable but benign condition. The definition of the variant described here is: 1. Presence of short segment (ranging from 3 to 5 cm) peristalsis in the distal 2/3 of the esophagus. 2. Aperistalsis in the rest of the distal 2/3 of the esophagus. 3. Other manometric variations as described above may be present.
Methods: A retrospective chart review of findings and conclusions in over 900 esophageal motility studies at the USF Center for Esophageal & Swallowing Disorders with the diagnostic code "achalasia" was conducted. Those classified as "achalasia, other" were reviewed, any portion of the report mentioning a short segment of peristalsis, 3 cm or longer, led to inclusion for a detailed and blinded review of the entire motility tracing. The 17 studies were de-identified & reviewed by a qualified physician. Exclusion criteria include all medical or surgical conditions supported by scientific literature as altering motility.
Results: Among these 17 original esophageal motility studies that were reported to have intermittent short segments of esophageal peristalsis, 8 studies met the definition of this variant of achalasia (short segment peristalsis). The mean age is 65.6 years. There were 5 males and 3 females. The most common presenting symptoms (with some patients having > 1) were: dysphagia (5); bolus impaction (3); chest pain (3); and heartburn (2). The presence of peristaltic segments similar to that of the presence of aperistaltic segments described by Hirano et al. indicate that in the esophageal body of patients with achalasia there may be focal areas where myenteric ganglia may be intact or absent.
Conclusion: This study identifies & defines VA which has not been described in medical literature. Esophageal manometry which reveals findings of VA with retained short segments of peristalsis should be acknowledged as a variation of achalasia. This will prevent the mislabeling of VA as NEMD.

P755

DIAGNOSIS OF EOSINOPHILIC ESOPHAGITIS AFTER PRIOR NISSEN FUNDOPLICATION FOR PRESUMED "REFRACTORY GERD:" IMPLICATIONS FOR PRE-OPERATIVE EVALUATION

E. S. Dellon, MD, MPH,[1] T. M. Farrell, MD,[2] E. M. Boyzmski, MD,[1] N. J. Shaheen, MD, MPH[1]. 1. Medicine; Division of Gastroenterology and Hepatology, University of North Carolina - Chapel Hill, Chapel Hill, NC; 2. Surgery, University of North Carolina - Chapel Hill, Chapel Hill, NC.

Purpose: Previous studies have shown that a small percentage of patients with symptoms of heartburn who carry the diagnosis of refractory gastroesophageal reflux disease (GERD) actually have eosinophilic esophagitis (EoE). The frequency of patients with presumed refractory GERD who undergo Nissen fundoplication but have EoE is unknown. The purpose of this study is to present a case series of patients with esophageal eosinophilia who underwent fundoplication and were subsequently found to have EoE.

Methods: We performed a retrospective analysis of the University of North Carolina (UNC) EoE clinicopathologic database which contains information on patients with esophageal eosinophilia from any cause from 2000-2007. Patients diagnosed with EoE after a prior Nissen were identified, as were other patients with high levels of esophageal eosinophilia and a prior Nissen. Cases of EoE were defined as having ≥ 15 eosinophils per high-powered field (0.23mm2; eos/hpf) with at least one typical symptom (eg dysphagia, heartburn, or feeding intolerance) and with other causes of esophageal eosinophilia excluded. The UNC electronic medical record was reviewed to extract pertinent data.

Results: A total of 8 patients were identified who had a prior Nissen and high levels of esophageal eosinophilia. Of those, 4 patients (56 yo F, 38 yo M, 50 yo F, 8 yo M) met the diagnostic criteria for EoE for this study. All 4 had undergone Nissen prior to 2002. Their symptoms (dysphagia in 2/4, food impaction in 1/4, heartburn in 3/4, failure to thrive in 1/4) and esophageal eosinophilia (>50, 60, 50, and "innumerable" eos/hpf, respectively) persisted after the surgery. Time from Nissen to diagnosis of EoE ranged from 7-14 years. Despite their high eosinophil counts, the other 4 patients (77 yo M, 55 yo F, 69 yo F, 9 yo F) were felt to have GERD on a clinical basis (heartburn in 2/4, regurgitation in 1/4, and failure to thrive in 1/4) and due to their symptomatic response to surgery. Their esophageal eosinophilia (40, 30, 20, and 60 eos/hpf) also improved post-operatively.

Conclusion: We have identified 4 patients with "refractory GERD" treated with Nissen fundoplication who were subsequently diagnosed with EoE. Therefore, a proportion of subjects undergoing this surgery for incomplete resolution of GERD symptoms appear to be undiagnosed cases of EoE. The proportion of PPI non-responsive subjects with EoE is unknown. However, given the rising prevalence of EoE, it may be prudent to obtain proximal and distal esophageal biopsies in such patients prior to performing anti-reflux surgery.

P756

Poster Withdrawn

P757

CLINICAL EVALUATION OF XP19986 AS A POTENTIAL TREATMENT FOR GERD

F. Huff, MD, R. Lal, PhD, J. Sukbuntherng, PhD, W. Luo, MS, J. Tovera, BS, R. Blumenthal, PhD, M. Lassauzet, PhD, Z. Navvab, MS, K. C. Cundy, PhD. XenoPort Inc., Santa Clara, CA.

Purpose: XP19986 is a transported prodrug of the R-isomer of the GABA-b agonist baclofen. XP19986 reduced the number of reflux episodes in GERD patients in a single-dose study, XP-B-049 with controlled release (CR2) capsules (Castell et al, Gastroenterology 2007, A-486). The purpose of the analysis was to link the efficacious concentrations from a Phase 2a single-dose GERD study (XP-B-049) with a multiple-dose tolerability study (XP-B-060) to predict efficacious doses that will be well tolerated in longer-term GERD studies.

Methods: In XP-B-049, patients with GERD received single oral doses of 10, 20, 40, and 60 mg XP19986 controlled release (CR2) capsules or placebo. A statistically significant reduction in total reflux episodes was detected over 12 hours after dosing with XP19986 vs placebo. Exposure quartiles were determined based on R-baclofen exposures. The top three quartiles by Cmax showed fewer 12-hour total reflux episodes during XP19986 treatment than with placebo, defined by Cmax of 66 ng/mL. The average R-baclofen concentration for the highest quartile was 30 ng/mL. Thus, R-baclofen concentration range of 30 to 60 ng/mL R-baclofen was considered efficacious. Study XP-B-060 evaluated safety, tolerability and PK of XP19986 sustained release (SR3) tablets after repeated once (QD) or twice daily (BID) dosing in healthy subjects. Four groups of subjects received repeated doses of XP19986 or placebo. Subjects were titrated to QD and BID regimens for 7 days each, and then tapered off. Doses were: Group 1:30 mg QD and 30 mg BID; Group 2:60 mg QD and 60 mg BID; Group 3:90 mg QD and 90 mg BID; and Group 4:120 mg QD. Steady-state XP19986 and R-baclofen concentrations were determined.

Results: In XP-B-060, XP19986 was well absorbed and rapidly converted to R-baclofen. R-baclofen exposures were proportional to XP19986 dose. Mean steady state Cmax for R-baclofen ranged from 69.2 to 250 ng/mL for 30 to 120 mg QD doses, and 132 to 275 ng/mL for 30 to 90 mg BID dose. Most adverse events were mild or moderate and transient, with headache, dizziness, somnolence and nausea occurring most frequently. One subject at the 120 mg QD dose had severe dysarthria and tremor associated with generalized weakness assessed as serious and resolved after treatment discontinuation. All these events are known side effects of baclofen. Based on the efficacious concentration range from XP-B-049, multiple oral doses of 30 mg BID, 40 mg QD or 60 mg QD would achieve these levels.

Conclusion: Results from the XP19986 studies predict that a 30 mg BID, 40 mg QD or 60 mg QD dose will be efficacious and safe in future GERD studies.

Disclosure - Ritu Lal - Employee of XenoPort Inc. F. Jacob Huff- Employee of XenoPort Inc. Juthamas Sukbuntherng- Employee of XenoPort Inc. Wendy Luo- Employee of XenoPort Inc. James Tovera- Employee of XenoPort Inc. Robin Blumenthal- Employee of XenoPort Inc. Marie-Liesse Lassauzet- Employee of XenoPort Inc. Zarrin Navvab- Employee of XenoPort Inc. Kenneth C. Cundy- Employee of XenoPort Inc.

P758

REMOVABLE INTERNALLY COVERED SELF-EXPANDABLE METAL STENTS DURING NEOADJUVANT THERAPY FOR LOCALLY ADVANCED ESOPHAGEAL CANCER

T. L. Lopes, MD, MSPH, M. Eloubeidi, MD, MHS. Medicine / Gastroenterology, University of Alabama at Birmingham, Birmingham, AL.

Purpose: Conventional self-expandable metal esophageal stents (SEMS) have been reserved for palliation of dysphagia due to incurable cancer. Removable internally covered SEMS have recently become available for situations when permanent stents may not be needed. To our knowledge, their use has not been studied in patients with locally advanced esophageal cancer undergoing neoadjuvant therapy. The objectives of this study were: 1-To evaluate clinical outcomes of removable SEMS in patients undergoing neoadjuvant therapy for locally advanced esophageal cancer; 2-To assess ease of removability and tissue reaction to the stents.

Methods: Removable internally covered SEMS (ALIMAXX-EE, Alveolus Inc, Charlotte, NC) were deployed in consecutive patients with locally advanced esophageal cancer over a period of 9 months. Patients with metastatic disease were excluded. All patients received neoadjuvant chemoradiation therapy after stenting. Dysphagia scores were assessed at 0, 1, 3 and 6 months. Complications and other clinical outcomes were prospectively recorded.

Results: 10 patients received removable SEMS and neoadjuvant therapy during the study period (mean age 62.4 years, 50% black, 90% male). One stent was deployed too proximally and was removed immediately. All others were successfully inserted. Strictures were located in the upper (n=1), mid (n=4), lower esophagus (n=2) and gastro-esophageal junction (n=3). Dysphagia was significantly improved at 1 month (mean difference 3.0; 2.62-3.38 95% CI), 3 months (mean difference 2.57, 1.67-3.47 95% CI) and 6 months (mean difference 2.4, 0.52-4.28 95% CI) compared to baseline. 3 patients (30%) experienced chest pain or heartburn immediately following deployment and were admitted for observation (mean length of stay of 2 days, range 1 to 4). 3 patients developed delayed complications: recurrent dysphagia (n=1), abdominal pain (n=1) and tracheal-esophageal (TE) fistula (n=1). 7 stents were subsequently removed, 1 due to complication (TE fistula); 1 due to migration (recurrent dysphagia); 1 was incorrectly deployed; and 4 were felt to have satisfied their purpose. The mean duration between deployment and removal was 59.2 days (range 0 to 105). Removal was characterized as very easy in all cases. Ulcerations at the proximal or distal edge of stents were noted in 5 patients (71%); polyps in 3 (43%), granulation in 5 (71%). 1 stent (14%) became embedded but was easily lifted from tissue. There were no perforations.

Conclusion: Removable SEMS can be used to re-establish luminal patency in patients undergoing neoadjuvant therapy for locally advanced esophageal cancer, resulting in significant improvement in dysphagia over baseline. Tissue reaction to stents occurs but does not appear to impair removability.

P759

ACCURACY AND UTILITY OF ENDOSCOPIC ULTRASOUND (EUS) IN CLINICAL STAGE T2N0 ESOPHAGEAL CANCER

J. Rosenberg, MD,[1] G. E. White, RN,[2] V. M. Shami, MD,[2] V. Villaflor, MD,[1] M. Ferguson, MD,[1] C. Dye, MD[1]. 1. Gastroenterology, University of Chicago, Chicago, IL; 2. Gastroenterology, University of Virginia, Charlottesville, VA.

Purpose: To identify the accuracy and utility of EUS in patients with clinically staged T2N0 esophageal carcinoma and its impact on patient management

Methods: Data was retrospectively analyzed from endoscopic databases at 2 tertiary referral centers with expertise in esophageal cancer and endoscopic ultrasound. Patients clinically staged as T2N0MX esophageal cancer by EUS since 2003 were included. All procedures were performed using the latest generation Olympus EUM 160 radial echoendoscopes and 140 series linear array echoendoscopes supported by an Aloka processor. Procedures were performed by 3 endosonographers with at least 2 years of experience at high volume esophageal cancer centers.

Results: Six patients at center one and ten patients at center two were found to have T2N0MX lesions by EUS and did not undergo neoadjuvant therapy prior to esophagectomy and pathologic staging (Table 1). Node staging accuracy was 33% at University of Chicago (Center 1) and 80% at University of Virginia (Center 2). Tumor staging accuracy was 50-66% at Center 1 and 40-50% at Center 2. Center 1 had a tendency to underestimate the tumor stage and Center 2 had a tendency to overestimate the tumor stage. EUS was able to correctly identify the patients who should go directly to surgery 33% of the time at Center 1 and 70% of the time at Center 2.

Conclusion: There is variable accuracy, particularly for node status, between two centers for patients who were clinically staged T2N0 esophageal cancer. The impact is significant since patients with small tumors and no known lymph node disease may forego neoadjuvant chemotherapy and proceed directly to surgery. Both expertise in EUS and diligence towards node status is necessary for accurate evaluation in patients with T2 disease. The difference in nodal accuracy between the 2 institutions may be secondary to the aggressiveness with which the endosonographer pursues lymph node cytology. We recommend that any nodes visualized with tumor free windows, regardless of size or imaging characteristics, undergo fine needle aspiration for cytologic staging correlation in this group of patients.

Table 1

	Age-Sex	EUS Stage	Pathologic Stage	Histology
Patient 1	70-M	T2N0	T2N0	Adenocarcinoma
Patient 2	71-M	T2N0*	T1N1	Adenocarcinoma
Patient 3	66-F	T2/T3N0**	T3N1	Adenocarcinoma
Patient 4	71-M	T2N0	T3N1	Adenocarcinoma
Patient 5	70-M	T2N0	T2N1	Squamous cell carcinoma
Patient 6	64-M	T2N0	T2N0	Squamous cell carcinoma
Patient 7	79-M	T2N0	T3N1	Adenocarcinoma
Patient 8	80-M	T2N0	T1N0	Adenocarcinoma
Patient 9	72-M	T1/T2N0**	T1N0	Squamous cell carcinoma
Patient 10	44-M	T2N0	T1N0	Adenocarcinoma
Patient 11	74-M	T2N0	T3N0	Adenocarcinoma
Patient 12	70-M	T2N0	T2N0	Adenocarcinoma
Patient 13	61-F	T2N0	T2N1	Adenocarcinoma
Patient 14	71-M	T2N0	T1N0	Adenocarcinoma
Patient 15	75-M	T2N0	T2N0	Adenocarcinoma
Patient 16	77-M	T2N0	T2N0	Adenocarcinoma

Center 1: Patients 1-6; Center 2: Patients 7-16
***Only procedure where linear scope alone utilized (angulated stenosis)**
****Borderline T stage reported prior to available pathologic data**

P760

PREOPERATIVE PLACEMENT OF POLYFLEX ESOPHAGEAL STENTS IN PATIENTS WITH LOCALLY ADVANCED ESOPHAGEAL CANCER UNDERGOING NEOADJUVANT THERAPY

J. C. Wills, MD, R. F. Wong, MD, K. Hilden, MS, J. C. Fang, MD, D. G. Adler, MD. Division of Gastroenterology, University of Utah, Salt Lake City, UT.

Purpose: Purpose: Most patients with esophageal cancer have dysphagia and/or weight loss. Polyflex stents may serve to relieve dysphagia and improve oral intake in patients undergoing neoadjuvant therapy. The aims of the study were 1) to determine if Polyflex esophageal stents improve dysphagia and weight loss in patients with locally advanced esophageal cancer undergoing neoadjuvant therapy 2) and to evaluate complications.

Methods: Methods: Subjects with esophageal cancer with EUS staging from April 2006 to Nov 2007 were enrolled. Subjects were >18y with dysphagia, locally advanced esophageal cancer, and had Polyflex stent placement. Subjects with distant metastatic disease or with a malignant stricture within 2 cm of the upper esophageal sphincter were excluded. Subjects were followed until removal of stent or death. All patients received neoadjuvant therapy following stent placement. Dysphagia was assessed by a 5-point scale prior to stent placement and at one week intervals. Weight change was assessed. The dysphagia score was analyzed using Wilcoxon signed rank.

Results: Results: 13 subjects met entry criteria and were enrolled. All subjects were male, the mean age was 63.3 ± 12.3 (45-82). One subject was not included in the analysis due to unrecognized metastatic disease. Stents remained in place for a mean of 65.9 ± 56.2 days (2 - 180). Dysphagia scores were significantly improved at weeks 1, 2, 3, and 4 when compared to the mean baseline score of 3.1 (1.1, 0.8 0.9, 1) (p=0.005, p=0.01, p=0.02, p=0.008). All subjects reported weight loss prior to stent placement (mean, 9.9 ± 5.6 kg). Weight loss slowed with a mean weight change of -2.6 ± 7.8 kg over a mean of 2.4 ± 1.6 weeks. There were no immediate complications. All but one patient experienced chest or abdominal pain following stent placement. Stents migrated in 6/13 (46%) patients in a mean of 42.7 days (2-90). 3/6 patients with migrated stents went on to esophagectomy at an average of 8.5 weeks later. 5/6 migrated stents were safely removed during endoscopy, 1 was removed at time of esophagectomy. One stent was removed due to severe pain 2 days after placement. 1 stent remained in place 180 days and showed tumor overgrowth.

Conclusion: Conclusion: Polyflex stents provided safe and rapid relief from dysphagia in patients undergoing neoadjuvant therapy. Complications were mild.Weight loss largely stabilized. The stents served either as a bridge to surgery, migrated when they were no longer needed, or remained in place in patients not felt to be operative candidates. Chest pain is common following stent placement. Although stent migration is common following chemoradiation, the stents were easily removed endoscopically or at the time of surgery.

P761

TOLERABILITY OF AMBULATORY ESOPHAGEAL pH MONITORING USING NASALLY PLACED pH CATHETER VS. BRAVO pH CAPSULE

J. T. Bassett, MD,[1] C. L. Maydonovitch, BS,[2] J. M. Lake, MD[2]. 1. Gastroenterology, National Naval Medical Center, Bethesda, MD; 2. Gastroenterology, Walter Reed Army Medical Center, Washington, DC.

Purpose: In this study, we aimed to compare the tolerability of ambulatory esophageal pH monitoring using a nasally placed pH catheter versus endoscopically placed Bravo pH capsule.

Methods: The records of 103 patients >18 years of age undergoing traditional catheter-based intranasal pH monitoring (Sandhill, pH/impedance catheter) or Bravo pH capsule monitoring over a 3-year period were reviewed. Information obtained included the patient's gender, age, race and indication for study. Tolerance was determined by a questionnaire the patient completed after pH monitoring assessing the patient's comfort, difficulty speaking, percentage of usual food intake, and percent of usual activity. Statistical analysis was performed on categorical data using the Fisher's exact test, and on continuous data with the independent t-test.

Results: Of the 103 records reviewed, traditional catheter-based intranasal pH monitoring was performed in 53 patients (53% male, 68% Caucasian, 21% African American, 11% other ethnicities), while Bravo pH testing was performed in 51 patients (53% male, 70% Caucasian, 26% African American, 4% other ethnicities). The mean age of those undergoing catheter-based intranasal pH monitoring was 43 +/-12 years vs. 44 +/-14 years for those undergoing Bravo pH monitoring (p=0.871). In the traditional catheter-based intranasal pH monitoring 50% reported that they were comfortable or slightly uncomfortable. Compared to 86.6% of those undergoing Bravo pH monitoring (p<0.0001). Significantly more patients undergoing the catheter based pH monitoring reported difficulty speaking compared to patients undergoing the Bravo pH monitoring (52.8% vs. 8.1%, p<0.0001). Difficulty eating was reported more frequently in patients with the catheter-based intranasal pH monitoring compared to those undergoing Bravo pH monitoring (94.3 vs. 65% p<0.0001). The percent of usual food intake was similar in both groups of patients (catheter-based intranasal pH monitoring group 81 +/-3.4% vs. 82 +/-2.9% in the Bravo pH monitoring group p=0.946). The percent of usual activity in the catheter-based intranasal pH monitoring group was significantly less compared to the Bravo pH monitoring group (68 +/-2.6% vs. 86 +/-3.1% p<0.0001). Finally the percent of usual symptoms was significantly less in the catheter-based intranasal pH monitoring group compared to the Bravo pH monitoring group (53% +/-5% vs. 78 +/-4.6% p<0.0001).

Conclusion: Our study indicates that the Bravo pH capsule is safe and better tolerated than traditional catheter-based intranasal pH monitoring however, the Bravo is unable to measure non-acid reflux.

P762

ONCE DAILY ESOMEPRAZOLE VERSUS TWICE DAILY LANSOPRAZOLE FOR GERD: A DOUBLE BLIND RANDOMIZED CROSS-OVER STUDY

D. A. Johnson, MD,[1] M. Ryan, MD,[1] T. Wootton, MD,[1] J. Willis, MD,[1] K. Hornbuckle, MD,[1] W. Brooks, MD,[1] S. Menees, MD,[1] M. Doviak, PhD[2]. 1. Gastroenterology Division, Eastern VA Medical School, Norfolk, VA; 2. Biostatistics, Old Dominion University, Norfolk, VA.

Purpose: Approximately 25% of patients taking first generation proton pump inhibitors (PPIs) are taking more than one per day. Previous pharmacodynamic studies have shown that this dosing strategy increases intragastric pH control to target >4.0 from approximately 12 to 16 hrs. Once daily esomeprazole has been previously shown to achieve intragastric pH control comparable to bid dosing of lansoprazole yet a clinical correlary of this observation has to date not been shown.

Methods: The primary objective of this study was to evaluate esomeprazole once/day as non-inferior to continued bid lansoprazole using a computer randomized double blind cross-over design. Secondary objective was evaluation of ancillary medication use (antacids).Patients with typical and uncomplicated gastroesophageal reflux disease (GERD)who were well controlled on established bid dosing were recruited from a busy clinical gastroenterology practice. At entry, patients continued on blinded bid lansoprazole 30-60min before breakfast and dinner or began esomeprazole 40 mg with a dummy placebo for the second dose. After 3 months, patients returned to baseline bid lansoprazole for 1 mo and then at month 4 crossed over to the second arm of randomization. Primary objective assessment was maintenance of normal range of GERD symptom score (HRQL score <11). All patients had baseline and exit endoscopy at entry and exit from the study.

Results: 41 patients were screened but 6 "well controlled" patients did not have HRQL <11.A total of 35 patients were randomized 29 patients(18 M, 17F) completed the trial: age- mean 59.1 +/-SE 2.0yrs, duration of lansoprazole bid use 19.5 +/-5 mo., BMI=30.1 +/-0.6. All patient exits occurred in the first arm of randomization- reasons cited:exacerbation of symptoms (2 lansoprazole, 1 esomeprazole arm),nausea (1 lansoprazole),moved from area (1), exacerbation of preexisting coronary artery disease (1). There were no significant changes in BMI from entry to exit. The difference in HRQL scores (at 3 and 7 mo)was compared for each treatment arm compared to baseline with 2-tailed p-value is .1153 denoting non-significance. There was no difference in ancillary use of antacid use which was provided and usage tabulated at monthly study visits. No patient had evidence of erosive esophagitis at baseline or at month 7 exit from the study.

Conclusion: 1. Patients with well controlled typical uncomplicated GERD on BID lansoprazole can have similar normalization of GERD HRQL with once daily esomeprazole. 2. This study confirms (with clinical implications) the pharmacodynamic data of comparable pH control for once daily esomeprazole compared to bid lansoprazole as previously reported.

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P763

RELATIONSHIP BETWEEN MAINTENANCE OF HEALED EROSIVE ESOPHAGITIS AND PERCENT TIME WITH INTRAGASTRIC PH>4

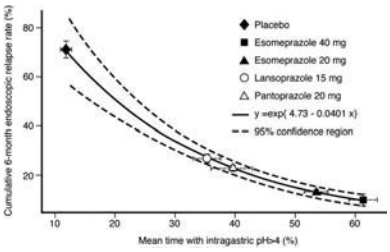
D. A. Johnson, MD,[1] D. Levine, MD,[2] K. Röhss, PhD,[3] M. Åstrand, PhD,[3] O. Junghard, PhD,[3] T. Lind, MD[3]. 1. Eastern VA Medical School, Norfolk, VA; 2. AstraZeneca, Wilmington, DE; 3. AstraZeneca R&D, Mölndal, Sweden.

Purpose: The relationship between intragastric pH and healing of erosive esophagitis (EE) is well recognized (Digestion 1992;51 Suppl 1:59-67; Aliment Pharmacol Ther 2007;25:617-28). We sought to examine the relationship between maintenance of healed EE (remission) and percent time pH>4, by performing an exploratory analysis of data from 4 published studies on maintenance of healed EE with esomeprazole in relation to pharmacodynamic findings.

Methods: Endoscopically defined EE remission data at 6 mo were obtained from 4 similarly designed double-blind, randomized studies of maintenance therapy for all grades of healed EE: esomeprazole 20 mg (n=1377) vs pantoprazole 20 mg (n=1389) (Aliment Pharmacol Ther 2005;22:803-11); esomeprazole 20mg (n=615) vs lansoprazole 15 mg (n=609) (Aliment Pharmacol Ther 2003;17:333-41); and esomeprazole 20 mg (n=180) and 40 mg (n=174) vs placebo (n=171) (Aliment Pharmacol Ther 2001;15:927-35; Am J Gastroenterol 2001;96:27-34). EE remission rates were compared against independent 24-h intragastric pH data for the proton pump inhibitors (PPIs) and placebo using a regression model that accounted for both sources of variability. EE remission rates for esomeprazole 20 mg and 40 mg were pooled across the studies.

Results: Data concerning 6-mo remission rates were available for 4515 patients (62% men). Overall, there was a significant relationship (p<.0001) between remission of EE at 6 mo and percent time pH>4 (Figure).

Conclusion: This analysis provides new insight and expands the data on the association of pH and healing of EE, in that long-term remission of healed EE is also related to the extent of acid control in a 24-h period.



Relationship between percent time pH>4 and the 6-mo endoscopic relapse rate. Error bars (± 1 SEM) for each of the four treatments are shown for both data sources.

Disclosure - Johnson: Consultant, Grant/Research Support - AstraZeneca All other authors: Employees - AstraZeneca

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P764

MANOMETRIC CHARACTERISTIC OF WAVES IN THE ESOPHAGEAL BODY IN TYPE 2 DIABETIC PATIENTS ACCORDING TO THE BASAL MORNING GLYCEMIA

J. X. Jorge, Gastroenterologist, Professor of Phisiology,[1] C. C. Borges, Resident of Internal Medicine,[2] E. A. Panão, Gastroenterologist,[3] . C. Coelho, Internist,[4] M. A. Simões, Technician of Phisiology,[1] C. C. Almeida, General and Vascular Surgeon, Professor oof Phisiology[1]. 1. Faculty of Medicine, University of Coimbra, Coimbra, Portugal; 2. Internal Medicine, Hospital Santo André, Leiria, Portugal; 3. Gastroenterology, Hospital dos Covões, Coimbra, Portugal; 4. Internal Medicine, Hospital dos Covões, Coimbra, Portugal.

Purpose: Recent studies referred there is the possibility of existing an influence of acute glycemia on the esophagus' motor activities and the other parts of gastrointestinal tracts. Other investigators refuse that any possibility could exist when relating to the same fact. Our objective is to have a say in the knowledge of this phenomena

Methods: The esophageal body's motor activity was studied by stationary manometry with 6-channel catheter in 25 type 2 diabetic patients aged between 44 and 81 years old (mean age 58,25 years old) with different glycemic levels in fast. We have compared the manometric characteristics of esophageal waves between diabetics with glycemia equal or lower than 7,0 mmol/l and above 7,0 mmol/l.

Results: The percentual distribution of esophageal waves in both groups (glycemia<7,1 mmol/l/ glycemia>7,0 mmol/l) was: peristaltic waves=(84,9/80,1); no transmitted waves=(4,5/16,3); retrograde waves=(3,5/2,0); simultaneous waves=(6,2/1). When relating to the waves' amplitude, mean and maximum strength in 3 different channels (P), we verified in both groups (glycemia<7,1 mmol/l/ glycemia>7,0 mmol/l) that: amplitude: P1=(32,3/31,1), P2=(44,8/44,2), P3=(49,2/49,8); mean amplitude=(42,2/41,7); mean strength: P1=(22,8/25,5), P2=(29,6/31,4), P3=(28,8/31,2): mean strength's mean=(27,1/28,9); maximum strength: P1=(39,7/39,5), P2=(52,1/52,3), P3=(52,3/56,5); maximum strength's mean=(49,1/49,3).

Conclusion: In the studied type 2 diabetic we saw that the percentage of non-transmitted waves was significantly higher than between patients with glycemia in fast>7 mmol/l. The others characteristics of the esophageal waves didn't reveal any significant difference.

P765

BRAVO pH CAPSULE PLACEMENT UNDER DIRECT VISION WITH ULTRASLIM GASTROSCOPE

T. Lee, MD, S. Sood, MD, MPH, R. Feldstein, MD, I. Grosman, DO. Gastroenterology, Hepatology and Nutrition, North Shore University Hospital, Manhasset, NY.

Purpose: Bravo pH testing is a commonly used procedure to assess gastroesophageal reflux disorders. Accurate placement of the Bravo pH capsule is critical for obtaining reliable results. Failure of attachment of the BRAVO pH capsule to the esophageal mucosa or early detachment may result in an unsuccessful study. The purpose of this study was to determine whether Ultraslim gastroscope compared to regular gastroscope facilitates the placement of Bravo pH capsule and reduces the procedure time.

Methods: Records of Bravo pH capsule placement of 30 patients under direct vision by GIF 160 gastroscope (outer diameter, 8.6 mm) (Group 1) and of 30 patients under direct vision by ultraslim XP 160 (outer diameter, 5.9 mm) (Group 2) were reviewed. The mean (ranges) ages were 50 (20-81) and 54 (16-79) years respectively. The male to female ratios were 2.75:1 for both groups. All patients in Group 1 and all but 2 patients in Group 2 received sedation with Propofol. After endoscopic examination was completed, the scope was withdrawn proximal to the selected site of Bravo pH capsule placement (6 cm above the gastroesophageal junction). Bravo delivery catheter was then inserted through the mouth and the deployment was performed following standard protocols. After the deployment was confirmed, delivery system was withdrawn and the esophagus was checked for mucosal injury as scope was withdrawn. Five patients in Group 1 and 4 patients in Group 2 had gastric biopsy.

Results: The placement was successful and the data capture was satisfactory for all patients in both groups. Five patients in Group 1 and 4 patients in Group 2 had gastric biopsy. The mean procedure time was decreased from 11.9 (standard deviation [SD], 2.8) minutes for Group 1 to 6.4 (SD, 1.9) minutes for Group 2 (P<0.0001). No patients had chest pain, dysphagia or other serious procedure-related complications except two patients in Group 1 who had persistent sore throat.

Conclusion: Placement of Bravo pH capsule under direct vision can be easily accomplished by Ultraslim gastroscope. The slim scope facilitates the deployment and reduces the procedure time almost in half. It may also cause less frequent sore throat. In selected cases, an Ultraslim gastroscopy may even be performed without sedation.

Comparison of regular gastroscopy with Ultraslim gastroscopy

Group	Scope	Number	M/F	Age, yrs	Sedation	Biopsy	Procedure time, min	Complications
1	GIF 160 (8.6 mm)	30	2.75	50(20-81)	30	5	11.9±2.8	2 (sore throat)
2	XP 160 (5.9 mm)	30	2.75	54(16-79)	28	4	6.4±1.9	0

P766

SYMPTOM INDEX (SI) IS A GOOD PREDICTOR OF SUCCESS FOR FUNDOPLICATION FOR SYMPTOMATIC NON-ACID REFLUX ON PPI THERAPY

A. Agrawal, MD, N. Sharma, MD, J. A. Wilson, MD, M. F. Vela, MD, D. Castell, MD. MUSC, Charleston, SC.

Purpose: AIM: To compare SI versus SAP in a group of post-fundoplication patients with a positive SI resistant to PPIs.

Methods: METHODS: A review of adult post-fundoplication patients who underwent follow up of symptoms improvement were identified. MII-pH studies were reviewed for each patient. SI was reviewed and SAP was calculated. Positive SI defined as >50% (i.e. at least half of the symptoms associated with reflux). SAP was calculated using the Sandhill Scientific Software with values > 95% considered positive

Results: RESULTS: 29 (21 females, mean age 49, (range 23-78) years) adult post-fundoplication patients were identified. 24 (83%) patients reported being better or markedly improved over a mean follow-up of 16.5 months (range 5-28 months). Of the 24 patients, 22 (92%) had a positive SI and 6 (25%) had both a positive SI and SAP. Of the 5 patients who did not improve, 1 (20%) had a positive SI and 1 (20%) had a positive SAP.

Conclusion: CONCLUSION: These preliminary findings suggest that SI may be an accurate parameter in predicting patients whose reflux symptoms will respond to fundoplication. Surprisingly, there was frequent disagreement between the SI and SAP. Further outcome studies are needed.

P767

CLINICAL PRESENTATION AND ENDOSCOPIC MANAGEMENT OF MALLORY-WEISS TEAR: 5 YEAR EXPERIENCE IN AN INNER-CITY HOSPITAL

S. Banerjee, MD,[1] V. V. Gumaste, MD,[1] M. S. Angelova, MD[2]. 1. Gastroenterology, Mount Sinai Services at Elmhurst Hospital Center, Elmhurst, NY; 2. Pediatrics, Winthrop University Hospital, Mineola, NY.

Purpose: To identify incidence, location, clinical presentation, need for endoscopic intervention and outcome of Mallory-Weiss tear in an inner-city community hospital setting.

Methods: Endoscopic data from Esophagogastroduodenoscopies(EGDs), done at Mount Sinai Services at Elmhurst Hospital Center, Elmhurst, NY between 2002 and 2007 were reviewed to identify patients with Mallory-Weiss tear. Demographic data, medical history, examination findings, laboratory data, endoscopic finding and details of therapy for patients treated for Mallory-Weiss tear were reviewed retrospectively.

Results: A total of 5604 EGDs were done over a 5 year period. Out of those 5604 EGDs acute gastro-intestinal bleeding was the indication in 1040 cases(main indication was hematemesis in 368, malena in 569 and hematochezia in 103 patients). Mallory-Weiss tear was documented to be the cause of bleeding in 35(3.4%) out of those 1040 patients presenting with acute GI bleeding. Most common location was distal esophagus (86%), followed by cardia (14%). Out of total 35 patients diagnosed with Mallory-Weiss tear, 30(86%) were male and 5(14%) were female. Mean age at presentation was 50.7 years (Range 22-89 years). 24 patients (69%) did not show any active bleeding at endoscopy and no endoscopic therapy was done in those patients; whereas 11 patients (31%) were found to have active bleeding from Mallory-Weiss tear at endoscopies. Out of those 11 patients(31%) actively bleeding from Mallory-Weiss tear, bleeding was successfully controlled with endoscopic therapy in all of them and there was no recurrent bleeding; 3 patients were treated with epinephrine injection alone, 5 with epinephrine plus heater probe, 2 with epinephrine plus endoclips, and 1 with banding. None of the patients needed surgical intervention. Average length of hospital stay was 4.4 days (Range 1-42 days). 3 patients died during the same hospital stay; however cause of death was not directly related to GI bleeding.

Conclusion: Although some studies indicate that up to 30% of patients with Mallory-Weiss tear may require surgical intervention, our study indicates otherwise. All actively bleeding patients in our study(11 out of 35) were effectively controlled with endoscopic intervention. Hence, we conclude that active bleeding from Mallory-Weiss tear can be effectively controlled with endoscopic intervention and recourse to surgical intervention is not warranted.

P768

PROSPECTIVE EVALUATION OF 48-HOUR ESOPHAGEAL PH-MONITORING BY THE WIRELESS BRAVO CAPSULE: EFFICACY, SAFETY, TOLERANCE AND LIMITATIONS

M. Q. Khan, MRCP(UK), H. I. Al-Ashgar, MD, K. M. Al-Kahtani, MRCP(UK), A. S. Helmy, MD, M. Abdullah, MRCP(UK), M. Al-Fadda, MD. Gastroenterology, KFSH&RC, RIYADH, Saudi Arabia.

Purpose: Esophageal pH monitoring is the gold standard for the diagnosis of gastroesophageal reflux disease (GERD). This prospective study aimed to assess the Bravo capsule performance, tolerability, safety and limitations; to monitor the day-to-day variability in acid exposure in 48-h pH-monitoring; and evaluate the relationship between acid reflux and the presence of hiatus hernia or endoscopic esophagitis (EE).

Methods: A total of 84 patients (44 men & 40 women, mean age 43.3±14 years) with persistent reflux-like symptoms underwent Bravo capsule placement for 48-h pH-monitoring from October 2006 to April 2008 at KFSH&RC using the worldwide standardized technique. Only 20 patients (23.8%) were on proton-pump inhibitors at the time of study. Clinical, endoscopic, and pH data were prospectively collected and analyzed. All participants were encouraged to continue their normal daily activities without any dietary restrictions, and record periods of food intake, recumbent position, and any symptoms including heartburn, chest pain, or regurgitation, in a diary.

Results: Bravo pH-monitoring for 48-h was successfully achieved in 78 (92.4%) patients, and failed in 6, due to early capsule detachment (n=3), capsule technical failure (n=2), and receiver mechanical damage (n=1). A second capsule was inserted immediately in another 5 patients due to detachment of the index one during check re-endoscopy. No major complications, such as bleeding, perforation, or bolus obstruction were encountered in our cohort. Transient dysphagia and/or chest discomfort were reported by 42 (50%) and 22 (26.1%) patients on the first and second day respectively. Abnormal acid reflux on either day was detected in 54 (64.2%) patients. Extension of pH-monitoring to 48-h allowed diagnosis of acid reflux in 7 (17.7%) more patients who had no significant reflux in the first 24-h (n=39), that is 8.3% of the whole cohort (n=78). A high DeMeester score (>14.2) was reported in 7 patients (29%) with hiatus hernia (n=24) and in 17 (28%) of those without (n=60) respectively (p=NS). Patients with EE (n=40; 47.4%) had a DeMeester score of 27.3±24.4, while those without EE (n=44; 52.8%) had a score of 20.2±16.5, (p=NS).

Conclusion: Wireless esophageal pH-monitoring is technically feasible, safe, well-tolerated, and efficient technique in diagnosing acid reflux, but the problems of early capsule detachment and mechanical failure require some improvement in capsule technology. Extending the monitoring period to 48-h improves the diagnostic yield of GERD. There was no significant correlation between acid reflux and presence of hiatus hernia or EE.

P769

ENDOSCOPICALLY SUSPECTED ESOPHAGEAL METAPLASIA (ESEM) IS ASSOCIATED WITH THE COMPLICATIONS OF HIATUS HERNIA, REFLUX ESOPHAGITIS AND SEVERE GASTRIC MUCOSAL ATROPHY IN JAPANESE PATIENTS WHO UNDERWENT EGD

J. Matsuzaki, MD, H. Suzuki, MD, Ph D, K. Hirata, MD, M. Ikewada, MD, Y. Saito, MD, Ph D, T. Hibi, MD, Ph D. Division of Gastroenterology and Hepatology, Department of Internal Medicine, Keio University School of Medicine, Tokyo, Japan.

Purpose: Barrett's esophagus is a known risk factor to develop lower esophageal adenocarcinoma in Western countries. Endoscopic finding suggestive of Barrett's esophagus is defined as ESEM (endoscopically suspected esophageal metaplasia). The objective of this study was to examine the associations between the incidence of ESEM and upper gastrointestinal complications in Japanese patients.

Methods: The authors conducted a case-control study within 4947 patients (male 2855, female 2092) who underwent esophagogastroduodenoscopy (EGD) in Keio University Hospital between Nov. 2007 and Apr. 2008. Among them, 527 patients(356 men and 171 women, mean age 65 years) were diagnosed ESEM (10.7%). Patients with ESEM (cases: n=527) were age-, gender-matched to patients without ESEM (controls: n=527). ESEM cases and controls were examined in terms of other upper GI endoscopic findings, such as gastric mucosal atrophy, hiatus hernia, reflux esophagitis, peptic ulcers, gastric cancer, and past distal gastrectomy. Reflux esophagitis was diagnosed according to the Los Angeles criteria. Endoscopic evaluation of gastric mucosal atrophy was classified into three groups (mild: C1, C2, moderate: C3, O1, severe: O2, O3) according to the criteria by Kimura and Takemoto.

Results: When cases and controls were compared, severe atrophic gastritis, hiatus hernia, and reflux esophagitis were positively associated with ESEM (odds ratio[OR] 1.81, 95% confidence interval[CI] 1.08-3.04; OR 3.23, 95% CI 2.41-4.32; OR 2.20, 95% CI 1.25-3.84, respectively), while mild atrophic gastritis was inversely associated with ESEM (OR 0.73, 95% CI 0.57-0.93). No differences among groups were shown in the complication of peptic ulcer disease, gastric cancer and of past distal gastrectomy.

Conclusion: Results suggest significant associations between the complications of hiatus hernia, reflux esophagitis, and severe gastric mucosal atrophy, and the risk of ESEM in Japanese outpatient population.

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P770

INTERCELLULAR SPACE DISTANCE IS INCREASED IN REFRACTORY HEARTBURN PATIENTS WITH GERD BUT NOT THOSE WITH FUNCTIONAL HEARTBURN (FH): A STUDY USING IMPEDANCE-PH AND ELECTRON MICROSCOPY

M. F. Vela, MD, MSCR,[1] B. M. Craft, MD,[1] N. Sharma, MD,[1] J. Freeman, RN,[1] D. Hazen-Martin, PhD[2]. 1. Gastroenterology & Hepatology, Medical University of South Carolina, Charleston, SC; 2. Pathology and Laboratory Medicine, Medical University of South Carolina, Charleston, SC.

Purpose: Patients with ongoing heartburn despite maximal acid suppression may have objective evidence of GERD on endoscopy or reflux monitoring; those with a negative evaluation are termed Functional Heartburn(FH). Multichannel Intraluminal Impedance and pH (MII-pH) increases the yield of reflux monitoring by assessing both acid and nonacid reflux in acid suppressed patients. Intercellular space distance (ISD) of esophageal epithelium masured by electron microscopy (EM) has recently emerged as a marker of ultrastructural damage. Our aim was to compare ISD in healthy controls and two groups of patients with refractory heartburn: those with evidence of GERD on endoscopy and/or 24-hour MII-pH, and those with Functional Heartburn.

Methods: Adult patients with ongoing heartburn despite BID PPI underwent MII-pH on therapy and endoscopy with biopsies for ISD measurement by EM. Patients were categorized as GERD if esophagitis was present on endoscopy or if 24-h MII-pH was abnormal by increased esophageal acid exposure or a positive symptom index (>50% heartburn events associated with a reflux episode). Patients with normal endoscopy and MII-pH were categorized as FH. Healthy controls (no past/present history GERD symptoms, normal 24-h pH monitoring) underwent endoscopy with esophageal biopsies for ISD measurement. ISD in μm determined in all subjects by transmission EM of esophageal biopsies at 5,000x magnification using computer-assisted morphometry (Image J software). 10 measurements of ISD taken in each of 10 fields; mean ISD for each subject was the average of the 100 measurements.

Results: 8 healthy controls, 7 FH, and 9 GERD patients studied so far. Two GERD subjects had esophagitis on endoscopy, all other study subjects had normal endoscopy. Results shown in the table. Mean ISD was significantly higher in GERD compared to controls (p = 0.043). Although ISD was numerically higher for GERD compared to FH as well as FH compared to controls, these differences were not statistically significant (type II error is possible).

Conclusion: In our preliminary data, GERD but not FH patients with refractory heartburn have increased ISD, even though most GERD patients had normal endoscopy. ISD may be a helpful tool to separate GERD from FH and may help direct therapy in patients not responding to acid suppression, with GERD patients requiring improved reflux control, while FH patients could benefit from non-GERD treatment (e.g. visceral analgesia).

	Number of patients	Mean age	No. patients with esophagitis	Mean ISD (μm)	*p* versus controls	*p* versus FH
CONTROLS	8	45	0	0.26	-	0.054
FUNCTIONAL HEARTBURN (FH)	7	43	0	0.39	0.054	-
GERD	9	46	2	0.81	0.043	0.14

ISD = intercellular space distance

P771

CHRONIC ESOPHAGITIS DISSECANS SUPERFICIALIS - A RARE CAUSE OF ESOPHAGEAL STRICTURES AND DYSPHAGIA

D. S. Estores, MD,[1] H. Worth Boyce, MD,[1] D. Coppola, MD,[2] J. Messina, MD[2]. 1. Center for Esophageal and Swallowing Disorders, University of South Florida, Tampa, FL; 2. Department of Pathology, University of South Florida, Tampa, FL.

Purpose: Chronic esophagitis dissecans superficialis (CED) is a rare condition characterized by sloughing of esophageal mucosa, dysphagia and certain microscopic (immunohistochemical and histologic) features. There are less than 10 cases of CED described in the medical literature. At the USF Center for Esophageal & Swallowing Disorders (USF-CESD) we present 2 cases of CED diagnosed in 1999 & 2006.

Methods: We identified 2 cases of CED at the USF-CESD (out of more than 6,500 patients).

Results: Both patients share common features: both are females (ages 78 and 67 years); a history of chronic dysphagia; no history of caustic substance ingestion nor of any systemic autoimmune disease; and both had complicated strictures with erythema, friability and sloughing of the esophageal mucosa present on endoscopy. One patient had symptomatic response to dilation therapy. Biopsies under light microscopy show detached fragments of squamous epithelium. There were some inflammatory cells seen. Eosinophils are rare (<1/hpf). There were no microorganisms or evidence of viral infection. An immunohistochemical stain for ICAM-1 was strongly positive in specimens from one patient (a criterion for CED according to Ponsot et al.) In this patient the diagnosis of CED is based on endoscopic appearance and exclusion of other mucosal diseases. Immunofluorescence tests for the detection of IgM and IgG were negative in both.

Conclusion: The entity of CED is a rare form of chronic esophagitis with characteristic endoscopic and microscopic features which should be considered in the differential diagnosis of chronic dysphagia. Dilation therapy may be of benefit for patients with CED presenting with esophageal strictures.

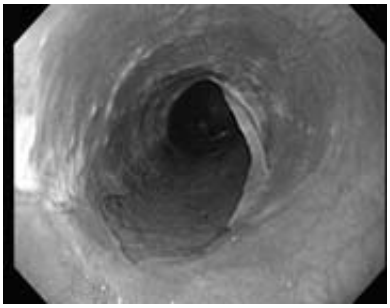
World Literature Review of CED Cases

Citation	Age (years)	Sex	Duration of Symptoms (years)	Duration of Follow-up (years)	ICAM-1	Endoscopic Lesions	Therapy
Ponsot et al	55	F	20	5	Positive	Diffusely altered, stricture at 18 to 22 cm	Anti-reflux surgery, dilations
Ponsot et al	78	F	1	1	Positive	Diffusely altered, strictures at 18 to 20 and 37 to 38 cm	Dilations
Ponsot et al	61	M	2	2	Positive	Lesions between 26 to 32 cm, stricture at 31 to 32 cm	Corticosteroids
Ponsot et al	61	M	5	6	Positive	Diffusely altered, strictured at 22 to 24 cm	Dilations
Ponsot et al	75	M	2	3	Positive	Lesions between 29 to 35 cm, stricture at 22 to 24 cm	Dilations
Coppola, Lu and Boyce (Case 1)	78	F	4	3	Positive	3 mm diameter stricture at 20 cm and a 7 mm diameter strieture in the distal esophagus at 39 cm	Dilations
Current case (Case 2)	68	F	5	2	Negative*	Stricture and lesions present from 25 to 36 cm	Dilations
Vandenbroucke et al	62	M	2	2	Not stated**	incomplete stenosis of the esophagus between 23 and 30 cm	Not Stated
Average age, symptom duration and follow-up	67.2		5.2	3			

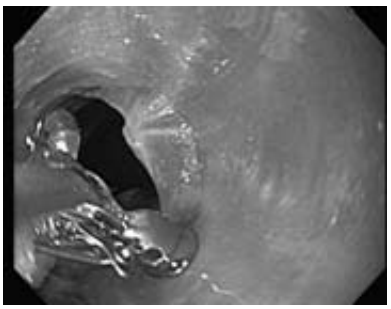
In all specimens examined, no deposit of immunoglobulin (IgG, IgM or IgA) or complement fragment C3 was detected by immunoflurescence

***This patient had cutaneous lichen planus with no oral involvement, biopsies are negative for immunoglobulins (IgG, IgM or IgA) which rules out esophageal lichen planus**

****This patient had been on chronic diclofenac oral therapy, no stains for ICAM-1 antibodies and immunoglobulins (IgG, IgM or IgA) were reported**



Endoscopic image of the esophagus illustrating sloughing of mucosa and translucent membrane



Width of open biopsy forceps is 8 mm indicating severity of stricture

P772

RESOLUTION OF CRICOPHARYNGEAL BAR WITH BOTOX INJECTION COMBINED WITH ESOPHAGEAL DILATION

X. Fan, MD, MS,[1] L. Scott, MD, MS,[1] M. Underbrink, MD,[2] M. Hersey, MS[3]. 1. Gastroenterology, University of Texas Medical Branch, Galveston, TX; 2. Otolaryngology, University of Texas Medical Branch, Galveston, TX; 3. Speech Therapy, University of Texas Medical Branch, Galveston, TX.

Purpose: A 68 year-old Caucasian male with history of GERD complained of chronic dysphagia progressing from solids, including pills, to some liquids. Barium swallow revealed a cricopharyngeal bar (Figure 1). He was evaluated in the interdisciplinary swallowing disorders clinic by gastroenterology, otolaryngology, and speech pathology. He did not respond to large caliber bouginage and was subsequently treated with botulinum toxin (Botox), 50 Units, injected into the cricopharyngeus, using fluoroscopic and EMG monitoring. His dysphagia improved after treatment and he was able to tolerate a puree diet and liquids, although still experienced some difficulty with some solid food, including meat. A repeat barium swallow, while revealing some retention at the vallecula, showed that the cricopharyngeal bar had disappeared (Figure 2), with unrestricted passage of a 12.5 mm barium tablet.

Methods: Case report

Results: Case report

Conclusion: Case report

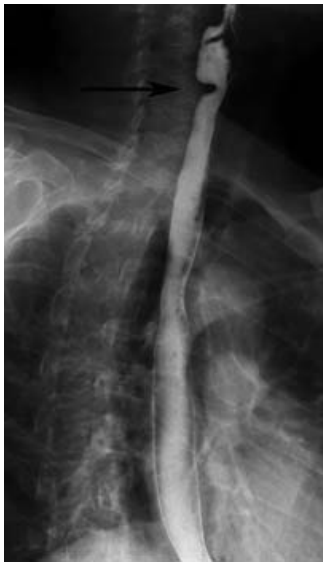


Figure 1. Cricopharyngeal bar on barium swallow

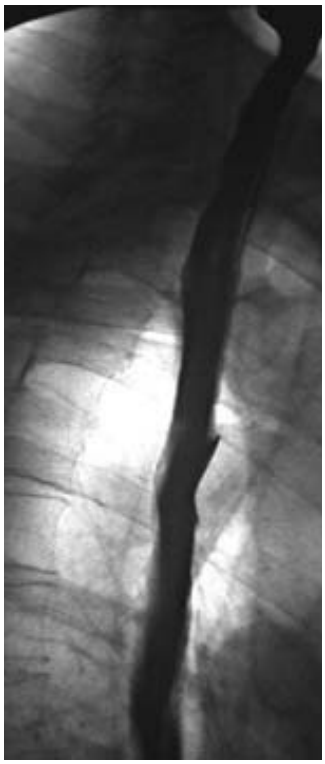


Figure 2. Resolution of cricopharyngeal bar on barium swallow

P773

FIRST USE OF THE EVOLUTION® ESOPHAGEAL STENT IN THE U.S

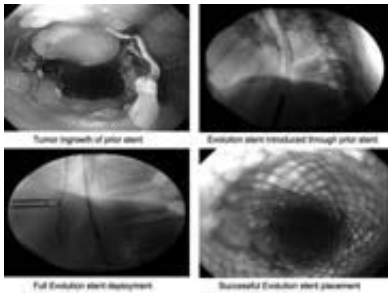
M. J. Lipp, MD, O. Pagovich, MD, D. H. Robbins, MD. Beth Israel Medical Center, New York, NY.

Purpose: The Evolution® stent from Cook Medical is the first esophageal stent with a controlled release delivery system that allows deployment and recapturability with precision. Using a trigger-based introducer a proportional length of the stent is deployed or recaptured with each squeeze. The nitinol stent has an internal and external silicone coating, designed to resist tumor ingrowth. We present to first use of the Evolution® stent in a patient with esophageal cancer in the U.S.

Methods: A 70 year-old male with known stage IV esophageal cancer presented with symptoms of progressive dysphagia and weight loss despite palliative chemotherapy. Two months prior to admission the patient was found to have a 8 cm circumferential obstructing mass in the distal esophagus and underwent placement of a covered metal esophageal stent. Repeat upper endoscopy showed tumor progression as well as significant tumor ingrowth at both the proximal and distal uncovered portions of the prior stent.

Results: A 25mm x 15cm Evolution® stent was carefully placed under fluoroscopic guidance, overlapping the prior stent as well as areas of tumor ingrowth. The total procedure time was twelve minutes. Proper positioning was confirmed using endoscopy and fluoroscopic images. After successful placement there was immediate symptomatic improvement and the patient was able to tolerate a modified diet.

Conclusion: We present the first use of the new Evolution® stent in the U.S. in a patient with esophageal cancer. This new delivery system allows facile and precise deployment and recapturability. The novel dual-sided silicone coating may prevent future tumor tumor ingrowth. The Evolution stent is a promising tool in the management of esophageal cancer.



Endoscopic/Fluoroscopic Images

P774

SOCIOECONOMIC DISPARITIES IN THE USE OF CATHETER-FREE ESOPHAGEAL pH TESTING

E. Sum, MD, S. Uppalapata, MD, J. Kim, MD, J. Richter, MD, F. Friedenberg, MD, MS. Medicine/Gastroenterology, Temple University, Philadelphia, PA.

Purpose: Literature on reflux disease in African Americans (AA) is scant. Temple Hospital is unique in that we serve a local community which is predominantly AA and impoverished, as well as a wealthy tertiary care referral population. Our purpose was to compare the presentation and evaluation of white and AA patients with chronic reflux symptoms to our hospital.

Methods: We reviewed the records of all patients endoscopically evaluated for chronic reflux between 1/06 and 8/07. We identified individuals without erosions to determine whether they subsequently underwent a Bravo® pH capsule study (off PPI) to clarify reflux status. Patients were thus classified as either: Erosive esophagitis (EE); Bravo Negative (BN); or Bravo Positive (BP). Our unit now rarely orders catheter-based pH studies and therefore these were not studied. The patient's zip code was used to estimate median household income.

Results: Total of 550 patients with chronic reflux underwent endoscopy. There were n=295 (53.6%) diagnosed with EE. Of the remaining 255, n=133 (52.2%) underwent pH testing (BN=68; BP=65)to confirm reflux. Patients with EE were significantly older (53 ± 16) than those who were BN (47 ± 15) or BP (47 ± 16) (P=0.003). BMI (overall mean 27.3 ± 6.8)did not differ between groups or between AA and whites. Patients with EE were significantly poorer (median income 32,600 USD) than those who underwent BRAVO testing (56,400 USD; P<0.001). Males were more likely to have EE (82% vs. 58%), while females were more likely to be EE (-) and categorized as either BN or BP (P<0.001). Univariate analysis also revealed that beta blockers, diabetes, and tobacco use were associated with EE. By logistic regression, tobacco use (OR=8.1; P=0.006) and AA race (OR=5.0; P=0.002) were associated with having either EE or a BP result. Overall, 83.9% of pH studies were performed in whites while only 7.4% of AA underwent pH testing. Only 13.6% of patients who underwent pH testing did not have commercial insurance. There were no pH studies in patients with city-supplied insurance or no insurance.

Conclusion: Tobacco use, and AA race were strongly associated with erosive esophagitis/positive pH test. Results suggest an access limitation to catheter-free esophageal pH testing in the AA community. At Temple payment for the capsule is usually out-of-pocket because it is not covered by most health insurance plans (however, the EGD portion usually is covered). This limitation precludes it's widespread use for patients living in poverty.

P775

GATORADE IS A GOOD SUBSTITUTE FOR NORMAL SALINE IN MULTICHANNEL INTRALUMINAL IMPEDANCE AND MANOMETRY

N. Chowdhury, MD,[1] Z. Anwar, MD,[1] O. Deen, MD,[1] R. Rackett, LPN,[2] A. Hila, MD[2]. 1. Internal Medicine Residency Program, United Health Services, Johnson City, NY; 2. Gastroenterology, United Medical Associates, Johnson City, NY.

Purpose: Multichannel intraluminal impedance and manometry (MII-EM) is a method evaluating esophageal motility and bolus transit. Patients swallow 5ml of normal saline during their swallow assessment. Due to the taste of normal saline, patients quite often complain. Normal saline was initially chosen as the liquid challenge medium for swallowing because of its high electrolyte contents which is needed for good electrical conductance for the MII part of the test. Gatorade is also rich in electrolytes, thought less than normal saline. The aim of this study was to evaluate the usage of Gatorade as a substitute for normal saline in MII-EM.

Methods: 15 patients (3 males; 12 females) scheduled for esophageal function testing were studied with an MII-EM catheter: 4 impedance measuring segments (5, 10, 15 and 20 cm above LES (lower esophageal sphincter)) and 5 solid state pressure transducers (within the LES and 5, 10 15 and 20cm above LES). Each subject was given 10 swallows of 5ml of normal saline and 10 swallows of 5ml of Gatorade. The studies were assessed and results were compared using PRISM statistical software.

Results: In the normal saline study, 14 patients had normal manometry and 1 patient had nutcracker esophagus. In the Gatorade study, 12 patients had normal manometry, 2 patients had ineffective esophageal motility and 1 patient had nutcracker esophagus. The patient with nutcracker esophagus had the same diagnosis using both saline and Gatorade. Thus there is an 87% concordance between the two studies. All the normal saline as well as the Gatorade studies had complete bolus transit, as defined by at least 80% complete swallows on MII. Both studies had a statistically significant correlation in distal esophageal amplitude (p <0.001, pearson r=0.95) and total bolus transit time (p<0.001, pearson r=0.92).

Conclusion: This initial study indicates that Gatorade may be a good substitute to normal saline in MII-EM as it provides similar results. Furthermore, it is more palatable for most patients. Further testing will be needed to confirm these results.

P776

VALIDATION OF A NOVEL SCORING SYSTEM AS A DIAGNOSTIC AID IN PATIENTS WITH REFLUX-LIKE DYSPEPSIA

A. K. Roorda, MD,[1] S. N. Marcus, MD, PhD,[2] G. Triadafilopoulos, MD[3]. 1. Department of Medicine, Division of Digestive Diseases, West Virginia University School of Medicine, Morgantown, WV; 2. Department of Medicine, Division of Gastroenterology, El Camino Hospital, Mountain View, CA; 3. Department of Medicine, Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA.

Purpose: Patients presenting with epigastric pain and heartburn usually fall into one of three diagnostic categories: gastroesophageal reflux disease (GERD), nonerosive esophageal reflux disease (NERD), or reflux-like dyspepsia (RLD). However, as symptoms often overlap, one cannot discriminate among these three entities based on symptoms alone. We sought to evaluate the reproducibility and validity of a multi-factorial scoring system as a diagnostic aid in evaluating patients with epigastric pain and heartburn.

Methods: We prospectively evaluated an outpatient, community-based cohort (validation cohort) presenting with epigastric pain and heartburn that were only partially relieved by proton pump inhibitor (PPI). After an initial symptom evaluation (epigastric pain, heartburn, acid regurgitation, and dysphagia), endoscopy and distal biopsies were performed to evaluate the structure of the esophagus, stomach, and duodenum, followed by esophageal motility and 24-hr ambulatory pH monitoring to assess esophageal function and pathologic acid exposure. Disease severity scores were applied for 9 variables (Table 1) and a total score was calculated for each patient. Data from the validation cohort was compared against data from a derivation cohort of 110 patients (ACG poster 2007).

Results: The validation cohort comprised of 63 patients (29 males, 34 females). Endoscopy showed erosive or complicated GERD in 22 patients (35%) and was normal in 41 (65%). Of this latter group, 32 (51%) had abnormal pH and motility studies and were classified as patients with NERD. The remaining 9 (14%) had normal functional studies and were classified as patients with RLD. Mean total disease severity scores for each group appear in Table 2. A score higher than 4 excludes RLD and 4 or less excludes GERD; a score higher than 10 excludes NERD.

Conclusion: This simple, reproducible and validated scoring system distinguishes among GERD, NERD, and RLD and can therefore assist in important long-term management and therapeutic decisions.

Table 1. Variables of the disease severity score.

Variable	0 points	1 point	2 points	3 points
Epigastric pain	Absent	Present		
Heartburn	Absent	Present		
Acid regurgitation	Absent	Present		
Dysphagia	Absent	Present		
Endoscopy	Normal	Erosive esophagitis	Stricture	Barrett's esophagus
Hiatal hernia	Absent	≤ 2 cm	> 2 cm	
Esophageal biopsy	Negative	Inflammation	Barrett's esophagus	
pH studies (DeMeester score)	≤ 15	16-25	26-50	≥ 51
LESP	≥ 11 mmHg	≤ 10 mmHg		

Table 2. Comparative disease severity scores of derivation and validation cohorts.

	Derivation Cohort		Validation Cohort	
	N (Percent)	Mean Total Score (Range)	N (Percent)	Mean Total Score (Range)
All patients	110 (100%)	6.49 (2-15)	63 (100%)	6.52 (3-15)
GERD group	33 (30%)	8.70 (5-15)	22 (35%)	9.50 (5-15)
NERD sub-group	62 (56%)	6.23 (3-10)	32 (51%)	5.34 (3-9)
RLD sub-group	15 (14%)	3.27 (2-4)	9 (14%)	3.44 (3-4)

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PROSTAGLANDIN LEVELS IN THE GASTRIC MUCOSA OF PATIENTS UNDERGOING PHYSIOLOGICAL STRESS — A PRELIMINARY STUDY

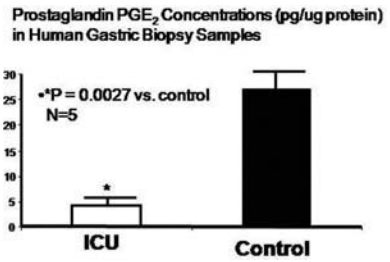
C. S. Marin, MD,[1] J. Qin, PhD,[2] X. Wang, PhD,[2] E. Lin, MD,[3] V. Yang, MD, PhD,[2] Q. Cai, MD, PhD[2]. 1. Internal Medicine, Emory University, Decatur, GA; 2. Digestive Disease, Emory University, Decatur, GA; 3. Surgery, Emory University, Decatur, GA.

Purpose: The prostaglandin system plays an important role in the protecting the gastric mucosa against injury. Critically ill patients are at increased risk of developing stress-related gastric mucosal lesions. The levels of prostaglandins in gastric mucosa in stressed animals have been studied with results demonstrating that prostaglandin biosynthesis is inhibited in the gastric mucosa in rats exposed to stress. The prostaglandin levels in the gastric mucosa in patients with stress have not been studied. The aim of this study was to determine the prostaglandin levels in human gastric mucosa in patients undergoing physiological stress.

Methods: Patients undergoing EGD in physiologically stressed states, ICU inpatients, were compared to "non-stressed" patients presenting for EGD at the Ambulatory Surgical Center at The Emory Clinic. These "non-stressed" patients lived at home, were relatively healthy, and were not on oxygen. All patients signed written consents before endoscopy. Biopsy samples were obtained for prostaglandin analysis from the gastric antrum (about 2 cm above the pylorus, on the greater curvature). Samples were immediately frozen via liquid nitrogen and then processed for prostaglandin E2 measurement using the Prostaglandin E2 Express Enzyme Immune Assay Kit (Cayman Chemical, Ann Arbor, MI).

Results: As shown in the figure, the PGE2 levels in the gastric mucosa from patients undergoing stress are significantly lower when compared to those patients not undergoing physiological stress.

Conclusion: In this preliminary study, PGE2 levels were significantly lower in stressed human gastric mucosa than in the non-stressed control group. Further studies are needed to determine the PGE2 levels in human gastric mucosa after physiological stress resolves.



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ENDOSCOPIC MANEUVERS OF THE STOMACH DEMONSTRATE PHYSIOLOGIC CHARACTERISTICS OF THE ELECTROGASTROGRAM

G. Montague, BA,[3] R. Schmieg, MD,[2] C. J. Lahr, MD,[2] D. Spree, CFNP,[1] W. D. Johnson, PhD,[4] T. Abell, MD[1]. 1. Digestive Diseases, University of Mississippi Medical Center, Jackson, MS; 2. Surgery, U of MS, Jackson, MS; 3. School of Medicine, U of MS, Jackson, MS; 4. Preventive Medicine, U of MS, Jackson, MS.

Purpose: Controversy over the significance of the Electrogastrogram (EGG) has continued to limit its clinical usefulness. We investigated the origins and significance of directly recorded EGG signals in response to physiologic maneuvers in patients with drug-refractory gastroparesis (GP).

Methods: 10 female GP patients (mean age 43 years, GP etiology: 1 diabetic, 9 idiopathic) underwent permanent gastric electrical stimulation (GES) system implantation. Intraoperatively, after seromuscular electrode placement but prior to abdominal closure, EGG recordings were performed sequentially for at least five minutes during the following periods: stomach partial inflation during endoscopy (baseline=Base), endoscopic maximal insufflation(R1), desufflation (D1), re-insufflation (R2), and repeat desufflation (D2). EGG recordings were analyzed qualitatively for rhythm (regular=Reg Vs. irregular=Irreg) and amplitude (Equal or UnEqual) and quantitively for mean frequency (Freq, in CPM) and amplitude (Amp, in mV) as well as the Freq/Amp ratio (FAR). Results were compared for differences from baseline frequency (base to R1)and between R1 and R2 by paired t-tests.

Results: After the initial Base period, the R2D2 maneuvers demonstrated more regularity and equal amplitude in the desufflation periods (D1 and D2). There was an initial decrease then stabilization in frequency (p=0.002 for R1 from baseline and p=0.04 between R1 and R2). In the insufflation and desufflation periods, a progressive decrease in amplitude was noted (p<0.02 for R2 and D2 from baseline) and a gradual increase in the FAR were noted (p>0.05). (see table)

Conclusion: Intraoperative serosal EGG recordings, when provoked by physiologic maneuvers, show reproducible characteristics in gastric electrical activity. EGG recordings of the relaxed stomach consistently display a more regular rhythm and equal amplitude than with the distended stomach. Maintenance of FAR both when relaxed and distended may be a measure of gastric homeostasis. Standardization of the EGG in terms of gastric distention may be needed for accurate physiologic interpretation.

Session	Freq	Reg	Irreg	Amp	Equal	UnEqual	FAR
Base	6.3	2	8	0.84	8	2	17.5
R1	4.6 *	4	6	0.46	8	2	24.9
D1	5.9	8	2	0.39	10	0	25.9
R2	5.7 #	3	7	0.37 *	7	3	26.0
D2	6.1	8	2	0.32 *	9	1	28.1
p value from base	*0.002			*<0.02			NS
p value change R1 to R2	#0.04			NS			NS

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RESIDENT PHYSICIANS' COMFORT WITH MANAGING GASTROPARESIS AT THE COMPLETION OF INTERNAL MEDICINE RESIDENCY

H. Nguyen, MD, J. Gladden, MS, S. Zeddun, MD, M. Borum, MD, EdD, MPH. Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC.

Purpose: Nutrition instruction has been reported to have limited emphasis in residency training. Physicians' familiarity with gastroparesis and nutrition issues is important. Effective nutritional support can decrease morbidity and hospitalizations in patients with refractory gastroparesis. This study evaluated internal medicine resident physicians' comfort with gastroparesis management and the effectiveness of various teaching modalities.

Methods: An anonymous survey addressing core gastroenterology topics was distributed to all PGY-3 internal medicine resident physicians at an urban university medical center. Information was collected about the benefit of various teaching modalities during residency training and resident physicians' comfort level with gastroparesis management. The teaching modalities evaluated included attending rounds, autopsy conference, didactic rounds, direct patient care (inpatient and outpatient), grand rounds, individual reading, journal club, morning report and noon conference. Information was obtained on whether resident physicians participated in a gastroenterology elective during training. A database was developed. Statistical analysis was performed using Chi-square tables with statistical significance set at $p<0.05$.

Results: Twenty of 29 (69%) completed surveys were returned. Care of hospitalized patients, individual readings and didactic rounds were the most beneficial teaching modalities for teaching gastroparesis management. Care of outpatients was the least beneficial teaching modality. Care of hospitalized patients was superior (p=0.00015) to outpatient care as a teaching modality for managing gastroparesis. 70% of resident physicians who completed a gastroenterology elective felt more emphasis on gastroparesis was needed during training. Only 30% of resident physicians reported comfort with gastroparesis management.

Conclusion: Nutrition instruction during residency may be underemphasized. Care of hospitalized patients was the most beneficial teaching modality for learning about gastroparesis. However, most resident physicians felt uncomfortable managing gastroparesis upon completion of their training. Educational initiatives should be developed to improve gastroparesis teaching and nutrition education.

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EVALUATION OF CLARITHROMYCIN-RESISTANT RATE FOR *HELICOBACTER PYLORI* IN JAPAN (1985-2007)

A. Tanaka, MD, PhD, K. Tokunaga, MD, PhD, H. Sugano, MD, PhD, S. Takahashi, MD, PhD. The Third Department of Internal medicine, Kyorin University School of Medicine, Mitaka, Japan.

Purpose: A triple therapy which consists of amoxicillin (AMPC), clarithromycin (CAM), and a proton pump inhibitor (PPI) [PPI/AC] has been commonly used for the first eradication regimen of *Helicobacter pylori* (*H. pylori*) in Japan. CAM-resistant *H. pylori* is one of the major causes of failure to eradicate this organism. The aim of this study was to evaluate the CAM-resistant rate for *H. pylori* in Japan.

Methods: All patients were underwent upper gastrointestinal endoscopy with biopsies for the diagnosis of *H. pylori* infection using the culture at Kyorin University Hospital, from 1985 to 2007. Patients who had received prior *H. pylori* eradication therapy were excluded from this study. The susceptibility to CAM was tested by Dry Plate Test. *H. pylori* isolates were considered resistant when the minimal inhibitory concentration (MIC) of CAM was ≧1μg/mL.

Results: In 1985, CAM-resistant rate for *H. pylori* was 0%(0/32). In 1995 and 2000, CAM-resistant rate for *H. pylori* was 17.9%(5/28) and 8.1%(6/74), respectively. From 2005 to 2007, CAM-resistant rate for *H. pylori* was 17.2%(5/29), 28.6%(6/21), 35.7%(10/28), every year, respectively.

Conclusion: Recently, the CAM-resistant rate for *H. pylori* was more than 30% in this study. The eradication rate for PPI/AC regimen will decrease further in the near future in Japan.

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EVALUATION OF TWO COMMERCIAL ENZYME IMMUNOASSAYS FOR DETECTING IGG AND IGA ANTIBODIES TO *HELICOBACTER PYLORI* IN JAPAN

Y. Urita, MD, PhD, T. Watanabe, MD, PhD, T. Maeda, MD, Y. Sasaki, MD, S. Ishihara, MD, K. Hike, MD, M. Sanaka, MD, PhD, H. Nakajima, MD, PhD, M. Sugimoto, MD, PhD. Department of General Medicine, Toho University, Tokyo, Japan.

Purpose: Although the diagnostic utility of serologic detection of IgG antibodies to H.pylori is well established, the usefulness of IgA-based tests is less well documented. The aim of this study was to evaluate two commercially available ELISAs, both for IgG and IgA, for the diagnosis of H.pylori infection in Japanese population with high prevalence of atrophic gastritis and intestinal metaplasia.

Methods: A total of 149 patients underwent upper endoscopy, endoscopic 13C-urea breath test, rapid urease test, and histology. A patient was considered to be infected with H.pylori when at least two of the three applied. Dye endoscopy with methylene blue was performed in 111 patients to detect intestinal metaplasia. ELISA testing was performed using the EPI HM-CAP IgG and PP-CAP IgA assays and EIAgen H.pylori IgG and IgA assays.

Results: Of 149 patients, 81 were H.pylori positive and 68 were H.pylori negative. Sensitivity was 94.8, 92.2, 94.8, and 97.5% for HM-CAP IgG, PP-CAP IgA, EIAgen *H. pylori* IgG, and IgA, respectively. Three of 81 H.pylori-positive patients was IgA positive and IgG negative. Intestinal metaplasia was significantly found more often in the H.pylori positive group than in the H.pylori negative group (17.4%). Of 49 H.pylori positive patients with intestinal metaplasia, the values of HM-CAP IgG and Autace IgG titers were less than the cutoff value in three (7.0%) and four (8.2%) patients, respectively. PP-CAP IgA antibodies were detected in two of three patients with a negative HM-CAP IgG result, and EIAgen *H. pylori* IgA antibodies were positive in three of four patients with a negative EIAgen *H. pylori* IgG result. All three with an indeterminate HM-CAP IgG result were positive for PP-CAP IgA. Both EIAgen *H. pylori* IgG and IgA antibodies were detected in all 16 infected patients without intestinal metaplasia, whereas only one of 16 intestinal metaplasia negative infected patients with a positive HM-CAP result had a negative PP-CAP result. Of eight H.pylori negative patients in whom intestinal metaplasia was found by dye endoscopy, PP-CAP IgA results were positive in three of five patients with a HM-CAP IgG negative result and EIAgen *H. pylori* IgA was detected in one of four patients with an EIAgen *H. pylori* IgG negative result.
Conclusion: Although the sensitivity of the two IgA-based tests is very low, a conjunctional IgA ELISA can be of additional diagnostic value in some patients who had severe atrophic gastritis with intestinal metaplasia.

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NIGHT-TIME pH HOLDING TIME: WHAT IS HIDDEN BY THE % OF TIME pH ≤ 4?
C. Wang, MD, Y. Yuan, MD, PhD, Y. Chen, MSc, R. Hunt, MD, FRCPC, FACG, AGAF.
Department of Medicine, McMaster University, Hamilton, ON, Canada.
Purpose: Delayed release (DR)-PPIs are commonly used for reflux patients with night-time symptoms but the effect on acidity after midnight is seldom reported. We explored the intragastric suppressing effect of esomeprazole (ESO), by post hoc analysis of intragastric pH data from two of our recent trials.
Methods: Data from trials with 2 new antisecretory drugs [STU-Na (n=31) and AGN 904 (n=12)] in which healthy volunteers (HV) took ESO 40 mg QAM and underwent ambulatory 24-h intragastric pH-metry on day 5, were combined by the method of individual participant data meta-analysis. Mean percent time (%) for 24 h (0700-0700), day (0700-1900), night (1900-0700), and midnight (0000-0700) periods for pH ≤4, ≤3, and ≤2 were measured respectively by 24 hr pH-metry. Random effect or fixed effect was used when significant or non-significant heterogeneity was seen between studies, respectively.
Results: At pH ≤4, mean percent time was 69.75 (95% CI 64.00-75.49) for midnight, 58.07 (49.81-66.33) for night, 21.50 (18.32-24.67) for day, and 39.96 (34.60-45.33) for 24 h. At pH ≤3, mean percent time was 59.33 (52.70-65.97) for midnight, 45.47 (40.41-50.53) for night, 13.60 (11.24-15.96) for day, and 29.69 (26.58-32.79) for 24 h. At pH ≤2 level, mean percent time was 41.67 (34.74-48.61) for midnight, 30.65 (25.38-35.92) for night, 6.57 (5.08-8.06) for day, and 18.72 (15.76-21.68) for 24 h (table). All mean % time for the midnight period for pH ≤ 2, 3, & 4 was significantly longer than for 24 hrs, daytime and night-time periods ($p<0.05$).
Conclusion: ESO 40mg QAM in HV, results in ~40% of the 24 hrs and 58% of the nighttime with pH ≤4. For midnight, pH was ≤4 for 70% of time, and pH ≤3 was ~60% of time and up to 40% of time pH ≤2. Thus, after midnight there is a marked increase in intragastric acidity (1 unit pH change associated with a 10 fold change in H+ ion is 100 fold increase if pH falls from 4 to 2). Simply reporting the nocturnal pH 4 holding time may not reflect this high acidity after midnight which may be problematic in patients who reflux. These data emphasize the need for optimal control of nocturnal acidity.

Table. Meta–analysis combining two trials data weighting by variance of mean

Mean % time (95%CI)	24 hr (0700-0700)	Day (0700-1900)	Night (1900-0700)	Midnight (0000-0700)
pH ≤4	39.96 (34.60 to 45.33) *	21.50 (18.32 to 24.67)	58.07(49.81 to 66.33)*	69.75 (64.00 to 75.49)
pH ≤3	29.69 (26.58 to 32.79)	13.60 (11.24 to 15.96)	45.47 (40.41 to 50.53)	59.33 (52.70 to 65.97)
pH ≤2	18.72 (15.76 to 21.68)	6.57 (5.08 to 8.06)	30.65 (25.38 to 35.92)	41.67 (34.74 to 48.61)

All data were analyzed with fixed effect except * with random effect model
Disclosure - Dr. Hunt: Consulting or speaker's Bureau: AstraZeneca, Nycomed, Schering, Sidem/Steba Biotech Research support: Nycomed, Schering, Sidem/Steba Biotech

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CORRELATION OF RECORDING FROM MUCOSAL AND SEROSAL EGG PROBES WITH GASTRIC EMPTYING AND GASTRIC NEURO-MUSCULAR STATUS
E. S. Weeks, MD,[1] E. Rickman, MD,[1] R. E. Schmieg, MD,[2] J. Salameh, MD,[2] C. J. Lahr, MD,[2] S. Islam, MD,[2] W. Johnson, PhD,[3] S. Bigler, MD,[4] C. Subramony, MD,[4] T. Abell, MD[1].
1. Digestive Diseases, University of Mississippi Medical Center, Jackson, MS; 2. Surgery, University of Mississippi Medical Center, Jackson, MS; 3. Epidemiology and Biostatistics, University of Mississippi Medical Center, Jackson, MS; 4. Pathology, University of Mississippi Medical Center, Jackson, MS.
Purpose: Electrogastrogram (EGG) recordings can be obtained from electrodes placed in the inner or outer muscularis propria of the gastric wall. The relationship between electrical activity generated by the Interstitial Cells of Cajal (ICC) and the number of cells in the muscle layers of the gastric wall has not been quantified previoulsy. We examined this relationship in patients with refractory gastrointestinal motor disorders using mucosal and serosal probes placed either endoscopically in the GI lab or serosally in the OR. We hypothesized that specific relationships might exist between ICC cell numbers, direct EGG signals, and gastric motor function. We also examined whether mucosal or serosal signals corresponded better to standardized gastric emptying studies.
Methods: 29 patients (25 female, 4 male, mean age 34 years) with upper gastrointestinal motor disorders had full thickness seromuscular biopsies of the stomach at the time of gastric electrical stimulation (GES) system implantation. Immunohistochemical staining with anti-CD117 antibodies was used to identify ICC cells. The numbers of CD117 positive cells per high power field were quantified in the inner circular muscle (I) and outer longitudinal muscle (O) layers of the muscularis propria for each patient. EGG recordings were obtained from electrodes placed either endoscopically through the mucosa (M) into the inner muscle layer or surgically through the serosa (S) into the outer muscle layer at the time of placement of temporary or permanent electrical stimulation devices respectively. The EGG data are reported as average frequency (freq) in cycles per minute, average amplitude (amp) in milliVolts, and as the frequency/amplitude ratio (FAR). Pair-wise correlation coefficients (r) were calculated to assess the associations between EGG values and the number of CD117 positive cells in the inner (I) and outer (O) muscle layers of the muscularis propria as well as 4-hour GET after eating a low-fat solid meal.
Results: As shown in Table 1, mucosal amplitude correlated with the outer muscle CD117 cells and mucosal amplitude, frequency, and FAR correlated with the 4-hour GET (p= 0.05 to 0.10 by correlation coefficients).
Conclusion: In patients with refractory gastrointestinal motor disorders, the mucosal amplitude correlates with some measures of CD117 cells and the mucosal amplitude, frequency, and FAR correlates with the 4-hour GET. The data showed that the mucosal EGG correlated better with gastric emptying than the serosal EGG. Further studies of the correlations between gastric ICC anatomy, direct EGGs, and gastric physiology may provide clinically useful data. EGG measures obtained via endoscopy may prove to be a practical way of assessing gastric neuro-muscular function.

Table 1: Serosal and Mucosal EGG Correlations with ICC in Inner and Outer Muscle Layers

	Outer muscle correlation and p value	Inner Muscle correlation and p value	GET 4 hour correlation and p value
Serosal amplitude	-0.17/0.43	-0.07/0.74	-0.01/0.97
Serosal frequency	0.05/0.80	-0.01/0.97	0.08/0.71
Serosal FAR	-0.04/0.85	0.02/0.91	0.05/0.78
Mucosal amplitude	0.32/0.10	0.13/0.53	-0.33/0.09
Mucosal frequency	-0.19/0.35	-0.05/0.80	0.39/0.05
Mucosal FAR	-0.06/0.75	-0.05/0.82	-0.35/0.07

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ASSESSMENT OF PATTERN OF ANTIMICROBIAL RESISTANCE IN PATIENTS (*HELICOBACTER PYLORI* POSITIVE) OF DYSPEPSIA
R. K. Jain, MD, DM (gastroenterology), V. K. Sharma, MD, Y. Malhotra, MD. Dept.of Medicine, Gandhi Medical College, Bhopal,M.P, India.
Purpose: *Helicobacter pylori* eradication is successful in 80% to 90% of the cases.*Helicobacter pylori* eradication rate varies in different parts of the world. This may be related to the regional difference in anti-microbial resistance that affects the outcome of therapy.In present study, our aim is to assess the pattern of antimicrobial resistance in patients (*helicobacter pylori* positive) of dyspepsia.
Methods: 60 cases(15 -50 years),with history suggestive of dyspepsia more than 4 weeks duration were included. Each patient underwent upper GI Endoscopy and gastric biopsy for rapid urease test and culture. Isolated bacteria were analyzed for their levels of antibiotic susceptibility to Metronidazole, Tinidazole, Ornidazole, Furazolidone, Clarithromycin, Amoxycillin, Ciprofloxacin and Tetracycline. The pattern of single and multiple resistance were analyzed.
Results: out of 60 cases rapid urease test was positive in 38 cases and culture was grown in 26 cases. The antibiotic resistance of *Helicobacter pylori* in culture positive cases showed, 84.6% resistant to Metronidazole, 38.5% to Tinidazole, 7.6% to Ornidazole, 32.8% to Amoxicillin, 3.8% to Tetracycline, 19.2% to Clarithromycin, 11.5% to furazolidone and 3.8% to Ciprofloxacin.
Conclusion: Antimicrobial resistance of *Helicobacter pylori* is rapidly changing in different geographical areas and needs to define the resistance pattern in particular geographical area.This will help to improve result of treatment.

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BIOPSY PROVEN *HELICOBACTER PYLORI* IS NOT ASSOCIATED WITH INCREASED PREVALENCE OF ATRIAL FIBRILLATION

G. Mujtaba, MD, S. Anand, MD, K. Ong, MD, I. Khan, MD, S. Nagri, MD, F. Shaikh, MD. Internal Medicine, The Brooklyn Hospital Center, Brooklyn, NY.

Purpose: *Helicobacter pylori* infection (H Pylori) is recognized as one of the most common chronic bacterial infection in the world. Recently studies have demonstrated a significant link between persistent atrial fibrillation (AF) and H Pylori. Chronic H pylori infection increases the serum C reactive protein (CRP) concentration which is thought to be a likely risk factor for AF. The aim of this study is to investigate the association of active biopsy-proven H Pylori infection and prevalence of persistent AF in patients without demonstrable structural heart disease, hypertension (HTN) and diabetes mellitus (DM).

Methods: In this retrospective study, a total of 953 consecutive patients (18-95) who underwent an EGD at The Brooklyn Hospital Center (TBHC) between Jan 2007 to Dec 2007 were studied. We reviewed demographics, EGD reports, histology, and co-morbities of the patients. AF status was identified by a review of hospital discharge summaries, medical records from previous admissions, diagnostic codes for AF and the electrocardiographic data base system of TBHC. Persistent AF is defined as non self-limited and sustained AF. Patients with structural heart diseases, HTN, DM were excluded. Data analysis was conducted by using the Fisher's exact test for categorical variables.

Results: Among 953 patients 376 failed to meet the inclusion criteria and were excluded from the study. Of the remaining group, 192 patients (age 64.8 + 30) had positive histology for H pylori (males 48%, females 52 %). We compared this group to 184 age-matched patients (age 66.3 + 27) who were negative for H pylori (males 45%, females 50 %). Persistent AF was present in 4 out of 192 patients with positive H pylori and 6 out of 184 patients with negative H pylori histology. There were consequently no significant differences between patients presenting with AF and the presence of H Pylori infection (p = 0.698).

Conclusion: Our data indicates that there is no significant association between persistent AF and active biopsy-proven H pylori disease, as had been shown in previous studies. This lack of relationship needs to be confirmed in further studies.

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USE OF WIRELESS CAPSULE ENDOSCOPY FOR EVALUATION OF SUSTAINED GASTRIC PRESENCE OF A POLYMER MEDICATION DELIVERY SYSTEM

M. I. Golding, MD, D. B. Doman, MD, H. J. Goldberg, MD. Montgomery Gastroenterology, Silver Spring, MD.

Purpose: Wireless capsule endoscopy (CE) has been demonstrated to be superior to traditional imaging for the diagnosis of small bowel disorders, but has not been utilized for investigation of gastric abnormalities. CE offers the potential opportunity to provide quantitative data regarding gastric emptying. The dosing and efficacy of drugs released via an extended release polymer delivery system is dependent on the retention of the device in the gastric lumen. The purpose of this study is to assess the utility of CE for the evaluation of the presence of a generic drug polymer delivery system in the stomach at specified time periods after ingestion.

Methods: Eleven subjects taking daily metformin ER 500 mg (study tablet) were recruited to participate. Subjects ingested a standardized breakfast meal and the study tablet followed by an eight hour fasting period. Subjects underwent a CE study for a three hour period of time starting five hours after ingestion of the study tablet.

Results: Ten subjects completed the study protocol. Photographs of the swollen study tablet after being immersed in simulated gastric fluid for several hours in a laboratory setting were used for comparison purposes. The images obtained from the remaining ten subjects showed the study tablet in the gastric lumen mixed with food debris. The study tablet could be identified on the basis of the tablet's smooth contour and uniform color.

Conclusion: CE imaging was able to identify the study tablet in all 10 subjects despite the presence of retained food debris. CE offers the potential for the evaluation of gastric retention of drugs utilizing a polymer medication delivery system in a fed state.

This research was supported by an industry grant from Depomed, Inc.

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THE UTILIZATION OF INTRAVENOUS PROTON PUMP INHIBITORS (IVPPI) IN AFRICAN-AMERICAN AND HISPANIC PATIENTS: APPROPRIATE PRACTICE OR OVERUSE?

A. J. Akhtar, MD. Medicine-Gastroenterology, Charles Drew University of Medicine and Science, Los Angeles, CA.

Purpose: To evaluate whether IVPPI use in our African-American and Hispanic patients was appropriate or not?

Methods: Medical records of all patients who received an IVPPI (Pantoprazole sodium) over a one-year period in an inner-city community hospital which serves a predominantly African-American and Hispanic population were reviewed retrospectively. Acute upper gastrointestinal bleeding (AUGIB), fasting patients with hypersecretory disorders such as Zollinger Ellison syndrome and severe gastroesophageal reflux disease were considered to be appropriate indications for IVPPI therapy. In patients with AUGIB Pantoprazole 80 mg IV bolus followed by 8 mg/h x 3 days, and 40 mg IV daily in fasting patients (without AUGIB) were considered appropriate. IVPPI treatment was considered as inappropriate when its indications, dosage and duration did not concur with established guidelines. Independent clinical and institutional predictors of inappropriate use were identified with multivariate logistic regression.

Results: Six hundred seventeen patients (18-101 years of age, 55% African-American and 45% Hispanic) received IVPPI, 249 (40%) in the AUGIB group, and 368 (60%) in the non-AUGIB group. All three measures of appropriate therapy (indication, dose and duration) were observed in 179 (29%, 95% CI 25% to 45%) patients, 297 (48%, 95% CI 17% to 30%) patients had an inappropriate indication, and in 141(23%, 95% CI 21% to 35%) patients indication was appropriate but dose and /or duration of therapy was inappropriate. There was no significant difference amongst African-American and Hispanic patients receiving appropriate or inappropriate IVPPI therapy. Most common inappropriate indications for IVPPI utilization was for prophylaxis for stress related AUGIB particularly in intensive care units.

Conclusion: Our study suggests that inappropriate utilization of IVPPI is frequent. Utilization of IVPPI therapy for an inappropriate indication was more common than inappropriate doses and duration. Vigilance in utilization of IVPPI therapy according to evidence-based guidelines may be cost-effective and more appropriate.

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THE EFFECTS OF ONCE DAILY VERSUS TWICE DAILY PROTON PUMP INHIBITOR THERAPY ON NSAID INDUCED GASTRIC ULCERS

B. Qazi, MD, N. M. Khan, MD, M. Khan, MD, J. Loj, MD. Gastroenterology, Advocate Lutheran General Hospital, Park Ridge, IL.

Purpose: The effects of once daily versus twice daily PPI therapy administered for an average of 12 weeks on gastric ulcer healing was compared.

Methods: A retrospective chart review was preformed on adult patients presenting to a large teaching community hospital over a 5 year period (2001-2006) with melena or hematemesis and a history of NSAID use, who underwent endoscopy revealing gastric ulcers. Patients between the ages of 18 and 95 years, with a non-malignant gastric ulcer who had a history of any NSAID use for at least one week prior to presentation were eligible for enrollment. Patients were divided into two groups according to the anti-secretory therapy received. Group 1 comprised of once daily PPI therapy versus group 2 receiving twice daily PPI therapy. The primary endpoint was evidence of gastric ulcer healing during repeat endoscopy at 8 to 12 weeks.

Results: 135 patients met our inclusion criteria, of these, 68 received daily PPI therapy while 67 received twice daily therapy. There was no statistical difference in demographics or co-morbidities in either group. The mean ages of the groups were 73 and 72 respectively. 83.3% of patients with active bleeding (p=0.015) and 67% of patients with visible vessels on endoscopy (p=.216), were prescribed twice daily therapy. The average time for repeat endoscopy was 12.57 weeks for group 1 and 9.82 weeks for group 2. Healing rates of gastric ulcers at repeat endoscopy were 92.6% and 86.5% respectively with no statistical difference (p=.622) using Pearson Chi-square test.

Conclusion: Our retrospective chart review revealed no statistical difference in healing rates of NSAID induced gastric ulcers among patients receiving daily versus twice daily PPI therapy. The lower healing rates in patients receiving twice daily group, maybe related to more severe disease and earlier second endoscopy.

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A METHOD TO ADJUST pH VALUES OBTAINED WITH DIFFERENT pH CATHETERS

J. D. Gardner, MD,[4] W. Young, PhD,[1] G. Morelli, MD,[2] H. Chen, PhD,[3] R. Kao, PhD[3]. 1. Blossomtech, Apex, NC; 2. MDS Pharma Services, Montreal, QC, Canada; 3. Eisai Medical Research, Ridgefield Park, NJ; 4. Science for Organizations, Mill Valley, CA.

Purpose: Gastric pH was measured for 24 hours using 2 different Medtronic pH catheters - Zinetics 24 and Slimline. As illustrated in the table below, values for 24-hour gastric acidity using data from the Zinetics 24 catheter were significantly lower than corresponding values from the Slimline catheter. Our aim was to develop a method to adjust pH values obtained with the Slimline catheter so that they conformed to those obtained with the Zinetics 24 catheter.

Methods: Gastric pH was recorded in healthy subjects using the Zinetics 24 (n=98) or Slimline (n=150) catheter. Each 24-hour pH record contains 21,600 pH values. pH values from all subjects obtained with the same pH catheter were pooled and ranked from lowest to highest and then divided into percentiles using steps of 1 percent. Various mathematical models were tested for their abilities to adjust the percentiles from the Slimline catheter so that they were the same as those from the Zinetics 24 catheter.

Results: A piecewise adjustment provided a better fit of the data than a variety of polynomials and shifted the percentiles from the Slimline catheter so that they agreed with those from the Zinetics 24 catheter. This adjustment was then applied to all pH values obtained with the Slimline pH catheter (Results in table below).

Conclusion: Our method for adjusting pH values is efficient and economical, and should enable investigators to adjust pH values measured with any pH catheter to conform to values measured with any other pH catheter.

Measures of Gastric Acidity Calculated from 24-hour Gastric pH Measured with the Zinetics 24 and Slimline pH Catheters.

Catheter	Integrated Acidity (mmol.hr/L)	Median pH	Time pH<4 (%)
Zinetics 24 (n=98)	481-160	1.82 (1.68-2.03)	79-9
Slimline (n=150)			
Original	1308-404	1.37 (1.22-1.67)	85-7
Adjusted	495-215	1.82 (1.69-2.04)	81-7

Values for integrated acidity and time pH<4 are means-SD. Values for median pH are medians and interquartile range. Values for each measure of gastric acidity with the Zinetics 24 catheter are significantly different from corresponding original values with the Slimline catheter (P<0.001 by Welch-corrected unpaired t-test or by Mann-Whitney), but not from the adjusted values with the Slimline catheter (P=0.975, 0.699 and 0.984 for integrated acidity, median pH and time pH<4, respectively).

Disclosure - Dr. Gardner is President of Science for Organizations, a company that provides consulting services for biotechnology and pharmaceutical companies. Dr. Young is President of Blossomtech, a company that provides consulting services for biotechnology and pharmaceutical companies. Dr. Morelli is an employee of MDS Pharmaceutical Services. Drs. Chen and Kao are employees of Eisai medical Research

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P790

PPI DOSING PATTERNS FOR RECENTLY BLEEDING GASTRODUODENAL ULCER DISEASE: A SINGLE CENTER EXPERIENCE

G. S. Jensen, MD, R. Arjal, MD, W. Peterson, MD, J. Levine, MD. Division of Gastroenterology-Hepatology, U. of Colorado Health Sciences Center, Aurora, CO.

Purpose: Studies have demonstrated equivalent healing rates in patients receiving standard (20mg) versus higher dose omeprazole taken for uncomplicated gastroduodenal ulcer disease (GD). Many experts also recommend standard dose, once daily omeprazole or equivalent for non-acute, recently bleeding GD. We sought to determine PPI dosing patterns for recently bleeding, GD within a single-center, university hospital setting.

Methods: Single-center chart review of patients discharged on PPI therapy after endoscopic confirmation of recently bleeding, GD between the years 2003-2007. Inclusion criteria: adults 18-80 years old, acutely or recently bleeding GD confirmed endoscopically, PPI prescribed at hospital discharge. Exclusion criteria: prior h/o GD, h/o GERD/esophagitis, Zollinger-Ellison syndrome, GI malignancy, confirmed or suspected intestinal metaplasia of esophagus, positive/indeterminate *H. pylori* testing. Ascertainment of PPI type and dose was made from discharge summary or, when unavailable, endoscopy reports.

Results: 383, 209 and 57 subjects with recently bleeding gastric, duodenal and dual location ulcers were identified, respectively, over the 5 year study period. Of these, 39, 31 and 10, respectively, met pre-specifed study criteria. 69%, 68% and 100%, respectively, were prescribed PPIs at discharge in excess of standard dosing (see table). 95% of subjects prescribed PPIs with suprastandard dosing were placed on a twice-daily schedule. Among the entire study cohort, 50% were on NSAIDs, 17% had high-risk stigmata at time of endoscopy. In cases of active bleeding, patients were discharged no sooner than 24 hours from the time of endoscopy. There was no significant trend from year to year in the number of patients receiving PPIs in excess of standard dosing ($\chi 2$=0.61). In the majority of cases no temporal endpoint of therapy was given at the time of PPI prescription.

Conclusion: At a university hospital, the majority of patients with recently bleeding GD were discharged on PPI dosages in excess of that generally considered sufficient for ulcer healing. These data build upon the growing recognition of inappropriate PPI usage in a variety of practice settings. A more rational approach to PPI dosing for GD may have many beneficial consequences including significant cost savings.

PPI	Dose	DU	GU	DU + GU
Omeprazole	> 20mg PO qd	1	2	1
Omeprazole OTC	> 20mg PO qd	0	0	3
Esomeprazole	40mg PO bid	9	10	4
Lansoprazole	30mg PO bid	11	13	2
Pantoprazole	40mg PO bid	0	2	0
Various	Standard	10	12	0

P791

***H. PYLORI* AND GASTRIC MUCOSAL INJURY IN ASYMPTOMATIC PATIENTS - A RETROSPECTIVE ANALYSIS**

A. K. Mohanty, MD,[1] E. S. Coronel, MD,[2] D. Elijah, MD[3]. 1. Division of Hepatology, University of Miami, Miami, FL; 2. Department of Medicine, University of Cuenca, Cuenca, Ecuador; 3. Division of Gastroenterology, University of South Florida, Tampa, FL.

Purpose: *H. pylori* is a gram negative helical bacteria commonly associated with peptic ulcer disease, gastritis, gastric cancer, and MALT. However, *H. pylori* may also occur in up to 70% of patients without GI symptoms. We examined a population of healthy asymptomatic patients in Ecuador who underwent screening upper endoscopy. The purpose of our study was to investigate the prevalence of gastric injury and *H. pylori* infection in asymptomatic patients, and its association with age and gender.

Methods: A retrospective chart review was performed in a private hospital in Cuenca, Ecuador. From nearly 2,000 endoscopic records from 2001-2007, we identified 92 asymptomatic patients. Inclusion criteria included healthy patients aged 30-80 years who went voluntarily for preventive checkup. Exclusion criteria included history of GI symptoms or chronic illnesses, and tobacco, alcohol, NSAID or PPI usage. Patients underwent upper endoscopy and rapid urease testing (Clo-test) to evaluate the presence of definitive gastric ulceration or erosions, and the presence of *H. pylori*. Erythema and gastritis were not included. Outcome variables included presence of gastric injury and presence of *H. pylori* infection. Calculations included relative risk and chi-square test with Yeat's correction.

Results: 92 patients met inclusion and exclusion criteria. 13 patients were excluded as Clo-test results were not available. Of 79 asymptomatic patients, 61 (77%) patients showed signs of gastric mucosal injury with 13 (21%) Clo-test positive. 18 asymptomatic patients showed no mucosal injury, with 4 (22%) Clo-test positive. Mucosal injury was not significantly associated with *H. pylori* infection (RR 0.98, CI 95% 0.73-1.32,p=0.93). The prevalence of *H. pylori* infection decreased from 43% (9 of 21 subjects) in those aged 30-39 years, to 8% (1 of 12 subjects) in ages 70-79 years, but the effect of age did not reach statistical significance. The prevalence of gastric mucosal injury increased from 62% (13 of 21 subjects) in those aged 30-39 years, to 100% (12 of 12 subjects) in ages 70-79 years. Gender was not significantly associated with infection or injury.

Conclusion: In this study of asymptomatic subjects, the rate of gastric mucosal injury is higher than previously reported and is not significantly correlated to *H. pylori*. This could reflect environmental or infectious factors that need to be investigated in this population. Weaknesses of this study include the reliance of visualization rather than histology to diagnose gastric injury and the small sample size. However, it is clear that injury is related to age and not related to gender. It is unclear from our study which patients developed symptoms over time, but this will be further explored.

P792

THE UTILITY OF SPYGLASS CHOLEDOCHOSCOPY FOR EVALUATION OF SUSPECTED POST-LIVER TRANSPLANT STRICTURES

J. J. Kim, MD, S. Yee, MD, R. D. Yang, MD, PhD. GI/Liver Division, University of Southern California, Los Angeles, CA.

Purpose: Anastomotic (AS) and non-anastomotic biliary strictures (NAS) frequently occur among liver transplant (LT) recipients. Unsuccessful cannulation secondary to tight stricture is a common cause of endoscopic retrograde cholangiopancreatography (ERCP) failure in these patients. Direct visualization of the biliary anastomotic junction achieved with choledochoscopy during ERCP may enhance diagnostic accuracy and technical success but experience is limited. The aim of this study is to determine the efficacy and safety of choledochoscopy during ERCP with suspected post-LT stricture.

Methods: Between 7/07 and 5/08, 35 consecutive ERCPs with SpyGlassTM choledochoscopy (Boston Scientific, MA) were performed by a single interventional endoscopist (RDY) for suspected biliary stricture based on laboratory values, radiographic studies, or liver biopsy. Clinical features as well as post-ERCP outcomes were retrospectively reviewed.

Results: Eighteen LT recipients with mean age of 56.9 + 6.8 years underwent 35 ERCPs with choledochoscopy. Fifty-six percent were male, 78% had chronic HCV as the indication for LT, 94% had duct-to-duct anastomosis and the median time from LT to ERCP was 4.1 months (1.1 – 43.5 months). Pre-procedural median alkaline phosphatase levels were 287 IU/L (47-1189 IU/L). Stricture cannulation and direct inspection of the anastomotic junction were achieved in all the cases. Of 35 procedures, AS were identified in 10 cases (29%) and NAS in 3 (6%). Endoscopic interventions for biliary stricture included balloon dilation in 92% of the cases, stent placement in 75%, sphincterotomy in 42% and ampillary dilation in 8%. Unanticipated biliary stones or debris was visualized in 7 cases (20%) with choledochoscopy, which were not detected on initial fluoroscopy, leading to subsequent stone extraction. Peri-procedural complications included moderate pancreatitis (n=1) and mild hemorrhage (n=1).

Conclusion: Stricture cannulation with assistance of SpyGlass choledochoscopy was successful in 100% of the cases while procedural complications rates were acceptable at 6%. Direct visualization of the biliary tract improves technical success, diagnostic accuracy and complements endoscopic management of patients with suspected post-LT strictures.

P793

THE IMPACT OF OVERTUBE ASSISTED ENTEROSCOPY (OAE) FOR THERAPEUTIC ENDOSCOPIC RETROGRADE CHOLANGIOGRAPHY (ERC) IN ROUX-EN-Y ANATOMY

L. F. Lara, MD,[1] J. Sreenarasimhaiah, MD,[1] W. M. Lee, MD,[1] S. F. Jazrawi, MD,[1] D. A. Provost, MD,[2] S. J. Tang, MD[1]. 1. Digestive and Liver Diseases, The University of Texas Southwestern Medical Center at Dallas, Dallas, TX; 2. Surgery, The University of Texas Southwestern, Dallas, TX.

Purpose: Usually, ERC is successful > 90% of the time, but that rate decreases in the presence of post-operative altered intestinal anatomy, usually limited by the length of the afferent loop. Overtube assisted enteroscopy (OAE) using single or double balloon overtubes, and more recently spiral overtube, allow visualization and endoscopic intervention of significantly more small bowel than previous commonly used deep enteroscopy methods. We hypothesized that OAE allows successful performance of ERC in patients with post-surgical anatomy changes.

Methods: The ERCP database was searched for procedures performed in patients with post-surgical upper GI anatomy from March 2004 through May 2008. Type of surgery, and ERC success rate were reviewed. Clinical characteristics, indication for the procedure, and successful therapeutic endoscopy were reviewed for patients who had an ERC with OAE.

Results: 18 patients were prospectively captured. 3 patients had a Billroth-II (B-II) anastomosis (1 gastric CA, 1 PUD, one metastatic disease); the other 15 patients a Roux-en-Y (RnY) anastomosis (9 gastric bypass, 4 gastric neoplasia, 1benign stricture, 1 orthotic liver transplant[OLT]). ERC using a duodenoscope was successful in 3/18 (17%) patients (2 B-II and one RnY following subtotal gastrectomy for malignancy). 5/18 (28%) patients (all RnY gastric bypass) had an initial laparotomy assisted ERC, and all were successful. 4/18 (22%) patients, all RnY (3 gastric bypass, one OLT), underwent ERC with an enteroscope and a single ballon overtube which was immediately successful in one patient. The bile duct was not reached in 3 (75%) of these patients, and two patients had successful surgical assisted ERC. The patient with OLT had a subsequent successful ERC using a spiral overtube (see table). The bile duct was not reached in 6/18 (33%) patients (5 Roux-en-Y, one B-II anastomosis) with a duodenoscope (5) or a colonoscope (1). Overall, including primary and rescue therapy, laparotomy assisted ERC was the most successful (7/7;100%), followed by OAE (2/4; 50%), and duodenoscopy (3/9;33%).

Conclusion: Surgically assisted ERC was universally successful in our experience, but invasiveness and morbidity limit this application. ERC with OAE was ultimately successful in 2 of 4 patients with RnY anatomy, with the spiral overtube being successful in a patient were the single balloon overtube had failed. This emerging technique needs to be investigated further, including whether one overtube is more successful than the others for this application.

Overtube Assisted Endoscopic Retrograde Cholangiography in Roux-en-Y Anatomy

Sex	Age	Anatomy	Surgery	Indication	Overtube	Enteroscopy time	Second Treatment	Time to bile duct	Diagnosis
F	50	RnY	GBP	Duct dilatation	SB	60 min	Laparotomy	NA	SOD I
F	34	RnY	GBP	Suspected SOD	SB	60 min	Not needed	NA	SOD I
F	56	RnY	GBP	Biliary pancreatitis	SB	60 min	Laparotomy	NA	Stone passage
M	72	RnY	GBP	Anastomotic stricture	SB	60 min	Spiral overtube	5 min	PSC recurrence

RnY:Roux-en-Y anatomy;GBP:gastric bypass;SB:single balloon;SOD:sphincter of Oddi dysfunction

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RELATIONSHIP BETWEEN ULTRASONIC GALLBLADDER INVOLVEMENT AND OTHER MAJOR LABORATORY PARAMETERS IN A COHORT OF ADULT SRI LANKANS SUFFERING FROM NON EPIDEMIC DENGUE INFECTION

R. L. Satarasinghe, MD, MACG,[1] R. Jayawardana, MBBS,[1] U. Wickramasingha, MBBS,[1] J. Wickramarathna, MD,[2] G. Senanayake, MD,[2] P. Udayakumaran, MBBS,[2] U. Jayakody, MBBS,[2] Y. Abeywardana, MBBS,[2] B. Abeyawickrama, MBBS,[2] N. Umakanthan, MBBS[2]. 1. Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka; 2. Department of Radiology, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka.

Purpose: To study the relationship and clinical implications of gallbladder (GB) involvement in non epidemic dengue infection affecting adult Sri Lankans as it occurs in both epidemic and non epidemic proportions in Sri Lanka and until the serological proof is available it is diagnosed and managed mainly on clinical features supplemented by hematological parameters whereas ultrasound scanning of the abdomen is seldom used as a diagnostic tool or a predictor of severity of dengue infection and ultrasonic GB involvement with its implications are described in few studies but its affection in non epidemic dengue has not been elucidated before.

Methods: Clinical notes of 64 adult Sri Lankans, suspected of having non epidemic dengue infection, subsequently serologically proven, admitted to the principal author's unit at Sri Jayewardenepura General Hospital, Kotte, Sri Lanka, were retrospectively analyzed. All the patients have had ultrasonic examination of the gallbladder between 3rd to 7th day of illness. A repeat scan was performed between 14th to 21st day of illness. We also used the cut-off point of significant gall bladder wall thickness(GBWT) at 3.5mm as in other published studies.

Results: 53 out of 64 patients had dengue IgM positivity with D2 infection. Male: female sex ratio was 45:8. Mean age of presentation was 33.8±16.2SD yrs, with an age range of 12-69yrs. All had clinically asymptomatic ultrasonic evidence of GB wall thickening. The patients with GBWT more than 3.5mm had SGPT 139.2±100.3SD U/l. SGOT 171.6±89.1SD U/l, platelets 33416±33795 SD mm-3 .A PCV increase of 27.0±10.15SD was noted and an average hospital stay of 6.0±1.7 SD days. The 29 who had GBWT less than 3.5mm had 120.3±89.8SD U/l, 125.67±85.3 U/l, 60877±29013 SD mm-3, 10.6±7.0 SD and 4.1±0.8 days as respective values for the above parameters. The p value for haematocrit rise, thrombocytopenia with GBWT increase were <0.01 in both instances. Out of 24 patients with GBWT >3.5mm, 11 had SGPT <100 U/L while 8 had SGOT <100 U/L. Similarly out of 29 patients with GBWT <3.5mm, 13 had SGPT <100 while 12 had SGOT <100 respectively. None had any clinical signs or complications related to GB involvement with ultrasonic resolution within two weeks of onset of fever.

Conclusion: GB involvement was subclinical in all. GB wall thickening was a reliable supplementary diagnostic feature in non epidemic dengue infection. Haemoconcentration and thrombocytopaenia had the highest predictive value of subclinical GB involvement and vice versa. Hepatic transaminases did not show a linear relationship with gallbladder involvement in all.

P795

IS HYPOMAGESEMIA ASSOCIATED WITH CHOLEDOCHOLITHIASIS?

H. Shah, MD,[1] J. W. Kim, MD,[2] A. U. Bagasra, MD,[2] R. Battish, MD,[1] M. Abedi, MD[1]. 1. Internal Medicine, Division of Gastroenterology, Washington Hospital Center, Washington, DC; 2. Internal Medicine, Washington Hospital Center, Washington, DC.

Purpose: Medical cost for gallstone-related disease incurs billions of dollars annually as a major cause of gastrointestinal morbidity. A magnesium-deficient diet can elevate plasma triglyceride level and lower plasma HDL-cholesterol level which may be associated with an increased incidence of gallstones. Furthermore, intraduodenal magnesium sulfate evokes secretion of pancreatic enzymes, discharge of bile through release of cholecystikinin and relaxation of the sphincter of Oddi muscles. Published reports demonstrate a relationship between long-term consumption of magnesium and decreased incidence of symptomatic gallstones (Tsai CJ et al. Am J Gastroenterol 2008;103:375-382). No published reports have investigated a relationship between serum magnesium concentration and choledocholithiasis. Our hypothesis is that hypomagnesemia promotes choledocholithiasis.

Methods: This is a retrospective chart review of 364 patients who underwent ERCP at a large urban teaching hospital from Jan 1, 2006 to April 19, 2008. Baseline patient demographics including age and sex were recorded. Serum magnesium levels obtained within 24 hours of ERCP were recorded. Hypomagnesemia was defined as serum Mg level < 1.4 mg/dL.

Results: 66 of 364 patients had ERCP evidence of choledocholithiasis. A total of 179 females and 185 males (mean age 57 years; range 17 to 94). 10 (26%) of 39 patients with choledocholithiasis had low serum magnesium levels (< 1.4 mg/dL). 28 (22%) of 129 patients had low serum magnesium levels without evidence of choledocholithiasis. Fisher's exact test (two-tailed) showed a P value of 0.6634.

Conclusion: Dietary magnesium consumption has been suggested to have a protective role in symptomatic gallstone disease. This retrospective analysis shows no correlation between low serum magnesium levels and choledocholithiasis. It is unclear how long-term consumption of magnesium affects the serum magnesium levels. Larger prospective studies assessing dietary consumption of magnesium and its correlation with serum magnesium levels and choledocholithiasis may demonstrate importance of dietary magnesium supplementation.

P796

PROGNOSIS OF UNSUSPECTED GALLBLADDER CANCER DIAGNOSED DURING OR AFTER LAPAROSCOPIC CHOLECYSTECTOMY

A. Kwon, MD, PhD. Department of Surgery, Kansai Medical University, Hirakata, Japan.

Purpose: Although several cases of unsuspected GBC have been detected during or after laparoscopic cholecystectomy (LC), there have been no reports demonstrating the effectiveness of frozen-section examination and prognosis. We investigated retrospectively the role of examination of frozen sections and the prognosis of patients with unsuspected GBC detected during or after LC.

Methods: LC was performed on 1,793 consecutive patients. If a suspicious lesion was found, intraoperative frozen section examination was performed.

Results: Of all these patients, 38 (2.1%) were histopathologically diagnosed as having a GBC during (28) or after LC (10). The tumor stages of the 28 diagnosed during LC were: pT1a (17), pT1b (2), pT2 (8) and pT3 (1). The accuracy rate of the frozen-section examination was 90 %. On the other hand, those 10 diagnosed after LC had pT1a (1) and pT2 (9) tumors. Survival rates depended on the depth of cancer invasion, and were not significantly affected by whether the patient was diagnosed with GBC during or after LC.

Conclusion: The s survival with unsuspected GBC was related to stage and it validated that a carefully performed LC is adequate treatment for Stage 1A & B cancer. Moreover, the LC procedure does not adversely affect the prognosis of unexpected GBC, regardless of whether the tumor was detected during or after LC.

P797

THE RATE OF POST ERCP PANCREATITIS IN LIVER TRANSPLANT PATIENTS COMPARED TO NON TRANSPLANT PATIENTS, A SINGLE CENTER EXPERIENCE

V. J. Ponnezhan, MD, H. Singh, MD, O. H. Alaradi, MD. Gastroenterology, Henry Ford Hospital, Detroit, MI.

Purpose: Acute pancreatitis remains the most common and serious complication of endoscopic retrograde cholangiopancreatography (ERCP). It is estimated based on various studies that the rate of post-ERCP pancreatitis ranges between 5-30%. Based on observation alone, liver transplant patients were felt to have lower rate of post-ERCP pancreatitis. The purpose of this study is to investigate the rate of post-ERCP pancreatitis in liver transplant patients in comparison to non-transplant patients. Currently there are no studies that specifically address this issue.

Methods: All patients who had ERCP following orthotropic liver transplant from January 1998 to December 2006 were identified. Similar number of ERCPs done in non-transplant patients during the same time period were selected for comparison. Patient's charts were reviewed to identify the demographics, ERCP findings, past history of pancreatitis, and history of prior sphincterotomy. Also included were interventions such as sphincterotomy, pancreatic or biliary stent placement, and pancreatic duct injection. Post-ERCP pancreatitis was defined as a clinical syndrome of abdominal pain and elevation of pancreatic enzymes greater than twice the upper limit of normal requiring hospitalization for more than 24hrs.

Results: A total of 400 patients were identified, 200 in each group. In the transplant group there were more Caucasians (75% vs. 44%), less previous history of pancreatitis (0% vs. 8%), and sphincterotomies performed (28%, vs. 57%). The rate of post-ERCP pancreatitis in the transplant group was 4.5% (95%CI, 2.1-8.3) as compared to 12.5% in the non transplant group (95%CI, 8.3-17.95) [p<0.01]. Multivariate analysis showed patients in the non-transplant group were 3 times more likely to have post-ERCP pancreatitis as compared to the transplant group (OR, 3.0; 95%CI, 1.3-7.1). In addition, Caucasians were 3 times more likely (OR, 3; 95%CI, 1.2-7.8) to have post-ERCP pancreatitis compared to African Americans. Patients with history of pancreatitis were 5.8 times more likely (OR, 5.8; 95%CI, 1.9-18.2) to develop post-ERCP pancreatitis.

Conclusion: Post ERCP pancreatitis is significantly less common in liver transplant patients which supports our clinical observation. Caucasians were found to have a higher risk of post-ERCP pancreatitis in comparison to African Americans. Further prospective studies to confirm this conclusion and to investigate the mechanism are indicated.

P798

THE USE OF ENDOSCOPIC ULTRASOUND AND FINE NEEDLE ASPIRATION (EUS-FNA) TO DIAGNOSE PANCREATIC ADENOCARCINOMA AND THE POTENTIAL ROLE OF GENDER ON PROGNOSIS

D. Vu, MD, R. Erickson, MD, FACP, FACG, T. Castro, MD, K. Phan, MD. Scott & White Memorial Hospital & Clinic, Temple, TX.

Purpose: Pancreatic carcinoma is the fourth leading cause of cancer related death and is second only to colorectal cancer as a cause of digestive related cancer death. Observational data from within our institution suggest that males tend to present with more poorly differentiated pancreatic adenocarcinoma than females and therefore may have a worse prognosis. The purpose of this study is to investigate gender differences between pancreatic adenocarcinoma.

Methods: This is a retrospective study of patients who have undergone EUS-FNA of pancreatic lesions, from 1992-2007, with a post procedure diagnosis of pancreatic adenocarcnioma. Data was primarily collected using the Scott & White Electronic database using CPT codes. Information gathered included patient gender and adenocarcinoma cell type. Additionally, information collected for subgroup analysis included age, serum bilirubin, smoking history, tumor size at time of presentation and treatment rendered. Furthermore, survival data was obtained through the Scott & White Tumor Registry.

Results: A total of 486 patients (264 men & 222 women) were diagnosed with pancreatic cancer by EUS-FNA. Using univariate analysis and chi-square test, the following data was obtained. With respect to gender, statistical significance was noted among cell type at presentation, stage at presentation, tumor size, and length of survival. Of men 34% presented with poorly differentiated adenocarcinoma versus 24% of women. Only 8% of men presented with well differentiated adenocarcinoma versus 13% of women. Men were also noted to present at a later stage compared to women (stage I, II, III, IV: 7%, 25%, 19%, 49% vs. 15%, 27%, 17%, 41%). Both cell type and later stage of presentation correlated with shorter survival.

Conclusion: Based on this data, men presented with more poorly differentiated adenocarcinoma than women. Those with more poorly differentiated cell type were also noted to have a shorter survival period.

P799

PREDICTING EARLY ORAL FEEDING IN PATIENTS WITH ACUTE PANCREATITIS: A SIX YEAR RETROSPECTIVE SINGLE CENTER EXPERIENCE

A. J. Wiesen, MD, S. Novak, MD, M. Mecca, MD, K. Sideridis, DO, S. Bank, MD, FACP, MACG. Gastroenterology, Long Island Jewish Medical Center, Glen Oaks, NY.

Purpose: evaluate the outcome of early oral feeding in patients admitted with acute pancreatitis in a single center.

Methods: Data from consecutive patients admitted with an ICD-9 diagnosis of acute pancreatitis was analyzed retrospectively from 2001-2007. All charts were reviewed for Ranson's score at admission and 48 hrs and SOFA score daily for the first 5 days. The total maximum SOFA score was calculated summing the highest scores for all six systems. Organ dysfunction was considered as SOFA score of 1 or 2 points and organ failure as a SOFA score of 3 or more. The pattern of feeding was recorded for all patients. Outcomes of acute pancreatitis, such as

mortality,necrosis, pseudocyst formation, duration of hospital stay, andanalgesic requirement were recorded and correlated with feeding pattern. Patients with <18 years of age, known diagnosis of chronic pancreatitis or serum amylase and lipase < 3 times normal were excluded.
Results: 260 patients were admitted to the hospital with a diagnosis of acute pancreatitis over the 6 year period (129 male, 131 female; median age 54 years, range 18–96 years). The etiology of pancreatitis was alcohol (47, 18%), gall stone (68,26%), post-ERCP (106, 66%) or other (79, 30%). The Ranson's score at admission was 1.48±1.07 and at 48 hrs 1.53±1.40. The maximum SOFA score at admission was 1.69±1.76 and at 48 hrs was 1.87±1.65. 42 (26%) patients needed admission to the intensive care unit. Eight patients (3%) died from complications of acute pancreatitis. The median hospital stay for all patientswith acute pancreatitis was 9 days (range 2–137 days). 17 patients (7%) had pancreatic necrosis involving >50% of pancreas and 12 patients had pseudocyst (5in patients with necrosis). Only 8 (4.7%) patients required TPN. In all other patients TPN could be avoided, and in 252 (76%) patients oral feeding could be started on an average 4.2 days (range, 1-16 days) after admission. There was no increased adverse outcome in patients with oral feeding group except increased requirement of analgesia ($p<0.05$), when compared with patients with TPN or nasojejunal feeding. On admission, SOFA score was better than Ranson's Criteria in predicting patients availability to tolerate oral feeding in greater >4 days ($P<.0001$).
Conclusion: Early oral feeding is possible and well-tolerated in majority of patients with acute pancreatitis. Use of SOFA score may help decrease the need of other complicated and expensive methods of nutrition in this group of patients.

P800

ENDOSCOPIC MANAGEMENT OF PANCREATIC FLUID COLLECTIONS-A SINGLE CENTER EXPERIENCE

U. Navaneethan, MD,[1] M. Al Mohajer, MD,[1] N. Schmulewitz, MD,[1] S. Chauhan, MD,[1] S. Ahmad, MD,[2] J. Ying, PhD,[3] J. B. Palascak, MD,[1] A. Gelrud, MD, MMSc[1]. 1. Internal Medicine, University of Cincinnati Medical Center, Cincinnati, OH; 2. Surgery, University of Cincinnati Medical Center, Cincinnati, OH; 3. Biostatistics, University of Cincinnati Medical Center, Cincinnati, OH.

Purpose: Surgical drainage of symptomatic pancreatic fluid collections (PFC) has been the traditional gold standard of treatment. However endoscopic drainage has been widely used over the last decade and has challenged surgery. The aim of this study is to evaluate the outcome of endoscopic drainage and to identify characteristics that predict successful endoscopic drainage of PFC.
Methods: Our endoscopic database was utilized to identify all the patients who underwent endoscopic drainage of symptomatic PFC between January 2002 and April 2008. A procedure was considered successful if endoscopic drainage was achieved without the requirement for any other procedures. Treatment failure was defined as failure of the PFC to resolve or recurrence of the PFC after endoscopic treatment for which additional treatment modalities were required or procedure related death. Wilcoxon rank sum tests and Fisher's exact tests were used to compare medians and frequencies respectively.
Results: A total of 33 patients (22 men, 11 women, median age 49 years) underwent endoscopic drainage. The median diameter of the collection was 7.8 cms (Range 3.2-19). The median time from the onset of pancreatitis and the drainage was 26 days. 13 patients required endoscopic ultrasound (EUS) to identify the drainage site. All patients with PFC in the tail required EUS. (100%) The cyst could not be accessed in seven patients. (21.2%) All 26 patients who had access to the cyst and underwent endoscopic drainage had successful resolution of the collection with a median time of resolution of 47 days (Range: 7 to 136). (100%) Five patients required a second endoscopic procedure for successful drainage. Two of the seven patients who could not undergo endoscopic drainage because of inability to access the cyst required surgery. The PFC was accessed transmurally in 19 patients (15 stomach, 3 duodenum, 1 esophagus) and transpapillary in 7 patients. One of the 26 patients who underwent successful drainage later died of coagulopathy. In patients who did not undergo endoscopic drainage, PFC was found in the head of pancreas in 4 out of 7 (57.1%) patients, versus 10 out of 26 (38.5%) patients who had successful endoscopic drainage ($P>0.05$). Complications occurred in 8 patients (24.2%), two of which were significant, hemorrhage in one and perforation in one, both of them did not require surgery. Complication rate did not differ in patients who underwent successful endoscopic drainage vs. patients who did not have endoscopic drainage ($p=0.65$). The overall clinical success of endoscopic approach was 96.1 % (25/26).
Conclusion: Endoscopic drainage is highly successful for PFC and offers a safe and definitive solution in a majority of patients.

P801

RELATIONSHIP BETWEEN SEVERITY OF PANCREATITIS AND COMPLEXITY OF ERCP

J. Trevino, MD, C. Wilcox, MD, M. Phadnis, MSPH, S. Varadarajulu, MD. GI, UAB, Birmingham, AL.

Purpose: Background: Pancreatitis is the most common complication of ERCP, with a higher incidence in those undergoing complex endotherapy. However, it is not known if a relationship exists between the severity of post-ERCP pancreatitis and the technical complexity of the procedure. Aim: Examine the relationship between the severity of post-ERCP pancreatitis and technical complexity of ERCP.
Methods: Methods: Retrospective study of all patients who underwent ERCP and developed post-ERCP pancreatitis over a 5-yr period (2002-2007). Data on ERCP complications were collected prospectively and graded per consensus criteria. Technical complexity of ERCP was graded per ASGE quality assessment criteria.
Results: Results: Eighty one (mean age 45.8 yrs, range [6 - 79]; 52 females) of 2202 patients (3.68%) developed post-ERCP pancreatitis. Grade I included 30 patients (37%), grade II 3 patients (3.7%) and grade III 48 patients (59.3%). Although the incidence of post-ERCP pancreatitis was significantly higher following more complex procedures (grade 1, 2.29% vs. grade II/III, 5.72%; $p<0.001$), there was no significant correlation between the technical complexity of the procedure and severity of post-ERCP pancreatitis (= 2.42, p= 0.12). Multivariable analysis performed using logistic regression identified that the odds of severe pancreatitis for females was 2.87 times than that for males (95% CI = 1.01-8.19; P = 0.049) when adjusted for age, race and procedural complexity.
Conclusion: Conclusion: Although the incidence of post-ERCP pancreatitis was higher following high-grade complexity procedures, there was no correlation between the severity of pancreatitis and procedural complexity.

P802

OBSTRUCTIVE JAUNDICE SECONDARY TO IGG-4 BILIARY STRICTURE WITH NORMAL SERUM IGG4 AND NORMAL PANCREAS IMAGING

J. Ferrer, MD, J. Barkin, MD, MACG. university of miami, Coral Gables, FL.

Purpose: New onset obstructive jaundice in a middle aged individual is usually malignant in etiology. IgG-4 Systemic Disease (ISD) is composed predominantly of autoimmune pancreatitis and cholangitis, both of which can present with obstructive jaundice. We report a patient with obstructive jaundice and a biliary stricture secondary to ISD with normal serum IgG-4 levels and normal pancreas on radiologic studies.
Methods: Case Report: 64 y/o man presented with 4 days of painless jaundice and weight loss over the preceding 2-3 months. He had no abdominal pain or back pain, denied any drug use and was on no medications. His physical examination was unremarkable except for scleral icterus. Labs included a total bilirubin 14mg/dl (nml<1.3) and direct of 10mg/dl (nml<.3), AlkPhos of 470IU/L (nml<126) and ALT- 209 IU/L (nml<56), AST- 122IU/L (nml<35), CA 19-9- 50u/ml (nml<37). RUQ US showed a dilated proximal common bile duct, without cholelithiasis or cholecystitis. Abdominal CT showed a 1.1cm CBD with biliary tree dilatation and no evidence choledocholithiasis. MRCP demonstrated that in the mid CBD ~4cm proximal to the ampulla an obstructing lesion with an abrupt tapering of the CBD at the level of obstruction. The patient underwent surgical exploration for a presumed cholangiocarcinoma. At surgery, there was no evidence of metastatic disease. The gallbladder was distended and inflamed and CBD was dilated proximally and distally had thickened walls. Core biopsies of the bile ducts showed inflammatory changes and a cholecystectomy and hepatico-jejunostomy were performed. Histopathological exam showed chronic inflammatory changes with fibrosis and plasmalymphocytic infiltrate; bile duct tissue stained positive for IgG-4. Serum markers for ISD including anti- Carbonic Anhydrase and serum IgG-4 levels were within normal limits.
Results: Isolated dominant bile duct strictures in the naïve patient are commonly due to malignancy. However, as in our patient, ISD mediated bile duct inflammation leading to stricture formation must now be considered. It can be isolated without associated autoimmune pancreatitis and may not have elevated serum IgG-4 levels. This diagnosis is usually made on biopsy after a surgical procedure. If diagnosis can be made pre-operatively, biliary obstruction may be treated medically with corticosteroids and possibly endocscopically and avoid surgery. Steroids are necessary for inducing remission and resolution of symptoms post biliary stenting endoscopically.
Conclusion: IgG-4 cholangitis is part of the spectrum of ISD and must be considered in any patient with biliary stricture, even in the absence of pancreatic pathology and normal serum IgG-4 value.

P803

FOCAL DILATION OF THE MAIN PANCREATIC DUCT (MPD), EARLY VS. NEW VARIANT OF INTRADUCTAL PAPILLARY MUCINOUS NEOPLASIA (IPMN)?

N. Gupta, MD, H. Charbel, MD, N. G. Haddad, MD, A. Shobassy, MD. Georgetown University Hospital, Potomac, MD.

Purpose: Main duct variant of IPMN is associated with diffuse involvement of the main pancreatic duct and advanced pathological features including malignancy. Isolated cystic dilation of the main pancreatic duct has not been described and may represent a variant/early IPMN with malignant potential. Recognition of this new finding can lead to better diagnosis and cancer prevention.
Methods: We report our experience at Georgetown University Hospital. From January 2003 to November 2006, 5 patients referred for further evaluation of pancreatic cysts seen on MRI or CT scan of the abdomen. Focal cystic dilation of the MPD was noted on Endoscopic Ultrasound (EUS), Endoscopic Retrograde Pancreatography (ERCP), or a combination of the 2 modalities. Aspiration of fluid from cystic lesions was sent for cytology and CEA in select cases. 4 patients underwent surgical resection. Pathology was reviewed for evidence of advanced features such as high grade dysplasia (HGD) or carcinoma.
Results: 5 cases of isolated dilation of the MPD were diagnosed by EUS alone in 1 case, ERCP alone in 1 case, and in combination of the two modalities in 3 cases. Findings were correlated with radiographic imaging. Cystic dilation was located in the head of the pancreas in 4 cases and in the body/tail region in the fifth case and varied in size from 8-16 mm in diameter. 4 of 5 cases were noted to have a patulous papilla by endoscopy with 2 cases with mucinous material arising from the ampulla. Aspiration of the fluid by EUS or ERCP revealed CEA levels of (35 to 505 mcg/dL.) 4 of 5 patients underwent surgical resection with final diagnosis of IPMN confirmed pathologically. All surgical specimens were without evidence of HGD or carcinoma. The fifth patient was not deemed a surgical candidate secondary to other medical comorbidities.
Conclusion: Focal cystic dilation of the MPD may represent early presentation of main duct IPMN vs. a new variant that demonstrates malignant potential. Further study into this entity is necessary for further classification of this potential subtype.

P804

DIAGNOSIS, ANTIBIOTIC PROPHYLAXIS, AND NATURAL HISTORY OF PANCREATIC CYSTIC NEOPLASMS: IS IMMEDIATE SURGERY NECESSARY?

K. K. Leung, MD,[1] W. Ross, MD,[1] E. Lin, MS,[2] J. H. Lee, MD[1]. 1. Gastroenterology, Hepatology, and Nutrition, MD Anderson Cancer Center, Houston, TX; 2. Biostatistics and Mathematical Science, MD Anderson Cancer Center, Houston, TX.

Purpose: Differentiation between benign (serous cystadenoma, pseudocyst) and potentially malignant/malignant (PMM) cysts (mucinous cystadenoma, IPMN, mucinous cystadenocarcinoma) remain difficult. The purpose of this study was to: 1) determine the value of endoscopic ultrasound (EUS) and Fine Needle Aspiration, tumor markers, and cyst fluid viscosity 2) determine the risk of infections following a single dose of antibiotics 3) determine the natural history of pancreatic cystic neoplasms with conservative management.

Methods: Patients with cytologic or pathologic diagnosis for pancreatic cystic neoplasms were retrospectively analyzed. Cyst characteristics on EUS, serum and cyst fluid tumor markers, cyst fluid viscosity, infectious complications, and malignant transformation with conservative management were recorded. Cyst wall thickness was subjective and not directly measured. Fluid viscosity was measured by placing 1 drop between the index finger and thumb and measuring the maximum length of stretch "string sign".

Results: Seventy-nine patients were included. The presence of septations (P = 1.0) and calcifications (P = 0.633) were not useful. However, the presence of thick walls (5 of 5 patients, 100%) or intracystic growth (6 of 6, 100%) were associated with PMM cysts, P = 0.035 and 0.042 respectively. Cyst fluid CEA had a median of 1.0 in benign cysts and 471.1 ng/mL in PMM cysts (P < 0.0001). Cyst fluid CA 19-9 was not statistically significant (P = 0.22). Neither serum CA 19-9 nor CEA was useful in evaluating pancreatic cysts, (P = 0.68 and P = 0.31 respectively). Increased cyst fluid viscosity was associated with PMM cysts. Median string sign was 0 mm in benign cysts and 4 mm in PMM cysts (P < 0.0001). Thirty-eight patients received a single pre-procedure dose of levofloxacin (levo) 500mg IV. The remaining patients were administered a different antibiotic, dose, or duration. None of the patients who received a single dose of levo developed a post-procedure infection. One patient that received a single dose of cefazolin developed a fever of 39.3 °C. Of the 50 patients with PMM cysts, 18 without confirmed malignancy did not have surgery within 6 months of diagnosis due to co-morbidities and were treated conservatively. Only two of 18 (11.1 %) developed worrisome changes on imaging and underwent surgical resection after a mean of 22 months.

Conclusion: The presence of a thick cyst wall or intracystic growth, elevated cyst fluid CEA, and a long "string sign" were associated with PMM cysts. A single pre-procedure dose of levo adequately prevented infectious complications. 10.5 % patients with a PMM cyst managed conservatively ultimately required surgical resection.

P805

DIAGNOSTIC CHALLENGES IN PANCREATIC MASSES: A STUDY COMPARING PREOPERATIVE DIAGNOSIS AND POST-OPERATIVE PATHOLOGY DIAGNOSIS IN PATIENTS WITH PANCREATIC MASS

C. S. Marin, MD,[1] A. Simmons, BS,[3] M. Fleishman, MD,[1] E. Qayed, MD,[1] Q. Cai, MD, PhD[2]. 1. Internal Medicine, Emory University, Atlanta, GA; 2. Digestive Disease, Emory University, Atlanta, GA; 3. Orthopedics, Emory, Atlanta, GA.

Purpose: Although a variety of different modalities exist (CT, MRI, ERCP, EUS, and FNA) for the diagnosis of pancreatic masses, preoperative diagnosis of benign or malignant pancreatic masses remains a challenge. The purpose of this study was to compare pre-operative clinical diagnosis to post-operative pathological diagnosis of pancreas masses at a tertiary care medical center.

Methods: A list of patients undergoing procedures for pancreatic masses in 2004 done at Emory University Hospital was obtained. A retrospective analysis was performed to collect and compare preoperative clinical diagnosis and post-operative pathological diagnosis.

Results: 144 patients had pancreatic surgery for pancreatic masses during the study period. Most of those patients had malignant diseases on post-operative pathology, such as: pancreatic adenocarcinoma (32%), ampulla carcinoma/tumor (14%), cystic neoplasm (7%), pancreatic endocrine tumor (6%) and cholangiocarcinoma (4%), etc. 41 patients whose preoperative differential diagnosis was malignancy, showed no malignancy at the time of post-operative pathology.

Conclusion: Based on this study, pancreatic malignancy is over-diagnosed in patients with pancreatic masses prior to surgery. It is a challenge to precisely differentiate benign pancreatic masses from malignant ones despite the employment of modern diagnostic modalities, such as CT, MRI, ERCP, EUS and FNA. These test all have varying sensitivities and may be operator dependent. Combining PET scan to preoperative diagnostic techniques may add more data to this dilemma in the future.

P806

OSTEOCLASTIC/PLEOMORPHIC GIANT CELL TUMORS OF THE PANCREAS DIAGNOSED VIA ENDOSCOPIC ULTRASOUND AND FINE NEEDLE ASPIRATION: UNIQUE CLINICAL, ENDOSCOPIC, AND HISTOLOGIC FINDINGS

J. C. Moore, MD,[1] K. Hilden, BS,[1] J. Bentz, MD,[2] R. K. Pearson, MD,[3] D. G. Adler, MD[1]. 1. Gastroenterology, University of Utah, Salt Lake City, UT; 2. Pathology, University of Utah, Salt Lake City, UT; 3. Gastroenterology, Mayo Clinic, Rochester, MN.

Purpose: To evaluate patients with giant cell tumors of the pancreas and compare results to adenocarcinoma

Methods: Retrospective chart review of 5 patients with giant cell tumors of the pancreas at our institution. All were diagnosed by EUS FNA. We collected data on patient age, sex, presentation, imaging, lab tests, EUS findings including FNA, clinical course/survival and pathology.

Results: 5 patients (2F,3M) age range 59-81 years (mean 70.2 years). None were smokers. None had history of alcohol abuse or preexisting pancreatitis. On presentation 2 had painless jaundice, 1 had polymyalgia rheumatica, 2 had epigastric pain. 3 pts had pleomorphic histology, 1 had osteoclastic histology, 1 had both subtypes. Location: 4 head, 1 body. On EUS, tumors were large (mean diameter 47mm, range 20-70mm). 4/5 were in the pancreatic head and 1 was in the body. All tumors had heterogeneous echotexture. No patients had any vascular involvement. 3/5 had malignant adenopathy on EUS/FNA. 2/5 had metastases at presentation. CT was concordant with EUS in all patients. Mean CA19-9 was 276. Three pts died at a mean of 12.3 weeks from diagnosis. 2 pts are alive, 13 and 18 months from diagnosis, both with osteoclastic histology.

Conclusion: We believe this is the largest cohort of patients with giant cell tumors of the pancreas ever identified at a single center, and all by EUS FNA. Giant cell tumors of the pancreas have unique clinical, endoscopic, and cytological features. The risk factors for these lesions may be different from those associated with pancreatic adenocarcinoma. Patients were nonsmokers and nondrinkers. Tumors were without vascular involvement, large, and heterogeneous. In contrast to prior data, most had malignant adenopathy at the time of diagnosis. Some giant cell tumor subtypes may carry a more favorable prognosis than pancreatic adenocarcinoma. Awareness and recognition of these differences can affect patient care.

P807

PERCENTAGE DECREASE IN TOTAL SERUM BILIRUBIN AFTER ERCP THERAPY FOR OBSTRUCTIVE JAUNDICE IS SIMILAR FOR MALIGNANT AND BENIGN CAUSES

N. Muckova, MD, K. Che, DO, W. Srikureja, MD, S. Olafsson, MD. Internal Medicine, Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA.

Purpose: 1) To compare the mean total serum bilirubin levels prior to ERCP in malignant vs. benign causes of biliary obstruction. 2) To compare the average percentage decrease in total serum bilirubin levels after a therapeutic ERCP.

Methods: Medical records of all patients who underwent therapeutic ERCP for obstructive jaundice at LLUMC between 1/1/2002 and 8/30/2007 were reviewed. Only patients with bilirubin levels >2 mg/dL prior to ERCP who had follow-up bilirubin levels for ≥2 days after ERCP were included in the final analysis. Patient variables included age, gender, length of follow-up, and malignant vs. benign causes of obstruction.

Results: A total of 453 patients who underwent a therapeutic ERCP for obstructive jaundice were identified. Those with a pre-ERCP bilirubin level <2 and inadequate follow-up after ERCP were excluded, leaving 171 patients in the final analysis. Of these, 47 had a malignant and 124 had a benign cause of biliary obstruction. (See table)

Conclusion: 1) The mean total serum bilirubin levels are significantly higher in the setting of malignant (≥10 mg/dL) vs. benign (≤10 mg/dL) causes of biliary obstruction. 2) After therapeutic ERCP the percentage decrease in total serum bilirubin level is expected to be the similar in malignant vs. benign causes of obstructive jaundice.

	Malignant	Benign	p-value
Mean age, years	63.4	52.3	0.0008
Age range, years	35-83	14-91	
Male gender, %	60	42	.04
Pre-ERCP total bilirubin, mg/dL	13.8	7.3	<0.0001
Length of follow-up, # of days	10.1	8.0	0.11
Length of follow-up, range of days	2-25	2-25	
Post-ERCP % decrease in total bilirubin	40	45	0.45

P808

EUS-GUIDED TRUCUT BIOPSIES MAY ENABLE THE DIAGNOSIS OF LYMPHOEPITHELIAL CYSTS OF THE PANCREAS (CASE PEPORT)

S. Ali, MD,[1] H. Gerke, MD,[1] N. Wilkinson, MD,[2] C. Jensen, MD[3]. 1. Clifton Center for Digestive diseases, University of Iowa, Hospitals and Clinics, Iowa City, IA; 2. General Surgery, University of Iowa Hospitals and clinics, Iowa City, IA; 3. Pathology, University of Iowa Hospitals and clinics, Iowa City, IA.

Purpose: Lymphoepithelial cysts (LEC) of the pancreas are rare benign lesions with a minimal risk of malignant transformation. Due to non-specific radiologic findings, LEC can be confused with other cystic neoplasms. Endoscopic ultrasound (EUS) with Fine Needle Aspiration (FNA) has been reported to be helpful in obtaining a preoperative diagnosis. However, a cytological diagnosis may be difficult since FNA may result in scant material, and confusion with mucinous cystic neoplasm can be caused by contaminating gastrointestinal mucosa. We present two cases of LEC where EUS-guided core biopsies with a Trucut needle enabled a diagnosis. Case # 1: A 35 year old male presented with mild abdominal pain. Laboratory data were unremarkable and there was no history of pancreatitis. Abdominal CT scan showed 2 hypodense lesions in the pancreas. EUS was performed, which showed a 2.3 cm X 1.5 cm pancreatic tail lesion with slightly lobulated contour, granular echo-texture and a small cystic component. In addition, a 2.0cm x 1.0cm solid appearing oval mass with smooth contour and similar granular echotexture was identified adjacent to the pancreatic body. EUS-FNA was performed of both lesions. On-site cytology assessment showed anuclear squamous cells and crystals. Since this was not considered diagnostic, EUS-guided Trucut biopsies were also performed. On-site touch imprint cytology showed crystals and lymphoid tissue in the pancreatic tail lesion and viable and anucleated squamous cells in the pancreatic body lesion. Histology showed stratified squamous epithelium with prominent keratinaceous debris and an adjacent lymphoid infiltrate without atypia. These findings were considered diagnostic of a LEC of the pancreas. Initial symptoms resolved spontaneously. A follow-up CT showed increasing size of one of the lesions. Therefore, pancreatic tail resection was performed which confirmed the diagnosis. Case #2: A 54 year old male without history of pancreatitis presented with complaints of vague abdominal pain. Initial laboratory data were normal. An abdominal CT scan showed a cystic mass, located in the pancreatic body. Similar to the first case, EUS demonstrated a 2.6cm x 1.5cm hypoechoic mass with granular echotexture and cystic component. EUS-guided Trucut biopsies were obtained. Touch imprint cytology showed anucleated squamous cells and lymphocytes. Histology demonstrated keratinaceous debris. A diagnosis of LEC was made. The symptoms resolved, and a follow up CT scan after 4 months was unremarkable. Conclusion: This is the first report of EUS-guided Trucut biopsies for LEC. Trucut biopsies can be complementary to FNA, and larger Trucut specimens may facilitate the diagnosis.

P809

EXTRA-GASTROINTESTINAL STROMAL TUMOR (EGIST): RARE TUMOR OF THE PANCREAS

T. Harindhanavudhi, MD, T. Tanawuttiwat, MD, R. Silva, MD, FACG. Internal Medicine, Advocate Christ Medical Center/UIC, Oak Lawn, IL.

Purpose: Gastrointestinal stromal tumor (GIST) is the most common nonepithelial tumors that usually occur mainly in stomach and small intestine. However, they can be found in other intra-abdominal organs. Pancreatic GIST is extremely rare with a few cases report in the literature. We describe the case of pancreatic GIST that prompt the practitioner to be aware.

Results: A 63 year-old woman presented with increasing fatigue and generalized weakness without gastrointestinal symptoms. Her past medical history included hypertension and pancreatic mass. The pancreatic mass was found by CT scan when she presented with flank pain 4 years prior. However, the patient refused surgery at that time. Physical examination revealed a healthy woman with soft systolic murmur but otherwise unremarkable. Laboratory data revealed a low Hb of 4.9 g/dl, MCV 86.1 fL. She received 4 units of blood transfusion. Abdominal CT scan demonstrated an 11 cm by 16 cm cystic mass at the pancreatic body that had increased in size compared with the 6 cm cystic mass from the previous CT scan. Endoscopy was normal. Colonoscopy revealed diverticulosis and a large sigmoid polyp. Endoscopic ultrasound (EUS) demonstrated a large complex cystic structure arising at the pancreatic body characterized by hyperechoic debris within the cyst consistent with a hematoma. FNA was performed and thick bloody fluid was obtained which was found to have an amylase of 20,891 units/L. Cytology revealed a spindle cell lesion. Immunohistochemistry studies were positive for muscle specific actin, smooth muscle actin and CD34 but negative for CD117. Eventually, the patient underwent exploratory laparotomy that revealed a cystic mass arising from the pancreatic body. Drainage of cyst with cystojejunostomy and biopsy of cyst wall was performed. Histologically, the tumor composed of spindle cells with mitotic rate <5 per 50 high power field. Immunophenotyping stain was strongly positive for CD34 and CD117. All of these supports the diagnosis of low grade pancreatic GIST presenting as a hemorrhagic pseudocyst. The patient recovered without complication postoperatively and was subsequently referred to oncology and for definitive resection of the GIST.

Conclusion: Pancreatic GIST is an uncommon solid tumor of the pancreas. It is usually asymptomatic because of the location and lack of mucosal involvement. Showalter et al. reported that most of the tumors were low grade and was diagnosed incidentally from imaging. This case demonstrated an EGIST arising from the pancreas which presented with severe anemia due to pseudocyst formation and hemorrhage within the GIST. Although these are uncommon,pancreatic GIST should be included in the differential diagnosis of cystic and solid masses of the pancreas.

P810

MRCP AS A DIAGNOSTIC STUDY FOR PLEUROPANCREATIC FISTULA

T. Ali, MD,[1] N. Srinivasan, MD,[1] V. Le, MD,[1] A. Chimpiri, FRCR,[2] W. Tierney, MD[1]. 1. Digestive Disease and Nutrition, University of Oklahoma Health Sciences Center, Oklahoma City, OK; 2. Radiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

Purpose: Pancreaticopleural fistula (PPF) is a rare but well-known serious complication of acute and chronic pancreatitis or pancreatic trauma.ERCP is critical in confirming the diagnosis of PPF. However, the reported accuracy is highly variable. We present two cases where PPF was accurately diagnosed by non-invasive MRCP

Methods: Two case reports of PPF presenting at a tertiary care hospital successfully diagnosed by non-invasive MRCP are presented

Results: CASE REPORT 1 A 46 yr old African-American male with history of alcoholism presented with 2 month history of progressive dyspnea and cough. Chest X-ray showed bilateral pleural effusions.Thoracentesis revealed pleural fluid with an exudative pattern. CT thorax/abdomen/pelvis revealed bilateral pleural effusions (right greater than left)but no fistula was identified. MRCP was performed that confirmed the clinical suspicion of PPF revealing discontinuity in pancreatic ductal wall with formation of fistulous tract with pleural cavity. Patient was initially managed conservatively with bowel rest, sandostatin and parenteral nutrition. ERCP was eventually performed and a stent was placed in the pancreatic duct 27 days into hospitalization.Symptoms improved with resolution of PPF that was confirmed with repeat MRCP two weeks later. CASE REPORT 2: A 52 year old Caucasian female with history of hepatitis C and chronic pancreatitis presented with abdominal pain.CT scan revealed bilateral pleural effusion, left larger than right. MRCP was performed revealing a tortuous fluid-signal tract from anterior wall of pancreatic duct to the left pleural cavity.The patient was managed conservatively with parenteral nutrition and subcutaneous sandostatin therapy. Two weeks later a repeat MRCP showed near closure of the fistula and her symptoms completely resolved.

Conclusion: 1-PPF is an unusual complication of chronic pancreatitis that presents a diagnostic dilemma for physicians. 2-The reported accuracy of ERCP in diagnosing fistulas is highly variable. 3-ERCP,an operator dependent technique,is associated with 1 to 7% risk of procedure related pancreatitis. 4-MRCP is based on the acquisition of T2 weighted images, which can provide an overview of fistulous tract appearing as a high signal intensity structure. 5-MRCP usually does not require sedation or contrast material and is less invasive relative to ERCP. 5-MRCP can be considered the initial study of choice to diagnosis PPF. 6- Recent development of new MRI techniques with higher resolution can more clearly demonstrate the relationship of the fistulous tract to the pancreatic duct.

P811

HYPERTRIGLYCERIDEMIA INDUCED SEVERE PANCREATITIS WITH MULTI SYSTEM ORGAN FAILURE: IS EARLY PLASMAPHERESIS THE ANSWER?

M. Kumar, MBBS, MD, G. Alreja, MBBS, MD, M. k. Saha, MBBS, MD. internal medicine, seton hall university, Elizabeth, NJ.

Purpose: Introduction: Hypertriglyceridemia is a well known cause of pancreatitis. Serum triglyceride (TG) values above 1000 mg/dl can precipitate acute pancreatitis. Reduction of TG level below 1000 mg/dl prevents further episodes of pancreatitis. Diet restriction and fibric acid derivatives is the mainstay of treatment modalities. The role of plasmapheresis is controversial, mainly because of limited experience.

Methods: Case Report: A 25 y/o Hispanic woman with no significant past medical history presented to ED with severe pain in abdomen, nausea and vomiting. Upon examination, she was in distress, afebrile and had tenderness in epigastric region with no evidence of xanthelesema or eruptive xanthomas. Laboratory analysis revealed a lipemic sample, markedly elevated TG 9720, and undeterminable other lipid fractions. WBC was 16.1 and Lipase 763. She was started on an Insulin drip to stimulate her lipoprotein lipase for her hypertriglyceridemia. Aggressive fluid management, analgesics, imipenem-cilastin were started and she was admitted to the ICU. CT abdomen showed normal GB, severe pancreatitis without necrosis and small bowel ileus. Over the next 24 hours, her condition deteriorated with worsening of abdominal pain, respiratory distress and anuria.

Results: Subsequently she was intubated and placed on mechanical ventilation. The patient underwent plasmapheresis within 36 hours, and TG level remarkably decreased to 306. Her hospital stay was complicated by Multi System Organ Failure including acute renal failure requiring hemodialysis, mechanical ventilation, tracheostomy and intraabdominal abscesses. Plasmapheresis played a pivotal role in improving her clinical as well as laboratory condition. Patient was discharged home on fenofibrate, metformin and followed as outpatient.

Conclusion: Discussion: Treatment of hypertriglyceridemia induced pancreatitis includes nil per oral, insulin drip (with or without heparin) and plasmapheresis. Plasmapheresis is an emerging method of decreasing the toxic chylomicron fraction, trigyceride and plasma proteases. It improves blood and plasma flow rates and perfusion to vital organs and also helps to avoid pseudo lab value which could be misleading in patient management. There has been no independent study to prove the effectiveness of plasmapheresis. Most of the data is extracted from case reports. Piolot et al reported successful use of plasmapheresis, which reduced the levels of TGs by 65-70%. In one case report, the outcome after plasmapheresis was dependent on the timing of its initiation. Our case thus emphasizes the importance of plasmapheresis for hypertriglyceridemia induced pancreatitis and emphasizes the need for randomized controlled trials evaluating its timing and use.

P812

PANCREATIC MASS: PATHOLOGICAL DIAGNOSES OF 112 CONSECUTIVE SURGICAL SPECIMENS

J. Naik, MD, C. S. Marin, MD, Y. Li, MD, Q. Cai, MD, G. Aggarwal, MD. Division of Digestive Diseases, Emory University, Atlanta, GA.

Purpose: Pancreatic masses are commonly encountered in clinical practice. The purpose of this study is to analyze the pathological diagnoses from surgically removed pancreatic masses and to provide a picture of final diagnoses of pancreatic masses.

Methods: A list of pathological diagnoses on consecutive surgical specimen was obtained from pathology. Final pathology diagnoses were obtained from the electronic records.

Results: 112 consecutive patients who had pancreatic surgery for pancreatic masses were included in this study. The final diagnoses are: adenocarcinoma of the pancreas and ampulla -50 (44.6%), inflammatory masses from chronic pancreatitis- 26 (23.2%), endocrine tumor of the pancreas -9 (8.0%), cholangiocarcinoma- 6 (5.3%), serous cystic adenoma- 6 (5.3%), mucinous cystadenoma-5 (4.5%), normal pancreas-4 (4.5%), intraductal papillary mucinous tumor-1 (0.9%) lymphoma-1 (0.9%), anaplastic carcinoma-1 (0.9%), ectopic spleen-1 (0.9%), lymphangioma-1 (0.9%), metastatic renal cancer-1 (0.9%). Overall, about 70% of pancreatic masses were malignant, and 30% were benign.

Conclusion: Preoperative diagnosis of a benign or malignant pancreatic mass is still a challenge at times; surgical resection of pancreatic masses is used for diagnosis as well as for treatment. To avoid patients' anxieties, patients should be informed that about 30% of the pancreatic masses may not be malignant.

P813

SUCCESSFUL TRANS-PAPILLARY DRAINAGE OF A HEPATIC HYDATID CYST: A NOVEL APPROACH

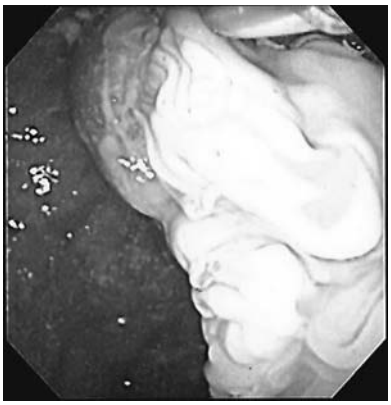
S. Rashid, DO, I. Grosman, DO, B. Stark, MD. Internal Medicine, North Shore University Hosptial-Manhasset, Manhasset, NY.

Purpose: Hydatid cystic disease, caused by the larval form of Echinococcus, commonly affects the liver. When symptomatic, these cysts rupture and cause intraperitoneal leakage, infection, or biliary obstruction and when enlarged, produce mass effect. Definitive treatment of obstructive jaundice due to rupture is Endoscopic Retrograde Cholangiopancreatography (ERCP) and sphincterotomy. We would like to report a case of a trans-papillary drainage of a hydatid cyst.

Methods: An 82 year old male with chronic hydatid liver cysts treated with ERCP and sphincterotomy, presented with fever, generalized pruritis, and dark urine for one week. Laboratory work revealed elevated liver enzymes and bilirubin. A CT scan showed a septated cyst in the right lobe and intrahepatic dilatation. ERCP revealed a cyst causing external compression of the intrahepatic ducts. We selectively cannulated and irrigated the cyst using hypertonic saline to kill off remaining scolicides to avoid anaphylactic reaction. After clearance of the fluid with an occlusion balloon, gentamycin was used for irrigation.

Results: A repeat CT scan showed a decrease in the size of the cyst with improving intrahepatic dilatation. Irrigation and drainage of the cyst were performed without complication

Conclusion: Among the complications of hydatid disease, cyst rupture into the biliary tract occurs in 5-25%. ERCP with sphincterotomy is needed to treat obstructive jaundice caused by debris after a cyst rupture. A study reports an 86% success rate with endocsopic treatment for hydatid cysts. Treatment with anti-hydatid agents is without endoscopic intervention. Literature review reveals that our approach is one of the few reported cases for a trans-papillary drainage of a hydatid liver cyst without the need for stenting or nasobiliary drainage. By managing cystic rupture with ERCP and sphincterotomy along with medical therapy, we avoid the need for surgical or percutaneous approaches. ERCP with sphincterotomy and medical therapy is a safe and effective approach to treat complications of hydatid cystic disease. Our case is unique in that we successfully drained a hepatic hydatid cyst using a trans-papillary approach via ERCP.

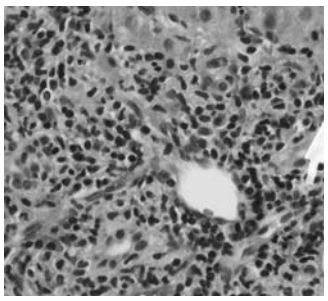


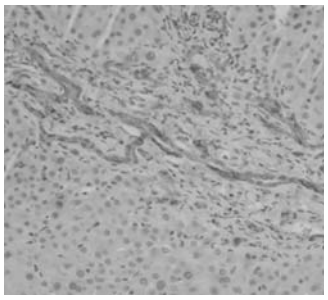
P814

IMMUNOGLOBULIN G4 (IGG4)-HEPATOPATHY IN A CASE OF SCLEROSING CHOLANGITIS MIMICKING PRIMARY SCLEROSING CHOLANGITIS (PSC)

P. Shroff, MD,[1] N. L. Sussman, MD,[1] M. R. Schwartz, MD,[2] P. K. Jalal, MD[1]. 1. Department of Gastroenterology, Hepatology and Liver Transplantation, Baylor College of Medicine, Houston, TX; 2. Department of Pathology, Texas Methodist Hospital, Houston, TX.

Purpose: A 51-yr-old healthy male presented with a 1-month history of painless jaundice and weight loss. Serum bili was 21.9 (direct 15.4), Alk phos 432, ALT 82 and AST 113. MRI showed a 22 x 13mm T2-hyperintense mass in the head of pancreas with narrowing of the intrapancreatic portion of the CBD, and extrahepatic and intrahepatic biliary dilatation. ERCP showed a stricture in the distal CBD and irregular intrahepatic ducts suggesting sclerosing cholangitis. Ductal brushing was negative for malignancy and a biliary stent was placed. EUS-guided biopsy showed chronic pancreatitis and a serum IgG4 was elevated suggesting autoimmune pancreatitis. Prednisone was started, and jaundice and pancreatic mass resolved in 6 weeks. Liver tests normalized at 3 months, the stent was removed and steroid was stopped. Six months later, liver tests were again abnormal with bili 2.9, Alk phos 299, ALT 104 and AST 90. He did not have any symptoms of cholangitis. MRCP showed diffusely irregular intrahepatic ducts but no filling defect or stricture in the CBD. The pancreas and pancreatic duct were normal. A liver biopsy showed interface hepatitis with focal lymphocytes and plasma cells (Image 1) with portal fibrosis (stage 1-2). There was mild bile duct damage (Image 2) with cholangiolar proliferation. Special stain revealed an increased number of IgG4-plasma cells >25/hpf (normal<5/hpf) consistent with IgG4-hepatopathy. Steroid was restarted and tapered as the enzymes improved. He was maintained in remission with immunomodulator therapy. IgG4-related sclerosing cholangitis should be suspected in biliary strictures associated with increased serum IgG4 and abnormal pancreas, and is potentially treatable. IgG4-hepatopathy has emerged as a unique entity in the umbrella of IgG4-related sclerosing diseases and is steroid responsive.





P815

EVALUATION OF A GASTROINTESTINAL (GI) TRANSIT MEASUREMENT SYSTEM (GTMS) IN HEALTHY VOLUNTEERS

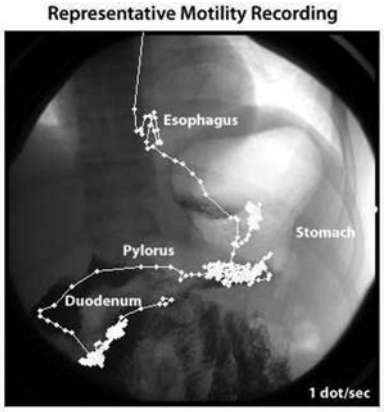
B. E. Lacy, PhD, MD, FACG,[1] R. Rothstein, MD,[1] J. Gagne, BS,[2] J. Bieszczad, PhD,[2] D. Kynor, MS[2]. 1. Division of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH; 2. Creare, Inc, Hanover, NH.

Purpose: Background: Accurate evaluation of GI transit and motility can be costly, invasive, and result in radiation exposure. Aims: To develop a safe and inexpensive external monitoring device to continuously measure GI transit using an ingested capsule in healthy volunteers.

Methods: Asymptomatic healthy volunteers underwent a SBFT to exclude obstruction. All volunteers fasted overnight. The first volunteer swallowed a prototype capsule (acid resistant to pH = 1) measuring 9 x 21 mm and was monitored in a semi-recumbent position for 7 hours. Standard meals were provided. The capsule was tracked using an external sensor array placed under the subject's lower back. The second volunteer swallowed a smaller, second-generation capsule (7 x 10.5 mm), was fed standard meals, and completed an additional second day of testing. The third and fourth volunteers swallowed the smaller capsule, but fasted until the capsule had left the stomach. For each volunteer, the three-dimensional positioning of the capsule was measured ten times each second and superimposed on the x-ray images obtained during the small bowel follow through. All volunteers had a follow-up abdominal x-ray to verify passage of the capsule.

Results: 4 volunteers (2M:2F; mean age = 27) completed the study. No adverse events occurred. Delayed gastric emptying (>7 hours) of the capsule was observed in volunteers 1 & 2. The smaller capsule emptied from the stomach of fasting volunteers 3 & 4 in 2.5 hours. The capsule trajectory for one of the volunteers, with GI series co-registration of the esophagus, stomach and duodenum, is shown below.

Conclusion: This study demonstrates that external measurements of capsule position can be used to provide measurements of GI transit that have both high temporal and spatial resolution. Although both capsules were well tolerated and were eliminated in all subjects, the smaller, lighter capsule left the stomach more quickly and is expected to provide more accurate measurements of GI transit. Further studies are needed to confirm these preliminary results and to evaluate this novel technology in patients with GI motility disorders. Acknowledgement: This study was funded by NIH grant #R44-DK063732.



P816

EXPRESSION OF CD30 IN CELIAC SPRUE

E. G. Molina, MD,[1] P. Feldman, MD,[2] C. Vincentelli, MD,[3] A. Martinez, MD,[3] J. Barkin, MD, FACG[1]. 1. Gastroenterology, Mount Sinai Medical Center, Miami, FL; 2. Gastroenterology, Veterans Affairs, Miami, FL; 3. Pathology, Mount Sinai Medical Center, Miami, FL.

Purpose: Cluster of Differentiation 30 (CD30), is a type I transmembrane glycoprotein of the TNF receptor superfamily. Expression of CD30 is normally seen in about 15 – 20% of normal CD3+ T and NK cells. CD30 also is expressed at increased levels in neoplasms of lymphoid origin as well as in several transformed T and B cell lines. CD30 expression has also been reported in refractory sprue. Our working hypothesis is that CD30 is expressed at increased levels in small bowel biopsies of patients with Celiac Sprue compared to normal intestinal tissue. If true, therapy with anti-CD30 might be a useful adjuvant in the treatment of Celiac Sprue patients who have CD30+ biopsies from small intestine mucosa. Aim: To determine expression of CD30 in small bowel biopsies of patients with Celiac Sprue compared with a normal control group.
Methods: Retrospective pilot study in patients who underwent small bowel biopsies by upper endoscopy which were suggestive of Celiac Sprue as well as a matched number of normal control biopsies. A total number of forty biopsies were collected (twenty with Celiac Sprue and twenty controls), and were stained for CD30. A pathologist was blinded for the review of slides.
Results: The duodenal biopsies of the control and study cases revealed no staining of the intraepithelial lymphocytes by CD30. Occasional lymphoid cells within the lamina propia were reactive with CD30 in both groups. No staining differences were observed between the two groups.
Conclusion: Lymphocytes in the lamina propia of patients with early Celiac Sprue are not associated with the cascade of CD30 immunologic events. Our results suggest that expression of CD30 in Celiac Sprue is not present early in the course of this disease, but an unkown event triggers the expression of this receptor later on, when the disease is considered as refractory Sprue and / or lymphoma.

P817

IS VIDEO-ASSISTED TEACHING BETTER IN LONG-TERM RETENTION OF LEARNING

H. Sharma, MBBS, MS, MRCS,[1] P. Jha, MBBS, MS, MRCS,[2] N. Shekhawat, MBBS, MS[2]. 1. surgery, Gloucestershire Royal Hospital, Gloucester, United Kingdom; 2. Surgery, Sawai Mansingh Medical College, Jaipur, India.

Purpose: To analyze the results of lecture-room teaching compared to Video-assisted teaching in Hernia Surgery in terms of long term retention of knowledge and Staffing issues.
Methods: Inguinal hernia surgery was taught to a batch of 25-medical students posted in surgery as traditional lecture teaching and this lecture was video-recorded. The students were assessed at the end of the lecture on inguinal hernia by 10 multiple choice questions. This group was again assessed at 3 months and 6-months by multiple choice questions. The next batch of 25 medical students were shown the previously recorded video of the lecture and their queries were answered after the end of the video lecture. The video lecture was edited slightly to give time for queries with in one hour of teaching time. This group was similarily reassessed.
Results: There was no significant difference in correct response score at day 1, 94%-lecture-room-teaching v/s 97%-Video-assisted-teaching but at 3-months the correct response score was 56%-lecture-room-teaching v/s 78%-Video-assisted-teaching and at 6-months the correct response score was 44%-lecture-room-teaching v/s 73%-Video-assisted-teaching. The Staff input was reduced by 66% (2 staff hours-lecture-room-teaching v/s 6 staff hours-Video-assisted-teaching).
Conclusion: Video-assisted teaching minimizes staff input, maximizes knowledge dispersion and helps in long term retention of learning.

P818

CAPSULE ENDOSCOPY: EFFECT OF BOWEL PREPARATION ON IMAGE QUALITY, SMALL BOWEL TRANSIT AND COMPLETION RATE

C. Anand, MD, A. Shaikh, MBBS, M. Papper, MD. Gastroenterology, Saint Vincent Hospital, Worcester, MA.

Purpose: There is no consensus about the use of bowel cleansing prior to capsule endoscopy (CE). A significant number of procedures performed following the manufacturer guidelines of clear liquids and fasting result in poor visualization, and inability to image the entire small bowel. This study examined the effect of bowel preparation on image quality, small bowel transit (SBT) and complete passage through the small bowel.
Methods: We retrospectively analyzed 156 consecutive capsule endoscopies performed between 6/1/07 and 5/31/08 at our facility. 5 cases were excluded due to retention in stomach, esophagus and unreadable data. 92 patients followed the manufacturer guidelines of clear liquids and fasting(CF)and did not receive bowel cleansing. 59 patients received bowel preparation with 45ml of sodium phosphate or 2 L polyethelene glycol on the previous evening(BP). The videos were examined by two independent gastroenterologists.
Results: The indications for capsule endoscopy were obscure overt gastrointestinal bleeding (n=74), obscure occult bleeding (n=30), abdominal pain (n=15), crohn's (n=22), celiac disease (n=6),and others (n=4). 21 (23%) of CF and 3 (5%) of BP patients had poor bowel visualization (p=0.014), due to residual opaque intestinal fluid and solid debris. The rest, 77% of CF and 95% of BP patients were noted to have adequate visualization. Cecum was not reached in 15 (16%) of CF and 5 (10%) of BP patients (p=0.28). SBT was 244 min in CF and 235 min in BP patients (p=0.53).
Conclusion: Bowel preparation for capsule endoscopy improves the quality of small bowel visualization. It demonstrates no statistical difference in small bowel transit time and passage into cecum, though a greater percentage of patients with preparation had complete exams of the small bowel. Bowel preparation should be routinely considered for capsule endoscopy.

P819

HEALTH CARE PROVIDERS' KNOWLEDGE ABOUT CELIAC DISEASE: COMPARISON OF UNIVERSITY HOSPITAL BASED PHYSICIANS AND PRIMARY CARE PHYSICIANS

D. Goldberg, MD, P. H. Green, MD. Medicine, Columbia University College of Physicians and Surgeons, New York, NY.

Purpose: Celiac disease (CD) is estimated to occur in ~1% of the United States population, however, the disease remains mostly undiagnosed. The reasons for this are unclear, though it may be due to lack of knowledge about CD among medical practitioners.
Methods: We administered an eleven question survey to internal medicine residents and attendings and gastroenterology fellows and attendings at a large university medical center, and to family practice physicians in New York State. The questionnaire included questions about the prevalence, associated conditions and presenting symptoms, diagnosis, and management of CD.
Results: 325 questionnaires were completed. The average scores for the different groups were: interns 40.0%, junior residents 46.5%, senior residents 52.9%, internal medicine attendings 54.6%, gastroenterology fellows 65.4%, gastroenterology attendings 66.2%, and family practice physicians 46.4%. Analysis of variance demonstrated that the overall test scores differed significantly among the seven groups (p<.001). GI attendings and GI fellows scores were statistically equivalent, but differed significantly from those of IM residents and attendings and family practice attendings, therefore gastroenterologists were compared to IM/family practice physicians for comparisons based on level of training. Only 19% of respondents knew the prevalence of CD in the U.S. There was a significant association between level of training and knowledge of the prevalence of CD (p=0.002). 35% of respondents answered that IgA tissue transglutaminase or IgA endomysial antibodies were the most sensitive and specific diagnostic tests. Again, there was a significant association based on level of training (p=<0.0001). Gastroenterologists also scored better on the questions that asked about associated diseases, lab abnormalities, and extraintestinal manifestations of CD. However, there was no difference in knowledge of GI symptomatology of CD between the groups. See Table 1 for full results.
Conclusion: The overall knowledge about CD is poor, even among gastroenterologists, though is more pronounced in non-gastroenterologists. Level of knowledge of diagnostic testing and prevalence are associated with level of training, while knowledge of clinical presentations is not. Unless there are more efforts to increase knowledge of CD among all medical practitioners, especially primary care providers, the disease will continue to be underrecognized.

Table 1-Individual Group's Score for Each Topic

				% in Each Group Correctly Answering Question				
Topic	Interns, n=15	Junior Residents, n=17	Senior Residents, n=17	IM attendings, n=15	FM attendings, n=237	GI fellows, n=10	GI attendings, n=14	Chi-Square*
Disease Prevalence	0.00%	5.88%	23.53%	20.00%	18.60%	50.00%	42.86%	p=0.002
Symptomatic Prevalence	53.33%	17.65%	29.41	40.00%	35.40%	40.00%	28.57%	p=1
GI symptoms	33.33%	23.53	41.18%	46.67%	33.80%	50.00%	14.29%	p=0.7773
Associated Conditions	46.67%	29.41%	70.59%	46.67%	37.60%	100.00%	85.71%	p<0.0001
Disease Mortality	46.67%	64.71%	70.59%	86.67%	75.50%	70.00%	78.57%	p=0.9203
Associated Diseases	0.00%	5.88%	23.53%	0.00%	11.40%	40.00%	35.71%	p=0.0005
Dietary Compliance	93.33%	100.00%	76.47%	93.33%	72.60%	80.00%	100.00%	p=0.1416
Diagnostic Testing	20.00%	58.82%	41.18%	40.00%	18.60%	70.00%	78.57%	p<0.0001
Treatment Decisionmaking	86.67%	100.00%	94.12%	100.00%	89.00%	100.00%	100.00%	p=0.2222
Family Member Prevalence	33.33%	64.71%	58.82%	60.00%	62.00%	40.00%	71.43%	p=1
Extraintestinal Manifestations	26.67%	41.18%	52.94%	66.67%	47.40%	80.00%	92.86%	p=0.0041

*** Chi-Square Statistic compares gastroenterologists vs. non-gastroenterologists**

P820

AIR POLLUTION AND APPENDICITIS: A NOVEL ASSOCIATION

G. G. Kaplan, MD, MPH,[1] E. Dixon, MD, MSc,[2] R. Panaccione, MD,[1] S. J. Heitman, MD, MSc,[1] A. Fong, MSc,[1] L. Chen, BSc,[3] M. Szyszkowicz, PhD,[3] A. MacLean, MD,[2] D. Buie, MD, MSc,[2] P. Villeneuve, PhD[3]. 1. Department of Medicine, University of Calgary, Calgary, AB, Canada; 2. Department of Surgery, University of Calgary, Calgary, AB, Canada; 3. Biostatistics and Epidemiology Division, Health Canada, Ottawa, ON, Canada.

Purpose: Adult onset appendicitis is a common condition whose pathogenesis is unclear and almost universally requires surgery. Air pollution is a byproduct of industrialization that causes health effects, in part, through inflammation. We set out to evaluate whether exposure to air pollution was associated with an increased incidence of adult-onset appendicitis.

Methods: We designed a population-based study, using a validated (88% accurate) administrative definition of appendicitis, to identify all adults (age > 18 years) who developed appendicitis in Calgary from 1999-2005. Environmental data from fixed site monitoring stations were used to calculate the daily mean levels for ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), and particulate matter with a median diameter < 10 microns (PM_{10}) and < 2.5 ($PM_{2.5}$). To study the association between air pollutants and appendicitis we used a case-crossover design whereby the case's exposure at the index time (date of admission) was compared to their exposure at referent time intervals. A time-stratified approach to the selection of control intervals was used. The time lags for pollution levels used were the day before and the 5-day average before admission. Conditional logistic regression was used to estimate the adjusted odds ratios (aORs) and 95% confidence intervals (CI) relative to an increase in the interquartile range (IQR) of each pollutant. Secondarily we stratified our analysis by gender and season.

Results: Between 1999 and 2005, 4401 adult residents were admitted for appendicitis. Nearly 55% of appendicitis patients were between the ages of 18 and 35, 53.1% were men, and 52.6% occurred in the summer. The aORs associated with an increase in the IQR of the day before admission for appendicitis was significantly elevated for O_3 (Table 1). For the 5-day average before admission O_3, NO_2, SO_2, and PM_{10} were significantly associated with appendicitis (Table 1). The effect of O_3 (aOR 1.30; 95% CI: 1.12-1.50), SO_2 (aOR 1.18; 95% CI: 1.01-1.39), and PM_{10} (aOR 1.15; 95% CI: 1.04-1.27) were greatest during the summer. Men were more likely to be affected by SO_2 (1.17, 1.03-1.33 versus 1.04, 0.91-1.19), O_3 (1.28, 1.10-1.48 versus 1.14, 0.98-1.33), and PM_{10} (1.13, 1.03-1.23 versus 1.08, 0.97-1.19).

Conclusion: Adults who were exposed to higher levels of O_3, NO_2, SO_2, or PM_{10} were more likely to be admitted to hospital for appendicitis. For O_3, SO_2, and PM_{10} this effect was more pronounced in the summer, when individuals are more likely to be outside. If the association between air pollution and appendicitis in adults is confirmed, then these findings may provide insight into the pathogenesis of appendicitis and offer the potential for prevention through air quality control.

Risk of Appendicitis Relative to an Increase in the Interquartile Range of Air Pollutants

Air Pollutants	IQR	Day Before Admit aOR (95% CI)*	5-Day Average aOR (95% CI)*
O_3 (ppb)	16	1.08 (1.01-1.16)	1.21 (1.09-1.35)
NO_2 (ppb)	11.7	0.98 (0.91-1.05)	1.13 (1.01-1.27)
SO_2 (ppb)	2	1.01 (0.95-1.07)	1.11 (1.01-1.22)
PM_{10} ($\mu g/m^3$)	15	1.01 (0.97-1.06)	1.10 (1.03-1.18)
CO (ppm)	0.2	0.99 (0.95-1.03)	1.06 (1.00-1.13)
$PM_{2.5}$ ($\mu g/m^3$)	4	1.01 (0.98-1.04)	1.05 (1.00-1.09)
*Odds ratio adjusted for temperature and humidity.			

P821

A SINGLE CENTER RETROSPECTIVE REVIEW OF DOUBLE BALLOON ENTEROSCOPY

A. Mantas, MD, T. Van Dinter, MD, D. C. DeMarco, MD, FACP. Internal Medicine, Division of Gastroenterology, Baylor University Medical Center, Dallas, TX.

Purpose: To analyze 161 double balloon enteroscopy (DBE) procedures at a single tertiary referral center by a single operator.

Methods: A total of 137 consecutive patients between March 2004 and December 2007, 71 males and 66 females with a mean age of 63.2 ± 14.2 years (range 17 to 89 years), underwent 161 DBE procedures, 128 oral route and 33 anal route. Twenty-one patients had undergone both anal and oral approaches. Indications included gastrointestinal bleed (n=100, 71%), abdominal pain (n=16, 11%), IDA (n=14, 9.9%), retained capsule (n=3, 2.1%), chronic intestinal pseudo-obstruction (n=3, 2.1%), carcinoid tumor (n=2, 1.4%), diarrhea (n=2, 1.4%), and incidental findings on CT-abdomen (n=1, 0.7%). All patients had prior evaluations including upper endoscopies, colonoscopies and/or capsule endoscopies. The scope employed was the Fujinon EN-450 T5 200cm enteroscope with TS-12140 145cm overtube and PB-10 Balloon Pump Controller. The antegrade versus retrograde route chosen was based on evidence of suspected location of pathology on prior studies. Those undergoing an antegrade approach completed a clear liquid diet for one day while those undergoing a retrograde approach underwent a PEG-electrolyte prep the day prior. All patients were under deep sedation, usually with propofol, and had monitored anesthesia care during the procedure. In general, 60 minutes were allowed for the procedure.

Results: Mean estimated length of small bowel traversed was 200 ± 68 cm (range 30 to 350 cm) from pylorus via the antegrade approach and 147 ± 60 cm (range 10-250 cm) from ileocecal valve via the retrograde approach. Total enteroscopy was not accomplished. In our series of 161 DBEs, 67 abnormalities (42%) of the small bowel were identified: arteriovenous malformations (n=27, 33%), lymphangiectasias (n=14, 17%), masses (n=7, 8.6%), ulcers (n=6, 7.4%), strictures (n=4, 4.9%), diverticulosis (n=2, 2.5%), capsule (n=1, 1.2%), Dieulafoy (n=1, 1.2%) and miscellaneous mucosal abnormalities (n= 5). In two cases, eventual diagnoses of Crohn's disease and Peutz-Jegher syndrome were made. Therapeutic actions including argon plasma coagulation (n=28), polypectomy (n=2), clipping (n=2), bipolar cautery (n=1), capsule retrieval (n=1), epinephrine injection (n=1), dilation (n=1), or diagnostic actions including biopsy (n=12) were performed in 48 cases. No immediate or long term complications were observed.

Conclusion: The most commonly cited disadvantages of DBE include the amount of time required and resource utilization. Despite shorter procedure time our diagnostic yield is comparable to other U.S. center experiences with DBE. We conclude that DBE is a safe and valuable technique for the exploration, diagnosis, and management of small bowel pathology.

P822

PHARMACOKINETIC/PHARMACODYNAMIC CORRELATION BETWEEN TEDUGLUTIDE, AN ANALOG OF GLP-2, AND CITRULLINE, A BIOMARKER OF SMALL INTESTINAL ENTEROCYTE FUNCTIONAL MASS IN SHORT BOWEL PATIENTS

B. Messing, MD,[1] S. Mouksassi, PhD,[2] P. Bekker Jeppesen, MD,[3] F. Joly, MD,[1] L. Demchyshyn, PhD,[4] J. Cyran, PhD,[4] J. Marier, PhD[2]. 1. Hopital Beaujon, Clichy La Garenne, France; 2. Pharsight Corp., Montreal, QC, Canada; 3. Rigshospitalet, Copenhagen, Denmark; 4. NPS Pharmaceuticals, Bedminster, NJ.

Purpose: Teduglutide is an analog of native human GLP-2, a naturally occurring peptide secreted predominantly in the distal intestine. With enhanced biological properties, teduglutide increased mucosal mass by increasing villus height and crypt depth in animal studies. Teduglutide is currently under evaluation as a drug candidate for the treatment of intestinal dysfunction such as short bowel syndrome (SBS). The following study assessed the pharmacokinetic and pharmacodynamic (PK/PD) correlation between teduglutide and citrulline, an endogenous non-peptide amino acid and biomarker of remnant small intestinal enterocyte functional mass in SBS using PK/PD modelling techniques.

Methods: Eighty three PN-dependent SBS patients were randomized and dosed to placebo or 0.05 or 0.1 mg/kg/day of teduglutide for a 24-week treatment period. This was followed by either 4 weeks of follow up off drug or entry into an extension study. Teduglutide and citrulline plasma concentrations were measured every 4 weeks. PK/PD correlations were evaluated using an Emax model, with the maximum effect on citrulline driven by the cumulative exposure and duration of treatment with teduglutide.

Results: As compared to baseline, mean citrulline levels at Week 24 following placebo, 0.05 and 0.10 mg/kg/day teduglutide increased by 7.9%, 49.4% and 113.1% with p-values of 0.1297, 0.001, and 0.001, respectively. Table presents citrulline percent level relative to normal (i.e., physiologic value of 33 µmol/L). In the Emax model, the maximum predicted effect of teduglutide was a 142% increase in citrulline level compared to baseline. The exposure of teduglutide associated with 50% of the maximum effect was 20 ng/mL. An exposure-response relationship was observed, with a clear maximum effect on citrulline driven by the cumulative AUC of teduglutide.

Conclusion: A clear PK/PD correlation was observed between cumulative exposure of teduglutide as demonstrated in the Emax model and significant increases in plasma citrulline as noted at week 24. These results suggest that citrulline may be used as a surrogate marker of increased enterocyte functional mass in SBS patients treated with teduglutide.

	Placebo	Teduglutide 0.05	Teduglutide 0.01
Week 0	67.0%	54.6%	50.4%
Week 24	73.0%	89.7%	97.5%

Percentage of citrulline level relative to normal

Disclosure - Investigator for teduglutide study CL0600-004/5 -B. Messing, P Jeppesen. Employee NPS pharmaceutical L. Demchyshyn, J. Cyran. Employee of Pharsight Corp. S. Mouksassi, J-F Marier

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P823

GASTROINTESTINAL COMPLICATIONS IN PATIENTS SUPPORTED WITH VENTRICULAR ASSIST DEVICES

M. A. Siddiqui, MD,[1] M. S. Slaughter, MD,[2] R. Silva, MD, MACG[1]. 1. Internal Medicine, University of Illinois/Advocate Christ Medical Center, Oak Lawn, IL; 2. Cardiovascular Surgery, University of Illinois/Advocate Christ Medical Center, Oak Lawn, IL.

Purpose: Left Ventricular Assist Devices (LVADs) have become the standard of care for end-stage heart failure as either Bridge to Transplantation (BTT) or Destination Therapy (DT). We reviewed GI complications and their treatment in patients supported with a LVAD.

Methods: From 2003-2007, 74 consecutive patients had a LVAD for either BTT or DT. The average age was 62 yrs with 58 (78%) men and 16 (22%) women. LVADs implanted included: 40 (54%) pulsatile flow LVADs (Thoratec PVAD and IVAD, Heartmate XVE) and 34 (46%) continuous flow LVADs (Heartmate II). All data was prospectively collected.

Results: Patients with Heartmate II and Thoratec PVAD and IVAD were on aspirin daily and Coumadin (INR 1.5-2.5). Heartmate XVE patients received aspirin only. GI bleeding occurred in 22 (30%) patients. 22 pts underwent EGD and 19 underwent colonoscopy. EGD revealed: gastric angiodysplasia 7 pts, ulcers/erosions 7 pts and mild gastritis 8 pts. 85% of pts with angiodysplasia were actively bleeding. Colonoscopies revealed: bleeding rectal ulcers 2 pts, diverticulosis 7 pts, persistent pseudomembanous colitis 1 pt, internal hemorrhoids 7 pts. Treatment for bleeding included: argon plasma coagulation, electrocauterization and epinephrine injection. The Coumadin and aspirin were stopped and proton pump inhibitors, sucralfate and octreotide were used when indicated. 2 required surgical intervention secondary to internal hemorrhoids and bleeding rectal ulcer. Other GI complications included: abdominal pain with constipation 2, abdominal hematoma 1, gastric outlet obstruction 1, elevated transaminases 2 secondary to amiodarone and Acalculous cholecystitis, and 1 patient with acute abdominal distension and a cecal volvulus. Average time of support until GI complication was 6.5 months approximately. The majority of bleeding complications (73%) occurred in pts with a continuous flow LVAD.

Conclusion: GI complications are frequently seen in pts implanted with a LVAD for end-stage heart failure. GI bleeding occurs more frequently in pts with a continuous flow LVAD. Standard therapy including stopping all anticoagulation can be used successfully in this high risk group of pts.

P824

CLOSING THE CIRCLE ON THE 360 DEGREE EVALUATION: CAN SUBSPECIALTY FELLOWS BE EVALUATED AS CONSULTANTS BY THEIR GENERAL MEDICAL RESIDENT PEERS?

S. Taleban, MD,[1] A. J. DeCross, MD[2]. 1. Medicine, University of Rochester Medical Center, Rochester, NY; 2. Medicine, Division of Gastroenterology, University of Rochester Medical Center, Rochester, NY.

Purpose: The effort to improve trainee outcomes has led the Accreditation Council for Graduate Medical Education to focus on assessment tools. One innovation is the 360 degree review, which expands the evaluator pool to include nurses, patients, and peers. In a parallel process of quality improvement, the American Board of Internal Medicine (ABIM) incorporated validated peer review modules in the recertification process. Peer review of attending Gastroenterologists by referring physicians using the ABIM assessment tool has already been applied in a variable withhold-return Pay-for-Performance project in Rochester, NY. We therefore sought to adapt the ABIM peer review tool to the language of the ACGME competencies, and incorporate the peer review of GI fellows as trainee consultants by their general medicine resident referring physicians into the 360 degree assessment process.

Methods: All Internal Medicine (IM) residents (72) were surveyed by a web-based evaluation system. 3 first year GI fellows were evaluated on the ABIM 1-9 scale, using 10 questions appropriate for resident-of-fellow assessment, and arranged under the core competency categories.

Results: 19 residents (26.4%) responded to the survey, but the number of evaluations varied per fellow, and not all questions were answered per evaluation. Responses were predominantly from residents who worked with fellows on a GI elective (who provided 67.7% of all responses and answered 91.4% of their questions) vs those who did not (who provided 32.3% of all responses and answered only 68% of their questions) ($p < 0.05$ for both comparisons [67.7% vs 32.3% and 91.4% vs 68%]). Furthermore, GI fellows were rated higher by those residents who worked with the fellows on a GI elective versus those who did not (mean score of 7.14 vs 6.66, $p < 0.0001$). The question completion rate under each core competency varied as follows: Interpersonal/Communication Skills – 95.7%; Medical Knowledge – 90.3%; Professionalism – 82.3%; Patient Care – 77.4%; Systems-Based Practice – 77.1%; Practice-Based Learning Improvement – 64.5%.

Conclusion: Evaluations of GI fellows by IM residents are most productive when the resident worked with the fellow during a GI elective. As an assessment tool, the inclusion of the IM resident evaluation of the GI fellow in the 360 degree review appears to be most productive in assessing the competencies of Interpersonal/Communication Skills and Medical Knowledge.

P825

BEVACIZUMAB AS AN ALTERNATIVE TO ARGON PULSE COAGULATION IN THE TREATMENT OF UPPER GASTROINTESTINAL BLEEDING AND ANEMIA SECONDARY TO VASCULAR ECTASIAS

C. O. Cabansag, MD,[1] C. Jackson, MD,[2] E. Mehdikhani, MD[2]. 1. Gastroenterology, Loma Linda VA Healthcare System, Loma Linda, CA; 2. Department of Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA.

Purpose: The presence of vascular ectasias is a significant cause of bleeding in patients over the age of 60 and is the most common cause of bleeding from the small intestine. A single lesion can be treated endoscopically, but disseminated vascular ectasias are frequently present, making local therapy ineffective.Currently,an effective treatment modality does not exist. A patient at our insititution was noted to have multiple episodes of melena and anemia secondary to diffuse vascular ectasias in the entire stomach and small intestine. He was started on oral iron therapy,admitted multiple times for blood transfusions and underwent upper endoscopies with argon plasma coagulation. After these modalities of treatment were unsuccessful, bevacizumab was started. Bevacizumab (Avastin, Genentech Inc., San Francisco),a recombinant antibody directed against vascular endothelial growth factor (VEGF) used for the treatment of adenocarcinoma of the colon, was given to this patient as a means of therapy.

Methods: The patient was given a total of three doses of bevacizumab. The initial dose of bevacizumab given was 10mg/kg, followed two more doses of 5mg/kg given at two week intervals,for a total of three doses. A complete blood count was obtained prior to each administration of bevacizumab and monthly after the administration of bevaciuzmab was completed.

Results: Over a three and a half year period prior to treatment with bevacizumab,the patient had 10 transfusion events totaling 19 units of packed red blood cells during six admissions. Within 10 weeks of the initial infusion, it was noted that the patient's hemoglobin increased to a level higher than all recorded levels over the past three and a half years. For example prior to bevacizumab therapy, the patient's average hemoglobin was 9.0g/dl. After bevacizumab therapy the average was 12.0g/dl. In the six month period after bevacizumab therapy, the patient only received one blood transfusion and was not admitted to the hospital.

Conclusion: Bevacizumab was found to be effective in curtailing the number of transfusions and hospital admissions due to hemmorhage and anemia from intestinal vascular ectasias. This may be a potential therapy for bleeding vascular ectasias in the future not amenable to endoscopic therapy or surgery.

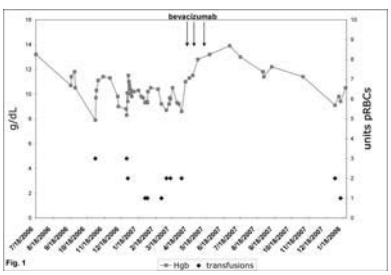


Fig. 1

P826

CORRELATION OF HYDROGEN BREATH TEST TO CLINICAL RESPONSE AFTER ANTIBIOTICS TREATMENT

X. Fan, MD, MS, L. Scott, MD, J. Sellin, MD. Gastroenterology, University of Texas Medical Branch, Galveston, TX.

Purpose: The gold standard to diagnose small intestinal bacterial over growth (SIBO) has been the quantitative culture of luminal fluid from small intestine. However, these are difficult to perform and thus various breath tests have been proposed as noninvasive tests for SIBO. Hydrogen breath tests (HBT), using glucose or lactulose, are the most commonly used tests for SIBO. The definition used for positive hydrogen breath tests varies in different studies; a rise of hydrogen within 90, 120 or 180 minutes has been defined as positive tests. Our goal is to study the correlation of diagnostic criteria of lactulose HBT to the response rate with antibiotics treatment.

Methods: 1. HBTs were performed following standard protocol of UTMB motility lab. 2. A total of 50 lactulose HBT results were reviewed. 13 patients were excluded from further study due to significant methane producing (more than 5 ppm), later finding of metastatic ovarian cancer, and lack of documentation or unable to contact. Three patients did not receive any antibiotic treatment were also excluded from the study. 3. HBTs were reviewed for peak hydrogen rise, double peak pattern, response to antibiotic treatment via charts review or patients contact. Many patients received antibiotic treatment other than rifaximin in this study such as levaquin, flagyl, ciprofloxacin, tetracycline, amoxicillin, clindamycin. Patient response to antibiotic treatment was graded as symptoms resolved, improved, no change or worsening.

Results: A total of 34 patients were included in this study, 28 patients (82%) were female, and 22 patients (65%) were Caucasian. As shown in table 1, a rise of 20 ppm or more hydrogen in ≤90 minutes correlated with best response rate with antibiotic treatment including complete disappearance of symptoms after treatment in 3 patients. A peak rise after 120 minutes correlated with poor antibiotic treatment response rate including worsening of symptoms in one patient after treatment. Double peak pattern was found only in 6 patients, which correlated with 50% response rate with antibiotics treatment.

Conclusion: An early rise of hydrogen peak 20 ppm or more correlated with better response rate with antibiotics treatment. A double peak pattern is not commonly seen in lactulose HBT, and correlation with treatment response is only 50%.

Correlation of HBT and clinical response after antibiotic treatment

Number of patients	Symptoms resolved	Symptoms improved	No change in symptoms	Symptoms worsening
H2 ≥20 rise in ≤90 minutes	3	2	2	0
H2 ≥20 rise in >90, ≤120 minutes	0	4	4	0
H2 ≥20 rise in >120, ≤180 minutes	0	1	3	0
No rise in 195 minutes	0	3	11	1
Double peak pattern	0	3	3	0

P827

REFRACTORY LYMPHOCYTIC ENTEROCOLITIS AND TUMOR NECROSIS FACTOR ANTAGONIST THERAPY

G. Aram, MD, M. Donowitz, MD, T. M. Bayless, MD, Z. Chen, MD, F. M. Giardiello, MD. Gastroenterology & Hepatology, Johns Hopkins University School of Medicine, Columbia, MD.

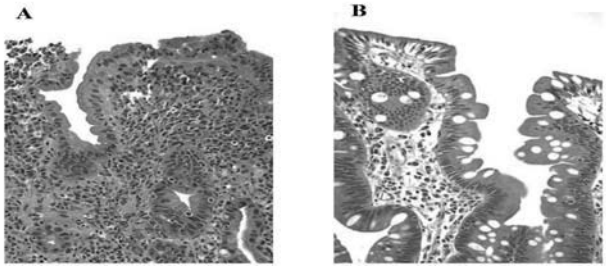
Purpose: Case series of two patients with severe watery diarrhea due to lymphocytic enterocolitis that responded to treatment with TNF antagonist therapy.

Methods: We present two patients with lymphocytic enterocolitis and severe watery diarrhea and malabsorption that improved with treatment on tumor necrosis factor antagonists.

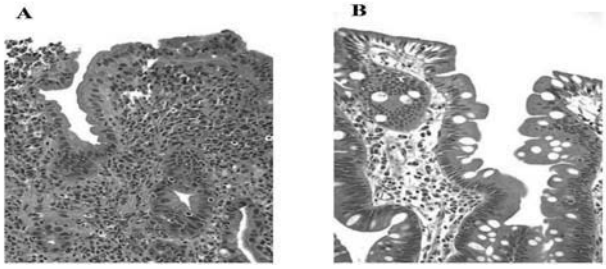
Results: A 71year old white female presented to the Johns Hopkins Hospital with history of increasing watery diarrhea over two months. She complained of fatigue, decreased appetite, and abdominal bloating. She was afebrile, had postural hypotension, and a tympanitic abdomen with diffuse tenderness and hyperactive bowel sounds. Stool studies for pathogens were negative and stool collection revealed steatorrhea (fecal fat 9.9g/24hr). Duodenal mucosal biopsies showed prominent chronic inflammatory changes of the lamina propria with architectural distortion of the villi (see Figure 1A). There were moderate amounts of intraepithelial lymphocytes and some flattening of the villi. Colonoscopy biopsies showed similar findings with prominent lymphocytosis of the lamina propria, intraepithelial lymphocytosis, and widening of the spaces between the crypts due to the inflammatory process (see Figure 2A). These findings were consistent with lymphocytic enterocolitis.

Conclusion: In refractory cases not responding to steroids or other empiric therapies, there is little literature or guidance concerning additional therapies. Therefore, TNF-α antagonists were tried at our center with good response. Infliximab, a chimeric human-murine immunoglobulin monoclonal antibody to TNF- α, inhibits pro-inflammatory cytokines. This agent has been shown to work on fibroblasts, neurtophils, T-cells, and B cells, with decrease in lymphocyte population. Adalimumab, a human monoclonal antibody directed against TNF-α has been used for rheumatoid arthritis and more recently for Crohn's disease. In both of our patients, we used TNF-α antagonist to eliminate the diarrhea with dramatic improvement in small bowel and colonic inflammation.

Small Bowel Biopsy: A(before treatment): Marked villous blunting, crypt hyperplasia, intra-epithelial lymphocytosis and increased mixed inflammation in the lamina propria; B(after treatment): Normal appearing villi with mildly increased intra-epithelial lymphocyte infiltration.



Small Bowel Biopsy: A(before treatment): Marked villous blunting, crypt hyperplasia, intra-epithelial lymphocytosis and increased mixed inflammation in the lamina propria; B(after treatment): Normal appearing villi with mildly increased intra-epithelial lymphocyte infiltration.



P828

NITAZOXANIDE FOR THE EMPIRIC TREATMENT OF PERSISTENT DIARRHEA

H. Moulis, MD,[1] S. Escalante-Glorsky, MD,[2] I. Raijman, MD,[2] L. Leichus, MD[3]. 1. Gastrointestinal Associates, P.A., Port Orange, FL; 2. Digestive Health Associates, Houston, TX; 3. GI Associates of Tallahassee, Tallahassee, FL.

Purpose: Persistent diarrhea is a common complaint of patients presenting to family practitioners, internists, and gastroenterologists. The differential diagnosis is complex, and the variety of tests applicable to these patients can be overwhelming. Accurate diagnosis is elusive, as there are multiple potential etiologies of persistent diarrhea, many of which are infectious in origin. A successful trial with an antibiotic for treatment of enteric pathogens would potentially eliminate the need for a more extensive evaluation. Nitazoxanide (NTZ) is a first in class thiazolide antibiotic with activity against anaerobic bacteria, protozoa, helminthes, and gastrointestinal viruses. This unique spectrum makes nitazoxanide active against the most common infectious etiologies of persistent diarrhea. Furthermore, NTZ has a placebo-like safety profile, and concentrates in the GI tract. The purpose of this review is to report clinical experience using NTZ as empiric therapy for the treatment of persistent diarrhea.

Methods: A multi-center chart review was performed on patients treated with NTZ from April 2006 to April 2008 with complaints of persistent diarrhea (>14 days) of unknown etiology. Patients were excluded if they had a known infectious cause of diarrhea such as *Clostridium difficile* or bacterial overgrowth. Efficacy was measured as patient reported complete resolution of diarrhea or satisfactory improvement of symptoms by the end of therapy. Follow-up evaluations were made either via office visits, or telephone interview. Nineteen patients met the inclusion criteria for review.

Results: Of the 19 patients treated with NTZ, 14 were available for follow-up. Diarrhea was considered to be persistent in 13 of 14 patients, and one patient was excluded due to a positive lactulose breath test prior to treatment. This left a total of 12 patients for the final analysis. The range of NTZ used was 500 mg BID–TID from 3–10 days, with the median dose and duration of therapy being 1000 mg/day x 7 days. Overall, 10/12 (83%) of the patients studied had a resolution of diarrhea, with 6 of the patients having a complete response, and 4 of the patients having satisfactory improvement. Of the two non-responders, one patient was later diagnosed with microscopic colitis which responded to prednisone, and the other was determined to have diarrhea secondary to radiation therapy. One patient who complained of GI distress while on NTZ had to discontinue therapy, but still had a complete response. Otherwise, NTZ was well-tolerated.

Conclusion: Nitazoxanide appears to be a safe and effective alternative for the empiric treatment of persistent diarrhea. More studies are necessary to confirm these results.

Disclosure - Dr. Harry Moulis - Education grant: Romark Laboratied, L.C.

P829

ASSOCIATION BETWEEN CD4 COUNT AND CANDIDA SP. COLONIZATION INTENSITY BY STOOL'S CULTURE OF AIDS PATIENTS

M. Simadibrata, MD, PhD,[1] J. Susilo, MD,[1] D. H. Mahdi, Professor, MD, PhD,[2] Y. Rosana, MD[3]. 1. Gastroenterology Internal Medicine, Faculty of Medicine University of Indonesia, Jakarta Pusat, Indonesia; 2. Allergy and Immunology, Faculty of Medicine University of Indonesia, Jakarta, Indonesia; 3. Microbiology, Faculty of Medicine University of Indonesia, Jakarta, Indonesia.

Purpose: To know the correlation of CD4 and Candida sp colonization and patients characteristics with risk of Candida sp colonization

Methods: Prospective, cross sectional study, to find association of CD4 and intensity of Candida sp colonization. Bivariate and multivariate analysis performed

Results: From 100 patients, showed significant different of mean intensity of Candida sp colonization and CD4($p<0.001$). CD4 < 26 had a 4.5 times greater risk of increase Candida sp colonization. Multivariate anallysis showed that CD4 had significant correlation with Candida sp colonization

Conclusion: Association of CD4 and intensity of Candida sp colonization exist; CD4 <26 had a 4.5 times greater risk of increase colonization. Different of mean intensity of Candida sp colonization among various clinical data. Significant different of mean intensity of Candida sp colonization and CD4

P830

NATIONAL AND REGIONAL CONFORMITY TO THE 2007 ACG/AASLD PRACTICE GUIDELINES FOR PREVENTION AND MANAGEMENT OF GASTROESOPHAGEAL VARICES AND VARICEAL HEMORRHAGE IN CIRRHOSIS

2008 ACG Presidential Poster Award Recipient

E. Carey, DO,[1] J. Wakim-Fleming, MD,[2] R. Lopez, MS, MPH,[3] W. Carey, MD[2]. 1. Internal Medicine, MetroHealth Medical Center, Cleveland, OH; 2. Hepatology, Cleveland Clinic Foundation, Cleveland, OH; 3. Cleveland Clinic Foundation, Cleveland, OH.

Purpose: Clinical practice varies by region; practice guidelines (PG) try to minimize this. PG are evidence-based recommendations to assist practitioners with appropriate healthcare for specified problems. We surveyed national and regional clinicians' conformity with the ACG/AASLD's PG for prevention and management of gastroesophageal varices and variceal hemorrhage in cirrhosis, (Am J of Gastro; 2007, Sept 102 [9]). We hypothesized compliance with the PG would vary by region despite equal access to evidence.

Methods: We evaluated 11 of 24 PG. A national cohort (NAT) was surveyed during a symposium at the ACG Scientific Meeting, Oct 2007. A Northeastern Ohio cohort (NEO) of gastroenterologists obtained from societies' databases was surveyed through three mailings, Nov 2007- Jan 2008. Descriptive statistics were computed for 14 questions-medians, 25th and 75th percentiles for ordinal variables and frequencies for categorical factors. Pearson's chi-square tests assessed associations between compliance with the PG and categorical factors.

Results: NAT had 159 respondents of 400 estimated symposium attendees. NEO had 63 of 160 surveyed (38.8% responded). Fifty-four percent of respondents showed compliance with the PG. Overall there was no difference between NAT and NEO compliance (NAT-58.3%, NEO-50.0%; P=0.16). Individual questions had significant differences including primary prevention for large varices in low risk patients (NAT- 61.3%, NEO- 78%; P= 0.022), beta-blocker titration (NAT- 19.1%, NEO- 6.8%; P= 0.027), and antibiotics in variceal hemorrhage (NAT- 69.3%, NEO- 46.6%; P= 0.002). Academic physicians (ACD) versus private physicians (PRV) had significantly higher self-reported compliance for recommendations on initial variceal screening (ACD- 83.6%, PRV- 70.1%; P= 0.032), octreotide duration in hemorrhage (ACD- 59.4%, PRV-41.5%; P= 0.015), antibiotics in variceal hemorrhage (ACD- 76.8%, PRV- 55.6%; P= 0.003), and controlling gastric varices (ACD- 97.1%, PRV- 87.1%; P= 0.023). Subjects practicing >40% hepatology (HEP) had significantly higher self-reported compliance for beta-blocker titration (HEP- 40%, Other-11.4%; P= <0.001), antibiotics in variceal hemorrhage (HEP- 86.7%, Other-58.9%; P= 0.004) and prevention of rebleeding (HEP- 93.3%, Other-76.0%; P= 0.033).

Conclusion: PG compliance is low. ACD and HEP physicians are more often in compliance. Regional differences are apparent. Education is needed nationally and regionally to ensure exposure to validated measures for management of gastroesophageal varices. Studies are needed to understand non-compliance, regional differences and morbidity/mortality associated with lower compliance. A study is planned to evaluate changes in physicians' compliance over time.

P831

DRUG-INDUCED INTRAHEPATIC CHOLESTASIS/VANISHING BILE DUCT SYNDROME SECONDARY TO THIORIDAZINE: A CASE REPORT AND A RE-VISIT OF THE PHENOTHIAZINES

T. Harindhanavudhi, MD, T. Tanawuttiwat, MD, R. Silva, MD, FACG, H. Raddawi, MD, FACG. Internal Medicine, Advocate Christ Medical Center/UIC, Oak Lawn, IL.

Purpose: Drug-induced hepatotoxicity is very common and may even rarely lead to acute liver failure. More than a thousand drugs have been associated with hepatic side effects; nearly 20% of these agents are neuropsychiatric medications. We describe a case of acute cholestatic hepatitis and vanishing bile duct syndrome associated with the use of Thioridazine, an antipsychotic medication.

Results: A 61 year-old-male presented with five days of progressive jaundice with rust-colored urine without significant gastrointestinal symptoms. His medical history was significant for dilated cardiomyopathy, atrial fibrillation, hypertension, bipolar disorder and hypothyroidism. He had no history of alcohol abuse, parenteral drug use or prior liver disease. He had been taking enalapril, HCTZ, levothyroxine, thioridazine and risperidone for 15 years. He was prescribed amiodarone and warfarin for atrial fibrillation for one year. He was neither taking any over-the-counter drugs nor alternative medications. Physical examination revealed tachycardia, scleral icterus, right upper quadrant tenderness, and hepatomegaly. Laboratory data were significant for a markedly elevated ALP 1313 U/L, total bilirubin 7.1 mg/dL, AST 490 U/L, ALT 575 U/L. He was placed on Amiodarone for atrial fibrillation with rapid ventricular response. A liver ultrasound was normal. CT scan of the abdomen demonstrated hepatosplenomegaly. Amiodarone was discontinued on the next day of admission with continued worsening of liver chemistries. Further investigations including viral hepatitis serology, autoimmune hepatitis markers, antimitochondrial antibody and a test for alpha-1 antitrypsin deficiency were all negative. A liver biopsy was performed to elucidate the cause of cholestasis. The biopsy illustrated extensive portal fibrosis with mild inflammation, decreased number of bile ducts and cholestasis, consistent with a drug reaction. All medications were reviewed, only to find out that the patient had been taking Thioridazine all along at home. Thioridazone was discontinued resulting in regression of the cholestasis. His immediate liver function revealed ALP 411 U/L and TB 4.5 mg/dL. He continues to improve both clinically and biochemically.

Conclusion: Cholestasis has been reported in association with the use of antipsychotic medications. Historically, the prototype for this type of disorder is chlorpromazine. Our case illustrates that other medications in this group may lead to cholestasis and the rather unusual vanishing bile duct syndrome seen with chlorpromazine use and, rarely, in chronic liver graft rejection, graft-versus-host disease and sarcoidosis.

P832

POST-OPERATIVE JAUNDICE AFTER VATS PROCEDURE: A CASE REPORT SERIES OF THREE PATIENTS

M. C. Hatara, MD,[1] S. Zeddun, MD,[2] A. Ali, MD,[2] M. L. Borum, MD, EdD, MPH[2]. 1. Internal Medicine, The George Washington University Medical Center, Washington, DC; 2. Division of Gastroenterology and Liver Diseases, The George Washington University Medical Center, Washington, DC.

Purpose: Video-assisted thoracoscopic surgery (VATS) is a routine procedure performed in patients requiring lobectomy, and has proven superior to open lobectomy. We report the first described case series of three patients who developed post-operative jaundice after VATS surgery and placement of bupivacaine On-Q pump for pain control.

Methods: The use of bupivacaine as an analgesic during maternal anesthesia may be related to shortened red cell survival of the fetus and increase incidence of neonatal jaundice. In an animal rat model, the infusion of local anesthetics such as bupivacaine had a choleretic effect, increasing bile flow. The observed effects appear to result from mitochondrial uncoupling, uptake of the drugs, biliary secretion of their metabolites, and from inhibition of potassium channels. The effects on the liver circulation have also shown to be dose dependent, with more side effects related to higher bupivacaine concentrations.

Results: The use of local anesthetic delivery through the On-Q pump has become common practice and has proven to be a safe and effective adjunct in postoperative pain management after thoracotomy and VATS. A continuous infusion of 0.25% bupivacaine at 4 mL/h through the On-Q elastomeric infusion pump was used post operatively and was stopped within 72 hours. Patients returned 2-3 weeks after VATS procedure with complaints of jaundice and loss of appetite. Their laboratory work was significant for AST and ALT elevation up to 5 times the upper limit of normal, alkaline phosphatase up to 5-10 times, and elevation of bilirubin up to 6.5 mg/dl with a direct component, consistent with a cholestatic pattern; however there was no ultrasound evidence of cholelithiasis or billiary sludge. A liver biopsy showed intrahepatic cholestasis, moderate, with mild and focal pericholangitis, consistent with cholestatic drug toxic reaction. Liver flow studies revealed normal flow within hepatic and portal veins. CT scan of the abdomen was normal in all three patients. Patients did not have chronic liver disease and their liver enzymes returned to baseline 3 months after procedure with conservative management. Work-up of the elevated liver enzymes did not reveal any etiology of the cholestatic liver disease.

Conclusion: We describe the first reported cases of painless jaundice caused by the use of bupivacaine in the On-Q pump. Since such side effects have been previously reported in the literature only in an animal model and when used in epidural anesthesia, we advise caution in using high concentrations of bupivacaine in the On-Q pump. Further studies are currently being conducted to assess the safe and effective dose of bupivacaine to use as an adjunct to the general anesthesia.

P833

GENDER BASED DIFFERENCES IN TREATMENT OF CHRONIC HEPATITIS C (CHC)

A. Nachnani, MD,[1] O. Yousef, MD,[2] P. Sanchez, MD,[2] M. Selden, MD,[2] S. Laya, MD,[2] W. K. Clarkston, MD,[2] L. Alba, MD[2]. 1. Internal Medicine, Graves Gilbert Clinic, Bowling Green, KY; 2. Gastroenterology/Hepatology, University of Missouri Kansas City, Kansas City, MO.

Purpose: Data about gender based differences in response rates to treatment of CHC is limited. The aim of our study was to evaluate the gender based differences in predictors of early viral response rates and hematological abnormalities in patients with CHC infection.

Methods: Over a period of 4 years, we reviewed the records of all patients with CHC who were started on treatment with weight adjusted pegylated interferon and ribavarin. Demographic, serological and laboratory data were collected. Insulin resistance was defined as a triglyceride (TG)/high density lipoprotein (HDL) ratio ≥ 3. Early virologic response (EVR) was defined as log10 HCV RNA level reduction of at least 2.0 logs or HCV RNA negativity by week 12. Patients were defined as having hematological abnormalities if they had the presence of thrombocytopenia, neutropenia, anemia or a combination of the above.

Results: Of the 152 patients, 73(48%) of the patients were males. On univariate analysis in males, EVR was significantly associated with an AST/ALT ratio ≥ 1(p=0.03), TG/HDL ≥ 3(p=0.005), Genotype 1 infection (p=0.02) and higher age (p=0.04). On multivariate analysis, insulin resistance was the only factor significantly associated with an EVR in males (OR 0.13 95% CI 0.03 – 0.61 p value 0.009). Low baseline platelet count was the only independent factor significantly associated with hematological abnormalities in males (p=0.01). On univariate analysis in females, EVR was associated with Genotype 1(p=0.02) and Nonwhite Race (p=0.0009). Nonwhite race (p=0.02) was the only factor significantly associated with EVR in multivariate analysis. None of the factors were significantly associated with hematological abnormalities in females.

Conclusion: Insulin resistance is a significant predictor of EVR in CHC infection in males while in females nonwhite race is the most significant predictor of EVR.

P834

IS HEPATITIS C ASSOCIATED WITH DIABETES IN PATIENTS WITH CIRRHOSIS?

S. Narra, MD, MBBS,[1] J. O. Arteh, MD, MBBS,[2] S. Nair, MD, MBBS[1]. 1. Gastroenterology, University of Tennessee, Memphis, TN; 2. Internal Medicine, University of Tennessee, Memphis, TN.

Purpose: Epidemiological studies suggest that there is a higher prevalence of diabetes in patients with chronic hepatitis C infection. However, given the confounding effect of cirrhosis on glucose homeostasis, the higher prevalence of diabetes in patients with chronic hepatitis C may be a marker for advanced liver disease. Our aim was to study the association between chronic hepatitis C infection and diabetes in patients with cirrhosis.

Methods: 325 consecutive patients (145 patients with Hepatitis C and cirrhosis; 118 patients with cirrhosis from Non Hepatitis C causes and 62 patients with non cirrhotic Hepatitis C) seen at the Methodist Hepatology/Transplant clinics were studied. Data collected included: Demographics, Detailed medical history, Liver function tests, Hemoglobin A1c and liver biopsy findings. The prevalence of diabetes among these groups was compared using Chi-Square test. We used a multivariate model to determine if Hepatitis C is an independent predictor of Diabetes.

Results: Patients in the HCV cirrhosis and non HCV cirrhosis groups were similar in age, BMI and gender distribution. The prevalence of diabetes was 28.2% for HCV cirrhosis group and 32.2% for the non HCV cirrhosis group (p value=not significant). Non cirrhotic HCV patients were younger and prevalence of diabetes was only 12.3% (p value < 0.05 vs both HCV cirrhotics and non HCV cirrhotics). In patients with chronic hepatitis C, the prevalence of diabetes increased almost three-fold in the presence of cirrhosis (12.3% to 28.2%). In a binary logistic regression model with presence of diabetes as the dependent variable, only age (OR: 1.04 with 95% CI: 1.01-1.075; p value=0.007) and Cirrhosis (OR: 2.7 with 95% CI: 1.05-6.93; p value=0.03) were found to be independent predictors of diabetes. Chronic Hepatitis C infection was not an independent risk factor for diabetes.

Conclusion: Chronic hepatitis C infection is not associated with diabetes in patients with cirrhosis. The reports on higher prevalence of diabetes in patients with chronic hepatitis C infection are likely confounded by the presence of cirrhosis.

P835

ULTRASOUND MARKING IMPROVES PERCUTANEOUS LIVER BIOPSY YIELD

S. Pudhota, MD,[1] L. A. Di Teodoro, MD,[1] K. J. Vega, MD,[1] P. Wludyka, PhD,[2] D. Bullock, PhD,[2] L. R. Lambiase, MD[1]. 1. Division of Gastroenterology, University of Florida/ Jacksonville, Jacksonville, FL; 2. Office of the Dean, University of Florida/ Jacksonville, Jacksonville, FL.

Purpose: Percutaneous liver biopsies are done to diagnose and monitor liver disease. The yield from liver biopsy is directly related to the size of the specimen obtained. Sampling error is a well-known possibility in percutaneous liver biopsy and a minimum specimen length of 1.5 cm is considered adequate for histologic analysis. Furthermore, there may be a substantial "miss" rate where no tissue is obtained despite several passes of the biopsy needle. Review of the literature indicates that ultrasound marking prior to biopsy results in changes to the biopsy site, decreased pain related complications and improved cost-effectiveness. Limited data is available on the effect of ultrasound marking on tissue yield. The aim of this study is to evaluate whether ultrasound marking by gastroenterologists improves tissue yield during percutaneous liver biopsy.

Methods: All liver biopsies performed by gastroenterologists from June 1999 to February 2003 performed at the University of Florida Health Science Center/Jacksonville were reviewed retrospectively. Data collected included demographics, biopsy indication, ultrasound marked or blind liver biopsy, number of passes required to obtain an adequate specimen and length of specimen measured at pathology. Statistical analysis between groups was performed using t-test for continuous variables and Fisher's exact test for categorical variables with significance set at < 0.05.

Results: A total of 480 liver biopsies were reviewed. Males comprised 57% of the study group. The median age was 46 years old and did not differ between groups. The most frequent indication for biopsy was chronic hepatitis C (31%). 328 liver biopsies were performed using ultrasound marking and 152 liver biopsies were done blindly. The mean number of passes performed was significantly less for ultrasound marking (1.05 ± .24) compared to blind biopsy (1.14 ± .4, p < 0.003). Tissue was obtained in 464 biopsies (ultrasound marking N=322; blind N=142). The mean length of biopsy specimen obtained was significantly greater using ultrasound marking than blind (ultrasound marking 15.89 ± 8.52 mm vs. blind 11.72 ± 5.62 mm, p <0.0001). Ultrasound marking resulted in significantly fewer biopsy attempts without a specimen (ultrasound marked, N=6; blind, N=10; p < 0.02).

Conclusion: Ultrasound marking by gastroenterologists for percutaneous liver biopsy significantly provided larger tissue samples for histologic analysis, less frequent failed biopsy procedures and fewer number of passes. Ultrasound should be routinely employed for marking the site prior to percutaneous liver biopsy

P836

THE USE OF ENTECAVIR FOLLOWING LIVER TRANSPLANTATION: PILOT SAFETY AND TOLERABILITY DATA

A. L. Samuelson, MD, M. E. Morgan, MD, J. A. Reynolds, MD, M. Lee, MD, A. Kamal, MD, A. Ahmed, MD. Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA.

Purpose: We performed a retrospective review to assess the safety and tolerability of Entecavir (ETV) following liver transplantation. ETV was safe and tolerable over a median follow-up period of 10 months.

Methods: Our institution performed 492 adult liver transplants between February 1995 and July 2006. 68 (14%) out of 492 patients were transplanted for hepatitis B virus (HBV) related hepatic decompensation. Excluded from our analysis were 6 patients who died prior to discharge. Post-transplant management data were available for 60 (97%) of the remaining patients. Standard post-transplant immunosuppression was instituted, and all patients received hepatitis B immune globulin (HBIG). A total of 9 patients, consisting of 7 men and 2 women (ages ranging between 39 and 72, median 61 years), received ETV and were monitored closely for development of recurrent HBV allograft infection, allograft rejection, and medication side-effects over median post-transplant duration of 10 months (range 4 to 18 months).

Results: Table 1 summarizes post-transplant antiviral treatment regimens, both immediately post-transplant and at the end of follow-up period. Four (4) patients were started on ETV 0.5-1.0 mg daily, and an additional 5 patients were switched to ETV due to suspicion of adefovir (ADV)-induced renal insufficiency. In the ETV group (n=9), 1 patient developed an episode of acute cellular rejection (ACR), and 1 patient developed recurrent hepatocellular carcinoma (HCC), but all 9 remained alive and negative for HBV surface antigen at the end of follow-up. ACR (n=1, noncompliance) and recurrent HCC (n=1, explant pathology showed vascular invasion) were not related to ETV use. Compared with other treatment regimens, ETV demonstrated a lower rate of clinical resistance than lamivudine (LAM) (0% vs. 12.9%, p = 0.26) and a favorable side effect profile than ADV (0% vs. 55.6%, p = 0.047).

Conclusion: Based on our limited experience, ETV is safe and well-tolerated in post-transplant patients. Primary prophylaxis with ETV (plus HBIG) is effective in preventing recurrent HBV allograft infection up to a median treatment follow-up of 10 months. We recommend a larger clinical trial to confirm the safety, tolerability and efficacy of ETV in post-transplant population.

Table 1: Post-Transplant HBV Treatment

TREATMENT	N (initial)	N (final)	Clinical Resistance Rate	Side Effect Rate
ETV + HBIG	4	9	0%	0%
LAM + HBIG	31	28	12.9% (4/31)	0%
ADV + HBIG	10	9*	0%	55.6% (5/14)
HBIG Only	15	14	N/A	0%

*** A total of 14 patients were treated with ADV+HBIG, but 5 were switched to ETV due to renal insufficiency.**

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P837

DEPRESSION AND QUALITY OF LIFE ASSESSMENTS IN HCV GENOTYPE-1 PATIENTS TREATED WITH EITHER CONSENSUS INTERFERON (CIFN) AND RIBAVIRIN (RBV) OR PEGYLATED INTERFERON ALFA-2B (PEG IFN)AND RIBAVIRIN

J. T. Bassett, MD,[1] M. Arias, MD,[2] C. L. Maydonovitch, BS,[2] M. Sjogren, MD[2].
1. Gastroenterology, National Naval Medical Center, Bethesda, MD; 2. Gastroenterology, Walter Reed Army Medical Center, Washington, DC.

Purpose: Standard therapy for chronic HCV infection is interferon (IFN) in combination with RBV. Previous studies have demonstrated significant rates of depression with this therapy-sometimes necessitating dose reduction or cessation of treatment. Our objective was to evaluate rates of depression and quality of life in subjects who were randomized to CIFN 15 mcg three times a week and RBV or weekly Peg IFN/RBV (150mcg/0.5 ml).

Methods: This was a prospective, multicenter, randomized trial. All subjects were diagnosed with chronic HCV genotype 1 and were naive to treatment. Three scales were used to measure depression and quality of life: the Beck Depression Inventory-II (BDI-II), the Center for Epidemiological Studies Depression Scale (CES-D), and the Hepatitis Quality of Life Questionnaire (HQLQ). All questionnaires were administered at baseline and at treatment weeks 12, and 24 and 24 weeks after cessation of treatment.

Results: A total of 96 patients (47 CIFN/RBV and 49 Peg IFN/RBV) were enrolled in the study. Complete data was analyzed in 26 pts in the CIFN/RBV group and 33 pts in the Peg IFN/RBV groups. The two groups were similar in baseline demographics and clinical variables. The BDI-II and CES-D scores significantly increased from baseline in both treatment groups at weeks 12 and 24 (P<0.001) but returned to baseline 24 weeks after cessation of therapy. HQLQ analysis significantly decreased (P<0.001) from baseline in both groups at weeks 12 and 24 but returned to baseline after cessation of therapy. Compared to the CIFN/RBV group, patients in the Peg IFN/RBV group had a greater decrease in quality of life during treatment (p=0.029).

Conclusion: The antiviral response in both groups was similar (37% and 42% for CIFN/RBV and Peg IFN/RBV respectively). There was a statistically significant increase in depression scores and decrease in quality of life in both groups during therapy.

	Group	Baseline	Week 12	Week 24	Week 72
BDI-II	1	4.3 (0.7)	10.1 (1.1)*	10.4 (1.2)*	3.5 (0.9)
	2	4.8 (0.9)	9.5 (1.4)*	8.0 (1.4)*	3.5 (1.1)
CES-D	1	7.4 (1.2)	12.5 (1.5)*	12.3 (1.6)*	5.4 (1.2)
	2	7.7 (1.6)	10.9 (1.9)*	10.8 (2.0)*	7.8 (1.6)
HQLQ	1	78.8 (3.0)	65.2 (3.6)*	61.5 (3.6)*	79.1 (3.3)
	2	77.5 (3.4)	66.9 (4.1)*	71.9 (4.0)*	81.6 (3.7)

*** ANOVA p<0.01 from baseline**

P838

THREE CASES OF ACUTE HEPATITIS IN PATIENTS TAKING HYDROXYCUT® BODYBUILDING SUPPLEMENT

J. T. Laczek, MD, M. B. Duncan, DO. Dept. of Gastroenterology, Walter Reed Army Medical Center, Washington, DC.

Purpose: Herbal supplements, in particular those containing green tea (Camellia sinensis), have been linked to acute hepatitis. To this point, there have been three reports of acute hepatitis in patients taking Hydroxycut®, a particular herbal bodybuilding formulation. We present three additional cases of acute hepatitis in patients taking Hydroxycut® recently seen at our institution.

Methods: All patients were male active duty service members serving in overseas locations. All had been taking Hydroxycut® at the dose recommended on the product label for 60-90 days prior to the onset of their symptoms (patient #2 had intermittently taken Hydroxycut® for 60-90 day intervals during the past 2-3 years). Case details are summarized in Table 1. All patients developed malaise, jaundice, and pruritus with additional symptoms as noted in Table 1. None of the patients developed fevers, peripheral eosinophilia, or other extra-hepatic manifestations of hypersensitivity. In each case, other causes of acute hepatitis were excluded. All patients were evaluated with liver biopsy.

Results: All three of these cases are considered as "probable" medication-related hepatitis by the CIOMS/RUCAM scale. The hepatotoxic effects of Hydroxycut® appear to occur in an idiosyncratic manner. This series substantially adds to the growing body of literature showing the potential hepatotoxicity related to Hydroxycut® and demonstrates the heterogeneous effects that can result from herbal products, in regard to the degree of hepatocellular damage and histologic findings.

Conclusion: Physicians need to remain vigilant for adverse effects of Hydroxycut® and other herbal products. This series of cases, as well as the previously reported cases, has led us to suggest that alternative bodybuilding products should be offered to service members in deployed locations.

Table 1: Case Details

	Patient 1	Patient 2	Patient 3
Age (years)	23	25	25
Duty station	Iraq	Germany	Iraq
Additional symptoms	Diarrhea	Abdominal pain	Chest tightness
Other medication use	Tetrazene bodybuilding supplement	Acetaminophen	None
Peak ALT (U/L)	2017	5626	90
Peak bilirubin (mg/dL)	30.3	13.4	14.3
Peak alkaline phosphatase (U/L)	211	118	218
Peak INR	1.1	5.5	0.9
Biopsy results	Acute hepatitis with cholestasis and early bridging fibrosis	Steatosis without inflammatory cell infiltrate	Moderate cholestasis with eosinophils
Treatment	Supportive	Supportive	Corticosteroids

P839

PREDICTORS OF LONG TERM OUTCOME FOLLOWING TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS)

M. Larsen, MD,[1] J. A. Reynolds, MD,[1] A. Kamal, MD,[3] B. Mattix,[2] E. Keeffe, MD,[2] C. Esquivel, MD, PhD,[2] D. Sze, MD, PhD,[2] A. Ahmed, MD[2]. 1. Medicine, Stanford University, Stanford, CA; 2. Gastroenterology and Hepatology, Stanford University, Stanford, CA; 3. Gastroenterology and Hepatology, Santa Clara Valley Medical Center, San Jose, CA.

Purpose: MELD score was devised as a predictor of mortality following TIPS, and has also been shown to predict mortality after orthotopic liver transplant. Recently, observations from our program demonstrated that the presence or absence of diabetes mellitus is a predictor of posttransplant mortality independent of MELD score. However, whether or not this is true for post-TIPS mortality is unknown.

Methods: We retrospectively reviewed all TIPS procedures performed at Stanford University Medical Center between January 2000 and December 2005. Clinical data on MELD score and the presence or absence of diabetes mellitus was available for 189 procedures.

Results: Demographic characteristics were similar for the diabetic and non-diabetic group, except that the diabetic group was older. In a multivariate model including age, BMI, MELD

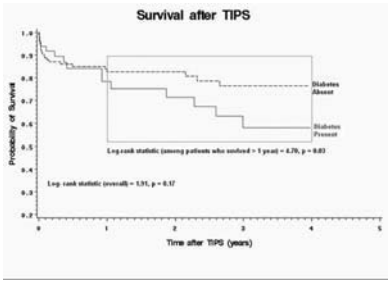
score, and diabetes mellitus, the only significant predictor of mortality was MELD score (HR = 1.17, p <0.01). However, there was a trend towards an increased risk of mortality among diabetics (HR =1.92, p =NS). Furthermore, if patients who died in the first year following TIPS were excluded, diabetic patients had decreased survival compared with non-diabetic patients (log-rank statistic = 4.70, p = 0.03).
Conclusion: Diabetes mellitus may be a predictor of median and long-term mortality in post-TIPS patients. Prospective studies are needed to confirm our observation.

Demographic Characteristics

GROUP	Number of patients (n)	Mean age (years)	Mean BMI (kg/m2)	Mean MELD	Pre-TIPS gradient	Post-TIPS gradient
Diabetes Absent	139	42.6	27.5	15.5	18.1	6.9
Diabetes Present	54	53.0	30.3	13.6	18.3	6.3

Predictors of mortality (multivariate model)

Variable	HR	95% Confidence Interval
MELD Score (1 pt increment)	1.17	1.11 - 1.24
Diabetes (Yes or No)	1.92	0.77 - 4.85
Age (1 year increment)	1.002	0.97 - 1.02
BMI (1 point increment)	1.023	0.96- 1.09



P840

CORRELATION OF CLINICAL AND LABORATORY FACTORS WITH FIBROSIS IN NONALCOHOLIC STEATOHEPATITIS
T. Lee, MD, F. Tekleyes, MD, T. Pacioles, MD, W. Shora, MD, M. Ahmed, MD, FACG. Internal Medicine, Marshall University, Huntington, WV.
Purpose: Nonalcoholic fatty liver disease (NAFLD) represents a wide spectrum liver damage ranging from simple steatosis to steatohepatitis (NASH), advanced fibrosis and cirrhosis. Although simple hepatic steatosis runs a benign clinical course, NASH may progress to cirrhosis in 25 percent of patients and to liver-related death in 10 percent. Multiple studies have been done to devise a scoring system based on demographic and laboratory data. The purpose of this study is to characterize the relationship between demographic, clinical and laboratory variables with the extent of liver fibrosis to better guide in the clinical evaluation of patients with NASH.
Methods: We retrospectively reviewed 5 years records of all the biopsy proven NASH cases evaluated in our university medical center. We examined a total of 112 patient records and deomographic, clinical, laboratory data were collected. The extent of abnormalities of the pathology report was staged as none (stage 0), perisinusoidal or pericellular fibrosis (stage 1), periportal fibrosis (stage 2), bridging fibrosis (stage3), and cirrhosis (stage 4). Chi-square was used for the frequency variable; Kruskal-Wallis test was used for the continuous variable to test the significance of the relationship between the variables and the extent of liver fibrosis.
Results: We found that 23 out of 112 were stage 0. 21 were stage 1, 33 were stage 2, 18 were stage 3, 17 were stage 4. Mean age of 112 patients was 45.4 (standard deviation, SD: 13.8) and 43% was male. Mean BMI was 37.16 (SD 11.0), 28.6% of patients had diabetes. Age (p=0.12), sex (p=0.83), body mass index (BMI, p=0.86), AST (p=0.51), diabetes (p=0.11), LDL (p=0.07), HDL (p=0.27), triglyceride (p=0.53) and creatinine (p=0.64) did not have any significant relationship with fibrosis stage. As AST/ALT ratio (p<0.01), INR (p<0.01), bilirubin (p=0.02) levels increased, the stage of fibrosis increased significantly. The decrease of ALT (p=0.02) and cholesterol (p=0.03) level showed significant increase of stage of liver fibrosis. On the receiver operating characteristic curve, INR equal or greater than 1.065 showed 75% of sensitivity and 78.8% of specificity for advanced fibrosis. AST/ALT ratio equal or greater than 0.83 showed 94.1% of sensitivity and 65.2% of specificity for advanced fibrosis.
Conclusion: In this study we found that the levels of AST/ALT ratio, INR and bilirubin, showed a significant positive correlation with the extent of liver fibrosis. ALT and Cholesterol levels showed a negative correlation with the extent of liver fibrosis. Age, BMI and Diabetes did not show significant association with the extent of liver fibrosis.

P841

MANAGEMENT CHALLENGES IN SICKLE CELL HEPATOPATHY
A. Muhammad, MD,[1] M. Ahmad, MD,[1] A. Samanta, MD,[1] B. Koneru, MD,[2] D. Wilson, MD,[2] A. Fisher, MD[2]. 1. Medicine, University of Medicine and Dentistry (UMDNJ), Newark, NJ; 2. Surgery, University of Medicine and Dentistry (UMDNJ), Newark, NJ.
Purpose: Sickle cell hepatopathy (SCH) encompasses a wide range of hepatic dysfunction. Cirrhosis is seen in 29% of patients at autopsy (1). To date SCH remains a major management challenge and carries a high morbidity and mortality (32%) (2). The treatment options and indications for liver transplantation (LT) remain unclear. To date experience is limited and outcome of LT in SCH is not ideal and mortality could be high (3). Aim: To identify the determinants of selecting management option in patients with SCH.
Methods: Three cases of severe SCH were identified over the last 5 years (2003-2008). The diagnosis of SCH was made on basis of clinical, radiological and biochemical data (Table). Records on these patients were analyzed with particular attention to treatment, response to therapy and outcome.
Results: Mean age was 25 ±10.4 SD. Mean MELD was 32. Two out of 3 patients had cirrhosis of liver with portal hypertension. All patients had received exchange transfusion to bring Hb S <25%. However 2 patients with cirrhosis of liver did not show appreciable response to exchange transfusion. Both patients were given the option of LT. One patient refused LT and died within 6 months with the complications of SCH. Patient who underwent LT had post-operative complications of hepatic artery thrombosis and sub-segmental hepatic infarct. These complications were managed with hepatic artery angioplasty and stenting along with red cell exchange transfusions. Patient is alive and maintained on exchange transfusion. Patient with sickle cell intrahepatic cholestasis without cirrhosis of liver recovered with supportive care and exchange red cell transfusion and was discharged within 3 weeks with normalization of liver chemistry and coagulation parameters.
Conclusion: Initial treatment of patients with SCH involves red cell exchange transfusion to maintain Hb S <25%. Patients with SCH and cirrhosis of liver not responding to exchange transfusion should be evaluated for LT provided no other organ dysfunction is present. After LT, patients with SCH are at risk of thrombotic episodes and should be continued on red cell exchange transfusions to keep Hb S <25%. Patients with sickle cell intrahepatic cholestasis without cirrhosis tend to recover with exchange transfusion.
1. The liver in sickle cell disease. A clinico-pathologic study of 70 patients. Am J Med 1980;69:833–7. 2. Institute of Liver Studies, King's College Hospital, London, UK. Clin Gastroenterol Hepatol. 2007;5:1469. 3. Liver Transplantation for Sickle Cell Hepatopathy. Liver Transplantation 2007;13:483-5.

Table

No of cases	Age (yrs)	Sex	Ethnicity	Hb	Bil	Cr	INR	MELD	CT scan findings	Final diagnosis	Exchange Transfusion	Liver Transplant	Outcome
1	20	M	Jamaican	9.0	12.1	0.6	4.3	32	Cirrhosis,portal HTN	Cirrhosis with portal HTN	Yes	Refused	Died
2	18	M	AA	9.1	12.8	0.6	4.2	32	Cirrhosis,portal HTN	Cirrhosis with portal HTN	Yes	Yes	Alive
3	37	F	AA	6.2	52.5	1.4	1.9	32	No Cirrhosis	Sickle cell intrahepatic cholestasis	Yes	No	Alive

P842

HEPATITIS C VIRUS RESPONSE TO PEGYLATED INTERFERON AND RIBAVIRIN AT A NURSE-MANAGED RURAL VETERANS AFFAIRS CLINIC
S. Opperman, APN,[2] M. L. Matteson, FNP/GNP-BC,[1] M. L. Bechtold, MD,[1] S. R. Puli, MD[1]. 1. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO; 2. Department of Gastroenterology and Hepatology, Harry S. Truman Veterans Memorial, Columbia, MO.
Purpose: Hepatitis C virus (HCV) is becoming a widely recognized pathological entity, especially in the veteran population. Veterans enrolled in a midwest veterans hospital represent a rural population, with the prevalence of hepatitis C presumably mirroring that of urban VAs. No data has been published to fully evaluate HCV RNA sustained virologic response (SVR) and early virologic response (EVR) in a rural-based VA hospital using pegylated interferon and ribavirin. The aim of this study was to evaluate the SVR and EVR rates for rural veterans undergoing HCV treatment through a nurse-managed clinic.
Methods: After IRB approval, the rural VA database was searched retrospectively from year 2000 to 2008, to identify veterans who underwent HCV treatment with pegylated interferon and ribavirin. SVR was defined as serum HCV RNA < 50 IU/ml at 24 weeks after completion of treatment. EVR was defined as a decline in the serum HCV RNA load greater than or equal to 2-logs or clearance of the virus by week 12. Categorical variables were compared by Fisher's exact test and chi-square test. Continuous variables were compared by parametric tests. Comparisons were made by univariant and multivariant analysis.
Results: Search identified a total of 395 patients with HCV. Treatment was completed by 113 patients, with complete data available on 95 patients. The mean age was 49.3 ± 5.9 (SD), 89 men and 6 women. The mean body mass index was 31.1 ± 6.1 (SD). 65 patients had genotype 1, 14 had genotype 2, and 16 had genotype 3. The SVR for genotype 1 was 52.30% for all patients, 30.77% for non-responders, and 16.92% for relapsers. In these genotype 1 patients, 70.5% of patients with SVR had EVR, while 90% of non-responders and 90% of relapses had EVR. Among genotype 2, SVR was noted in 78.57%, 0 non-responders, and 14.28% relapsers. In genotype 2 patients, 63.64% of SVR patients had EVR, while no EVR was noted in non-responders and relapsers. In genotype 3, SVR was seen in 50%, 12.50% for non-responders and 37.5% for relapsers. Among genotype 3, EVR was seen in 87.5% of patients with SVR, 9.1% of non-responders, and 100% of relapsers.
Conclusion: Rural midwestern veterans with Hepatitis C have similar age and SVR rates as those in urban VA hospitals. The SVR rate for genotype 3 was 50% in the VA population which more likely represents a genotype 1 response rate. Therefore genotype 3 veterans will need to be treated more like genotype 1 and treatment for 12 months may be needed to achieve SVR. With 100% of the genotype 3 relapsers achieving an EVR, a longer duration of treatment may be more efficacious

P843

WHAT IS THE DIFFERENCE BETWEEN HEPATITIS C VIRUS PATIENTS WITH SUSTAINED VIROLOGIC RESPONSES VERSUS RELAPSERS TO STANDARD TREATMENT AT A RURAL VETERANS AFFAIRS CLINIC ?

S. R. Puli, MD,[1] M. L. Matteson, FNP/GNP-BC,[1] M. L. Bechtold, MD,[1] S. Opperman, APN[2]. 1. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO; 2. Department of Gastroenterology and Hepatology, Harry S. Truman Veteran Memorial Hospital, Columbia, MO.

Purpose: Hepatitis C virus (HCV) is becoming a widely recognized pathological entity, especially in the veteran population. The veterans at a midwestern VA hospital represent a significantly rural population in which the prevalence of hepatitis C is presumed to mirror urban facilities. No data has been published to fully evaluate the differences among HCV patients with sustained virologic response (SVR) and relapsers (RL) in a rural-based VA hospital using pegylated interferon and ribavirin. This differentiation may guide direct specific therapy earlier for those patients who might relapse. The purpose of this study is to evaluate the differences among patients with SVR and RL in a rural Midwestern VA Hospital.

Methods: After IRB approval, the VA database was searched for all the HCV patients who underwent treatment with pegylated interferon and ribavirin from 2001 to 2008. SVR was defined as serum HCV RNA < 50 IU/ml at 24 weeks after completion of treatment. RL was defined as relapse after a decline in the serum HCV RNA load greater than or equal to 2-logs or clearance of the virus by week 12 or 24. Categorical variables were compared by Fisher's exact test and chi-square test. Continuous variables were compared by parametric tests. Comparisons were made by univariant and multivariant analysis. Statistical significance was indicated by a p value of < 0.05.

Results: Search identified a total of 395 patients with HCV. Of these, 113 patients were treated with pegylated interferon and ribavirin. 54 patients had SVR and 18 patients had RL. Table 1 shows the differences among patients with SVR and RL.

Conclusion: In rural midwestern veterans, patients who relapsed had statistically significant higher liver fibrosis and co-morbid illnesses. No differences among SVR and RL patients with respect to age, gender, and BMI. Further studies are needed to improve treatment in HCV patients with higher fibrosis and co-morbid illnesses to prevent relapses.

Table 1: Showing differences of patients with SVR and RL

	SVR (n=54)	RL (n=18)	p
Age	49.09 ± 6.34(SD)	47.64 ± 5.38(SD)	0.43
Body mass index	49.09 ± 6.34(SD)	32.28 ± 5.35(SD)	0.43
Fibrosis	1.70 ± 1.36(SD)	2.50 ± 1.34(SD)	0.021
Co-morbid illnesses	42.59% (23/54)	77.78% (14/18)	0.004
Sex (Male)	96.42% (53/54)	88.89% (16/18)	0.27
Type 1 virus	62.96% (34/54)	44.44% (8/18)	0.17

P844

THE PREVALENCE AND SIGNIFICANCE OF AUTOANTIBODIES IN PATIENTS WITH NONALCHOLOIC FATTY LIVER DISEASE

K. V. Rao, MD,[1] M. Ahmad, MD,[1] A. Samanta, MD,[1] K. M. Klein, MD,[2] B. Koneru, MD,[3] A. Fisher, MD,[3] D. Wilson, MD,[3] A. De La Torre, MD[3]. 1. Internal Medicine, UMDNJ, Newark, NJ; 2. Pathology and Laboratory Medicine, UMDNJ, Newark, NJ; 3. Surgery, UMDNJ, Newark, NJ.

Purpose: Circulating autoantibodies (ANA: antinuclear antibody, ASMA: anti smooth muscle antibody) have been reported with varying frequencies in patients with nonalcoholic fatty liver disease (NASH/NAFLD). These autoantibodies may be present in 6-15% of general population. The prevalence and clinical significance of these autoantibodies in NAFLD is not well understood.<p> **Aim:** To study the prevalence of autoantibodies in patients with NAFLD undergoing liver transplant and to identify their impact on the clinical severity of the end stage liver disease.

Methods: Records of 70 patients undergoing liver transplant with the diagnosis of cryptogenic/NASH cirrhosis were analyzed. Liver histology from wedge tissue samples of these patients was re-evaluated by a hepatopathologist for features of NASH (Brunt et al) with particular attention to steatosis, perivenular, sinusoidal and hepatocyte changes, steatosis, glycogenated nuclei, Mallory's hyaline, portal and lobular inflammation, bile duct changes and fibrosis. Thirty four patients met the criteria of NASH related cirrhosis and were included in the present analysis.

Results: The mean age of patients was 56.4±10 years, with 19 females and 15 males. Autoantibodies were seen in 11 of the 34 patients (32% prevalence). ANA was positive in 20% (1:80 to 1:320), ASMA in 26% (1:80 to 1:160), and both were positive in 14%. Clinically the autoantibody positive patients were mostly females, and had more frequent episodes of hepatic encephalopathy. They also had higher AST and AST/ALT ratio than the patients who did not have autoantibodies. The frequency of ascites and leg edema was comparable (table).

Conclusion: Serum autoantibodies are seen in a significantly large number of patients with NASH/cirrhosis. The presence of autoantibodies is accompanied by more frequent episodes hepatic encephalopathy. The possibility that the association between autoantibodies and NASH leads to progressive disease needs to be investigated.

Demographic, Clinical and Biochemical Features of Patients with and without Autoantibodies

	Autoantibody Positive	Autoantibody Negative	P value
n	11	23	
Age	53 ± 3	58±2	
Gender	Female:10 Male:1	Female:9 Male:14	
Total Bilirubin	2.8±0.6	2.8±0.7>	
Albumin	2.9 ±0.2	2.7±0.2	
AST	118.6±33	47±4	<0.05
AST/ALT Ratio	2.0±0.2	1.3 ±0.1	<0.05
Jaundice	30%	22%	
Ascites	70%	74%	
Encephalopathy	30%	13%	

P845

PREVALENCE OF HEPATITIS D IN HBSAG POSITIVE PATIENTS VISITING THE LIVER CLINICS IN PAKISTAN

N. K. Seetlani, MBBS, MCPS, FCPS,[1] Z. Abbas, FCPS, FACP, FACG,[2] S. Naqvi, MBBS,[2] J. Yakoob, MBBS, PhD,[2] W. Jafri, FRCP, FACP, FACG[2]. 1. Medicine, Imam Medical Centre, Jacobabad, Pakistan; 2. Medicine, The Aga Khan University, Karachi, Pakistan.

Purpose: There is a global decline in the prevalence of hepatitis D infection. However there are still pockets of high prevalence in Pakistan. The aim of our study was to estimate the prevalence of hepatitis D in HBsAg (hepatitis B surface antigen) positive patients visiting liver clinics.

Methods: The patients who visited the two liver clinics, one in Karachi and the other in Jacobabad, from October 2007 to March 2008, having positive HBsAg, were included in the study. These patients were screened for HBeAg, HBV DNA by PCR, anti-HDV and HDV RNA by PCR. Clinical status of the patients was evaluated by examination, routine biochemical tests and ultrasound.

Results: Total numbers of patients included in the study were 362 comprising of 151 patients from the clinic in Jacobabad and 211 from Karachi. The patients ranged from 4 to 70 years of age (mean age 29.75 ±11.27). Out of the total patients 297 (82%) were male. Ninety seven (26.8%) were the residents of Jacobabad, 82 (22.7%) of Karachi, 55 (15.2%) Jaffarabad, 35 (9.7%) Naseerabad, 26 (7.2%) Kashmore, 23 (6.4%) Quetta and remaining from the other parts of the country mainly from the provinces of Sindh and Balochistan. All the patients were screened for HDV antibody out of which 212 (58.6%) tested positive for the antibody. Total 65 anti-HDV positive patients were screened for the HDV RNA by PCR out of which 30 (46.2%) tested positive for the virus. Three hundred and forty (340) patients were screened for HBeAg out of which 71 (20.9%) tested positive for HBeAg. Three hundred and seven patients were screened for HBV DNA by PCR out of which 88 (28.7%) tested positive for the virus. The frequency of positive HDV antibody was 69.23% in Kashmore, 67% in Jacobabad, 65.4% in Jaffarabad, 65.21% in Quetta, 60% in Naseerabad, 36.58% in Karachi, 58.33% in other areas of Balochistan and 60.71% in other areas of Sindh.

Conclusion: This data show extremely high prevalence of hepatitis D in the referred patients from some pockets of Southern Pakistan. Effective preventive measures are the need of time. Pakistan may be considered as the area of highest HDV prevalence around the globe.

P846

MYCOPHENOLATE MOFETIL FOR AUTOIMMUNE HEPATITIS: A SINGLE PRACTICE EXPERIENCE

D. C. Wolf, MD,[1] L. Bojito, MD,[1] M. Facciuto, MD,[2] E. Lebovics, MD[1]. 1. Division of Gastroenterology and Hepatobiliary Diseases, New York Medical College, Valhalla, NY; 2. Department of Surgery, New York Medical College, Valhalla, NY.

Purpose: Autoimmune hepatitis (AIH) is refractory to standard therapy with prednisone and azathioprine in 20% of patients. For the last decade, investigators have explored alternative immunosuppressant drugs in AIH, including budesonide, cyclosporine, tacrolimus, and mycophenolate mofetil (MMF).

Methods: A retrospective analysis was performed in 16 patients with AIH, immune cholangitis, and overlap syndromes between AIH, primary biliary cirrhosis (PBC), and primary sclerosing cholangitis (PSC). MMF was used in lieu of azathioprine on account of patients' intolerance to azathioprine (7 patients), or disease that was refractory to treatment with prednisone and azathioprine (6 patients), or the perceived potency of MMF, compared to azathioprine (3 patients).

Results: The median duration of treatment with MMF was 23.1 months (range 1.4-94.9). With initiation of MMF, ALT decreased from a median of 81.5 U/L (range 9-767) to 42.5 U/L (range 16-350) [P = 0.03]. Prednisone dose decreased from a median of 10 mg (range 0-40) to 2.5 mg (range 0-40) [P = 0.01]. Twelve of the 16 patients (75%) had a good response to treatment, including 3 of the 6 patients who had previously been refractory to treatment with prednisone and azathioprine. Five patients (31%) achieved biochemical remission, here defined as a reduction in the ALT from greater than to less than twice normal. This included 2 patients with classical AIH, 2 patients with AIH-PBC overlap syndrome, and one patient with AIH-PSC overlap syndrome. Seven additional patients (44%) were maintained in biochemical remission. Among the 12 responders, 8 patients experienced ALT normalization. Partial prednisone withdrawal was achieved in 6 and complete withdrawal was achieved in 3 patients. Two patients had an incomplete biochemical response to MMF, with liver chemistries remaining greater than twice normal. Two patients experienced treatment failure, with worsening of liver chemistries while treated with MMF. MMF was tolerated well in all but one patient, who discontinued the drug on account of paresthesias. A significant but not clinically relevant reduction in WBC was noted during MMF treatment, from 8.2 thousand/μL (range 2.5-13.2) to 6.0 thousand/μL (range 2.4-13.5) [P = 0.02]. No significant reductions in hematocrit or platelet count occurred.

Conclusion: MMF is appropriate for use in patients with AIH and related disorders who are intolerant or unresponsive to azathioprine.

P847

EFFECTS OF TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT ON PLATELET COUNTS AND SERUM CREATININE IN PATIENTS WITH PORTAL HYPERTENSION AT ROCHESTER GENERAL HOSPITAL(RGH)

M. Al-Hafnawi, MD, K. Casey, MD. Internal Medicine, Gastroenterology Division, Rochester General Hospital, Rochester, NY.

Purpose: Compare the course of platelet counts and serum creatinine after placement of transjugular intrahepatic portosystemic shunt (TIPS)

Methods: Records of all patients underwent TIPS at RGH between the year 1992 and 2007. Patient's age, sex, etiology of liver disease and baseline platelet count and serum creatinine were included and followed for one year.

Results: The Demographic of the subjects are summarized in Table-1 The pre-TIPS median platelet count was 95.5, and the pre-TIPS median serum creatinine was 1.1. On the other hand the pre-TIPS median white blood cell count and hemoglobin were 6.9 and 10.3 respectively. The platelet counts and serum creatinine were analyzed in five different intervals, just prior TIPS, just after TIPS, at one month, three months and one year after TIPS. Sign rank test was used to analyze the data which did not show any significant change in the platelet count or serum creatinine with P-values more than 0.05. Table 2 and Table-3 The course of white blood cells (WBC) was also analyzed pre and post- TIPS. The median WBC count dropped from 6.9 to 4.7 over the follow up period; however this did not reach statistical significance after applying the sign rank test (Figure-1). Sign rank test was also applied to the serum hemoglobin (Hb-) which was also followed over the same intervals and there was no statistical significance of the increase in the median of Hb from 10.3 to 11.4 (figure -2).

Conclusion: TIPS placement did not lead to improvment in the serum creatinine or platlet count over the follow up period. There was also no statistical significant improvment in the WBC count or serum hemoglobin. Our final conclusion is TIPS should not be used to treat thrombocytopenia in patients with portal hypertension.

Patients Demographics

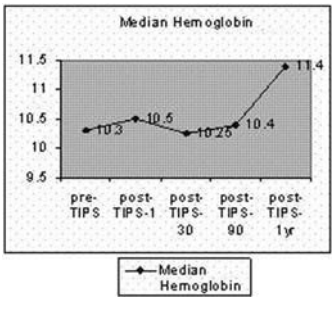
Variable	Observation	Range
Sex(m/F)	17/1	-
Ethnicity(white, African Americans, Hispanics)	15, 1 ,2	-
Mean age	56.1 ±11	41 - 76
Bilirubin	2.67 ± 4.11	0.5 -19.5
AST	66.8 ± 43	20 - 153
ALT	61.8 ± 32	23 - 132
INR	1.38 ± 0.23	1.0 - 2.0
Etiology		
HCV	8	
Alcohol	8	
Cryptogenic	4	
NAFLD	4	
Other	1	
Indication for TIPS		
Bleeding Varices	11	
Ascites	4	
Others	3	

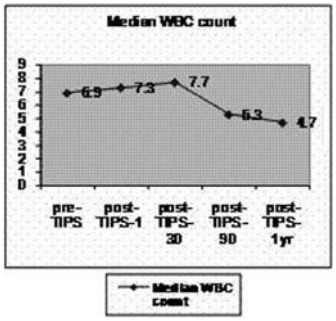
Table 2- Phtelets pre- and post- TIPS

Sign –rank test (Platelets)	P-Value
Pre-TIPS vs. 1 day after TIPS	0.54
Pre-TIPS vs. 30 days after TIPS	0.41
Pre-TIPS vs. 90 days after TIPS	0.59
Pre-TIPS vs. 1 year after TIPS	0.26

Table 3- Creatinine pre- and post TIPS

Sign –rank test(creatinine)	P-Value
Pre-TIPS vs. 1 day after TIPS	0.18
Pre-TIPS vs. 30 days after TIPS	0.33
Pre-TIPS vs. 90 days after TIPS	0.36
Pre-TIPS vs. 1 year after TIPS	0.61





P848

FREE RADICAL SCAVENGER (EDARAVONE) BLOCKS FAS-INDUCED APOPTOSIS PATHWAY IN MICE

A. Kwon, MD, PhD, T. Miyaso, MD, PhD, K. Tsuji, MD, PhD, H. Toyokawa, MD, PhD, H. Yanagimoto, MD, PhD. Department of Surgery, Kansai Medical University, Hirakata, Japan.

Purpose: Fulminant hepatic failure is a serious disease and the cure rate for FHF is only 15% unless liver transplantation is performed. Edaravone (3-methyl-1-phenyl-2-pyrazolim-5-one), a free radical scavenger, has been approved for the treatment of acute cerebral infarction, and its mechanism of action involves scavenging free radicals generated in ischemic tissues. We assessed the ability of edaravone to prevent Fas-induced acute liver failure in mice.

Methods: BALB/c mice were administered 0.25 mug/g (i.v.) body weight of a purified hamster agonist anti-Fas monoclonal antibody (clone Jo2). The mice also received either edaravone or isotonic sodium chloride solution before or after Jo2 treatment.

Results: Edaravone improved the survival rate of the mice markedly. Histopathological findings and serum aspartate aminotransferase levels showed that edaravone reduced the degree of liver injury caused by Jo2. TUNEL staining showed that edaravone reduced the number of apoptotic hepatocytes. Edaravone also prevented cytochrome c release and caspase 3 activity, recognized as markers of apoptosis after mitochondrial disruption. Western blotting showed that the Bcl-xL-Bax ratio of the edaravone group was much higher than that of the control group.

Conclusion: Edaravone might protect mitochondria in hepatocytes from Fas-induced injury through regulating mitochondrial Bcl-xL and Bax.

P849

APPEARANCE OF ASCITIC FLUID AS A TOOL TO DETECT SPONTANEOUS BACTERIAL PERITONITIS(SBP) AND MICROBIOLOGICAL PATTERNS OF SBP: A SINGLE CENTER EXPERIENCE

A. S. Naniwadekar,, MD,[1] A. Malhotra, MD,[2] Y. Yin, Medical Student,[1] G. Sood, MD[2]. 1. Internal Medicine, University of Texas Medical Branch, Galveston, TX; 2. Gastroenterology, University of Texas Medical Branch, Galveston, TX.

Purpose: Spontaneous bacterial peritonitis (SBP) is a serious infection in cirrhotic patients with ascites due to the translocation of intestinal bacteria to the mesenteric lymph nodes and blood. Diagnosis of SBP is made if the ascitic fluid neutrophil count ≥ 250 cells/μL. Complete analysis of the ascitic fluid adds significant cost to the workup, hence if a normal, clear appearance of ascitic fluid had 100% negative predictive value in ruling out SBP, it could prove cost-effective to skip complete analysis in such patients.

Methods: A retrospective review of in-patient records of all patients who had abdominal paracentesis at our Institution during 2004-2007 was performed. A total of 911 episodes in 669 patients were reviewed. 311 episodes were excluded as they were procedures performed in patients who were post-surgical, pediatric (age<18), on peritoneal dialysis or with malignant ascites (with no cirrhosis). Data on ascitic fluid appearance was only available in 524 of these 580 patients. 467 episodes were in patients with no SBP and 57 episodes were in patients with SBP. SBP was defined as neutrophil count in ascitic fluid ≥ 250 cells/μL, with or without positive cultures. Abnormal fluid appearance included all samples labeled by visual inspection as slightly, moderately or markedly turbid, and bloody. With respect to microbiological patterns all the patients with SBP, that is 68 patients with 71 episodes were included in the study.

Results: Of the 524 patients included in the final analysis, 185 samples (35.3%) had a clear appearance with the remaining 339 (64.7%) identified as abnormal. Of the 57 patients with SBP, only 3 (5.2%) patients had a clear ascitic fluid, the remaining 54 (94.8%) had an abnormal fluid appearance. In the group without SBP, 182 (38.9%) had a clear appearance. This gives a clear appearance of fluid a negative predictive value of 98.3% in excluding SBP. Similarly, an abnormal fluid appearance was 94.7% sensitive and 38.9% specific in diagnosing SBP. Of the 71 episodes of SBP included in the analysis for microbiological patterns, 16 (22.5%) had positive cultures with the remaining 55 being culture negative neutrocytic ascites. In patients with positive cultures the commonest organisms were Staph. aureus (4), E.coli (3), K.pneumoniae (3), Strep.pneumoniae (2), Strep.viridians (1) and miscellaneous (3).

Conclusion: Ascitic fluid appearance by simple visual inspection is a good tool to exclude the presence of SBP. A clear appearance of ascitic fluid has a negative predictive value of 98.3% in excluding SBP. This could save the cost of further analysis of cell counts and cultures in these patients.

P850

FACTORS ASSOCIATED WITH MORE ADVANCED STEATOSIS IN PATIENTS WITH NON ALCOHOLIC FATTY LIVER DISEASE (NAFLD)

F. Rzouq, MBBS,[1] H. H. Hatoum, MD,[2] S. Al-Busafi, MD[3]. 1. Internal Medicine, University Of Texas Medical Branch (UTMB), Galveston, TX; 2. Internal Medicine, McLaren Regional Medical Center, Flint, MI; 3. Gastroenterology and Hepatology, Royal Victoria Hospital, McGill University, Montreal, QC, Canada.

Purpose: Nonalcoholic Fatty Liver Disease (NAFLD) is a spectrum of disorders that range from simple hepatic steatosis without significant inflammation or fibrosis to nonalcoholic steatohepatitis with varying degrees of inflammation and fibrosis. Strong epidemiological, biochemical, and therapeutic evidence supports the premise that the primary pathophysiogical derangement, in most patients with NAFLD, is insulin resistance. The main aim of the study was to look at different factors in patients with NAFLD like age, gender, body mass index (BMI), hyperlipidemia (HLP) and Hgb A1c level and the degree of association between these factors and the degree of steatosis as evidenced by liver biopsy.

Methods: We included 44 patients diagnosed with NAFLD as evidenced by biopsy and we reviewed their charts. 33 patients (75%) had NAFLD only whereas 11 patients (25%) had NAFLD and diabetes. Patients' factors including age, gender, BMI, the presence of HLP and Hgb A1c level (which was included also for non diabetic subjects) were recorded and the association between these factors and the degree of steatosis as evidenced by the biopsy were statistically analyzed where the degree of steatosis was defined as mild, moderate and severe if steatosis involves 5-33%, 33-66% or more than 66% of the hepatocytes respectively.

Results: Chi-square was used to test for the association between age, gender, BMI, the presence of HLP and Hgb A1c level in one hand and the degree of steatosis on liver biopsy in the other hand. All analyses were performed using the SAS System for Windows, Version 9.1.3. Our analysis showed that women had a higher prevalence of more advanced steatosis (moderate and severe) when compared to men (94% vs 66%, respectively) with a P value of 0.03, on the other hand,other factors mentioned above didn't show significant statistical association with the degree of steatosis.

Conclusion: Although it is well established that factors like obesity, HLP and DM are related to the pathogenesis of NAFLD, these among other factors didn't show statistical association in our study with the degree of steatosis with the exception of gender where female gender was associated with more advanced steatosis on biopsy. Large clinical studies are needed to confirm these findings and examine if other factors come to affect the degree of steatosis.

P851

AN OPEN-LABEL TRIAL OF PROPHYLAXIS WITH ERTAPENEM IN PATIENTS WITH OBSTRUCTIVE JAUNDICE UNDERGOING ERCP: SAFETY, EFFICACY, AND BILIARY PENETRATION OF ERTAPENEM

A. Sharara, MD,[1] I. ElHajj, MD,[1] H. Abdul-Baki, MD,[1] H. Chaar, MD,[2] E. Aoun, MD,[1] J. Hashash, MD,[1] S. Boustany, MD,[2] M. Mroueh, MD,[2] S. Kanj, MD[3]. 1. of Internal medicine - division of gastroenterology, American University of Beirut, Beirut, Lebanon; 2. School of Pharmacy, Lebanese American University, Jbeil, Lebanon; 3. of internal medicine - division of infectious diseases, American University of Beirut, Beirut, Lebanon.

Purpose: Antibiotic prophylaxis is recommended for patients with obstructive jaundice undergoing ERCP. Few prospective studies have addressed the efficacy of specific antimicrobial agents in this particular setting or their first-order kinetics and penetration into bile. Ertapenem is a 1-beta-methyl carbapenem with a long-half life and broad-spectrum activity, making it a plausible choice for such prophylaxis.

Methods: Patients without evidence of cholangitis scheduled for diagnostic or therapeutic ERCP for evaluation of obstructive jaundice were included. Patients received a single dose of ertapenem 1 gram intravenously on call to ERCP. A 2-3 mL sample of bile was collected at the time of biliary cannulation prior to contrast injection. The time interval from the administration of ertapenem to bile collection was noted. Bile was stored at -70°C and ertapenem levels measured using HPLC. Patients were observed for up to 72 hours post-ERCP for any evidence of cholangitis or possible drug-related adverse events.

Results: A total of 28 patients (ages 16-87 years, M/F 1:1) were enrolled after informed consent. Successful biliary cannulation was achieved in all. One patient (3.6%) developed post-ERCP cholangitis despite single-dose ertapenem prophylaxis (patient had cystic dilatation of the right hepatic duct and intrahepatic stones that could not be cleared). No drug-related adverse events were noted. The mean time from administration of ertapenem to bile collection was 60 ± 24 minutes. There was a significant negative correlation between serum bilirubin level and ertapenem level in bile ($r = -0.542$, $p = 0.003$). A high-grade obstruction of the biliary tree correlated closely with high levels of serum bilirubin and very low levels of ertapenem (less than 0.1 microg/mL) in bile. The highest levels of ertapenem in bile (up to 6.25 microg/mL) were seen in patients with partial or transient biliary obstruction secondary to common bile duct stones.

Conclusion: Ertapenem is a safe and effective agent for prophylaxis in patients with obstructive jaundice undergoing ERCP despite a limited biliary penetration

P852

SMALL INTESTINAL BACTERIAL OVERGROWTH OF COLONIC-TYPE CARBOHIDRATES FERMENTATIVE BACTERIA IN CIRRHOTIC PATIENTS

G. Merra, MD,[1] A. Dal Lago, MD,[1] E. Scarpellini, MD,[1] V. Valenza, MD,[2] A. Gasbarrini, MD[1]. 1. Department of Internal Medicine, Institute of Medical Pathology, Catholic University of Sacred Heart, Agostino Gemelli General Hospital, Rome, Italy; 2. Department of Nuclear Medicine, Catholic University of Sacred Heart, Agostino Gemelli General Hospital, Rome, Italy.

Purpose: Small intestinal bacterial overgrowth (SIBO) is a clinical condition characterized by abnormally high colonic-type bacteria in the small intestine, exceeding 106 organisms/mL. In non cirrhotic patients, SIBO is associated with the presence of symptoms related to malabsorption and gas production (end product of carbohydrates fermentation).. A role of small bowel bacteria has been hypothesized in the pathogenesis of hepatic encephalopathy (HE) and spontaneous bacterial peritonitis (SBP) in cirrhotics. This study to assess SIBO prevalence in cirrhotic patients.

Methods: Thirthy (30) HCV-cirrhotic pts (10 Child A; 10 Child B; 10 Child C) were consecutively enrolled and submitted to H2-lactulose breath test (LBT). 30 non cirrhotics patients were used as controls. SIBO diagnosis was based on LBT positivity criteria (two distinct peaks, consisting of two consecutive H2 values >10 p.p.m. above the basal value after 10 g lactulose ingestion).

Results: 18 out of 30 cirrhotics (60%) had a positive LBT vs 1 out of 30 controls (3.3%); $p<0.05$. Among cirrhotics, a significative difference was observed in the different Child group: 20% in Child A, 50% in Child B, 80% in Child C.

Conclusion: Cirrhotics have a significant prevalence of SIBO compared to controls. SIBO prevalence was associated to severity of cirrhosis. Lactulose administration could be a good substrate for the growth in the small bowel of fermentative colonic-type bacteria. A role of SIBO presence in HE and SBP has to be fully evaluated.

P853

HOW DOES THE RECIPIENT'S PRE-TRANSPLANT MEDICAL CONDITION AFFECT STEATOSIS IN THE TRANSPLANTED LIVER?

R. Sabbagh, MD, P. Krishnan, MD, K. Brown, MD, D. Moonka, MD, M. H. Sherbondy, MD. Gastroenterology, Henry Ford Hospital, Detroit, MI.

Purpose: The purpose of this study is to identify pre-transplant recipient risk factors which contribute to the formation, progression, or regression of steatosis in the transplanted liver.

Methods: A retrospective chart review of all patients undergoing liver transplant from 2004-07 was done to identify donor livers which were biopsied the day of successful transplantation. Of these patients, those who had a post-transplant liver biopsy were included in the study. The results of all liver biopsies were recorded. These patients were divided into those with and without non-alcoholic steatohepatitis (NASH); cryptogenic cirrhosis was classified as NASH. The etiology for liver transplant, pre- and post-transplant parameters of metabolic syndrome in the recipient, and post-transplant immunosuppressant were all collected.

Results: Sixty-five patients were included in the study with 9 patients transplanted for NASH. Twenty-seven of 65 (42%) donor livers contained steatosis. Overall, 16/65 (25%) of post-transplant liver biopsies showed steatosis with 9/16 resulting from donor livers without steatosis, and 7/16 biopsies resulting from donor livers with steatosis. No significant differences were found between the patients who developed post-transplant steatosis and those who did not develop steatosis, including use of corticosteroids and sirolimus. Twelve of 65 patients had worsening of steatosis between biopsies, but only 2 of these patients had NASH. There was no difference pre- and post-transplant in the incidence of diabetes, hypertension, hyperlipidemia, and BMI. Patients transplanted for NASH developed post-transplant steatosis in 22% of patients, with 33% of patients showing resolution of steatosis in follow-up biopsies. Interestingly, the patients with no change in pre- and post-transplant steatosis had the largest drop in BMI, with a significant decrease in percentage of obese patients (55% vs. 27%, p-value 0.04).

Conclusion: In this single center study, 42% of patients received livers with steatosis. No factors, including features of metabolic syndrome, BMI, corticosteroids use, and sirolimus use, significantly predicted the development of steatosis post-transplant. Additionally, the diagnosis of NASH did not universally result in post-transplant steatosis. Limitations of this study include small numbers of NASH patients and the use of random biopsies. Larger, prospective studies with protocol biopsies will help confirm these findings.

P854

HEPATOCELLULAR CARCINOMA IN A NORTHERN PORTUGUESE URBAN HOSPITAL

J. Soares, MD, C. Rolanda, MD, S. Lopes, MD, P. Pereira, MD, M. Marcelino, MD, R. Gonçalves, MD, A. Machado, MD, G. Macedo, MD, PhD, FACG. Gastroenterology Unit, H.S. Marcos, Braga, Portugal.

Purpose: The epidemiological, clinical and demographic features of hepatocellular carcinoma (HCC) in portuguese population are yet to be defined. HCV and HBV infection have been claimed to be the most important risk factors even in western countries.

Methods: We present a case-series of HCC patients admitted in our urban-based hospital, between 1998 and 2007. We collected and reviewed information from DRGs (Diagnosis Related Groups) database.

Results: We have reviewed 83 patients (68 males) with HCC. Age at diagnosis ranged from 34 to 86 years (mean 66.1 years). Cirrhosis was present in 77 patients (93%), being alcoholic liver disease the most prevalent aetiology (55%), followed by viral hepatitis (25%). In 16 cases (19%) the aetiology was unknown. Only in 10 cases (12%) the diagnosis was made during the screening program, being the remaining 73 cases (88%) diagnosed at the symptomatic phase. Alpha-fetoprotein was normal in 13 cases (16%) and >200 ng/ml in 56 cases (67%). Imaging techniques showed a diffuse pattern in 15 cases and a nodular pattern in 68 cases (all cases with nodules >2 cm; 24 cases with >1 nodule). Histology was obtained in 50 cases (60%). Portal thrombosis and/or regional adenopathy were observed in 34 patients (41%), which limited their surgical treatment. Therapeutic options included: surgery (9 patients), systemic chemotherapy (8 patients), transarterial chemoembolization (8 patients), percutaneous ethanol injection (4 patients) and transplantation (1 patient). In 49 patients, due to advanced stage of the disease, supportive treatment was the only modality adopted. Mean survival was 9.6 months (range from 1 to 52 months).

Conclusion: In our region, alcoholic liver disease is the major factor for HCC, either alone or in conjunction with hepatotropic viruses.

P855

13C-VALINE BREATH TEST IS SUPERIOR TO 13C-PHENYLALANINE BREATH TEST FOR THE ASSESSMENT OF LIVER FUNCTION

Y. Urita, MD, PhD, T. Watanabe, MD, PhD, T. Maeda, MD, Y. Sasaki, MD, S. Ishihara, MD, K. Hike, MD, M. Sanaka, MD, PhD, H. Nakajima, MD, PhD, M. Sugimoto, MD, PhD. Department of General Medicine, Toho University, Tokyo, Japan.

Purpose: Although several serological tests provide useful information about severity of liver diseases and functional hepatic reserve, there is an unfulfilled clinical need for a quantitative test of liver function that is safe, convenient, and yields reliable data on disease severity and prognosis. Previously proposed tests have included the phenylalanine breath test that was sufficient to evaluate the hepatic reserve in patients with liver cirrhosis. Valine is one of branched-chain amino acids and not metabolized in the liver, and is also used for the treatment of malnutrition in patients with liver cirrhosis because metabolism of valine in skeletal muscle is enhanced in cirrhotic patients. Based on this theory, 13CO2 excretion in exhaled air may increase after ingestion of 13C-valine. We evaluate 13CO2 excretion pattern after oral administration of 13C-valine and 13C-phenylalanine in various liver diseases.

Methods: 13C-phenylalanine and 13C-valine breath tests were performed in 25 chronic liver diseases (mean age 68 years, chronic viral hepatitis 11, fatty liver diseases 10, liver cirrhosis 4) in a crossover manner. The patients received 100ml of water containing 100mg of 13C-substrate in the sitting position after an overnight fast. Breath samples were collected at 10-minute intervals for 120 min after ingestion to analyze 13CO2. 13C was measured as the13CO2/12CO2 isotope ratio and was expressed as delta over baseline per mil
Results: After administration of 13C-phenylalanine, 13CO2 excretion peaked at 30 min and the peak value was significant lower in FLD than in CH regardless of the serum albumin level and the platelet count. 13CO2 excretion in the first 60 min was significant lower in FLD than in CH after administration of 13C-valine. 13CO2 excretion at 30 min is closely associated with the platelet count and the serum albumin level, which reflect functional hepatic reserve.
Conclusion: 13C-valine is the optimal stable isotope for the assessment of liver function. In spite of previous many reports on the efficacy of 13C-phenylalanine to evaluate liver function, 13C-valine breath test is superior to 13C-phenylalanine breath test for the assessment of liver function in the present study.

P856

LONG-TERM OUTCOME WITH MONITORING OF PLATELET COUNT, ALBUMIN AND INR IN PATIENTS WITH CHRONIC HEPATITIS C AND CIRRHOSIS WITH PROLONGED INTERFERON THERAPY

A. Agha, MD, D. Elijah, MD, G. Vidyarthi, MD, W. P. Boyd, MD. James A Haley VA Hospital`, Tampa, FL.

Purpose: Hepatitis C is a major cause of cirrhosis and hepatocellular cancer. Cancer arises almost exclusively in the setting of cirrhosis and therefore prevention of cirrhosis is the best strategy to prevent hepatocellular cancer. The development of cirrhosis has been calculated based on the rate of fibrosis progression and is 0.010 units/year with cirrhosis occuring in this scale at 4.0 units. The rate of regression of fibrosis with Interferon has been shown to be 0.28 units/year (1). Although liver biopsy is the gold standards some easily available laboratory values would serve as useful markers to see the degree of fibrosis. At our center patients with chronic hepatitis C are administered Interferon for protracted period with the goal of decreasing fibrosis. Albumin, INR and Platelet counts have been deemed to be surrogate markers of cirrhosis. The goal of the study is to see if improvement in fibrosis reflects in improvement of platelet count, Albumin and INR. An ancilliary goal of the study is to determine the follow-up and adherence to therapy for patients at a VA setting.
Methods: A retrospective chart review was performed on 50 consecutive patients who have been treated with Interferon from January 2003-December 2006 at Tampa VA Hospital. These patients were on Interferon monotherapy with the goal of decreasing fibrosis. The duration of therapy on Interferon varied from 1 year to 51 months.
Results: 16% of patients were responders, another 14% were relapsers after a brief period of response and 70% of patients were nonresponders. The surrogate markers of cirrhosis namely Albumin, Platelets and INR did not show significant difference at the conclusion of 1 year. Of note they did not deteriorate which may have occured without treatment. In patients with cirrhosis even though fibrosis improves but the liver function tests are slow to improve. Therefore if a change in fibrosis is to be assessed at 1 year it should be done by liver biopsy. On long term follow-up it remains to be seen if the surrogate markers improve as further antifibrosis is achieved.
Conclusion: Even though an improvement is liver biopsy has been proven to occur on patients on long-term Interferon, a significant improvement in platelets, INR and albumin does not occur at 1 year and is presumably more slow than anticipated. Furthermore longer periods of Interferon seems to be warranted to check for improvement in cirrhosis caused by Hepatitis C. Lastly, the compliance at our Tampa VA was execllent at 80%. Reference:1. M. Omata and H.Yoshida Resolution of Liver cirrhosis and prevention of Hepatocellular carcinoma by Interferon therapy against chronic Hepatitis C. Scan J Gastroenterol 2003(Suppl 237) 47-51

P857

CORRELATION OF SAAG (SERUM ASCITES ALBUMIN GRADIENT) WITH THE PRESENCE AND GRADING OF ESOPHAGEAL VARICES IN PATIENTS WITH DECOMPENSATED CIRRHOSIS OF LIVER

S. D. Jafri, MBBS, MRCP(UK),[1] A. Sattar, fcps[2]. 1. Medicine, Civil Hospital Karachi, Karachi, Pakistan; 2. Medicine, Civil Hospital Karachi, Karachi, Pakistan.

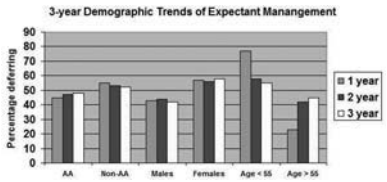
Purpose: To determine the value of serum-ascites albumin gradient (SAAG) in the prediction of presence of esophageal varices in patients with liver cirrhosis and to study the association between the degree of SAAG and the presence and size (i.e; grading) of esophageal varices.
Methods: Ascitic fluid analysis, serum proteins, ultrasonography and endoscopy were the basic investigations performed in all patients. SAAG was calculated and presence or absence of esophageal varices and their grading were documented in all patients.
Results: SAAG was found to be >1.1 in all 50 patients while esophageal varices were present in 46(92%) of them. This suggests that high SAAG reflects higher chances of presence of esophageal varices in patients with liver cirrhosis. Furthermore the presence and size of esophageal varices is found to be directly related to the degree of SAAG. Esophageal varices were found to be present in all the patients having SAAG value >1.4
Conclusion: This concludes that SAAG is a useful indirect indicator in the estimation of portal hypertension and so is a useful mean in the prediction of presence of esophageal varices in patients with liver cirrhosis.

P858

DEMOGRAPHIC DIFFERENCES AFFECTING THE DECISION TO DEFER TREATMENT FOR CHRONIC HEPATITIS C (CHCV) INFECTION: RESULTS OF A 3-YEAR FOLLOW-UP SURVEY

N. Khatri, MD, O. S. Khokhar, MD, J. H. Lewis, MD. Department of Medicine, Division of Gastroenterology, Hepatology Section, Georgetown University Hospital, Washington, DC.

Purpose: We have previously compiled data on 115 eligible treatment-naïve CHCV patients who elected to defer therapy [Dig Dis Sci 2007; 52:1168-76]. Nearly all patients were asymptomatic, genotype 1, and had mild histologic disease. To assess which demographics affected expectant management after 3 years, a follow-up questionnaire was administered.
Methods: Patients were asked their current health status, satisfaction with deferring pegylated interferon/ribavirin (PEG/RBV) using a 2 point Likert scale (not satisfied/satisfied), and whether they had reconsidered their decision to be followed expectantly. An attempt was made to reach all 74 patients from the 2-year cohort.
Results: 38 (16 men; mean age 55 years, 17 > age 55; 19 African-Americans [AA]) out of 74 patients (51%) from the 2nd year cohort were contacted. 2 patients had died, 2 refused to answer, and 32 patients were lost to follow-up (43%). 31 out of 38 (82%) responders stated that they were still satisfied with their decision for expectant management. The proportion of non-AA to AA patients continuing to defer treatment (16 [52%] vs. 15 [48%]) was similar to the percentage at 2 years (53% vs. 47%) and 1 year (55% vs. 45%). Men were less likely to continue to defer treatment than women (13 [42%] vs. 18 [58%]), which was similar to proportions seen at the end of 2 years (44% vs. 56%) and 1 year (43% vs. 57%). Patients aged <55 deferred treatment more often than those >55 (17 [55%] vs. 14 [45%]), p=0.02 compared to 2 year (58% vs. 42%) follow-up and p=0.02 compared to 1 year (77% vs. 23%) follow-up.
Conclusion: A majority of the patients contacted at 3 years with clinically mild genotype 1 CHCV infection remain satisfied with their initial decision to defer treatment. The percentage of younger patients continuing to choose expectant management continued to decline significantly compared with older patients, while older patients are choosing expectant management more often. The patient age variable was statistically significant between years 1 to 2 and 1 to 3. Only a trend was observed for race, where non-AA patients continued to choose expectant management, despite higher rates of sustained viral response (SVR), compared to AA patients (p=0.5); and for gender where men continue to revisit their decision more frequently than women (p=0.5). These patients will continue to be followed to determine if theses trends continue.



P859

ETIOLOGICAL SPECTRUM & CLINICOLABORATORY PROFILE OF CIRRHOSIS AT A TERTIARY HEALTH CENTRE IN NORTH INDIA

D. Singh, MD (Medicine), A. P. Srivastava, MD (Medicine), S. Sachdeva, MD (Medicine), A. Saxena, MD (Medicine), N. Nigam, MD (Radiology), B. Lamba, MD (Medicine), E. Chandrasekharan, MD (Medicine). Gastroenterology, Dr. RML Hospital, New Delhi, India.

Purpose: While chronic hepatitis C virus infection and alcohol are leading etiological factors in the western part of the globe, chronic hepatitis B is the most frequent cause in the east. With rapidly improving economy and living standards, alcohol has become an important cause of chronic liver disease even in south-east Asia. We aimed to evaluate etiological spectrum & clinicolaboratory profile of patients with cirrhosis attending Gastroenterology OPD at Dr. RML Hospital, New Delhi (India).
Methods: Demographic, Etiological, Clinical, Radiological, Endoscopic and Laboratory data of 82 consecutive patients attending Gastroenterology OPD of our hospital during January 2007-April 2008 were recorded and analyzed.
Results: Out of a total of 82 patients with cirrhosis evaluated by us, 64 (78%) were males. Median age was 34 years (range 18-70 y). Etiological factors for cirrhosis included alcohol in 43 (52.4%), hepatitis B in 13 (15.9%), hepatitis C in 7 (8.5%), Wilson's disease in 2 (2.4%), autoimmune liver disease in 1 (1.2%), dual etiology in 6 (alcohol + hepatitis B in 3 and alcohol + hepatitis C in 3) and cryptogenic liver disease in remaining 10 patients (12.2%). Overall clinical presentation included jaundice in 51 (62.2%), ascites in 46 (56.1%), hemetemesis/melena in 24 (29.3%), overt hepatic encephalopathy (HE) in 21 (25.6%), spontaneous bacterial peritonitis (SBP) in 14 (17.1%) and hepatorenal syndrome (HRS) in 13 (15.9%) patients. The frequency of jaundice, ascites, HE, SBP and HRS were higher in alcohol related cirrhosis as compared to non-alcohol related cirrhosis (87.8% vs 24.2%, 71.4% vs 33.3%, 34.7% vs 12.1%, 24.5% vs 6.1%, 22.4% vs 6.1%)(p value<0.05 for all). Abdominal ultrasonographic findings included dilated portal vein (>12 mm) in 82 (100%), coarse liver echotexture in 76 (92.7%), nodular/shrunken liver in 59 (71.9%), portal vein thrombosis in 13 (15.9%) patients. Esophagogastroduodenoscopy (EGD) showed oesophageal varices in 49 (59.8%), gastric varices in 11 (13.4%), portal hypertensive gastropathy in 28 (34.1%) & gastric antral vascular ectasia (GAVE) in 6 (7.3%) patients. Predominant laboratory abnormalities included hypoalbuminemia was present 76 (92.7%), increased prothrombin time in 64 (78%), anemia in 63 (76.8%), thrombocytopenia in 61 (74.4%) and hyperbilirubinemia in 58 (70.7%).
Conclusion: Alcohol is the most common causative factor for cirrhosis at our centre, and patients with this etiology have more chronic liver disease related complications as compared to cirrhosis due to other etiologies.

P860

A CASE OF HEPATIC TUBERCULOSIS IN A PATIENT WITH ACUTE MYELOGENOUS LEUKEMIA

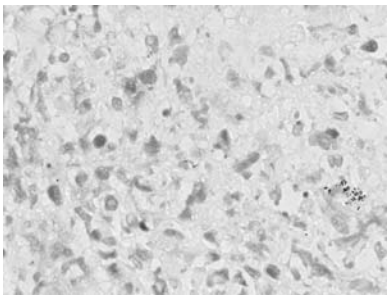
N. M. Ganesana, MD,[1] K. E. Youens, MD,[2] I. Bouneva, MD[1]. 1. Internal Medicine - Gastroenterology, Duke University, Durham, NC; 2. Internal Medicine - Pathology, Duke University, Durham, NC.

Purpose: Hepatic tuberculosis (HTB) usually occurs in the settings of pulmonary TB, but can exist without radiologic evidence of such. HTB may also be seen in the settings of TB mesenteric adenitis, since the mesenteric and hepatic lymph channels communicate. It may also develop via hematogenous spread by the hepatic artery or portal vein. HTB presents as miliary or localized form. Liver is commonly involved in miliary TB, but hepatic dysfunction is rare. Localized form is rare in the absence of pulmonary TB, probably due to low oxygen tension in the liver, which is unfavorable for mycobacterial growth. We report a case of localized HTB in a patient with acute myelogenous leukemia (AML), activated by chemotherapy.

Methods: A 29 y/o man who immigrated from India 5 years ago was diagnosed with AML 7 months ago. He had no other past medical history, exposure to TB, or medication use. His PPD status was unknown. Baseline labs included hemoglobin 6.6 g/dl, wbc 1 K/mcL, platelets 59 K/mcL; liver function tests (LFT): albumin 3.5 g/dl, total bilirubin (TB) 0.5 mg/dl, alkaline phosphatase (ALP) 230 IU/L, AST 56 IU/L, ALT 118 IU/L. He received induction chemotherapy (Cytarabine, Daunorubicin), followed by worsening of LFT: TB 26 mg/dl, ALP 1359 IU/L, AST 366 IU/L, ALT 270 IU/L. Other etiologies for elevated LFT were excluded, including viral or autoimmune hepatitis or metabolic liver diseases. MRI/MRCP of the liver was normal. CT of chest showed mediastinal and hilar lymphadenopthy.

Results: Liver biopsy revealed scattered microabscesses and non-caseating granulomas; mycobacteria were identified on acid fast stain. The repeat bone marrow biopsy revealed new non-caseating granulomas. Acid fast stain of sputum was positive for mycobacteria. Second line therapy with Rifampin, Ethambutol, Moxifloxacin and Amikacin was started. His LFT started to improve and normalized in 3 months.

Conclusion: HTB has variable clinical presentation - the localized form is usually associated with more hepatocytic damage (high ALT), and the miliary form with more wasting (low albumin). Our case confirms the severe hepatocyte damage with localized form. This should increase the awareness of the potential clinical manifestations of HTB, particularly in patients from endemic areas or in immunocompromized ones.



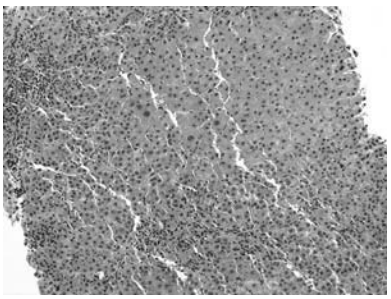
Acid Fast Stain

P861

SIROLIMUS-INDUCED HEPATOTOXICITY: CASE REPORT

B. Macdonald, MD,[1] E. Vakiani, MD,[2] R. Brown, MD, MPH,[1] S. Sigal, MD[1]. 1. Medicine, New York - Presbyterian Hospital, New York, NY; 2. Pathology, New York - Presbyterian Hospital, New York, NY.

Purpose: Discovered in the soil of Easter Island in the 1970s, sirolimus has become an increasing popular immunosuppresive agent to prevent rejection in many solid organ transplants as an alternative to calcineurin inhibitors due to the presumed decrease renal toxicity. As the use of sirolimus has increased, so have the number of identified toxicities including pulmonary, dermatologic and cardiac complications. There is little information with regards to sirolimus-induced hepatotoxicity. We present the case of a 34 year old man who developed abnormal liver function tests 6 years after his live-donor kidney transplant, 5 years after starting sirolimus with a strict hepatocellular pattern of isolated AST and ALT elevation. Withdrawal of other offending agents was attempted without resolution of his elevated transaminases. Serologic evaluation revealed no evidence of acute viral hepatitis. All markers of genetic and autoimmune causes of liver disease were negative. A biopsy was done which revealed moderate to severe diffuse inflamation with mild periportal fibrosis consistent with viral, autoimmune or drug induced hepatic injury. Based on the clinical picture and serologies taken withdrawal of sirolimus was performed and the liver function tests rapidly normalized over a two week period. Sirolimus is an important part of the armamentarium of transplant physicians. Sirolimus has been purported to improve renal function by reducing calcineurin associated nephrotoxicity. As well, sirolimus impairs VEGF and therefore may be useful in preventing the development of post-transplant malignancies such as kaposi's sarcoma and PTLD. However, as the use of sirolimus has increased so have the indentified toxicities. Hepatitis is another important complication that should be added to this list. Studies with other medications have shown that chronic medication associated hepatitis may progress to fulminant hepatic failure if it is failed to be identified. Therefore it is important to be aware and identify sirolimus-associated hepatotoxicity and to treat accordingly with the withdrawal of the medication.



Liver biopsy at low power showing moderate hepatitis affecting both portal tracts and lobules.

P862

USE OF PLASMAPHERESIS IN ACUTE HEPATIC FAILURE DUE TO HEPATITIS A

P. Makadia, MD, MBA, R. Sharma, MD, J. Zitter, MD, MPH. Internal Medicine, University of Medicine and Dentistry of New Jersey - New Jersey Medical School, Newark, NJ.

Purpose: Plasmapheresis, or plasma exchange, is the removal of whole blood, then replacement of only plasma and return of the new plasma as well as the other blood components to the patient. The goal is to remove large molecular weight substances that reside in the plasma and cause various diseases. These substances include: pathogenic autoantibodies, immune complexes, cryoglobulins, myeloma light chains, endotoxin, and cholesterol containing lipoproteins. Plasma exchange is considered to be standard therapy for diseases such as: polyneuropathies, Goodpature's Syndrome, thrombotic thrombocytopenic purpura (TTP), myasthenia gravis, and Guillain-Barre Syndrome. There is not sufficient evidence to use plasmapheresis in acute hepatic failure, although there have been some studies that show benefit. We report a case of successful use of plasmapheresis in acute hepatic failure due to Hepatitis A.

Methods: A 25 year-old female with history of GERD presented with diffuse abdominal pain, nausea, vomiting, and jaundice, after returning from a trip to India. Laboratory data was significant for transaminitis, hyperbilirubinemia, and coagulopathy secondary to Hepatitis A. The patient was transferred to The University Hospital for fulminant hepatic failure and evaluation for liver transplant. Both liver function and mental status rapidly worsened over 4 days. Because of the decline in clinical status, the patient was listed for a liver transplant. In light of the lifelong immunosuppression and possible need for re-transplant, the team decided on plasmapheresis before attempting transplant.

Results: After one plasma exchange, symptoms, clinical status, and liver function tests markedly improved. Patient no longer needed transplantation and to this day remains asymptomatic with normalized liver function.

Conclusion: Plasmapheresis is not considered to be the standard of care in the treatment of acute hepatic failure. There are several studies performed outside of the United States reporting patients with hepatic failure that improved with plasmapheresis. However, these studies have small patient numbers and show improvement in coagulopathy, not neurologic status or complete recovery of liver function. There has been a study on the use of plasma exchange in children with acute hepatic failure, most of which were due to congenital causes. We report what we believe is the only case of successful use of plasmapheresis with full recovery after fulminant hepatic failure secondary to Hepatitis A in an adult.

P863

PRIMARY SCLEROSING CHOLANGITIS(PSC)AND SARCOIDOSIS AN INFREQUENT ASSOCIATION-CASE REPORT

A. Murthy, MD,[1] E. C. Foitzik, MD, PhD,[2] D. M. Chaletsky, MD,[1] V. Sood, MD[1]. 1. Medicine, Albany Medical College, Albany, NY; 2. Department of Gastroenterology, Pirmasens Hospital, Pirmasens, Germany.

Purpose: To report a rare case of PSC and sarcoidosis.

Methods: Case report and review of literature.

Results: A thirtyone year old man presented with fever,weight loss,lethargy of one week duration.His past medical history was significant for ulcerative colitis(2000) with colorectal resection and ileoanal anastomosis(2002),PSC(elevated alkaline phosphatase since 2001),hypereosinophilic syndrome and iron deficiency anemia.He was afebrile,anicteric and malnourished.Multiple small non-tender lymphnodes in the neck,axilla and inguinal areas were felt,no other signs of liver disease were seen.Lab tests showed a white cell count of 15.4 tho/cmm,hemoglobin of 8.3gm/dl,platelets of 789 tho/ul,calcium-16.3mg/dl,albumin-2.0gm/dl,total bilirubin-1.8 mg/dl,alkaline phosphatase 2327 iu/l,AST-97 iu/l,ALT-64 iu/l.24 hour urinary calcium 1011 mg/l,ACE levels 119 u/l.ANA titres-2560,AMA and HIV were negative. MRCP revealed diffuse irregularity of intrahepatic bile ducts with alternating areas of narrowing and dilatation in a beaded pattern and a long dominant stricture in the mid extrahepatic common bile duct.ERCP noted diffuse beading of the biliary tree.CT chest and bronchoscopy showed diffuse parenchymal disease with hilar and paratracheal lymphadenopathy.He was found to have non-caseating granulomas by lymphnode,bone marrow and transbrochial biopsies.The CBD brushings were negative for malignancy. He was diagnosed to have sarcoidosis with hypercalcemia.We would like to report a case of PSC later developing sarcoidosis. The etiology of PSC is unclear although several immune,non-immune and genetic factors have been associated with it.2.5-7.5% of Inflammatory Bowel Disease(IBD) have PSC.Rare associations between IBD and sarcoid are reported.PSC and sarcoid might occur in the same individual in a frequency of 2-32 per billion population by pure chance.PSC is associated with HLA-B8,HLA DR3 and with other immunological diseases.No clear HLA locus has been associated with sarcoidosis although HLAB8 is associated with increased incidence of erythemanodosum and arthritis.An increased frequency of HLA A1, B8 and DR3 has been shown among patients with UC and sarcoid.Hence a immune related linkage between these entities are likely. In our patient each of these diseases were well recognised and exhibited a certain chronology.This association may be important in evaluating PSC patients who present with non- specific symptoms of malaise and weight loss,which may infact be the symptoms of

sarcoidosis.Also the clinician should be aware of sarcoid complicating and mimicking biliary cholestatic appearances.
Conclusion: PSC and sarcoid may represent different entities of a similar spectrum of autoimmune disease.Further research is needed to elucidate the causative agents.

P864

PRIOR PPI USE IS A RISK FACTOR FOR HOSPTITALIZATION WITH RECURRENT *C. DIFFICILE* ASSOCIATED DISEASE (CDAD)
J. Wellington, BS,[2] V. Botoman, MD,[3] S. Mableson, RN,[1] R. Reyes, MD,[1] N. Triola, RN, PhD[1]. 1. Holy Cross Hospital, Fort Lauderdale, FL; 2. Florida Atlantic University, Boca Raton, FL; 3. Gastroenterology, University of Miami, Miami, FL.
Purpose: CDAD has become an increasingly serious cause of hospitalization with rising morbidity and mortality due to increasingly virulent strains. PPI's have been demonstrated as a risk factor for CDAD in community based epidemiologic studies. Their role as a risk factor for CDAD associated hospitalizations has not been examined.
Methods: We reviewed the charts of 125 patients discharged with a diagnosis of CDAD in 2007, to determine risk factors for hospitalization associated CDAD. The data was collected in MS Excel 2003. Multivariate analysis was performed using statistical software (GraphPad Instat v 3.0). Variables included demographics, prior PPI use documented on the admission, and history of prior CDAD. We excluded from this analysis subsequent CDAD hospitalizations in the same patient.
Results: In the CDAD study group (N=125), 52% were women, mean age 74±1.5 yrs. In 37pts (30%) there was a history of prior CDAD, and in 41(33%) pts there was a history of chronic PPI use on the index admission. Multivariate analysis showed a highly significant (R^2=0.0426; P<0.019) correlation between prior PPI use and history of C difficile prior to index admission.
Conclusion: Outpatient PPI use is a strong risk factor for prior CDAD, and CDAD-associated hospitalization, and should be considered in evaluating hospitalized patients for possible CDAD.

P865

MICROSCOPIC COLITIS: A RETROSPECTIVE ANALYSIS OF CLINICAL CHARACTERISTICS, ASSOCIATION WITH AUTOIMMUNE DISORDERS, AND RESPONSE TO THERAPY
A. Bhan, MD, E. Castillo, MD, A. Ormsby, MD. Gastroenterology, Henry Ford Hospital, Detroit, MI.
Purpose: To examine if there were any statistically significant differences between collagenous and lymphocytic colitis in regards to patient symptoms, response to therapy, association with autoimmune disorders, and prognosis.
Methods: The study was a retrospective chart review and analysis of 106 patients who were diagnosed with microscopic colitis at a large multi-specialty referral center between the years 1997 – 2006. Only patients with a diagnosis of collagenous or lymphocytic colitis were included in the statistical analysis. The chi square test, Wilcoxon rank test, and t – test were used to determine statistical significance.
Results: Of 106 patients identified, 53 had collagenous colitis and 43 had lymphocytic colitis. The remaining 10 patients were identified as having either mixed or un-specified microscopic colitis. The mean age of patients was 60 years with a range of 17 to 89 years. The female: male ratio of patients with microscopic colitis was 3.2:1. The most common presenting symptoms were diarrhea (100% in the collagenous colitis group and 95% in the lymphocytic colitis group. In addition, of patients with collagenous colitis, 30% had weight loss, 40% had abdominal pain, 11% had nausea, 6% had vomiting, and 15% had abdominal bloating. Of patients with lymphocytic colitis, 19% had weight loss, 30% had abdominal pain, 7% had nausea, 5% had vomiting, and 12% had abdominal bloating. Autoimmune disease was present in 28% of patients with collagenous colitis and in 35% of patients with lymphocytic colitis. Successful treatment modalities in patients with collagenous/lympocytic colitis included discontinuation of NSAIDS (2%,3%), use of anti-diarrheals (21%,7%), use of bulk laxatives (9%,10%), 5-ASA compounds (40%,60%), bismuth subsalicylate (5%,0%), steroids (9%,3%), and immunomodulators (2%,0%). Of patients with collagenous colitis, 98% improved with treatment but 37% did not achieve complete remission of symptoms. Of patients with lymphocytic colitis, 97% improved with treatment but 34% did not achieve complete remission. No cases of inflammatory bowel disease, or of the development of malignancy were reported.
Conclusion: Microscopic colitis occurs more commonly in females than in males. Chronic diarrhea is almost universally present in patients diagnosed with the condition. No statistically significant differences were found regarding associated symptoms, response to treatment, or association with autoimmune disorders in this study. Although celiac disease is thought to be a more common association, only 2 patients in our study (1.98%) had celiac disease. The majority of patients do respond to treatment, mainly pharmacological therapy. Finally, the disorder seems to have a favorable prognosis.

P866

NITAZOXANIDE FOR THE TREATMENT OF MODERATE TO SEVERE *CLOSTRIDIUM DIFFICILE* INFECTION IN HOSPITALIZED PATIENTS
D. R. Heiman, MD,[1] B. Yangco, MD, MPH[2]. 1. Department of Gastroenterology, St. Joseph's Hospital, Tampa, FL; 2. Infectious Disease Research Institute, Inc., Tampa, FL.
Purpose: Data from the CDC indicates a doubling of the incidence and severity of *Clostridium difficile* infection (CDI) in hospitalized patients from 2000 to 2005 (*Emerg Infect Dis* 2008;14:929). Much of this increase is thought to be due to the increased virulence of CD, and the spread of the BI/NAP1/027 strain of CD. The treatment recommendations for CDI have been metronidazole (MTZ) for initial episodes and vancomycin (VAN) for MTZ failures and more severely ill patients. Unfortunately, recent studies (*Clin Infect Dis* 2005;40:1586, *Clin Infect Dis* 2006;43:421) suggest greater than 30% of patients treated with MTZ for initial onset CDI will fail therapy with potentially worse results in more severe cases. Currently, VAN is considered the drug of choice for severe CDI and the only antibiotic indicated for the treatment of CDI. However, the excessive cost of oral VAN, QID dosing and potential VAN resistance in organisms like *Enterococcus* sp., have emerged as serious concerns for using VAN. In light of these issues, additional therapies for CDI are needed. Nitazoxanide (NTZ) is a thiazolide antibiotic that has been proven to be an effective agent for the treatment of CDI as initial therapy (versus MTZ and VAN) and in patients who have failed MTZ (*J Antimicrob Chemother* 2007;59:705, *DDW* 2008: Presentation W1272). This paper reports our experience using NTZ for the treatment of moderate to severe CDI in hospitalized patients.
Methods: Thirteen hospitalized patients with moderate to severe CDI were treated with NTZ 500 mg BID for a mean duration of 15 days (range 4-30 days). CDI was determined by positive stool for CD toxins A or B and clinical features consistent with the disease. The diagnosis of severe CDI was determined using the criteria proposed by Zar et al. (Clin Infect Dis 2007;45:302).
Results: There were 7 severe CDI (54%), 6 moderate CDI (46%), and 8 recurrent CDI (62%) patients. Eight patients (62%) were female with an overall mean age of 64 years (range 8-89). All patients in the moderate CDI group had a significant comorbidity and at least one criterion of severe disease as proposed by Zar et al. At discharge 12 patients (92%) had clinical resolution, and 10/10 tested had negative stools for CD toxins. Ten patients were available for follow up evaluation post-discharge. Overall, 9/10 (90%) were complete cures, no recurrence of CDI within 60 days. One patient admitted with severe multi-recurrent CDI and toxic megacolon failed therapy (NTZ for 14 days) and required a colectomy. No adverse reactions attributable to NTZ were identified.
Conclusion: NTZ appears to be safe and effective for the treatment of moderate to severe CDI. Larger controlled clinical trials are needed to determine the efficacy of NTZ versus VAN in this population.
Disclosure - Dr Heiman- Grant/Research Support: Romark Labs Dr Yangco- None

P867

IMPORTANT RISK FACTORS FOR *C. DIFFICILE* ASSOCIATED DISEASE IN HOSPITALIZED PATIENTS ARE PROTON PUMP INHIBITOR USE AND TRANSPLANTATION
T. O. Kovacs, MD, R. L. Altman, RN. Division of Digestive Diseases, David Geffen School of Medicine at UCLA, Los Angeles, CA.
Purpose: Prior antibiotic exposure and hospitalization are well-described risks factors for Clostridium difficile associated disease (CDAD). Controversy exists over whether or not other risk factors are important in acquiring CDAD. The purpose of this study was to evaluate which other risk factors contribute to the development of CDAD in hospitalized patients.
Methods: As part of a randomized, double-blind, placebo-controlled trial of monoclonal antibody therapy for CDAD, the medical records of hospitalized patients (≥18 yrs old) with positive stool test for C. difficile toxins at a single tertiary care, university medical center were prospectively assessed. Data collected included age, gender, medical diagnosis, organ transplantation, and medication use, such as immunosuppressive agents, chemotherapy and proton pump inhibitors (PPIs)
Results: Screening included 145 patients with CDAD (age range 20-92 years, male 76/female 69). Of the various factors evaluated, 99 (68%) CDAD patients were on PPIs. Fifty-five (36%) had a history of transplantation (liver – 16, heart – 12, kidney – 9, lung – 5, pancreas – 3, intestine – 2, bone marrow – 10). Of the transplant group, 45 (86%) were also on PPIs.
Conclusion: In hospitalized patients, PPI exposure and transplantation/immunosuppressive agent use are risk factors for acquiring CDAD. Acid suppression with PPIs, especially in transplant recipients may increase the susceptibility of developing CDAD.

P868

HARBINGERS OF *CLOSTRIDIUM DIFFICILE* ASSOCIATED DIARRHEA
P. N. Madonia, MD, C. Pant, MD, P. F. Bass, MD, MS, MPH, K. Manas, MD, P. A. Jordan, MD. Internal Medicine, Louisiana State University Health Science Center, Shreveport, LA.
Purpose: Clostridium difficile is a gram positive spore forming pathogen that has emerged as a major cause of antibiotic associated diarrhea and pseudomembranous colitis. Incidence and severity of Clostridium difficile associated diarrhea (CDAD) is rapidly increasing. Recent research has focused on identifying surrogate markers of the disease with the goal of more accurate, precise, and timely diagnosis leading to better clinical outcomes. This study investigates the relationship of leukocyte counts, platelet counts, albumin level, blood urea nitrogen (BUN) concentration and creatinine concentration and CDAD. Unlike previous studies, hematological disorders that could potentially confound the results were excluded from this study.
Methods: A retrospective review of inpatients at the Louisiana State University Health Science Center in Shreveport, who were diagnosed with nosocomial diarrhea and subsequently had a stool sample sent for Clostridium difficile toxin A and B from May 2005 to May 2007 was undertaken. Patients with any major hematological disorder that would be expected to affect the leukocyte or platelet count were excluded.
Results: A total of 77 Clostridium difficile positive patients and 91 Clostridium difficile negative patients were included in the study. Leukocyte counts, platelet counts, BUN, creatinine, and albumin levels were recorded. The mean leukocyte count was 13,900/cmm in patients positive for Clostridium difficile toxin versus 9660/cmm in patients negative for the toxin (p<0.0001). Case patients had a platelet count of 353,000/cmm compared to a mean of 309,000/cmm in the controls (p=0.081). Lower albumin levels were observed in the case population compared to the controls (2.41g/dL vs. 2.86g/dL, p<0.0001). A higher BUN concentration was observed in the cases (28.5mg/dL vs. 20.5mg/dL, p<0.05). However, there was no significant difference in creatinine concentrations (1.69mg/dL vs. 1.58mg/dL, p=0.65).
Conclusion: Our results revealed that patients who tested positive for Clostridium difficile toxin had significantly higher mean leukocyte count and BUN concentration, and lower albumin levels. No significant difference was noted for platelet counts and creatinine concentration. We conclude that higher leukocyte counts, elevated BUN concentration, and low albumin level are reliable clinical predictors for CDAD.

P869

ASSESSMENT OF INTER-OBSERVER AGREEMENT OF COLONIC TRANSIT TIME (CTT) WITH RADIOPAQUE MARKERS

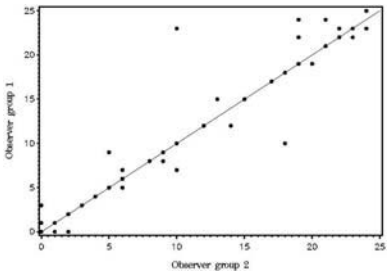
S. Rao, MD, PhD, FRCP,[1] J. Paulson, BS,[1] B. Kuo, MD,[3] R. McCallum, MD,[4] M. Sitrin, MD,[9] W. D. Chey, MD,[5] J. Lackner, PsyD,[8] J. Semler, PhD,[2] G. Wilding, PhD,[6] H. P. Parkman, MD[7]. 1. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA; 2. The SmartPill Corporation, Buffalo, NY; 3. Gastroenterology Unit, Massachusetts General Hospital, Boston, MA; 4. Center for GI Nerve & Muscle Function & GI Motility, University of Kansas Medical Center, Kansas City, KS; 5. Internal Medicine, University of Michigan, Ann Arbor, MI; 6. Biostatistics, SUNY at Buffalo, Buffalo, NY; 7. Medicine, Temple University School of Medicine, Philadelphia, PA; 8. Medicine, University of Buffalo School of Medicine, SUNY at Buffalo, Buffalo, NY; 9. Medicine, Western New York VA Medical Center; SUNY at Buffalo, Buffalo, NY.

Purpose: Although CTT is commonly assessed using radiopaque markers (Sitzmarks® (SZ)), whether there is inter-observer agreement regarding its interpretation is unknown. This is important because these studies are often interpreted by radiologists & gastroenterologists. AIM: Examine the inter-observer agreement of CTT as assessed by investigators from multiple sites & by two independent investigators.

Methods: In a prospective study, 146 subjects, 72 with chronic constipation (Rome II) & 74 healthy subjects were enrolled from 8 sites. On Day 1, subjects ingested a SZ capsule containing 24 markers & advised to continue usual diet & avoid drugs that affect motility. Abd. x-rays were obtained on day 2 (48 hrs) & day 5 (120 hrs) & each investigator reported the number of retained markers. Subsequently, two independent investigators, blinded to the site & day of x-ray, performed CTT analysis. Slow transit was defined as >5 markers on Day 5 xray. Inter-observer agreement analysis was performed.

Results: 4/72 (6%) normals & 31/74 (42%) constipated had slow colon transit. For analytical purposes, all subjects were grouped as having normal or slow transit; 35 had slow transit & 111 had normal CTT. Among these, in 1 constipated & 1 normal subject there was disagreement between the two observer groups, but in the rest there was excellent agreement (kappa=0.96), see figure. The intra-class correlation for Day 2 x-ray was 0.987 & for Day 5 x-ray was 0.978. There was disagreement in the absolute marker count for Day 2 x-ray in 46/146 (32%) subjects & for Day 5 x-ray in 25/146 (17%) subjects.

Conclusion: Although there were discrepancies in 17-32% of subjects regarding the absolute marker count, overall there was good inter-observer agreement for CTT assessment with SZ and for separating normal from slow transit. Thus, radiopaque marker technique appears to be quite reliable between observers.



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P870

BONE MARROW-DERIVED CELLS WERE NOT IDENTIFIED IN COLONIC CANCER OF PATIENTS AFTER SEX-MISMATCHED BONE MARROW TRANSPLANTATION

G. Sakai, MD, T. Yajima, MD, PhD, H. Higuchi, MD, PhD, H. Takaishi, MD, PhD, T. Hibi, MD, PhD. Internal medicine, Keio university, Tokyo, Japan.

Purpose: Recently, it was reported that epithelial cancers could be originated from bone marrow-derived sources in mice. But it is still unknown if similar phenomena happen in human.Here we report 2 female cases who developed colonic cancer after gender-mismatched bone marrow transplantation (BMT).

Methods: Both patients appeared not to be suffered from chronic intestinal inflammation. More than 10 years after the BMT, the patients developed colon polyps. Endoscopic mucosal resection was successfully done, and the pathological diagnosis was well-differentiated adenocarcinoma in both cases. We performed fluorescent in-situ hybridization (FISH) analysis to identify if the tumor contained donor-derived bone marrow cells.

Results: However, we never identified Y-chromosome-positive signals within the tumor cells except surrounding tumor-associated leukocytes.

Conclusion: These results negatively support the concept that colonic cancer is originated from bone marrow-derived cells. The results may raise the possibility that colonic cancer is ordinary originated from tissue resident stem cells in less inflamed intestinal mucosa.

P871

UNIQUE DISTRIBUTION OF COLLAGENOUS COLITIS-ASSOCIATED MUCOSAL TEARS

J. C. Yarze, MD, FACP, FACG, FASGE, AGAF. Gastroenterology Associates of Northern New York, Glens Falls, NY.

Purpose: To describe the unique distribution of colon mucosal tears associated with collagenous colitis.

Methods: CASE REPORTS: Over the past 3 years, (2) patients underwent colonoscopy for evaluation of chronic watery diarrhea (both females; ages 41 and 72 yo). During the colonoscopic examinations, mucosal tears (up to a few cm long and several mm in width) were initially noted upon passage of the colonoscope into the mid descending colon region. Both examinations were performed without difficulty (by an endoscopist who has performed in excess of 15,000 colonoscopic examinations). In the younger patient who was initially cared for (in 4/05), the mucosal tears were noted in a scattered fashion from the descending colon to the cecum (colon biopsies revealed a submucosal collagen table ~ 25 microns). She was asymptomatic after the procedure, but of note is that she had low-volume hematochezia for 3 days after having the procedure repeated several months later (in 9/05) at a tertiary care referral center, after her symptoms did not respond to even systemic corticosteroids. The older patient who was subsequently cared for (in 3/08), had mucosal tears from the descending colon to the hepatic flexure (colon biopsies revealed a submucosal collagen table ~ 35 microns). This procedure was electively not completed to the cecum, as at this latter time, the diagnosis was immediately suspected during the procedure. This patient also remained asymptomatic after the procedure.

Results: Mucosal tears noted at the time of colonoscopy have been described in patients with collagenous colitis. Colonic mucosal tears can also be seen in healthy individuals, as a consequence of colonoscopy-induced barotrauma. In the latter situation, the colonic mucosal tears are prototypically localized to the cecum and proximal ascending colon. This distribution would be expected as this region of the colon has the greatest diameter and is most thin, and therefore (by LaPlace's Law: the tension on the wall of a cylindrical vessel is proportional to its radius and inversely proportional to its thickness) would be most susceptible to such injury. In contrast, collagenous colitic colons are likely more fragile and in this patient population, colonoscopic barotrauma-related mucosal tears can be seen in even the smaller diameter distal colon.

Conclusion: Colonoscopic barotrauma-related mucosal tears in otherwise healthy colons are prototypically seen in the cecum and proximal ascending colon. It is now apparent from this and other reports that such mucosal tears in collagenous colitic colons are often seen in the more distal colon (including the transverse and proximal left colon) regions.

P872

OVERWEIGHT, RACE, AND COLORECTAL CANCER SCREENING: DISPARITY AMONG WHITE VS AFRICAN AMERICAN AND OBESE VS NON-OBESE INDIVIDUALS

F. Azrak, MD,[2] K. Obideen, MD,[1] M. Adam, MD,[1] M. Wehbi, MD[1]. 1. Medicine /division of digestive diseases, Emory University school of medicine, Decatur, GA; 2. Medicine, Wayne State University, Detroit, MI.

Purpose: To evaluate racial and Weight disparities in colorectal cancer (CRC) screening in a convenience sample in the community, and to see if there is a difference among Whites and African Americans in using different modalities of CRC screening.

Methods: we used a survey that is derived from the Behavioral Risk Factor Surveillance System. Data were collected through filling a questionnaire completed by adult volunteers during personal interviews. A convenience sample of 177 non-institutionalized adults aged >18 were interviewed. Analyses for this investigation were limited to individuals ≥50 who reported their weight, height, age and race, and answered questions about CRC screening. For the association between race and CRC screening, 47 individuals were qualified and included in the analysis. For association between Obesity (BMI ≥ 30 kg/m2) and CRC screening ;51 individuals were qualified and included in the analysis. We calculated colorectal cancer screening rates for the entire sample and separately for each racial and weight group. Fisher's Exact Chi-Square test was performed to evaluate the association between previous groups and CRC screening. Mantel-Haenszel Odds Ratios were reported with 95% confidence intervals for African Americans and CRC screening,and for obesity and CRC screening .

Results: The 47 individuals, who reported race and received CRC screening were 15 African Americans and 32 Whites .Overall, African American had 40% decreased odds of being screened for CRC compared to Whites, but this was not statistically significant (OR=0.6, CI=0.174-2.060). The CRC screening rate with both races combined was 53.3% with 23.4% reporting FOBT within last year and 53.2% reporting endoscopic screening within the past 10 years. Obese individuals were less likely to be up-to-date on CRC screening (4/10 = 40%) than non obese individuals (24/41= 58.5%) and have 53% decreased odds of being screened for CRC compared to non-obese individuals with P-value of 0.241, OR = 0.472, and CI = 0.297 – 1.933. Although African Americans were less likely than Whites to have FOBT or endoscopy but that was more pronounced in FOBT (13% for AA vs. 28.1%, for Whites P = 0.232, OR = 0.39, 95% CI = .074- 2.61) Obese individuals were almost as likely as non obese to have FOBT in the past year (20% vs. 22%) with P value of 0.633. However, obese individuals were less likely than non obese in receiving endoscopic screening (30% vs. 56.1%, P = 0.13, OR = 0.335, CI = 0.076 – 1.483)

Conclusion: There are possible disparities in CRC screening rates among African Americans and Whites and among obese and non-obese individuals. Also there are possible different utilization patterns of screening methods for CRC in different subgroups.

P873

ACUTE ISCHEMIC COLITIS: AN OVERVIEW OF AWARENESS AMONG HEALTH CARE PROVIDERS IN AN INNER CITY HOSPITAL

M. Bidros, MD,[1] K. Monzer, MD,[1] L. K. Jha, MD,[1] A. Singh, MD,[1] C. Guillaume, MD[2]. 1. Department of Internal Medicine, St. Barnabas Hospital, Bronx, NY; 2. Department of Gastroenterology, St. Barnabas Hospital, Bronx, NY.

Purpose: The diagnosis of Acute Ischemic Colitis, if delayed, often predisposes patients to undergo meaningless repetitive invasive testing as the stigmata of disease is lost early. Signs and symptoms of Acute Ischemic Colitis on initial presentation although are nonspecific, require high suspicion on initial presentation and early colonoscopy for definitive diagnosis. This study intends to compare and increase the awareness of Acute Ischemic Colitis among health care providers so that patients will be diagnosed earlier and do not have to undergo unnecessary workup.

Methods: In this retrospective chart review study, we have outlined the clinical presentations of patients found to have Acute Ischemic Colitis based on colonoscopic and pathological findings and compared the initial working diagnosis of physicians from different clinical subspecialties . Sixty two patients with Acute Ischemic Colitis were included in the study; data was analyzed by SPSS software.
Results: Significant number of Acute Ischemic Colitis cases was missed by Emergency Department and Internal Medicine Physicians, whereas, Gastroenterologists and Surgeons had high suspicion on initial presentation. Only few cases (~5%) were diagnosed after the colonic mucosa pathology report came back. In our study, about 25% of diagnosed patients were males, whereas, the incidence in general population has been shown to be equal among both genders. The symptoms correlated well with the location of colonoscopic findings. The initial pain complaints were transient in most cases (1-2 days), and significant number of patients did not have any pain upon arrival to E.D. Although abdominal pain might be historically the hallmark of the disease, bloody diarrhea was the most common complaint upon presentation. About 6.7% of cases involved total colon; 29.9 % had multisegmental involvement and 63.4% had segmental colonic involvement. Surprisingly, in this study, there was no statistically significant difference between incidence of the disease in patients less than 60 or more than 60 years of age, although in general, Acute Ischemic Colitis has been considered as a disease of the elderly.
Conclusion: Acute Ischemic Colitis is the most common form of intestinal ischemia. Although the clinical signs and symptoms are subtle and non specific, the presence of abdominal pain with tenderness (mainly left sided) followed by bloody diarrhea in an elderly, should ring the alarming bell in our list of differential diagnosis. Keeping in mind our aging population, increased awareness among the Primary care providers is necessary for early diagnosis of Acute Ischemic Colitis and saves unnecessary workup.

P874

PATIENT ATTITUDES TOWARD COLONOSCOPY: A SURVEY

S. Gaddam, MD, MPH, M. Reuter, MD, S. White, DO, J. Binek, MD, R. Premaratne, MD, K. M. Starke, MD, M. Presti, MD. Department of Internal medicine, St. John's Mercy Medical Center, St Louis, MO.

Purpose: Colonoscopy is the gold standard for CRC screening, but a significant number of patients do not adhere to current recommendations. The barriers commonly cited include lack of patient awareness, patient embarrassment, and anxiety about testing. The purpose of our study is to assess issues of patient anxiety related to colonoscopy, specifically, anxiety toward the colonoscope and anxiety toward the bowel preparation prior to the procedure.
Methods: Questionnaires were given to patients above the age of 50 at two outpatient clinics located in Creve Couer, MO. Some of the questions asked were regarding patient demographics, primary care physician screening recommendation, and attitudes toward colonoscopy. Fischer's exact test and logistic regression was used to analyze the data.
Results: A total of 422 surveys were analyzed. 65.2% of patients were female, 84.4% were Caucasian, 13.3% African American, 55% had at least some college education, and the mean age was 61.8 years. 37% of patients were insured by Medicare, 5.7% by Medicaid, 8.3% by both Medicare and Medicaid, and 49.1% were either privately insured or paid out-of-pocket. Anxiety to colonoscope and the bowel preparation were compared between those patients who reported having had a colonoscopy in the last 10 years [C group = 341 (80.8%)] with those who had not had the procedure [non-C group = 81 (19.2%)]. Only 7.6% of patients in the C group reported anxiety to the colonoscope, while 37% of patients in non-C group reported anxiety [$p < 0.001$, OR = 0.14 (95% CI = 0.077 – 0.256)]. 49.9% of patients from C group reported anxiety to bowel preparation while 34.6% in the non-C group reported anxiety [$p = 0.014$, OR = 1.882 (1.136 – 3.117)]. Other variables assessing patient attitudes (anxiety to anesthesia, fear of result, and no anxiety) were not statistically significant. Patients were likely to get their colonoscopy done if it was recommended by primary care physician [$p < 0.001$, OR = 10 (3.885 – 25.743)]. Both physician recommendation [$p < 0.001$, OR = 9.829 (3.597 – 26.860)] and anxiety toward scope [$p < 0.001$, OR = .128 (0.068 – 0.243)] contributed to a statistically significant stepwise logistic regression model ($p < 0.001$).
Conclusion: Patients who have not had a colonoscopy have significant anxiety toward the colonoscope. This anxiety may potentially be alleviated by better patient education regarding the instruments used and the procedure. Patients who have had a colonoscopy tend to have anxiety toward bowel preparation. This may explain suboptimal adherence of patients to repeat colonoscopies. More research needs to be done to develop improved, patient-friendly bowel preparation agents. Primary care physician recommendations are crucial to improve adherence.

P875

PATIENTS WILLINGNESS FOR COLONOSCOPY: ARE PHYSICIAN RECOMMENDATIONS ADEQUATE?

S. Gaddam, MD, MPH, M. Reuter, MD, S. White, DO, J. Binek, MD, R. Premaratne, MD, K. M. Starke, MD, M. Presti, MD. Department of Internal medicine, St. John's Mercy Medical Center, St Louis, MO.

Purpose: Even though colorectal cancer (CRC) is the second leading cause of cancer death screening rates are still suboptimal. Colonoscopy is currently the gold standard for CRC screening and prevention. Variation in patient understanding and attitudes towards colonoscopy has not been examined between residency and private patient populations. To assess patient adherence with CRC screening at two clinics with distinctly different patient populations and to assess patient characteristics associated with non-adherence.
Methods: Written questionnaires were given to outpatients between the ages of 50 to 80 years who received care from either residency program or private internal medicine clinic. Patients were asked 12 questions assessing demographics, knowledge, and attitudes towards screening colonoscopy. Chart reviews were conducted to corroborate patient responses of most recent colonoscopy and adherence to guidelines.
Results: 379 patient responses were analyzed. 181 were resident clinic patients and 198 were private clinic patients. 114 resident patients (63.0%) and 138 private patients (69.7%) $p = 0.06$, were adherent to CRC guidelines by means of screening colonoscopy. 144 clinic patients (79.6%) and 184 (92.9%), $p < 0.001$, private patients were willing to have a colonoscopy in the future. Adherence to recommendations of colonoscopy was not significantly related to lack of knowledge of initial age for screening (49.1% resident, 61.9% private).
Conclusion: Many patients who were not adherent with CRC guidelines were willing to have a screening colonoscopy in both clinics. Better performance of the private clinic was probably due to improved record keeping, more aggressive physician recommendation and better education of patients regarding timing of initial and repeat CRC screening may be target areas for increasing CRC adherence.

P876

INCIDENCE OF DIVERTICULOSIS IN RECURRENT *CLOSTRIDIUM DIFFICILE* INFECTION

M. J. Lipp, MD, O. Pagovich, MD, A. D. Min, MD, H. C. Bodenheimer, MD, B. Bernstein, MD. Beth Israel Medical Center, New York, NY.

Purpose: The incidence and severity of *Clostridium difficile* infection continue to increase, as does the frequency of relapse. One hypothesis for relapse has been that antibiotic-resistant spores survive in diverticula and re-emerge after antibiotics are stopped, as 18 of 22 patients with relapsing *C. difficile* in a single study had diverticulosis at endoscopy (Tedesco et al, 1985). This hypothesis has been challenged in the literature in light of recent epidemics. We examined the incidence of diverticulosis in patients with recurrent *C. difficile* infection at our medical center.
Methods: We reviewed positive ELISA-based *C. difficile* toxin assays from 2005-2007 at our tertiary hospital. We included patients who underwent colonoscopy or flexible sigmoidoscopy with at least 2 positive toxin assays more than 14 days apart. Their charts were reviewed for the presence of diverticulosis, prior antibiotic use, co-morbidities, recent hospitalizations, *C. difficile* treatment, and number of relapses. Relapse was defined as recurrent diarrhea with a positive toxin assay or pseudomembranous colitis after documented *C. difficile* infection within the previous 3 months. Patients must have completed antibiotic therapy with improvement in diarrhea after initial infection. An age - and gender - matched control population from our institution was used to compare the prevalence of diverticulosis.
Results: Twenty-two patients met the study criteria, with an average of 2.3 episodes of *C. difficile* infection. All patients were treated with standard metronidazole (oral or IV) or oral vancomycin therapy. (See table for baseline characteristics and results) The prevalence of diverticulosis was 23% in patients with relapsing *C. difficile* infection. The prevalence of diverticulosis among our control population with a mean age of 62 was 32%, which is consistent with historical controls.
Conclusion: The incidence of diverticulosis in patients with relapsing *C. difficile* infection is not increased from that of the general population. The high prevalence of comorbidities often associated with immune suppression in this group may play a role in promoting relapse.

Baseline Characteristics	N=22
Mean age (years)	62 (30-90)
Female	13 (59%)
Hospitalizations <3 months	18 (82%)
Comorbidities	
Lymphoma/Malignancy	8 (36%)
HIV/AIDS	3 (14%)
Systemic steroid use	3 (14%)
Cirrhosis	2 (9%)
Outcomes	
Presence of diverticulosis	5 (23%)
Inpatient mortality with C. *difficile* infection	4 (18%)

P877

AN UNUSUAL PRESENTATION OF MYH ASSOCIATED POLYPOSIS IN A HISPANIC PATIENT

J. Narvaez-Lugo, MD,[1] J. Senior, MD,[1] A. Cardona, MD,[2] M. Cruz-Correa, MD[1].
1. Gastroenterology, University of Puerto Rico, San Juan, PR; 2. Surgery, University of Puerto Rico, San Juan, PR.

Purpose: MYH-associated polyposis (MAP) is a recently described autosomal recessive form of familial adenomatous polyposis (FAP) associated with increased susceptibility to colorectal carcinoma (CRC). MAP is caused by biallelic inactivating mutations of the MYH (MutY homologs) gene, a component of the base excision repair (BER) system, whose dysfunction leads to an increase in the rate of G >T transversions following DNA oxidative damage. Biallelic MYH mutations are found in 15-30% of patients with classic polyposis without APC mutations. Hence, MAP patients can present with either classic or attenuated polyposis. We present the case of 55 year-old otherwise healthy man who underwent in 2001 his first colonoscopy for CRC screening. He was found with few (6-8) diminutive colonic polyps through the colon. (Chemoprevention with Celebrex 400 mg orally BID was started.) Follow up colonoscopy in 2005 revealed more than 100 sessile non-bleeding polyps ranging from 2 to 4 mm throughout the entire colon, but more prominent on the left colon. Most polyps were found to be adenomatous type; none displayed low or high grade dysplasia. Physical examination revealed palpable bilateral thyroid nodules and two epidermal cysts on his back. Fine needle aspiration of thyroid nodules was done and histology revealed hypercellular adenomatoid nodules on both left and right thyroid lobes. Rest of physical examination and laboratory workup was unrevealing. Family history was relevant for a paternal uncle with history of scattered colonic polyps and paternal grandmother with stomach carcinoma. No other history of familiar cancer. Genetic testing for a mutation in the APC gene was negative; while genetic testing for mutations in the base excision repair gene MYH was found to have biallelic Y176C and G382D mutations. An esophagoduodenoscopy was negative for gastric or duodenal polyps. Subsequently the patient underwent total proctocolectomy with ileoanal anastomosis. He also underwent thyroidectomy for management of thyroid dysplastic nodules. Patient was started in a surveillance program including pouchoscopy, upper endoscopy, and capsule endoscopy. Typically the extracolonic manifestations including thyroid cancer are most commonly seen in FAP patients who have markedly increased risk for thyroid cancer as compared to the general population. For this reason, an annual thyroid examination is recommended in patients with FAP. However, inadequate data preclude formal recommendations in MAP kindred. This is an unusual MYH associated polyposis presentation in a Hispanic man with extracolonic manifestations including thyroid dysplastic nodules and epidermal cysts, similar to manifestations seen in FAP individuals.

P878

MACROSCOPIC COLITIS IN MICROSCOPIC COLITIS

Y. S. Zhao, MD,[1] Y. Ma, MD,[2] P. Vikas, MD,[3] L. Laine, MD[2]. 1. Loma Linda University Medical Center, Loma Linda, CA; 2. Universisity of Southern California, Los Angeles, CA; 3. Brigham and Women's Hospital, Chestnut Hill, MA.

Purpose: Microscopic colitis (MC) is a diagnosis based on specific histologic criteria in patients without gross colonic lesions. However, macroscopic mucosal lesions rarely have been reported with MC. We evaluated the association between endoscopic abnormalities and MC and compared the clinical characteristics and outcomes in MC patients with and without endoscopic ulcers/erosions.

Methods: Pathology reports from 6/01-2/05 were searched for the cases of MC. The histologic diagnosis was then re-confirmed by a GI pathologist. Demographic, clinical, and laboratory data were collected. The conventional diagnostic criteria of microscopic colitis were used: >6 lymphocytes/100 epithelial cells; increased number of lymphocytes, plasma cells, eosinophils, and mast cells in the lamina propria; no features of ischemia or idiopathic inflammatory bowel disease. A subepithelial collagen band >10 mm differentiated collagenous colitis from lymphocytic colitis.

Results: Sixteen patients with microscopic colitis were identified: ages were 37-87 years and 12 were female. Lymphocytic colitis (LC) was found in 9 patients, collagenous colitis (CC) in 7. Three patients had endoscopic ulcers (N=2) and/or erosions (N=1), one with LC, two with CC. Pseudomembranes were observed histologically in two patients with CC. Patients with ulcer/erosions were more likely to have more frequent stools, volume depletion, and weight loss (Table 1). Two of three patients denied history of NSAIDs prior to illness, and none tested positive for *C. difficile*. All three patients responded to treatment (budesonide or 5-ASA) and remained symptom-free for 14-50 month follow-up. One of the three patients had repeat biopsy 2 months and 1 year after treatment, which showed disappearance of pseudomembrane first followed by disappearance of the features of collangenous colitis.

Conclusion: Macroscopic lesions may co-exist with microscopic colitis—possibly representing a severe form of the disease. Macroscopic lesions do not appear to predict a poor clinical outcome in patients with microscopic colitis.

Table 1. Characteristics of Patients with and without ulcers/erosions

	Ulcers/erosions (3/16)	No ulcers/erosions (13/16)
Duration of onset	5-8 months	10 days to 8 months
stool/day	> 20	2 to 15
presence of abdominal pain	1	6
presence of weight loss	2	2
evidence of dehydration	2	0
serum WBC ($1 x 10^9$)	4.1-9.3	3-6.7
Hematocrit (%)	34-38	34-40
Use of NSAIDs	1	3

P879

COLONIC TUBERCULOSIS: A CASE SERIES OF AN UNDERAPPRECIATED ENTITY

I. Balbach Tuleu, MD, MHPA, A. Konda, MD. Internal Medicine/Division of Gastroenterology, William Beaumont Hospital, Royal Oak, MI.

Purpose: Introduction: Gastrointestinal tuberculosis is an unusual disease in the West. However, in recent years there has been a resurgence of colonic tuberculosis in the US secondary to the high influx of immigrants from high-risk areas and the rising AIDS population. We report the cases of 3 patients from endemic countries diagnosed with colonic tuberculosis by colonoscopic biopsy. Case Descriptions: Case 1 - A 29 year old female presented with lower abdominal crampy pain, fever, constipation, weight loss, and iron deficiency anemia. Physical examination was normal except for heme positive stool. Abdominal CT showed marked transmural, circumferential wall thickening of the cecum and proximal ascending colon and local lymphadenopathy. On colonoscopy, a partially obstructing tumor of the hepatic flexure was noted. The pathology report described moderate chronic and moderate active typhlitis with granulomata. The endoscopist was called when cecal biopsy cultures were surprisingly positive for Mycobacterium Tuberculosis. Case 2 - A 33 year old male presented with right lower quadrant abdominal pain, weight loss, nausea, and vomiting. A small bowel follow-through revealed high grade partial small bowel obstruction. On colonoscopy, discontinuous areas of bluish nodular ulcerations were noted in the mid-transverse colon. Initially, these findings were suspicious for Crohn's disease. Biopsies revealed a mixture of histologic alterations including crypt architecture distortion, well-formed, non-necrotizing granulomas in all layers of the bowel, and active inflammation with erosions. No microorganisms were seen on acid-fast stains, but cultures returned positive for M. Tuberculosis. Case 3 - A 65 year old Indian male presented with abdominal cramps and melanotic stools. Physical examination was again normal except for heme positive stool. He was found to have iron deficiency anemia. Colonoscopy revealed a 3x1 cm nodular mass in the left transverse colon. The pathology report described granulomatous inflammation. Stains for acid-fast bacilli were negative, but cultures were again positive for M. Tuberculosis. Discussion: Given the vagueness of its signs and symptoms, the diagnosis of colonic tuberculosis can be difficult and requires a high index of suspicion, especially in the immigrant population. Colonoscopy is essential in making the diagnosis. Endoscopic appearance often mimics Crohn's disease or malignancy. Early recognition and biopsies sent appropriately for histology and culture for tuberculous bacilli are key to diagnosis. In light of the changing epidemiology of the disease in recent years, clinicians in the US must be prepared to recognize its features in order to diagnose and treat this entity.

P880

INVERTED APPENDICITIS: DIAGNOSED BY COLONOSCOPY WITH NEGATIVE RADIOLOGICAL FINDINGS

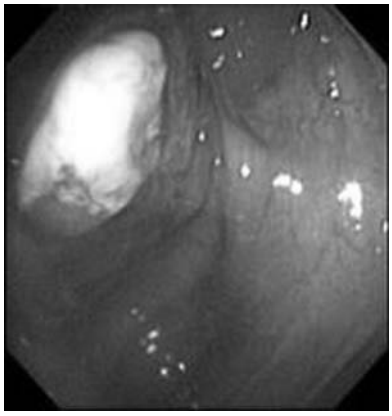
S. Duddempudi, MD,[1] A. S. Butt, MD,[1] S. Mathur, MD,[3] N. Sonpal, BS,[3] M. Arya, MD[2]. 1. Gastroenterology, The Brooklyn Hospital Center, Brooklyn, NY; 2. Gastroenterology, Wyckoff Heights Medical Center, Brooklyn, NY; 3. Internal Medicine, Wyckoff Heights Medical Center, Brooklyn, NY.

Purpose: Appendicitis is one of the commonest causes of acute abdominal pain worldwide. Although many imaging modalities exist for confirmation of this diagnosis, none have a 100% sensitivity or specificity. Colonoscopy has been shown to positively identify appendicitis due to the key features of an obliterated appendiceal lumen and pus.

Methods: A nineteen year-old male presented with right lower abdominal pain that began the prior evening. The patient described the pain as sharp, severe, progressively worsening, and non-radiating. The patient reported two episodes of vomitus but denied diarrhea or hematochezia. The physical examination was remarkable for point tenderness in the right lower quadrant with no distention and normal bowel sounds. The patient was afebrile with leukocyte count of 16.8K, with neutrophils of 88.3%. CT abdomen with contrast revealed cecal inflammation of unclear etiology, but no peri-colonic fat stranding. The patient's symptoms improved over the next 24 hours while on antibiotics and colonoscopy was performed to aide in the establishment of a diagnosis.

Results: Colonoscopy demonstrated a large polypoid mass in the area of the expected appendiceal orifice. There was surrounding edema and erythema with multiple minute linear ulcerations and pus. Mucosal biopsy revealed fragments of colonic mucosa with mild inflammation and diffusely scattered neutrophils in the lamina propria. The lesion was consistent with an inverted appendix with appendicitis like features. A surgical consult was obtained for appendectomy.

Conclusion: Acute appendicitis is a clinical diagnosis confirmed with radiological imaging. However, despite advances in imaging, the diagnosis of may be difficult, as was the case with our patient. We recommend colonoscopy as a diagnostic modality in patients presenting with acute abdominal pain and negative radiological imaging.



P881

INVESTIGATING RECTAL BLEEDING: A REVIEW OF DIAGNOSES ON LOWER GI ENDOSCOPY IN THE THIRD WORLD

S. Hussain, MBBS, A. A. Nawaz, FACP, FACG, S. A. Batul, MBBS, A. Ashraf, MD. Division of Gastroenterology, FMH College of Medicine and Dentistry, Lahore, Pakistan.

Purpose: Few studies are available that describe the pattern of lower GI pathology in the third world. It is generally believed that such pathology including IBD is uncommon. We conducted this study with the following objectives 1) To review the etiological patterns on diagnostic evaluation of patients presenting with rectal bleeding. 2) To study the association of rectal bleeding with age and gender

Methods: We conducted a retrospective chart review of existing clinical data to compare patterns of GI pathology in patients presenting with rectal bleeding and subsequently undergoing flexible sigmoidoscopies and colonoscopies. Outcomes of interest included depth examined, nature of clinical findings and association of these with rectal bleeding. Furthermore, association of rectal bleeding with age and gender were also found.

Results: A total of 261 patients, 131 (51%) males and 130 (49%) females, mean age 41 years (S.D 21, Range 4- 93) were included in the study. 160/261 (61%) presented with rectal bleeding (82 males and 78 females) of which majority 83/261 (32%) were examined up to the hepatic flexure followed by 79/261 (30%) till the terminal ileum. A total of 27/160(16%) had a single or multiple polyp, 47/160(29%) had Inflammatory bowel disease (p-value 0.000), 17/160 had malignant lesions while 37/160 (23%) had hemorrhoids (p-value 0.003). Flexible sigmoidoscopy was performed on 61/261 patients and 46 (75%) of these had presented with rectal bleeding. It was found that 4/46 (0.1%) had a single or multiple polyps with significant association found between absence of rectal bleeding and presence of polyp (p-value=0.03). IBD was diagnosed in 16/46 (35%) (p-value=0.047) while 5/46 (0.1%) had malignancies. Of those (200/261) who underwent colonoscopic examination, 114/200 (57%) presented with rectal bleeding. Diagnosis of polyp was made on 23/114 (20%), IBD 31/114 (27%) (p-value<0.001) while 13/114 (11%) were found to have malignant lesions.

Conclusion: 1) Rectal bleeding seems to be presenting below 40 years of age in our patient population and has a strong association with IBD. 2)Hemorrhoids are significantly associated with bleeding per rectum. 3)Polyps seem to have an inverse statistical association with rectal bleeding in the patient population that underwent flexible sigmoidoscopy. 4) Malignancy does not seem to be significantly associated with bleeding per rectum in our set-up.

Association of Rectal Bleeding with Major Diagnoses

Findings	Flexible sigmoidoscopy	Colonoscopy
Polyp (s)	4/46 pts (p=0.03)	23/114 (p=0.48)
IBD	16/46 (p=0.047)	31/114 (p=0.000)
Malignancy	5/46 (p=0.56)	13/114 (p=0.63)

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NON SPECIFIC COLITIS (NSC) – A HISTOPATHOLOGICALLY INDETERMINATE COLITIS OF ADULT SRI LANKANS; A FOLLOW UP STUDY WITH APPRAISAL OF CLINICO-PATHOLOGICAL FEATURES

R. L. Satarasinghe, MD MACG, R. Fernando, MD. Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka.

Purpose: To evaluate the clinico-pathological features of patients having histologically proven NSC and to follow up its long term clinical implications in adult Sri Lankans which is primarily a histopathological diagnosis where the histology does not fit into the commonly described colitides and this entity had been described in the west, mainly in association with non steroidal anti-inflammatory drugs therapy and the literature on the topic is scanty including the tropics and Indian subcontinent.

Methods: Case notes of 167 patients who had undergone colonoscopy for various reasons from 20/07/1999 to 31/05/2001 at the medical unit, District General Hospital - Panadura, Sri Lanka, were reviewed and clinico-pathological features of who had histologically proven non specific colitis were analyzed and were followed up to a minimum of 5 years.

Results: 21 had histologically proven NSC on colonic biopsies with an age distribution of 21-70 years. Vast majority belonged to 21-50years with a mean of 38 years± SD 12years. The male: female ratio was 11:10. 15 had presented with abdominal pain with 12 having associated watery and /or mucoid diarrhea. 6 had diarrhea alone. All have had symptoms of more than 3 months duration. Colonoscopy was normal in all. Histology of the mucosa characteristically showed infiltration of lymphocytes and plasma cells upto muscularis mucosa, without features of inflammatory bowel disease, pure lymphocytic colitis or collageneous colitis indicating a derangement in both humoral and cellular immunity in the gut mucosa. There was no significant drug history and except for treatment with mebandazole and metronidazole at some stage prescribed by first contact doctors in the community. Routine biochemical, haemtological and stool tests were normal including ANF and plasma protein electrophoresis. During follow up all have had relapses and remissions responding to symptomatic therapy, finally becoming asymptomatic (mean 2.1±SD 1.6 years).

Conclusion: NSC seems to be an ill defined, indeterminate type of chronic microscopic colitis having a distinct histological appearance, mimicking irritable bowel syndrome affecting both sexes equally. Immunological studies on the mucosa will facilitate further understanding of the pathology and therapeutic modalities, as it is most likely be due to gut limited prolonged local response to an unidentified intraluminal antigen in the tropics. In defining the immunopathological process involved it will be helpful to perform studies on the colonic mucosal IgG, IgA and CD 4+, CD 8+ cell count quantification supplemented by serum immunoglobulin profile.

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ISCHEMIC COLITIS IN TWO PATIENTS AFTER LARGE VOLUME PARACENTESIS

K. Shah, MD,[1] K. Shah, MD[2]. 1. UCSF-Fresno, Fresno, CA; 2. Digestive and Liver Disease Specialists, Fresno, CA.

Purpose: Ischemic colitis occurs due to a variety of different causes, but large volume paracentesis (LVP) has not been reported as one of the etiologies to our knowledge. We report two cases of ischemic colitis within 24 hours of LVP.

Methods: CASE 1: A 57-year old male patient with ESLD due to alcoholic cirrhosis was seen with massive ascites and respiratory compromise in the emergency room. He had no abdominal pain, bleeding per rectum, or diarrhea. He had tolerated 9 L of ascites removal well about three weeks earlier, and was in his usual state of health following that. The ascites reaccumulated. This time 17 L of fluid were tapped in the ER over a period of three hours. The patient became hypotensive despite IV albumin and fluid challenge. He was admited to the ICU. He had bloody bowel movements. Colonoscopy a day later revealed ischemic & necrotic bowel from hepatic flexure onward. Ischemic changes were noted on pathology report on biopsies taken from the ischemic-looking parts which did not bleed when biopsies were taken. The patient expired despite aggressive therapy and the cause of death was felt to be bowel necrosis following LVP and sepsis due to bowel necrosis. CASE 2: A 52-year old male patient with recurrent tense ascites was seen in the emergency room. He had abdominal discomfort due to tense ascites, but did not have any bleeding per rectum or diarrhea. He had tolerated 10 L of ascites removal well about one week earlier. He was in his usual state of health except that the ascites had reaccumulated. This time 20 L of fluid were tapped in the emergency room over a period of less than four hours. The patient became hypotensive. He was given fluid challenge, IV Albumin, and was admitted to the ICU. He had bloody bowel movements. Urgent colonoscopy revealed splenic flexure ischemia & necrotic mucosa. Ischemic changes and submucosal necrosis were noted on pathology report on biopsies taken from the ischemic-looking parts. The patient was treated aggressively. IV albumin was given and he recovered gradually.

Results: The above cases suggest rapid LVP as one of the etiologies of ischemic colitis. Draining more than 15 L may exceed the capacity of the compensatory mechanisms in portal hypertensive patients with preexisting peripheral vasodilation and tense ascites. The exact mechanism of ischemia is unclear, but could be related to sudden portal venous congestion and subsequent reflex mesenteric arterial vasoconstriction and drop in cardiac output - proposed mechanisms of paracentesis induced circulatory disease (PICD).

Conclusion: Ischemic colitis may develop following rapid super-large volume (>15 L) paracentesis (SLVP). Colonoscopy should be performed urgently. This kind of ischemic colitis carries high risk of mortality.

P884

THE ASSOCIATION OF DIABETES MELLITUS WITH COLORECTAL CANCER AND POLYPS IN ASYMPTOMATIC PATIENTS UNDERGOING SCREENING COLONOSCOPY

M. Alizadeh, MD, , J. C. Munoz, MD, . Gastroenterology, University of Florida in Jacksonville, Jacksonville, FL.

Purpose: Patients with diabetes may be at increased risk for colorectal adenomas and colon cancer. Epidemiologic data provide a link between diabetes, obesity and development of colonic neoplasm. However, there is a paucity of information regarding the relationship between diabetes and colon polyp formation. We investigate the prevalence of colonic adenomas in an asymptomatic population of diabetic patients and risk factors associated with polyp development.

Methods: A retrospective study was performed from November 2005 to December 2006 identifying all patients who underwent screening colonoscopy. Polyp size, location and histologic type (tubular, tubulovillous,villous,serrated and HGD) were recorded. Electronic medical records were reviewed to obtain relevant clinical data including diabetic history, hemoglobin A1C, age, sex, race, tobacco history, family history, anemia and body mass index. A Fisher's Exact test and Chi-square analysis were utilized to determine statistical significance.

Results: A total of 344 patients underwent screening colonoscopy. 96 patients (28%) were diabetic and 248 patients were nondiabetic. There was no significant difference (p value= .88) between diabetics and nondiabetics and the prevalence of colorectal adenomas or histologic type of polyp after adjusting for the above mentioned variables. One case of rectal cancer was found in a 78 year-old diabetic, female patient. The analysis did reveal a statistically significant difference between gender and the prevalence of colorectal adenomas. Of the 62 patients with adenomas, 38 (61%) were male patients and 24 (39%) were female patients. Male patients had a 2.5 times greater odds of developing adenomas compared to females, p value = 0.04. Tubular adenomas were the most common type of polyp for both sexes.There were no significant differences in advanced colonic polyps (dysplasia, villous or multiple) between male and female patients.

Conclusion: In this retrospective study, a significant association between diabetes and the development of colorectal adenomas was not found within a screening population. However, male patients were at greater risk of developing colonic adenomas. This study strengthens the need for further investigation into the risk factors for the development of colonic neoplasm, including differences in gender and insulin resistance within a screening population.

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SECRETORY VILLOUS ADENOMAS: A CASE REPORT & COMPREHENSIVE LITERATURE REVIEW

T. B. Irwin, DO, D. A. Albert, MD, E. A. Flynn, MD, C. A. Murphy, MD, I. J. Schmelkin, MD. Berkshire Medical Center, Pittsfield, MA.

Purpose: The classic life threatening electrolyte and volume "depletion syndrome" associated with mucinous diarrhea caused by secretory villous adenomas was first described by McKittrick and Wheelock in 1954. We present the case of a patient who presented with depletion syndrome and ultimately biopsy proven villous adenoma but who initially denied diarrhea, delaying diagnosis. Based on our case, we reviewed the literature with a focus on range and frequency of signs and symptoms associated with secretory villous adenomas as well as discussing both pathology and pathophysiology of villous adenomas.

Methods: A Medline literature search using the terms electrolyte, colon, villous adenoma, neoplasm, dehydration and diarrhea was performed to identify all case reports of secretory villous adenoma reported in the English literature subsequent to the report of McKittrick and Wheelock in 1954. The search revealed 55 articles containing 68 cases.

Results: See Table. Pathology & References included at request and presentation.

Conclusion: Surprisingly, we found that 10% of patients denied diarrhea and only 21.7% had diarrhea as their chief complaint. The clinical presentations involve chief complaints relating more often to issues affecting ADLs rather than to diarrhea. The frequency of depletion syndrome symptoms at presentation, based on the 69 cases reviewed, are hyponatremia (73.5%), hypokalemia (73.5%), volume depletion (89.8%), and acidosis (55.1%); however, only 34.7% of patients have all four signs. An awareness of symptom variation accompanying this condition increases the likelihood of early detection and subsequent definitive surgical treatment.

Overview of Chief Complaints Prompting Secretory Villous Adenomas Patients or Caregivers of these Patients to Seek Medical Attention

Complaint	Number of Patients with this Complaint	Complaint Frequency
Extreme weakness	31	51.7%
Nausea/Vomiting/Anorexia	20	33.3%
Fainting, dizziness	16	26.7%
Diarrhea	13	21.7%
Change in stool(increased frequency, blood, mucous)	10	16.7%
Mental status changes	8	13.3%
Abdominal pain	7	11.7%
Admission for unrelated morbidity	3	5.0%
Chest pain	3	5.0%
Oliguria or anuria	2	3.3%
Excessive thirst	1	1.7%
Weight loss	1	1.7%

Nine of the sixty-nine reviewed cases did not have a documented chief complaint and were excluded from the above table [13, 17, 18, 23, 29, 30, 51]

P886

AN UNUSUAL CASE OF DRUG INDUCED COLONIC ISCHEMIA

F.J. Moawad, MD,[1] L. Goldkind, MD[2]. 1. Gastroenterology, Walter Reed Army Medical Center, Washington, DC; 2. Gastroenterology, National Naval Medical Center, Bethesda, MD.

Purpose: Medications are an important cause of colonic ischemia. Sumatriptan is a widely prescribed medication for the treatment of migraine headaches. Its actions are mediated through vasoconstriction, which may not be limited to the central nervous system and have been shown to involve the mesenteric vasculature.

Methods: A 46 year-old woman presented with the acute onset of crampy abdominal pain, diarrhea, and hematochezia. Her past medical history was significant for migraine headaches. A few days prior to presentation, she experienced a migraine more persistent than usual and took more frequent than usual doses of sumatriptan. Her only other medication was oral contraceptives, which she had been taking for several years. She had no risk factors for vascular disease. Her examination revealed tenderness to palpation in the left lower quadrant and gross blood in the rectal vault. Stool studies were negative for pathogens and Clostridium difficile toxin. Flexible sigmoidoscopy demonstrated areas of erythema, edema and multiple focal ulcerations in the region of the sigmoid and descending colon. Biopsies revealed superficial mucosal ulcerations, submucosal hemorrhage with preservation of the deep portions of the crypts. Based on endoscopic and histologic findings, a diagnosis of ischemic colitis was made. Patient had prompt resolution of her symptoms within 24 hours of withdrawal of sumatriptan.

Results: Sumatriptan, a selective 5-HT1 serotonin receptor agonist, is a widely prescribed medication for the treatment of migraine headaches. Its mechanism of action involves vasoconstriction of intracranial arteries. However, studies suggest that its vasopressor response may have effects beyond the central nervous system. Several reports have implicated this medication in the development of ischemia in the mesenteric vasculature. Estrogen has also been classically associated with ischemic colitis by inducing a hypercoaguable state through its activity on anti-thrombin III and protein S. In this patient the temporal relationship between high dose sumatriptan and onset of illness suggest a prominent etiologic role in her illness. Interestingly, a potential synergestic action between the two medications may exist since estrogen reduces triptan clearance through its action on monoamine oxide, an enzyme that metabolizes serotonin.

Conclusion: Drug induced ischemic colitis is a growing concern highlighted by the increasing number of drugs targeting serotonergic receptors. In the present case, both sumatriptan and estrogen may be implicated and potential synergism may exist between these two drugs. Sumatriptan should be recognized as an important cause of drug induced colonic ischemia, especially in patients taking estrogen.

P887

AN ATYPICAL PRESENTATION OF COLLAGENOUS COLITIS

M. A. Shakir, MD,[1] A. Batool, MD,[1] S. Iqbal, MD,[2] M. Mansour, MD,[2] C. A. Delbridge, MD,[3] M. A. Cerulli, MD, FACG[2]. 1. Department of Medicine, New York Methodist Hospital, Brooklyn, NY; 2. Division of Gastroenterology, New York Methodist Hospital, Brooklyn, NY; 3. Department of Pathology, New York Methodist Hospital, Brooklyn, NY.

Purpose: Since first described only three decades ago, there has been exponential growth in the recognition and understanding of collagenous colitis. It is an atypical presentation of collagenous colitis.

Methods: A 31 year old female of Mediterranean descent was admitted with four months history of progressively worsening bloody diarrhea (about 5-10 episodes per day) and marked weight loss of 30 pounds. The past medical history was significant for lactose intolerance and ex-smoker (stopped a year ago). On further questioning, she denied any fever, night sweats, recent travel, or any other complaints. She denied any medications including NSAIDs. The patient underwent panendoscopy about two months ago that was unremarkable. She had no response to non-specific antidiarrheals, metronidazole as well as sulfasalazine.

Results: Physical examination was significant for mild left lower abdominal tenderness. There was no leucocytosis. Stool workup revealed moderate leucocytes, but culture, Clostridium difficile, and ova/parasites were negative. She underwent repeat colonoscopy. It revealed areas of erythematous mucosa and aphthous ulcers throughout the colon (see figure). The pathology from right colon was consistent with collagenous colitis (>20 intraepithelial lymphocytes per 100 enterocytes, preserved crypt architecture, and thickened subepithelial collagenous band of over 10 micrometers). She was prescribed oral budesonide. At 8-weeks follow-up, bloody diarrhea had resolved and she was gaining back weight.

Conclusion: Collagenous colitis classically presents as chronic watery diarrhea and normal or near-normal endoscopic appearance of colonic mucosa in a female in 6th-7th decade of life. It is an atypical presentation of collagenous colitis in a young female with bloody diarrhea, marked weight loss, and grossly abnormal endoscopic picture of erythematous mucosa and aphthous ulcers throughout the colon. Since collagenous colitis is still an idiopathic condition and is being increasingly recognized, more atypical presentations should be expected in practice.

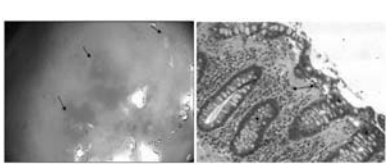

Figure: Colonoscopy showed erythematous areas and aphthous ulcers throughout the colon (arrows). Pathology revealed intraepithelial lymphocytes (arrows), preserved crypt architecture, and thickened collagen band (double head arrows).

P888

TRANSMURAL COLONIC INFARCTION ASSOCIATED WITH HYPEROXALURIA

A. Srivatsa, MD, L. Saubermann, MD. University of Rochester, Rochester, NY.

Purpose: We describe a 42-year-old woman with a history of kidney stones secondary to hyperoxaluria who was admitted with presumed infectious diarrhea. Colonoscopy was consistent with ischemic colitis. She then proceeded to have peritoneal signs needing laparotomy and was noted to have transmural ischemia of the right colon.

Methods: A previously healthy 42-year-old woman developed acute lower abdominal pain 6 hours after eating at a buffet lunch. She then had bloody diarrhea overnight and was admitted. She had a long history of kidney stones & had been diagnosed with hyperoxaluria in childhood. She denied prolonged vomiting, dehydration or decreased urine output. Physical exam was notable for bilateral lower quadrant tenderness and mild fever. White blood cell count was normal. The initial working diagnosis was infectious diarrhea and she was conservatively managed. However, her lower quadrant abdominal pain persisted and a CT scan of the abdomen was performed. This showed diffuse bowel wall thickening of the right colon extending to the splenic flexure. Subsequently colonoscopy was performed. It showed patchy areas of erythema, superficial hemorrhages, small erosions & edema of the mucosa in the watershed areas in the right colon with rectal sparing, consistent with ischemic colitis. Later that night, she continued to worsen and developed peritoneal signs. She underwent emergent exploratory laparotomy. Intraop, the cecum, right colon & transverse colon were severely edematous & dilated. There was a gelatinous look to the mesentery. A right hemicolectomy was performed. Pathology was consistent with transmural infarction.

Results: Hyperoxaluria is a genetic disorder characterized by calcium oxalate nephrolithiasis often with extrarenal oxalate deposition. Ischemic complications can occur because of crystal deposition in vessel walls. These manifest usually as peripheral limb or cutaneous ischemia. Rare reported cases of fatal intestinal infarction have been described. In this situation, a 42 year old woman with systemic oxalosis developed abdominal symptoms initially thought to infectious in origin and then turned out to have extensive infarction of the right colon.

Conclusion: Hyperoxaluria is associated with systemic crystal deposition in the vasculature. Rare case reports of intestinal infarction have been described secondary to microvascular crystal disease. Therefore even in younger patients with no other risk factors, one should always consider ischemic colitis in the differential diagnosis of an acute abdomen in Hyperoxaluria.

P889

NITAZOXANIDE FOR THE TREATMENT OF RECURRENT *CLOSTRIDIUM DIFFICILE* INFECTION (CDI) IN A PERITONEAL DIALYSIS PATIENT

B. Yangco, MD, MPH,[1] G. Sher, MD[2]. 1. Infectious Disease Research Institute, Inc., Tampa, FL; 2. Advanced Care Hospitalists, Tampa, FL.

Purpose: *Clostridium difficile* infection (CDI) is a significant problem which is increasing in incidence and severity in hospitalized patients. While reported *in vitro* resistance to metronidazole (MTZ) and vancomycin (VAN) is relatively nonexistent, clinical outcomes with these drugs have been less than desirable (*Clin Infect Dis* 2005;40:1586-90, *Clin Infect Dis* 2006;43:421-7). Furthermore, the concern of possible selection for VAN resistance has created a need for alternative antibiotic therapies for CDI. Nitazoxanide (NTZ) is a first in class thiazolide indicated for the treatment of diarrhea caused by *Cryptosporidium parvum* and *Giardia lamblia*. Previous studies have proven NTZ to be a safe and effective agent for the initial treatment of CDI and in patients who failed MTZ therapy (*J Antimicrob Chemother* 2007;59:705-10, *DDW* 2008: Presentation W1272). However, data is limited in patients with renal disease, especially in peritoneal dialysis (PD).

Methods: This case report details the successful utilization of NTZ for the treatment of recurrent CDI in a PD patient.

Results: The patient is a 58 year old female on PD, admitted to our hospital for the first time with orthostatic hypotension, severe nausea and vomiting attributed to MTZ therapy for CDI. This was her 5th hospital admission in the last 3 months. Previous CDI treatment regimens had included MTZ and combinations of MTZ and VAN. During her admission the patient developed pneumonia that was successfully treated with moxifloxacin (MOX). On day 7 of MOX therapy she developed diarrhea and her stool tested positive for CD toxins A or B. MOX was discontinued and the patient was started on an oral regimen of NTZ 500 mg twice daily and probiotics were added to assist in reestablishing the colonic flora. Within 7 days of initiating NTZ therapy the patient's diarrhea completely resolved and her stools were negative for CD toxins A or B. The patient was subsequently discharged and instructed to complete 6 weeks of therapy. Overall, the regimen was well-tolerated and 4 months after the cessation of therapy the patient had no further recurrences of CDI.

Conclusion: NTZ was chosen based on our clinical experience and studies demonstrating its effectiveness in CDI. The overall safety of NTZ is well-established and the pharmacologic characteristics of NTZ are well suited for the treatment of CDI. NTZ appears to be a safe and effective therapy for the treatment of recurrent CDI. Additional studies are warranted to further validate the efficacy of NTZ in CDI in patients with various underlying conditions such as renal failure.

Disclosure - Dr. Yangco - Nothing to declare Dr. Sher - Nothing to declare Dr. Bardin - Employee: Romark Labs

P890

NEONATAL HEMOCHROMATOSIS-LIKE PRESENTATION IN THE ABSENCE OF LIVER FAILURE WITH SPONTANEOUS RESOLUTION

P. D. Wali, MD, J. Gokhale, MD, S. Khan, MD. Pediatric Gastroenterology & Nutrition, Nemours Alfred I. duPont Hospital for Children, Wilmington, DE.

Purpose: To describe a presentation of neonatal cholestasis with marked elevation in alpha fetoprotein without severe liver dysfunction. Result: A 25 day old full term AA female presented with jaundice. Prenatal and birth history were unremarkable. She had a normal physical exam except jaundice. Initial lab data: AST 630 u/L, ALT 549 u/L, Alk phos 841U/L, GGT 65 u/L, TB/DB 10.7/8.5 mg/dL, PT 12.8 secs and a high ferritin of 5564 ng/mL. AFP was also markedly elevated at 41463 ng/mL. Ultrasound of the abdomen was normal. HIDA scan showed hepatic dysfunction but good excretion in 4 hr. Iron studies showed a low transferrin level at 97mg/dL, low TIBC at 146 mcg/dL and iron of 132mcg/dL. MRI of the abdomen showed iron deposition in the liver but no deposition in the pancreas or spleen. A minor salivary gland biopsy was normal. Other pertinent tests: MM alpha 1-antitrypsin phenotype, negative TORCH titers, lactate, ammonia, pyruvate, urine succinylacetone; urine amino acids showed a generalized aminoaciduria. Urine and serum bile acid studies were consistent with cholestasis. At 34 days of age, AFP rose to 69475 ng/mL, with improving DB of 7.5 mg/L, and stable PT of 13.8 secs. She was feeding well with Pregestimil, had appropriate weight gain and was discharged on ursodiol, tocopherol, and ADEK. At 54 days of age, she had a peak level of AFP at 137229 ng/mL, ferritin of 1359 ng/mL, improving transaminases and cholestasis with a normal PT. A percuta-

neous liver biopsy done at 69 days of age demonstrated hepatocellular and canalicular cholestasis with giant cell transformation, no bile duct proliferation. Iron deposits were seen mainly in the macrophages, more consistent with hemosiderosis than NH. At follow up, at 10 mo of age she had appropriate growth and development with AFP of 62.1 ng/mL, ferritin of 28.5 ng/mL, and resolved cholestasis. Conclusion: Neonatal hemochromatosis is a rare disease associated with liver failure, often an indication for transplantation. Elevations in AFP and ferritin are marked with low aminotransferase concentrations. The diagnosis is made by findings of extrahepatic siderosis. This case presented with multiple features of NH in the absence of liver failure and extrahepatic siderosis. Cases of NH-like liver failure with favorable outcomes have been reported. This may represent a case of idiopathic neonatal hepatitis with a robust regenerative process accounting for marked elevation in AFP. This case adds to an understanding of NH-like presentations and high AFP with a benign clinical course.

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REVERSAL OF PROTEIN-LOSING ENTEROPATHY AFTER LIVER TRANSPLANTATION IN A CHILD WITH IDIOPATHIC FAMILIAL NEONATAL HEPATITIS

2008 ACG Presidential Poster Award Recipient

N. Alkhouri, MD,[1] C. Carter-Kent, MD,[1] V. Hupertz, MD,[1] B. Eghtesad, MD,[2] J. Fung, MD, PHD,[2] K. Radhakrishnan, MD[1]. 1. Pediatric Gastroenterology and Hepatology, Cleveland Clinic, Cleveland, OH; 2. Department of General Surgery, Liver Transplant Center, Cleveland Clinic, Cleveland, OH.

Purpose: A 2 year-old female was referred for abnormal liver function tests, diarrhea and low albumin. As an infant, she had idiopathic cholestatic jaundice that resolved spontaneously. Family history was significant for abnormal transaminases in her 2 older brothers. On physical exam the patient was at the 50% for weight and height. She had periorbital and lower extremity edema and her liver span was 8 cm. Her initial labs revealed albumin 2 g/dL (3.5-5.0), total protein 3.7 g/dL (6.0-8.4), AST 181 U/L (10-55), ALT 194 U/L (0-45), ALP 253 U/L (80-340), INR 0.9 (0.9-1.2), total bilirubin 0.1 mg/dL (0-1.5) and absolute lymphocyte count of 810/ uL (1500-8000). Further work up showed stool alpha-1-antitrypsin (A1AT) 459 mg/dL (0-54), IgG 105 mg/dL (423-1090) and no proteinuria. Evaluation for A1AT deficiency, Wilson's disease, autoimmune hepatitis, celiac disease and bile acid abnormalities was negative. An EGD showed dilated lacteals in the duodenum that was confirmed by wireless capsule endoscopy. Histology was consistent with lymphangiectasia. Hepatic venogram showed a corrected sinusoidal pressure of 5 mmHg with no evidence for portal hypertension. Liver biopsy demonstrated cirrhosis and ductular proliferation. Evaluation for congenital disorders of glycosylation by isoelectric focusing of transferrin and by genetic testing for type Ib was negative. Our patient was started on low-fat, high-MCT oil and low-salt diet in addition to spironolactone. She required multiple hospitalizations for albumin transfusions and she did not respond to octreotide. Her symptoms improved on oral prednisone; however, at the age of 4 years she presented with worsening diarrhea, ascites and low albumin refractory to higher dose of steroids. Because of her poor quality of life from protein-losing enteropathy (PLE) and her chronic liver disease with cirrhosis, she underwent liver transplantation (OLT) with a cadaveric split left segment. She recovered quickly and she had resolution of her diarrhea, ascites and edema. Her labs 4 months post-transplant revealed albumin 4.8 g/dL, absolute lymphocyte count of 1500/ uL and normal transaminases. To our knowledge, this is the first pediatric case of reversal of PLE after OLT. In patients with cirrhosis and normal synthetic function, a disproportionately low albumin level should alert to the possibility of PLE and lymphangiectasia. OLT should be considered in patients with cirrhosis and PLE unresponsive to medical treatment.

P892

A CASE OF ACUTE HEPATITIS C: FACT OR FULMINANT FAILURE?

K. R. Patel, MD, J. Chhatwal, MD, R. Taha, DO, N. Elyas, MD. Internal Medicine, Providence hospital, Southfield, MI.

Purpose: Introduction Approximately 4.1 million Americans have been infected with Hepatitis C virus, of which 3.2 million are chronically infected. However, Hepatitis C is estimated to account for only 20% of all cases of acute viral hepatitis in the United States. A unique case of a patient who was recently diagnosed with Hepatitis C presented to us in the acute state with the additional findings of fulminant liver disease. Case Report A 59 year old African American male with end-stage renal disease on hemodialisis and diabetes mellitus presented with 3 week duration of nausea, vomiting, diarrhea, jaundice, and severe pruritus. He was noted to have right upper and lower quadrant abdominal pain with increased serum aminotranferases. Laboratory studies were significant for HCV RNA by PCR being positive with quantitative HCV RNA of 26,731,000 international units. Serology was negative for Hepatitis A and B. His alpha fetoprotein tumor marker was elevated at 14.0 and ferritin was also elevated at 6,451. During the course of his admission the patient's serum aminotranferases worsened along with further deterioration of his coagulation studies. Due to these abnormal lab studies with the patient's presentation of symptoms a computed temography guided liver biopsy was performed. The final diagnosis of the biopsy was severe active Hepatitis with acute hepatocellular injury which was consistent with acute viral Hepatitis C. The decision was made to transfer the patient to a liver center for a possible transplant. Upon transfer of the patient, follow up serum aminotransferases improved and he was advised for outpatient therapy with interferon. Due to his history of end-stage renal disease he was not a candidate for ribaviron. Discussion Fulminant Hepatitis C is rare and incidence is unknown. The center for disease control estimated that new acute Hepatitis C virus infections in the United States fell from 240,000 cases per year in the 1980's to 19,000 cases per year in 2006. Most cases of acute Hepatitis C are anicteric and asymptomatic. Transfusion associated cases are now less than 1 per 2 million transfused units of blood. Most cases are due to injection drug users. In fulminant hepatitis the fluctuation of aminotransferases is common after an acute infection of Hepatitis C with symptoms such as nausea, malaise, right upper quadrant pain and jaundice in less than 25% of cases. These acute symptoms are apparent in approximately 2-12 weeks. Fulminant hepatic failure is defined as the rapid development of severe acute liver injury with impaired synthetic function and encephalopathy in a person who had a normal or a well compensated liver.

P893

AN UNUSUAL CAUSE OF PORTAL HYPERTENSIVE VARICEAL BLEEDING IN A YOUNG ADULT FEMALE

M. A. Mah'moud, MD, FACG,[2] M. Anderson, MD,[1] R. K. Schellenberg, MD,[1] A. Taylor, MMS[1]. 1. Section of Digestive Diseases, Boice-Willis Clinic, Rocky Mount, NC; 2. Section of Digestive Diseases, Duke University Medical School, Durham, NC.

Purpose: Background:Portal hypertension(PTHN) is a condition characterized by increased portal pressure due to underlying hepatic,nonhepatic,cirrhotic or noncirrhotic disorder.Direct consequences of the PTHN is formation of varices with some contribution from the local anatomic factors.Bleeding from ruptured esophageal and gastric varices which may be explained on the basis of Laplace's Law is the main complication of this condition.Despite the advances in the management, mortality from acute variceal bleeding remains still high, thus the need for early diagnosis and treatment of the etiology of the PTHN.In this clinical vignette, we present a case of congenital hepatic fibrosis(CHF) as a rare cause of recurrent variceal hemorrhage. Case Report:Patient is a 31 year old lady with history of stroke due to ruptured intracerebral aneurysm at age 13 without any neurologic deficit who was doing well until few weeks before her initial consultation when she experienced recurrent episodes of UGI bleeding due to esophageal variceal hemorrhage requiring a transfer to a local tertiary institution.She was subsequently referred to our Liver Clinic for further evaluation and management after an extensive negative work-up including viral serology for Hepatitis B&C, normal autoimmune markers,iron studies,ATP level and serology for cholestactic liver disorders.Imaging studies of the liver and the portal circulation including CT scan and doppler US were unremarkable.She also denied any known family history of chronic liver disease, personal history of granulomatous or obstructive vascular disorders. She was not on BCP or other hepatotoxins.Physical examination did not reveal any evidence of fluid retention or stigmata of chronic liver disease. Blood tests revealed thrombocytopenia and mild coagulopathy.Liver biopsy specimen confirmed by two independent pathologists showed CHF.Patient has since then undergone EGD with EVL and is doing well on nonselective b-blocker and Ursodiol without any recurrent UGI bleeding. Conclusion:This case illustrates an usual cause of portal hypertensive variceal hemorrhage due to a manisfestation of CHF, a rare autosomal recessive disorder, in a young healthy noncirrhotic female.

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METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS INDUCED ADULT EPIGLOTTITIS IN A PATIENT TREATED WITH PEGINTERFERON AND RIBAVIRIN FOR CHRONIC HEPATITIS C

T. Tseng, MD, I. Grosman, MD, D. Bernstein, MD. North Shore University Hospital, Manhasset, NY.

Purpose: A 57-year-old man was seen after being sent by his physician for a syncopal episode in the shower. The patient had gone to visit his physician complaining of one month duration of sore throat, dysphagia, and decreased intake by mouth. The patient's past medical history consisted of hepatitis C with liver cirrhosis, hemachromatosis, and type II diabetes mellitus. He was on week 12 therapy of Peginterferon 2a/Ribavarin. On physical examination, he was well appearing and his HEENT exam revealed pharyngeal mucosal erythema with patent airway and no cervical lymphadenopathy or tenderness. Soon after admission, patient complained of worsening sore throat and dysphagia with muffled voice and noticed pain on the right side of his neck. CT of the neck revealed swelling of the epiglottis and aryepiglottic folds with retropharyngeal and retrolaryngeal swelling. Intravenous antibiotics and steroid treatment was initiated and ENT evaluation was called. Due to extensive epiglottic swelling, the patient underwent a tracheostomy and surgical swab of the epiglottis was taken which was positive for MRSA. Vancomycin was then added to the antibiotic regimen. Patient clinically improved and eventually discharged on antibiotics and steroid taper. Subsequently, the tracheostomy was removed. The advent of novel therapy using pegylated interferons along with ribavirin for hepatitis C has been associated with higher sustained viral response rates. However, these medications have side effects, with flu-like symptoms as the most common one. More serious complications are anemia, leucopenia, and thrombocytopenia all of which can be life threatening. The above patient had been on combination pegasys and ribavirin for 12 weeks. Our patient had leucopenia earlier in the course of therapy. But at the time of admission, he had normal WBC count which represented an alarming sign that was not recognized at time of admission. Therefore, evaluating physicians need to be aware that interferon therapy is immune modulating and severe infections must be considered. The common pathogens for epiglottitis are H.influenza, S.pneumonia, and S.pyogenes. Although MRSA induced epiglottitis is rare, community-acquired MRSA infections in general are emerging. Acute epiglottitis is now increasingly more recognized in adults. Still, only a few cases of MRSA induced adult epiglottitis have ever been reported in literature. We describe a case in which a patient was predisposed to such possible clinical scenario. Studies have shown that the rate of infection is not significantly increased in hepatitis C treated patients. However, caution and consideration must be taken with patients that are on interferon and ribavirin regimen.

P895

ORTHOTOPIC LIVER TRANSPLANTION : NOT THE CURE FOR CAROLI'S DISEASE IN ALL CASES

T. H. Kothari, MD, MS,[1] M. Korsten, MD,[1] S. T. Kothari, MD,[3] T. Schiano, MD[2]. 1. Internal Medicine, J.J.Peters VA Medical Center, Bronx, NY; 2. Liver Transplant, Mount Sinai School of Medicine, New York, NY; 3. Gastroenterology, St. Joseph's Regional Medical Center, Paterson, NJ.

Purpose: Liver transplantation (LT) has been the curative therapy for patients with Caroli's disease (CD) having recurring episodes of cholangitis, sepsis and biliary stone formation. There have been no reported cases on the recurrence of intrahepatic bile duct complications in patients with CD who underwent LT. We report a patient with CD who developed a recurrence of intrahepatic biliary dilatation and stricture formation 12 years post - LT.

Methods: A 49 year old female was diagnosed with CD in 1992. She had right upper quadrant pain, cholestatic liver disease and was found to have intrahepatic ductal dilatation without portal fibrosis but associated with bilateral multiple renal cysts. She underwent LT with Roux-en-Y anastomosis in 1995 after having recuurent cholangitis with septicemia. In 1999, patient presented with elevated alkaline phosphatase and CT abdomen revealed moderately dilated intrahepatic ducts, patent hepatic-portal veins and a normal common bile duct- CBD. In 2007, she presented with cholangitis and cholangiogram showed a stone in the left bile duct with progressive intrahepatic biliary dilatation. The patient underwent PTC with stent placement followed by stone removal. Since then, the patient has had 2 episodes of right upper quadrant pain with elevated alkaline phosphatase, the last being in 03/2008. On both occasions, the patient underwent PTC with stent exchange and the symptoms improved. Recent abdominal MRI is suggestive of worsening of intrahepatic biliary dilatation with no evidence of biliary mass. CA 19-9 always remained normal. The worsening progression of intrahepatic biliary dilatation leading to recurrent hospitalizations for cholangitis has led to the consideration of re-transplantation.

Conclusion: Caroli's disease (CD) is a nonobstructive segmental dilatation of the intrahepatic bile ducts. Most common variant, Caroli's syndrome involves bile duct dilatation with hepatic fibrosis. Women are predominantly affected; the average age at diagnosis is 22 years. The diagnosis is established by USG, ERCP and MRCP that demonstrate intrahepatic biliary dilatation with a normal CBD. Medical treatment includes antibiotics for bacterial cholangitis and ursodiol for prevention of bile stone formation. LT is successful with high survival rate for 5 year of 90% and 10 year survival rate of 78%. Patients with Caroli's syndrome due to portal fibrosis develop portal hypertension requiring the need for LT. Most patients with Ischemic-related injury present with complaints within the first 6 months of LT. Another possibility could have been the PKHD1 gene mutation causing the recurrent biliary complications. The etiology for recurrent bile duct complications post LT in our patient after 12 years is unclear.

P896

AMIODARONE INDUCED LIVER CIRRHOSIS

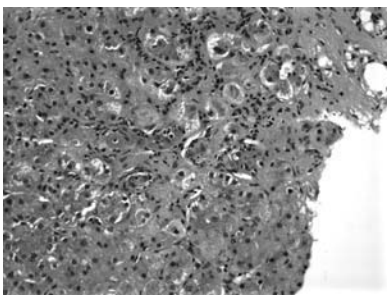
J. Davis, MD, MPH,[1] M. Atiq, MD,[1] L. Lamps, MD,[2] K. W. Olden, MD,[1] J. E. Rose, MD[1]. 1. Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR; 2. Pathology, University of Arkansas for Medical Sciences, Little Rock, AR.

Purpose: To present two cases of amiodarone induced liver cirrhosis To elicit amiodarone induced cirrhosis may occur at low doses To describe histopathological features of amiodarone induced liver cirrhosis

Methods: Case Review and review of literature regarding amiodarone induced liver cirrhosis

Results: A 72 y/o gentleman was admitted with generalized fatigue and worsening ascites. Pertinent medications included amiodarone at 200 mg per day, simvastatin and glipizide. Initial labs were as follows: bilirubin of 1.9 mg/dL, AST 106 IU/L, ALT 75 IU/L, Alk Phos 147 IU/L, prothrombin time of 20 seconds. Liver ultrasound showed a cirrhotic liver, splenomegaly and ascites. Serologic studies were negative for viral hepatitis. There was no evidence of autoimmune hepatitis, Wilson's disease, or hemochromatosis. A liver biopsy showed steatohepatitis with a striking amount of Mallory hyaline within the hepatocytes, and a neutrophilic infiltrate, consistent with amiodarone toxicity. (Figure 1) The patient died during his hospitalization secondary to complications from his liver disease. Case 2: This patient was a 67yo woman with a history of coronary artery disease who was admitted with increasing confusion. There was no history of alcohol use. She was on low dose amiodarone. Her initial work up revealed AST 377 IU/L, ALT 277 IU/L, Alk Phos 551IU/L, PT of 12.7 seconds. Serologic studies were negative for viral hepatitis, and there was no evidence for auto-immune hepatitis, Wilson's disease, or hemochromatosis. Ultrasound of the liver showed homogenous liver parenchyma with ascites. Liver biopsy showed a neutrophilic infiltrate with associated degenerating hepatocytes and a remarkable amount of Mallory hyaline with well developed pericellular fibrosis and at least bridging fibrosis, consistent with amiodarone toxicity. (Figure 2)

Conclusion: Drugs such as amiodarone may inhibit the mitochondrial β-oxidation of fatty acids resulting in mitochondrial dysfunction, thus activating a cascade leading to fibrosis. To date, a total 8 cases of amiodarone induced cirrhosis have been reported in the literature. These cases illustrate the importance of checking baseline liver associated enzymes in patients who are being considered for amiodarone therapy, as well as monitoring them closely during therapy even with low dose amiodarone.



P897

LIVER BIOPSY INDUCED HEMOBILIA PRESENTING AS HEMATOCHEZIA: AN UNUSUAL COMPLICATION OF A COMMONLY PERFORMED PROCEDURE

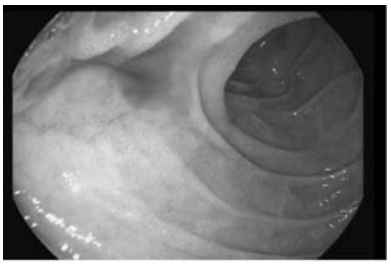
S. Dang, MD,[2] M. Atiq, MD,[1] K. W. Olden, MD,[1] R. Panek, MD,[3] N. Velchala, MD,[2] R. P. Svoboda, MD,[1] F. Aduli, MD[1]. 1. Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, AR; 2. Internal Medicine, University of Arkansas for Medical Sciences, Little Rock, AR; 3. Radiology, University of Arkansas for Medical Sciences, Little Rock, AR.

Purpose: 1-To describe comlications related to percutaneous liver biopsy 2-To be able to recognize hematochezia as a consequence of hemobilia after percutaneous liver biopsy

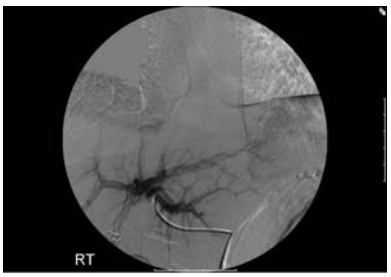
Methods: Case presentation and literature review

Results: A thirty-five year old woman underwent an ultrasound guided liver biopsy of the left liver lobe. One week later she returned to the emergency room with right upper quadrant abdominal pain, nausea and multiple episodes of bleeding per rectum. Patient was hypotensive and tachycardic. On exam a mild right upper quadrant tenderness was noted. Laboratory tests showed anemia and a cholestatic elevation of liver enzymes. Medical resuscitation allowed hemodynamic stabilization. Computed tomography (CT) of the chest, abdomen and pelvis was performed. It showed a possible arteriovenous (AV) fistula in the left liver lobe. CT did not reveal any other pleural, abdominal or pelvic abnormalities. Colonoscopy was normal. Upper gastrointestinal endoscopy showed ongoing blood flow through the ampulla of Vater. The diagnosis of hemobilia secondary to injury from liver biopsy was made. Angiography verified the presence of an arteriovenous fistula in the segment three of liver. Successful embolization of the bleeding artery was performed. Clinically, there was no further evidence of bleeding. Hemoglobin remained stable and liver enzymes normalized. She was discharged to home.

Conclusion: Liver biopsy is a commonly performed procedure. However, it may result in complications. Hematochezia post percutaneous liver biopsy could be a subtle finding, resulting from hemobilia. Prompt recognition of this entity may prevent frustration and facilitate measures to control bleeding.



Endoscopic view of blood originating from ampulla



Angiography shows leakage of contrast from hepatic segmental artery III

P898

ISCHEMIC HEPATITIS SECONDARY TO OBSTRUCTIVE SLEEP APNEA (OSA)

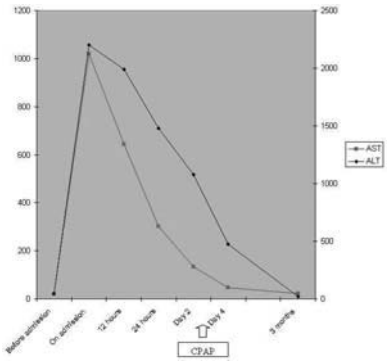
A. Bhushan, MD, P. S. Kamath, MD. Gastroenterology and Hepatology, Mayo Clinic Rochester, Rochester, MN.

Purpose: Ischemic hepatitis refers to diffuse hepatic injury which results from imbalance between hepatic oxygen supply and demand. Patients with OSA have recurrent episodes of respiratory airflow obstruction secondary to upper airway collapse during sleep. Ischemic hepatitis may, therefore, occur secondary to severe arterial hypoxemia as a result of OSA. We report a case of a patient with class III obesity with acute liver injury secondary to OSA induced hypoxemia.

Methods: A 53 year old Caucasian male with class III obesity and history of OSA was admitted with lower extremity cellulitis. The patient was afebrile, hemodynamically stable with oxygen saturation of 87% on room air. Laboratory studies were significant for elevated liver transaminases with AST 1020, ALT 2202. Total bilirubin was 0.9, direct bilirubin 0.4 and alkaline phosphatase was within normal limits. History did not suggest viral, autoimmune or drug-induced hepatitis. Autoimmune markers and serologies for hepatitis A, B and C were negative. There was no clinical evidence of cardiac failure.

Results: Echocardiogram showed normal left and right systolic function. Right heart catheterization revealed normal pulmonary artery and wedge pressures. Hepatic portal vein gradient was normal. A transjugular liver biopsy was performed. Histopathology showed zone 3 hepatocellular necrosis, and mildly active steatohepatitis without fibrosis. Nocturnal pulse oximetry showed multiple and profound desaturations. The cumulative time spent at saturation <85% was 87%. The patient was started on CPAP and supplemental oxygen to maintain optimal saturation during sleep. Liver enzymes improved over the next few days and eventually completely normalized. On a 3 month follow-up, the patient continues to use CPAP machine with significant improvement in nocturnal pulse oximetry. He has been enrolled in a weight reduction program and is undergoing evaluation for bariatric surgery.

Conclusion: Ischemic hepatitis is a rare manifestation of OSA secondary to severe arterial hypoxemia. This entity should be considered in the differential diagnosis of ischemic liver injury. Institution of correct management strategies and prevention of complications of OSA can result in prevention of a potentially fatal acute liver injury.



Graph of Liver Transaminases

P899

LIVER INJURY AFTER CONSUMPTION OF HIGH DOSE TAHITIAN NONI JUICE

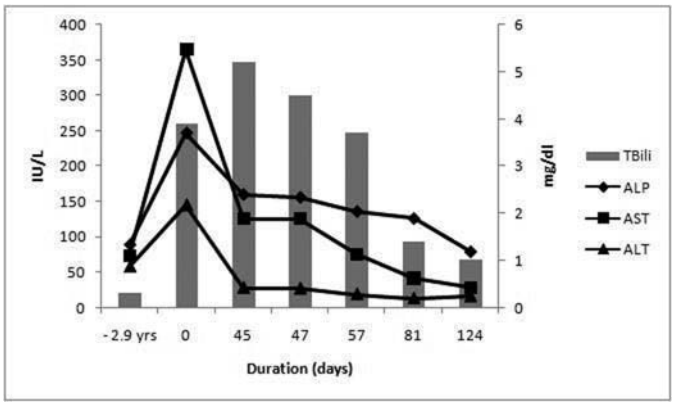
R. Juluri, MD, R. Vuppalanchi, MD. Medicine-Gastroenterology, Indiana University, Indianapolis, IN.

Purpose: Noni juice is a popular complimentary alternative medication often consumed for its wellness effects and is recommended for consumption at a dose of 1 oz (30 ml) per day. To our knowledge this is the first reported case of idiosyncratic drug induced liver injury (DILI) from United States that occurred after high dose consumption of Noni juice.

Methods: A 49 –year-old African American female with underlying liver disease presented with new onset jaundice. She had history of chronic consumption of Noni juice for several years at the recommended dose. However, two months prior to the presentation she had increased her daily consumption to 8oz. Six weeks after increasing her dose, she developed mild constitutional symptoms eventually progressing to fatigue and jaundice.

Results: Her workup revealed elevated liver tests (ALP 247, AST 365, ALT 145 and total bilirubin 3.9 gm/dL), negative titers for viral and autoimmune hepatitis and imaging studies significant only for fatty infiltration of liver. She gave a history of occasional alcohol and acetaminophen use (4-6 grams/day). She had no exposure to any other xenobiotics. Extensive biochemical work up performed excluded all competing etiologies. Upon discontinuation of consumption of Noni juice at the onset of her jaundice, she had normalization of her liver tests over a period of 4 months. She did not receive any therapy with steroids.

Conclusion: This is the first reported case of idiosyncratic DILI after exposure to Noni juice from the United States. While a few cases reported from Europe showed a hepatocellular pattern of injury, this case presented with a cholestatic pattern of liver injury. The potential for toxicity caused by noni juices remains under surveillance by the food safety authorities in Europe currently and physicians in United States should be aware of this possibility.



Liver test trend during recovery period.

P900

A CASE OF UNUSUAL PULMONARY EMBOLISM DUE TO EXTENSIVE THROMBOSIS AFTER PTC

S. A. Abotaga, MD,[1] M. Butnariu, MD,[2] F. G. Gress, MD,[2] A. Goodman, MD[2]. 1. Internal Medicine, Staten Island University Hospital, Staten Island, NY; 2. Division of Gastroenterology & Hepatology, SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: A 49 year old female with a past medical history of anxiety and hypothyroidism presented to an outside institution with a complaint of intermittent epigastric abdominal pain and symptoms suggestive of biliary colic. The patient gave a history of having had a cholecystectomy and further workup with a CT scan revealed a common bile duct stone. No other abnormalities were noted except for an incidental finding of mal-rotation of the bowel. ERCP was attempted, but was unsuccessful due to difficulties related to her bowel anatomy. The patient then underwent a Percutaneous Trans-hepatic Cholangiogram (PTC) with successful CBD stone extraction and drainage. Two weeks later she began to complain of fever, cough and some abdominal pain and was started on Ciprofloxin by her primary doctor outside the hospital in attempt to treat what was thought to be pneumonia. Her stent was removed one week after the onset of fever via ERCP. The patient continued to have persistent fever and in addition, began to complain of worsening dyspnea and a dry cough. At this point she was suspected of having pneumonia and bronchodilators along with another antibiotic were started. Due to lack of improvement and persistent fever for four weeks a CT scan of the chest was performed as an outpatient which showed a pulmonary embolism and questionable early formation of a liver abscess. The patient was then admitted to our institution for further workup and care. On presentation, she had a fever of 101.7, tachycardia and hypotension. Except for a fever, the remainder of her physical exam was unremarkable. CT scan of the abdomen with IV contrast revealed an 8 cm lesion in the right hepatic lobe consistent with a neoplasm versus an abscess. In addition, there was thrombosis of the middle hepatic vein with extension into the inferior vena cava and the right atrium. There was also a right lower lung nodule, measuring 2 cm that appeared to have cavitations consistent with a septic embolus. Venous sonography of the lower extremities was positive for a left common femoral deep venous thrombosis. A needle biopsy of the liver lesion was performed with findings consistent with a hepatic abscess. The patient was treated in the intensive care unit with intravenous heparin and antibiotics, and her fever resolved within 24 hours of admission. She was discharged after 10 days of hospitalization on Coumadin and antibiotics. Although portal vein and hepatic vein thrombosis are associated with pyogenic liver abscesses, the extent of thrombosis from the hepatic veins into the inferior vena cava and right atrium, along with a septic pulmonary embolus as a complication to PTC and stent placement has not been reported.

P901

MEMBRANOPROLIFERATIVE GLOMERULONEPHRITIS (MPGN) AS INITIAL MANIFESTATION OF HEPATITIS C (HCV)

R. Shakov, MD, J. R. DePasquale, MD. St. Michael's Medical Center, Newark, NJ.

Purpose: HCV, a major cause of chronic liver disease, can lead to chronic active hepatitis, cirrhosis, & liver failure. An array of extrahepatic manifestations, including mixed cryoglobulinemia, MPGN (most often type 1 & 3), & porphyria cutanea tarda, are seen in association with HCV . Patients with glomerulonephritis may have no clinical evidence for systemic or liver involvement, and LFTs may be normal.

Methods: We illustrate a case of a young female presenting with edema, found to have MPGN, HCV, & hypothyroidism.

Results: 38 year old female without PMHx presents with 1 week of progressive headaches & edema. Pt. incurred a 20 lb weight gain over 4 months. She admitted to prior IVDU & nasal cocaine use. There was a history of thyroid disease in the patient's mother, but no history of liver or renal disease. On exam the patient was afebrile, with a BP 154/100 and pulse of 80. The patient had severe periorbital edema, abdominal wall edema & 3+ lower extremity edema. Labs on admission: Hgb 8.8, platelets 385, INR 1.1, Cr 0.83, T.Protein 3.1, Alb 1.3, AST 25, ALT 21, TSH 9.63 with normal T3 and T4. HIV test was negative. Further lab tests revealed: HepC Ab + (genotype 3a), 24 hour urine protein 4788 mg, ESR 71, negative cryoglobulins & autoimmune markers. Renal biopsy was performed and revealed MPGN with mild to moderate arterio- & arteriolosclerosis. The patient was started on diuretics, as well as valsartan, and synthroid. The patient was started on treatment for HCV using pegylated interferon & ribavirin. Due to severe neutropenia and anemia, growth factors had to be administered. After 4 weeks of treatment, the HCV viral load was undetectable. The patient decided to terminate therapy after 21 weeks due intolerance of side effects. Significant proteinuria is still persistant.

Conclusion: MPGN, with or without cryoglobulinemia, & membranous glomerulonephritis are the best characterized glomerulonephropathies associated with HCV. The pathogenesis of HCV-associated MPGN is probably a result of glomerular deposition of circulating HCV & anti-HCV antibodies. Our patient was discovered to be hypothyroid, but it is not yet well established if HCV plays a role in development of thyroid dysfunction & autoimmune thyroiditis. Interferon-alpha has been shown to improve proteinuria, suppress viremia, & stabilize renal function . Combination with ribavirin has led to improved suppression of HCV RNA levels. Patients often relapse after therapy is stopped. Immunosuppressive treatment has been used to treat mixed cryogbobulinemia & MPGN in the past, but effects of this treatment on HCV viremia & antibody response, & on the liver and renal disease needs to be evaluated further.

P902

CELIAC DISEASE SHOULD BE CONSIDERED IN PATIENTS WITH CRYPTOGENIC CIRRHOSIS

S. Asfandiyar, MD, , A. L. Silverman, MD, FACG, S. C. Gordon, MD, FACG. Gastroenterology and Hepatology, Henry Ford Hospital, Detroit, MI.

Purpose: BACKGROUND: Although celiac disease (CD) is associated with various autoimmune disorders and is a cause of nonspecific liver enzyme abnormalities, this entity is not commonly recognized in the setting of end stage liver disease (ESLD). We report three patients who presented over a 6 month timeframe with ESLD for transplant evaluation who were all found to have untreated or refractory CD. CASE REPORTS: Patient A: A 60 year old woman with a history of refractory CD presented with ascites unresponsive to medical management; laboratory and imaging studies were consistent with cirrhosis. She was listed for OLT but expired from sepsis prior to transplant. Patient B: A 71 year old man with esophageal varices and a cirrhotic liver and portal hypertension at CT who presented with chronic diarrhea and a 50 lb weight loss. Small biopsy showed subtotal villous atrophy and crypt hyperplasia. His diarrhea resolved on a gluten free diet. He experienced sudden death secondary to myocardial infarction. Patient C: A 41 year old man with a two year history of liver enzyme abnormalities, and previous documentation of steatohepatitis, presented with progressive jaundice and coagulopathy. Physical exam showed stigmata of cirrhosis and a BMI of 41.5. His daughter had documented CD and the patient acknowledged longstanding diarrhea. Additional evaluation showed positive anti-endomysial IgA antibody and small bowel biopsy with total villous atrophy. His is currently listed for OLT. In each case other causes of liver disease, including metabolic, viral, alcohol and autoimmune were excluded. Patient C was presumed to have underlying NASH as the etiology for his cirrhosis, and patients A and B had presumed cryptogenic liver disease. Patients B and C had been previously evaluated by gastroenterologists for their liver disease but the diagnosis of CD was not entertained.

Conclusion: The mechanism of CD mediated liver injury is unexplained. We speculate that longstanding untreated hepatic dysfunction from CD may lead to cirrhosis, or that CD may act as a cofactor in other underlying liver disorders. In the setting of ESLD, especially NASH or cryptogenic, the entity of CD should be considered, including appropriate serologies or small bowel biopsies.

P903

AMEBIC LIVER ABSCESS

S. Ahmed, MD, L. Kasturi, MD, H. Safier, MD, FACG. Internal Medicine, Queens Hospital Center, Jamaica, NY.

Purpose: Abstract: Liver abscess is the most common manifestation of systemic amebiasis. Common in endemic areas like Mexico, India, South and East Africa, with increased travel, the incidence is increasing in USA. We present an interesting case of massive amebic liver abscess involving both lobes.

Methods: Case Report:48 year old Guyanese male with history of seizure disorder was admitted with the chief compliant of RUQ abdominal pain for one week, with three to four loose stools per day.Pain was worse on coughing and was accompanied by nausea, anorexia and occasional shortness of breath. Patient had a history of alcohol, smoking and was HIV negative. He was taking Dilantin and Ibprofen and had no allergies. Review of systems was unremarkable.On admission patient was afebrile but drowsy with incomprehensible speech. Physical exam was unremarkable except mild RUQ tenderness, with a liver of 2cm below right costal margin. Stool was positive for occult blood. Lab studies were unremarkable except Hb 11.5, hct 35.2, WBC 42K with 65% toxic bands. LFTs revealed alk phos 277, AST 51, GGT 191, Albumin 2.1, t.bil 1.7, conj. bil 0.8 and LDH 183.On CT was a 16cm liver mass with surrounding edema, perihepatic fluid and a nonspecific multifocal colitis involving right colon, hepatic flexure, sigmoid and rectum. Patient underwent CT guided drainage of liver abscess, yielding about 800 cc of brown colored thick fluid without evidence of bacteria, mycobacteria, but with presence of ova. Serology was positive for entamoeba histolytica. Subsequent CT revealed decrease in the size of the abscess and patient improved clinically. Colonoscopy revealed ulcerations with overhanging edges, throughout colon, with areas of normal intervening mucosa. Patient was placed on flagyl, zosyn and paramomycin was added as a luminicidal agent. With drainage and treatment, his lab data improved with resolution of colitis and sepsis.

Results: Discussion:Ameba is more prevalent in areas of overcrowding and poor sanitation and spread from person to person by fecal oral route.Risk increases with old age, pregnancy, immunosuppression, malnutrition, homosexuality, alcoholism and travel to endemic areas.Cyst ingestion releases trophozoites which adhere to the wall of the large intestine, causing ulceration with subsequent passage into the blood stream. Amebiasis may be acute or chronic, causing symptoms of epigastric pain, jaundice, encephalopathy and sepsis. Abscess is usually solitary involving right lobe with only 10-15% cases revealing multiple small abscesses.

Conclusion: Small liver abscess can be successfully treated with antiamebics only, but the larger abscesses, especially those involving the left lobe are more effectively treated with amebicides and aspiration.

P904

ACUTE HEPATITIS C IN A POST-LUNG TRANSPLANT PATIENT

B. D. Shepherd, MD, C. Klochen, MD, E. Harris, MD, R. Perri, MD. Division of Gastroenterology, Vanderbilt University, Nashville, TN.

Purpose: Fibrosing cholestatic hepatitis is a rare, aggressive, and usually fatal form of viral hepatitis found in immunosuppressed patients. It has been reported in solid organ and bone marrow transplant recipients. We report a case of acute hepatitis C related FCH in a post-lung transplant patient.

Methods: A 72 year old man who underwent a right lung transplantation nine months prior, came to the emergency department with jaundice. He reported 3-4 weeks of fatigue and one week of jaundice and tea-colored urine. He noted pruritis and easy bruising. Past medical history included COPD status post a single-right lung transplantation. His post-transplant course was complicated by CMV treated with valgancyclovir, and one episode of acute cellular rejection treated with solumedrol. His medications included tacrolimus, mycophenolate sodium, prednisone,bactrim, pravastatin, and valganciclovir.

Results: His examination revealed a thin, frail man with normal vital signs, scleral icterus, jaundice, and multiple ecchymoses. He had no asterixis or spider angiomata. His jugular venous pulse was not elevated. His mental status was normal. Admission labs showed a bilirubin of 16.1mg/dL, alkaline phosphatase 442U/L, AST 175 U/L, and ALT 115 U/L. Serologies including HAV, HBV, HCV, and EBV were normal. CMV PCR showed undetectable virus. Contrasted CT showed ascites without vascular obstruction and no biliary ductal dilation. Liver biopsy showed a mild mixed portal infiltration consisting of lymphocytes, neutrophils, and rare plasma cells. Bile ducts showed mild distortion. There was focal interface hepatitis and mild bile ductular proliferation. Mild lobulitis was present with scattered hepatocyte apoptosis. Multiple foci of bile plugs, intracanalicular and hepatocyte cholestasis, perivenular fibrosis and hepatic venular dilation were noted. These findings were consistent with acute hepatitis C with a suggestion of fibrosing cholestatic hepatitis. All hepatotoxic medications were stopped and immunosuppression was minimized. His condition continued to deteriorate. He developed hepatic encephalopathy and progressive jaundice despite the administration of lactulose and aggressive supportive care. On day 13 of his hospitalization Hepatitis C quantitative PCR revealed over 5,000,000 copies/mL. His clinical status continued to worsen and he died after being transitioned to hospice care.

Conclusion: Acute hepatitis C and fibrosing cholestatic hepatitis is a rapidly progressive form of hepatic dysfunction. There is no effective treatment of FCH in immunosuppressed patients. Reduction of immunosuppressive medications is the only feasible option. This case represents a rare presentation of acute Hepatitis C and FCH in a post-lung transplant patient.

P905

A CASE OF SHY DRAGER SYNDROME IN A PATIENT FOLLOWING ORTHOTOPIC LIVER TRANSPLANTATION

S. B. Salem, MD,[1] O. Lateef, DO,[2] J. Ahn, MD, MS,[1] S. M. Cohen, MD,[1] D. Van Thiel, MD[1]. 1. Section of Hepatology, Rush University Medical Center, Chicago, IL; 2. Section of Pulmonary/Critical Care Medicine, Rush University Medical Center, Chicago, IL.

Purpose: Background: Shy Drager syndrome or multiple system atrophy (MSA) is a neurodegenerative disorder characterized by any combination of autonomic failure, parkinsonism, cerebellar ataxia and pyramidal signs which is progressive until death, with a mean survival of 9 years. Orthostatic hypotension affects the majority of these patients. Supportive therapy including fluids, high salt intake, and vasopressor medications are the mainstays of treatment. This is the first reported case of MSA in a liver transplant recipient.

Methods: A case report is presented.

Results: Clinical History: A 63 year old male with hepatitis C cirrhosis post-OLT presented with mental status changes and hypotension. He was treated with lactulose, aggressive hydration, and dopamine. He was evaluated for re-transplantation for recurrent hepatitis C and allograft failure. The first attempt at re-transplantation was cancelled due to hypotension, but after subsequent workup, hydration, and cardiology clearance, the patient was taken for OLT. His post-operative course was complicated by another episode of hypotension. He was treated supportively, subsequently improved, and was eventually discharged. Six weeks later, he was again found to be hypotensive. 14 months later, he was admitted again with refractory hypotension, which persisted despite maximal supportive care including broad spectrum antibiotics, intravenous fluids, steroids, and multiple vasopressors. He had a prolonged 3 month hospital course and failed multiple attempts at pressor weaning. During this hospitalization, he was noted to have pupil abnormalities, an absence of sweating, and persistent diarrhea. A pulmonary artery catheter demonstrated normal to high cardiac index, low systemic vascular resistance, normal pulmonary capillary wedge pressure, and low mixed venous O2 saturation. This was consistent with neurogenic shock. A CT of the head demonstrated an old infarct in the center of the pons. The clinical history and CT findings were consistent with a diagnosis of Shy Drager syndrome. The family of the patient decided to withdraw care after he failed to improve and he expired shortly afterwards.

Conclusion: This case serves to illustrate several points: First, in a post-OLT patient, hypotension can occur and cardiac, hepatic, or infectious etiologies must first be considered. If the hypotension is refractory to maximal supportive therapy, then alternative diagnoses should be considered. Second, if the diagnosis of Shy Drager syndrome had been diagnosed prior to repeat OLT, it would have been inappropriate to proceed with the transplant as this condition is universally fatal.

P906

PELIOSIS HEPATIS DUE TO BARTONELLA INFECTION: AN UNUSUAL CAUSE OF CHOLESTATIC HEPATITIS FOLLOWING RENAL TRANSPLANTATION

A. Repaka, MD, R. J. Fontana, MD. Division of Gastroenterology, University of Michigan, Ann Arbor, Michigan, MI.

Purpose: Peliosis hepatis is characterized by the presence of blood-filled spaces throughout the hepatic parenchyma with clinical manifestations ranging from asymptomatic serum aminotransferase elevations to focal masses and liver failure. Causes of peliosis hepatis include medications (androgens, steroids), TB, malignancy and infection with Bartonella henselae particularly in HIV positive patients. We describe a case of hepatic peliosis due to B. henselae infection in a kidney transplant recipient who presented with acute cholestatic hepatitis, thrombocytopenia and myocardial infarction.

Methods: Case Report

Results: A 51 year old Caucasian male was hospitalized 36 days after living donor kidney transplantation with fatigue, myalgias, left axillary adenopathy and jaundice. Medications included cyclosporine, prednisone and cellcept. At presentation, he had acute renal failure (Cr 3.1 mg/dl), hgb 7.9 g/dl, platelet count 33 K, AST 28 IU/L, ALT 39 IU/L, alkaline phosphatase 307 IU/L, total bilirubin 11 mg/dl (predominantly direct) and INR of 1.3. Pre-op LFT's and CBC were normal. He was also found to have a NSTEMI, with new focal hypokinesis on echocardiography. Work up for viral, autoimmune and metabolic liver disease was unrevealing. TTP was entertained but unproven. A transplant kidney biopsy showed ATN. Abdominal ultrasound showed a normal liver and splenomegaly. Subsequently, the patient reported being scratched by a cat a few days prior to his transplant, but had no skin abnormalities at presentation. Bartonella titers showed rising serial B. henselae IgG titers, 1:512 and >1:1024 while IgM titers were < 1:20. A liver biopsy showed hepatic peliosis, intense sinusoidal dilation, atrophy of hepatic cords and superimposed canalicular cholestasis. Warthin-Starry stain showed abundant debris but no organisms were identified. However, a DNA-based PCR assay for Bartonella henselae on the liver tissue was positive. Following a 1 month course of Doxycycline and Azithromycin, his liver enzymes and cytopenias improved and completely normalized in 2 months. Immunosuppression was modified to tacrolimus and prednisone.

Conclusion: Bartonella henselae is a gram negative bacteria that causes cat scratch disease. Our case shows that organ transplant recipients may develop hepatic peliosis due to disseminated bartonella infection, as previously reported in patients with HIV. Since the vascular endothelium can be involved, ischemic manifestations such as myocardial infarction can occur, as noted in this patient. Establishing a diagnosis of Bartonella infection is frequently difficult, but highly sensitive and specific PCR based assays are now available. Once identified, antibiotic therapy can lead to rapid resolution of clinical manifestations.

P907

HEPATITIS C-ASSOCIATED BILATERAL MOOREN'S CORNEAL ULCER AND SERONEGATIVE ARTHRITIS: RAPID RESPONSE TO SYSTEMIC STEROIDS

S. Rashid, MD,[1] J. Singh, MD,[2] R. Sehgal, MD,[2] P. Anand, MD, FACP,[2] P. Mustacchia, MD[1].
1. Gastroenterology, Nassau University Medical Center, East Meadow, NY; 2. Internal Medicine, Nassau University Medical Center, East Meadow, NY.

Purpose: Hepatitis C virus (HCV) infection is often associated with extrahepatic manifestations involving hematological, renal, dermatologic, rheumatologic and ocular systems. We report a rare case of bilateral Mooren's corneal ulcer and inflammatory arthritis in a patient with Hepatitis C who showed dramatic improvement with systemic steroid therapy.

Methods: 47-year-old African-American male with chronic hepatitis C presented with bilateral painful red eye and photophobia along with painful swelling in right hand and left knee for five days. Detailed clinical history, physical examination, slit-lamp biomicroscopy and fluorescein staining of the cornea, routine blood tests, rhematologic markers, and radiographs were obtained to document initial presentation and diagnosis of bilateral Mooren's corneal ulcer, and HCV arthropathy and their therapeutic response to systemic steroids.

Results: Patient was started on oral prednisone (1mg/kg/day) with documented symptomatic and clinical improvement in both keratitis and arthritis within one week of treatment.

Conclusion: Given the high prevalence of HCV, it is important for clinicians to recognize and optimally treat the extra-hepatic manifestations of HCV infection. This case supports the previously reported cases of association between Mooren's corneal ulcer and seronegative arthritis with hepatitis C and adds to use of oral steroids as a therapeutic option.

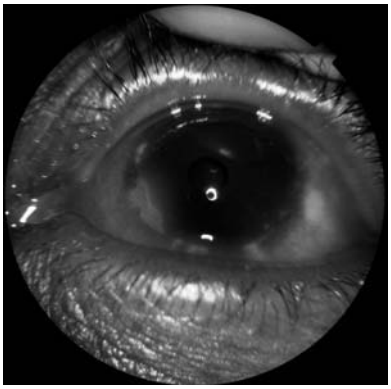


FIG. 1. Left eye showing peripheral ulcerative keratitis after fluorescein staining - Mooren's Ulcer

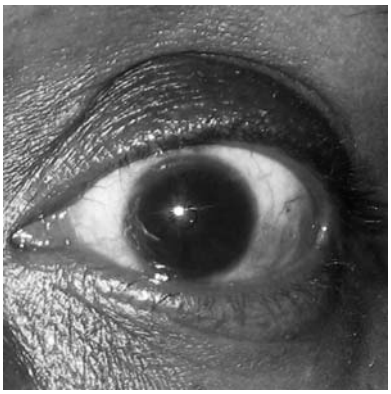


FIG. 2. Left eye 5 days after initiation of oral steroids. Note the significant decrease in conjunctival injection and corneal ulceration.

P908

A CASE OF MYELODYSPLASTIC SYNDROME IN A LIVER TRANSPLANT PATIENT

R. Potru, MD,[1] J. Ahn, MD,[3] H. C. Fung, MD,[2] S. M. Cohen, MD[3]. 1. Rush University Medical Center, Chicago, IL; 2. Hematology, Rush University Medical Center, Chicago, IL; 3. Hepatology, Rush University Medical Center, Chicago, IL.

Purpose: There is a known increased incidence of myelodysplastic syndrome (MDS) after heart and lung transplant. There is, however, only one reported case of MDS in a liver transplant (LT) patient. This abstract presents the second known case of MDS in a LT patient and discusses the role of immunosuppression in development of MDS after LT.

Methods: PubMed search using keywords "myelodysplastic syndrome" and "liver transplant" was done to identify any previous reported case of MDS in LT. Patient data was gathered from the patient and the medical record.

Results: A 54-year-old white man underwent LT in 2003 for hepatitis C (HCV) related cirrhosis and hepatocellular carcinoma and in 2004 for recurrence of his HCV. He developed pancytopenia in 2006 which was attributed to his pegylated interferon treatment for HCV. The peg-interferon dose was intitally decreased, later stopped entirely and erythropoietin was initiated. In January 2007, the patient presented to his hepatologist complaining of weakness, malaise, and shortness of breath. WBC was 3.47 x 1000/µl, hemoglobin 10.6 gm/dL, Hct 33.8%, platelets 21 x 1000/µl, and neutrophils were 1.61 x 1000/µl. A liver biopsy revealed bridging fibrosis and recurrent hepatitis C. A bone marrow biopsy revealed myelodysplastic syndrome, type refractory anemia with excess blasts (RAEB)-1. He underwent 4 cycles of azacitidine from February to May 2007 with no improvement on repeat bone marrow biopsy in May 2007. Prograf dose was lowered and the patient underwent 3 cycles of decitabine. His last bone marrow biopsy done in November 2007 continued to show MDS, RAEB-1 with hypocellular marrow. The patient underwent 1 more cycle of decitabine without significant improvement in his laboratory testing.

Conclusion: This is only the second reported case of MDS occurring in a post-LT patient. Our patient developed MDS almost 2 years after his second LT, as compared to the previous report in which the patient developed MDS 3 months after LT with subsequent progression to acute myelogenous leukemia within 2 months of the MDS diagnosis. Our patient's MDS type carries a very poor prognosis and high likelihood of conversion to acute myelogenous leukemia. He was treated with chemotherapy and reduction in immunosuppression without a clinical response. Given the rarity of MDS after LT, further study is needed to optimize the medical management of these patients. Although rare, MDS should be considered in the evaluation of pancytopenia after LT.

P909

CONGESTIVE HEPATOPATHY IN THE SETTING OF UNDIAGNOSED CONSTRICTIVE PERICARDITIS

T. Parambil, MD, S. D. Pollack, MD, F. Regenstein, MD, S. Joshi, MD. Surgery - Abdominal Transplant, Tulane University School of Medicine, New Orleans, LA.

Purpose: Background: Ascites is a common finding in patients with cirrhosis. The non-hepatic causes of ascites include venous or lymphatic obstruction, nephrotic syndrome, and congestive heart failure. Constrictive pericarditis (CP) is characterized by pericardial inflammation and subsequent scarring and contracture of the pericardium. The clinical manifestation of CP is usually congestive heart failure (CHF) which results in a "nutmeg liver" due to chronic congestive changes in the liver. Histologic findings in the liver include sinusoidal dilatation, fibrosis around spared portal regions and hemorrhagic necrosis in zone 3 of the hepatic lobule. Recently, the prevalence of CP has declined significantly due to increased focus on preventive medicine and improved diagnostic capability. Thus, CP with congestive hepatopathy (CH) has not been reported. We report a case of CH with ascites caused by CP. **Case Report**: A 78 year-old male with history of hypertension, diabetes, and dyslipidemia presented with gradual increase in abdominal girth over 5-8 months; this was attributed to ascites. The patient denied dyspnea at rest or on exertion and orthopnea. He denied alcohol or drug use, and history of previous liver disease or radiation exposure. Patient's mild abdominal pain was relieved by a paracentesis; 5 liters of transudative fluid were removed. The serum ascites albumin gradient was 1.0. An abdominal CT scan showed cirrhosis and extensive calcification in the inferior pericardium. The latter finding was confirmed on a CT scan of the chest. Tuberculin skin test was negative. Platelet count was 270,000/µL, sodium 137 mEq/L, creatinine 1.5 mg/dL, prothrombin time 22 seconds, aspartate aminotransferase 19 U/L, alanine aminotransferase 24 U/L, alkaline phosphatase 89 U/L, bilirubin 6.4 mg/dL. Hepatic sinusoidal pressure was 16 mm Hg; liver histology was consistent with CH. Transthoracic Echocardiogram revealed biatrial enlargement and normal left ventricular ejection fraction. Right and left heart catheterizations indicated relative equalization of pressures in the cardiac chambers, restrictive physiology and a pulmonary artery wedge pressure of 62 mm Hg. The patient underwent an anterior pericardiectomy; however, ascites reaccumulated requiring numerous paracenteses. **Discussion**: This case illustrates that CP needs to be considered as an etiology of CH, cirrhosis and ascites. In our patient, pericardiectomy was unsuccessful in completely resolving ascites, highlighting the importance of early pericardiectomy and appropriate CHF management to prevent cirrhosis. Although CHF has been associated with CH, this is the first case of CP and CH.

P910

AN ITCHING COMPLICATION: MOXIFLOXACIN-INDUCED VANISHING BILE DUCT SYNDROME

J. Manlolo, MD,[1] W. Robinson, MD,[1] S. Saha, MD,[1] B. Bhattacharya, MD,[2] F. Habr, MD[1]. 1. Medicine, Brown University / Rhode Island Hospital, Providence, RI; 2. Pathology, Brown University / Rhode Island Hospital, Providence, RI.

Purpose: Purpose: Vanishing Bile Duct Syndrome (VBDS) is an acquired disorder of cholestasis characterized by the destruction and ultimate disappearance of the intrahepatic bile ducts. The presentation of VBDS is highly variable due to its numerous underlying causes. Outcomes range from favorable with gradual regeneration and recovery to devastating with progressive and irreversible bile duct loss. We describe a case of an elderly male with jaundice following moxifloxacin exposure found to have VBDS on liver biopsy. Despite drug discontinuation cholestatic hepatitis persists. Case: An 82 year-old male with no significant past medical history was admitted to the hospital with empyema that was treated with intravenous antibiotics and drainage. On hospital day 21, he was discharged on a continuing course of oral moxifloxacin 400 mg daily. Eight days later he presented with jaundice and mild pruritis. He denied fevers, nausea, vomiting, abdominal pain, or change in stools. The exam was notable for marked jaundice and a palpable liver edge 3cm below the costal margin. Laboratories revealed an alkaline phosphatase of 821 IU/L, ALT of 441 IU/L, total bilirubin of 15.3 mg/dl, and direct bilirubin of 9.2 mg/dl. Viral hepatitis and autoimmune serologies, iron studies, abdominal CT scan, right upper quadrant ultrasound with dopplers, MRCP, and ERCP produced inconclusive results. A liver biopsy was performed revealing cholestatic hepatitis with bile stasis and marked ductopenia. He was started on ursodiol (15mg/kg) and cholestyramine (4mg). At 3 months follow-up, the patient reported improved pruritis however liver chemistries remained markedly elevated with an alkaline phosphatase of 226 IU/L, ALT of 128 IU/L, total bilirubin of 25.8 mg/dl, and direct bilirubin of 14.5 mg/dl. Discussion: Cholestasis due to drug toxicity accounts for 2-5% of admissions for jaundice and up to 20% of cases of jaundice in the geriatric population. Moxifloxacin is a known hepatotoxin producing symptoms 3-10 days after drug ingestion and has been reported to cause fulminant hepatic failure and death. VBDS in association with flouroquinolone use is exceedingly rare with only one case reported in the literature. Most cases of VBDS resolve within 6 months, however VBDS can persist and lead to secondary biliary cirrhosis, liver failure, and death. The proposed mechanism of bile duct loss is T-cell toxicity and a dysregulation of apoptosis. Treatment requires recognition and prompt discontinuation of the inciting agent, although this does not uniformly lead to improvement. Corticosteroids, rifampicin, and opiate antagonists have been used for symptom management, however evidence regarding their efficacy is limited.

P911

A CASE OF LATE ONSET CAROLI'S DISEASE IN A 75 YEAR OLD WOMAN

A. Karaa, MD, M. Tandon, MD, J. C. Ayala, MD, K. Kher, MD. Medicine, Mount Auburn Hospital, Harvard Medical School, Cambridge, MA.

Purpose: Since its first description in 1958 by Caroli around 150 cases of Caroli's disease (CD) have been reported in the literature. This is a rare congenital condition characterized by multiple polycystic malformations of the intrahepatic bile ducts involving a segment, a lobe, or both lobes giving rise initially to biliary stasis, intrahepatic lithiasis and subsequently recurrent secondary infection including cholangitis, septicemia and intrahepatic and subphrenic abscesses. This is different from Caroli's syndrome where the chronicity of the disease progresses into liver fibrosis and cirrhosis. Caroli's disease has been shown to have frequent association with other hereditary cystic diseases. We here report a case of a 75 year old woman with ADPKD diagnosed with CD at the age of 74. Our patient has longstanding ADPKD inherited from her mother with chronic renal failure on hemodialysis but she never experienced any hepatic or biliary symptoms throughout her life. She presented with her first episode of cholangitis at the age of 74. A right upper quadrant ultrasound revealed a slightly dilated common bile duct without evidence of cholelithiasis and CT of the abdomen confirmed the finding with evidence of intrahepatic duct dilation. Diagnosis of CD was final with MRCP showing numerous biliary cysts scattered in both lobes of the liver differentiating this from hepatic cysts usually present in patients with ADPKD. The patient had no evidence of liver cirrhosis by physical exam, labs or radiologic findings. She recovered with conservative management and is not a surgical candidate given the absence of cirrhosis and the diffuse nature of the disease in the liver. This patient is at higher risk of developing cholangiocarcinoma and will need close clinical and biological monitoring. Caroli's disease usually manifests during childhood and early adulthood. The mean age is generally 10 years old with extremes ranging from intrauterine diagnosis to the oldest case reported being 68. We believe that this is the oldest case report in the literature of new onset Caroli's Disease. Moreover, although the association of Caroli's disease with autosomal recessive polycystic kidney disease (ARPKD) is well established, the relationship with dominant polycystic kidney disease (ADPKD) like in this patient remains rare and warrants further studied to elucidate the genetic association.

P912

AUTOIMMUNE HEPATITIS DUE TO BOSENTAN

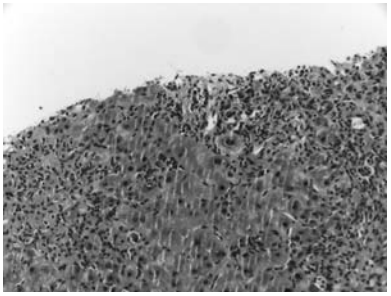
M. Westerhoff, MD,[2] S. M. Cohen, MD,[1] J. Ahn, MD, MS[1]. 1. Hepatology, Rush University Medical Center, Chicago, IL; 2. Pathology, University of Chicago, Chicago, IL.

Purpose: Bosentan is an orally administered endothelin-1 receptor antagonist used in the treatment of pulmonary arterial hypertension (PAH). It is known that bosentan can cause increases in liver aminotransferases and total bilirubin in up to 10% of cases. In rare cases, unexplained hepatic cirrhosis can occur with prolonged duration of therapy. The FDA has approved bosentan for the treatment of primary pulmonary hypertension despite the risk of liver function test abnormalities. Here we present a patient who developed autoimmune hepatitis following bosentan treatment.

Methods: A 69 year old male with PAH was treated with bosentan with regular liver function test (LFT) monitoring.

Results: The patient had no known previous liver disease or LFT abnormalities prior to bosentan initiation. After 2 months of bosentan treatment, the patient presented with an AST of 916 U/L, ALT of 1060 U/L, and alkaline phosphatase of 185 U/L. Bosentan was discontinued. The patient was asymptomatic and on examination had no stigmata of chronic liver disease. ANA, SSA, LKM, ASMA were negative. Serologies for viral hepatitis were negative. An ultrasound revealed a normal liver and gallbladder. A liver biopsy revealed severe grade 3 autoimmune hepatitis and centrilobular fibrosis. (Fig) The patient was started on prednisone 40 mg daily. Within a month, his LFTs normalized and he has been followed for the last two years without further hepatic sequelae on azathioprine maintenance therapy.

Conclusion: We report the first case of autoimmune hepatitis associated with bosentan. Prompt discontinuation of bosentan and treatment with corticosteroids resulted in normalization of LFTs. The etiology of unexplained cirrhosis in patients undergoing treatment with bosentan may be from the development of autoimmune hepatitis. Patients on bosentan who develop LFT abnormalities should be evaluated for autoimmune hepatitis.



High power magnification. Interface hepatitis with rosetting.

P913

AUTOIMMUNE HEPATITIS: DIAGNOSIS PRECEDED BY EPISODE OF CHOLESTATIC HEPATITIS IN THE SETTING OF ATORVASTATIN EXPOSURE

A. D. Smith, MB, ChB. Medicine, Eastbourne District General Hospital, Eastbourne, United Kingdom.

Purpose: Autoimmune hepatitis (AIH) is a chronic inflammatory disorder of unknown etiology arising in genetically susceptible individuals, typically women. Certain drugs e.g. minocycline and atorvastatin, have been reported in association with the onset of AIH, although the precise mechanism(s) for this are unclear. We describe the onset of AIH in a man ten months after he sustained cholestatic hepatitis following exposure to atorvastatin, and from which subsequent recovery appeared complete.

Methods: A 55 year old man with poorly controlled type 1 diabetes mellitus (DM) was prescribed atorvastatin 40mg/day for hypercholesterolemia (other drugs were insulin, aspirin and nicorandil). Twenty weeks later he developed fatigue, generalized pruritus, pale stools and dark urine.

Results: Examination revealed jaundice and scratch marks, but no features of hitherto undiagnosed chronic liver disease, e.g. splenomegaly. Liver test and selected other results are tabulated at five different time points (months after index episode). Alternative causes of acute severe liver injury (viral, metabolic and alcoholic) were excluded as far as possible by history-taking and laboratory testing. Liver biopsy demonstrated portal tract expansion with lymphocytes, plasma cells and numerous eosinophils. Similar changes were present but to a lesser degree in the lobules, where acidophil bodies and perivenular cholestasis were evident also. Given the discrepancy between elevated aminotransferase (AST) and immunoglobulin G (IgG) concentrations, circulating antinuclear (ANA) and smooth muscle antibodies (SMA) on the one hand, and the markedly increased cholestatic liver tests, portal tract eosinophils and DM on the other, it was decided not to recommend prednisone. Liver tests became normal within three months. Seven months thereafter, the original symptoms returned and liver tests had relapsed (table). Further liver biopsy revealed changes very similar to those present first time, with the exception that plasma cells were more conspicuous. Portal fibrosis was evident also. Prednisone resulted in normalization of liver tests, albeit at the expense of even poorer blood sugar control. Azathioprine was added to consolidate attainment of disease remission. It was well tolerated, thus allowing prednsione withdrawal in due course.

Conclusion: It is uncertain whether this man was destined to develop AIH regardless of exposure to atorvastatin. Conversely, the index episode may have represented AIH rather than drug-induced liver injury, although resolution in the absence of steroid therapy makes this more difficult to sustain. A third explanation is that atorvastatin exposure helped precipitate AIH albeit at a later date. No further exposure to the drug occurred to my knowledge.

	Alb (mg%)	BR (umol/L)	PT (s)	AST (U/L)	ALP (U/L)	GGT (U/L)	IgG (mg%)	ANA	SMA
Index	3.4	14	11.9	416	901	1105	2090	1:5120	1:320
3 months	3.9	0.6	12.5	23	88	38	1230	1:5120	1:320
9 months	4.0	0.8	13.8	96	109	68	1220	1:5120	1:40
10 months	4.1	0.7	12.1	515	187	211	ND	ND	ND
18 months	3.5	0.7	ND	64	146	130	1210	ND	ND

P914

BLEEDING DUODENAL DIVERTICULUM – HEMOSTASIS AFTER ENDOSCOPIC HEMOCLIP PLACEMENT

I. S. Weisberg, MD, MSc, C. Lianne, MD, D. Weine, MD, E. Scherl, MD. Gastroenterology and Hepatology, New York Presbyterian Hospital - Weil Cornell Medical Center, New York, NY.

Purpose: To highlight a rare cause of overt upper gastrointestinal bleeding successfully controlled with endoscopic hemoclip placement.

Results: Patient: A 90 year old woman presented to an outside hospital with one day of melena and hematemesis. She had no previous history of gastrointestinal disease. Her medical history

was significant for hypertension, diabetes, and end-stage renal disease on hemodialysis. At initial presentation to the outside hospital she was hemodynamically stable with a hemoglobin of 9.8. Endoscopy revealed a bleeding duodenal diverticulum which was injected with epinephrine, though hemostasis was not confirmed. She was transferred to our institution for either selective arterial embolization or surgical intervention. On arrival, she was orthostatic with a 20mm Hg drop in blood pressure. She was mildly lethargic with normal cardiopulmonary exam and a soft, nontender abdomen. Several hours after arrival, she had an episode of hematochezia and bright red blood was lavaged from her nasogastric tube. Laboratory data revealed a hemoglobin drop of 4 grams (from 11 to 7.2). Emergent endoscopy was performed which revealed a large wide-mouthed diverticulum in the third portion of the duodenum. There was an actively bleeding arterial vessel within the diverticular sac, though no associated mucosal defect was identified. Complete hemostasis was achieved with injection of 9cc of 1:10,000 epinephrine followed by placement of two hemostatic clips across the bleeding vessel. Afterwards the area was irrigated with saline with removal of residual clot and without evidence of further bleeding. The remainder of her hospital stay was uneventful and she was discharged home after a 5 day hospital course.
Conclusion: Discussion: Duodenal diverticula are commonly discovered on routine evaluation of the upper gastrointestinal tract. Though typically asymptomatic, these diverticula have been associated with duodenal or biliary obstruction and diverticulitis. Additionally they represent a rare and often overlooked source of gastrointestinal hemorrhage. No consensus currently exists to guide management of bleeding duodenal diverticula. Traditional methods have included surgical diverticulectomy or selective arterial embolization. In this elderly patient with multiple comorbidities, rapid endoscopic diagnosis with successful hemostatic clipping offered a less invasive and safer alternative. This case highlights an atypical source of overt gastrointestinal hemorrhage managed effectively with therapeutic endoscopy.

P915

DIAGNOSIS OF A GERM CELL TUMOR BY CAPSULE ENDOSCOPY
A. Agha, MD,[1] J. M. McKinley, MD,[2] P. G. Brady, MD,[2] J. Mamel, MD[2]. 1. Internal Medicine, University of South Florida, Tampa, FL; 2. Department of Gastroenterology, University of South Florida, Tampa, FL.
Purpose: A 32 year old male with no significant past medical history presented with a 3 day history of dyspnea, left-sided pleuritic chest pain and 2 weeks of melena. He denied abdominal pain, nausea, vomiting, cough, fevers and hemoptysis. He was on no medications and did not have a family history of GI malignancies. Physical exam revealed prominent sinus tachycardia with a rate in the 120s and significant conjunctival pallor. Initial laboratory studies revealed a hemoglobin of 4.9, mcv 72, hematocrit of 14%, and platelets of 550,000. Initial CXR revealed multiple nodules throughout both lung fields. After volume resuscitation an EGD was performed but was non diagnostic. Capsule endoscopy identified the bleeding source in the proximal jejunum within an area of ulceration and stenosis. Push enteroscopy exposed two large, 2-4cm ulcerated mass lesions 40cm distal to the pylorus. Multiple biopsies were obtained and pathological analysis was consistent with metastatic choriocarcinoma. CT scans of the head, chest, abdomen, and pelvis revealed multiple metastatic lesions within the brain, lungs, liver, spleen and bilateral kidneys. The patient was started on aggressive chemotherapy and in the immediate follow up period the patient has done well and has had no recurrence of GI bleeding. Capsule endoscopy has rapidly emerged as an effective,non-invasive modality for detecting obscure GI bleeding. A recent study revealed that capsule endoscopy was able to detect small bowel pathology in 82% of patients with GI bleeding of unknown etiology with prior negative results for colonoscopy, EGD, small bowel series, and even angiography. Specifically, it was able to accurately identify small bowel angiodysplasias, polyps, carcinoid tumors, Crohn's disease and metastatic melanomas. Its potential use for early recognition of small bowel tumors is of the utmost importance. As seen in this case, caspsule endoscopy was able to detect a case of previously undiagnosed metastatic germ cell tumor. Only 5% of germ cell tumors (usually embryonal and choriocarcinoma) involve the GI tract. Jejunal involvement is exceedingly rare as around 95% of cases are found within the duodenum. The majority of cases are metastatic upon initial diagnosis and thus confer a relatively poor prognosis. The major complications include intestinal obstruction, bleeding and perforation.

P916

PALLIATION OF MALIGNANT RECTOSIGMOID OBSTRUCTION SECONDARY TO LOCALLY INVASIVE PROSTATE CANCER WITH MULTIPLE OVERLAPPING SELF-EXPANDING METAL STENTS
A. S. Smith, MD, M. Cole, MD, K. J. Vega, MD, J. C. Munoz, MD. Division of Gastroenterology, University of Florida/ Jacksonville, Jacksonville, FL.
Purpose: Malignancy is the most common cause of colorectal obstruction. Relief can be obtained surgically with significant morbidity and mortality. However, self-expandable metal stents (SEMS) have become widely accepted for relief of obstruction in primary colonic neoplasms as well as extracolonic metastatic disease. Limited data exists on placement and outcome of colorectal SEMS for obstruction relief in locally invasive prostate cancer. We describe a case of successful placement of two overlapping SEMS in the rectosigmoid in a patient with biopsy proven locally invasive prostate cancer to alleviate left sided colonic obstruction. A 47 year old male with locally advanced prostate cancer presented with obstipation, bloating, nausea, intermittent hematochezia and new onset lymphedema. The patient was currently receiving hormonal therapy with Lupron.
Methods: Flexible sigmoidoscopy revealed an infiltrative, partially obstructing mass in the rectosigmoid colon 10 cm long involving two-thirds of the lumen circumference. Stigmata of bleeding with oozing was observed at sigmoidoscopy. Biopsies confirmed the presence of a poorly differentiated adenocarcinoma with immunoprofile consistent with locally advanced prostate cancer. The patient chose SEMS for palliation. Abdominopelvic CT scan prior to SEMS placement revealed prominent lymphadenopathy and extrinsic compression of the rectosigmoid colon. Consent for repeat flexible sigmoidoscopy with SEMS placement was obtained from the patient. Flexible sigmoidoscopy was performed with a standard sigmoidoscope (CF-Q160S, Olympus). At 15 cm from the anal verge, the previously seen mass with luminal narrowing was visualized. The narrowing was negotiated successfully by insertion of a guide wire proximally and advancing the sigmoidoscope over the visualized wire. No dilation was required. Hemoclips were placed at the proximal and distal ends of the stricture for marking. An initial SEMS (WallFlex® Colonic Stent, 25mm diameter, 120 mm long; Boston Scientific) was placed at the level of the proximal clip followed by deployment of a second SEMS (WallFlex®, 25mm diameter, 60mm long) distally. The second SEMS overlapped the first by approximately 1 cm. Endoscopic and fluoroscopic guidance was used throughout deployment.
Results: Nearly instant relief of obstruction with passage of flatus occurred after placement. Abdominal radiography was performed immediately post procedure and did not reveal perforation. Two months post SEMS placement, no obstruction or complication was reported.
Conclusion: Multiple rectosigmoid SEMS placement for obstruction relief due to locally invasive prostate cancer is a safe and effective therapeutic treatment option.

P917

GASTROPEXY WIRE IMPACTION WITHIN A GASTROSTOMY FISTULA
A. B. Anklesaria, MD, P. C. Chu, MD, I. M. Wall, DO, N. L. Badalov, MD, K. Iswara, MD, J. Li, MD, S. Tenner, MD. Department of Internal Medicine Division of Gastroenterology, Maimonides Medical Center, Brooklyn, NY.
Purpose: Percutaneous gastrostomy placed either radiologically or endoscopically is a safe procedure with few well known complications. The following is a case of a T fastener gastropexy wire impaction and represents a newly described complication of radiological percutaneous gastrostomy. A 91 year-old male patient was admitted complaining of chronic pain around his gastrostomy site. He had a radiological percutaneous gastrostomy (PRG) placed 7 months prior. The gastrostomy tube was changed without relief of the pain. Physical exam revealed tenderness to palpation around the PRG site with voluntary guarding. The site lacked any erythema or induration. Upper endoscopy was performed. Beneath the gastrostomy balloon a wire was noted which originated in the stomach wall and stretched out roughly 10cms into the lumen. Manipulation with biopsy forceps revealed that the wire was impacted in the stomach wall immediately adjacent to the gastrostomy tube. (Figure 1) The wire was unable to be removed endoscopically. A cat scan revealed a linear density between the anterior gastric wall and the abdominal wall musculature. The patient underwent surgical removal of the impacted wire. Pathological evaluation of the wire revealed it to be a T fastener wire used for gastropexy. The patient recovered well and no longer complains of pain. Endoscopically and radiologically placed gastrostomy share most of the same complications including bleeding, site infection, displaced tubes, and buried bumpers. PRG are preferred in the setting of oropharyngeal cancers to avoid tumor seeding, in patients who cannot tolerate an endoscopy, and in patients whose gastric or abdominal wall anatomy do not permit endoscopic placement. PRG utilizes wire T fasteners to tack the anterior gastric wall against the abdominal wall during PRG insertion. These wires are left in place temporarily to hold the stomach affixed to the abdominal wall and facilitate the formation of a track. They are cut at the surface of the skin 10 to 14 days later. During insertion 3 T fasteners are placed in a triangular configuration and the tube is placed in the center of this triangle. In this case the impacted wire was noted to be just adjacent to the PRG tube. Presumably the tube was inserted too close to one of the T fastener wires trapping the wire and incorporating it into the tissue of the forming fistulous track.
Methods: n
Results: n
Conclusion: n

P918

CRYOSPRAY ABLATION IN THE TREATMENT OF HEMORRHAGIC ESOPHAGEAL CANCER
F. Schnoll-Sussman, MD. Weill Cornell Medical Center, New York, NY.
Purpose: 62 year old male with an extensive medical history including brain chordoma resection, testicular cancer s/p orchiectomy and external beam radiation (XRT), melanoma and diabetes presented 3 years ago with locally unresectable distal esophageal adenocarcinoma. He was treated with chemotherapy and brachytherapy. He represented with a recurrent esophageal mass and as he had already received maximal standard therapy was treated with two cycles of photodynamic therapy. There was significant improvement in mass burden and dysphagia score. He remained essentially asymptomatic for a year and then developed progressive dysphagia. A esophageal stent was placed which dislodged twice and was removed. Shortly thereafter, he presented with melena and iron deficiency anemia. On EGD he now had a diffusely hemorrhagic infiltrative, circumferential mass extending from 30 to 40 cm. Futile attempts at control of the bleeding were made with APC. He became transfusion dependant and over a two week time period required 30 units of PRBC to maintain a hemoglobin of 8. Exploration of palliative treatment options lead to CryoSpray Ablation (CSA Medical, Baltimore, MD) therapy. The entire mass lesion was treated with two 30 seconds spray times of liquid nitrogen. The patient's subsequent course was complicated by a massive aspiration which led to intubation, sepsis and multisystem organ failure. Although he expired one month post CSA he only required one additional unit of blood. Discussion: CSA is an ablative modality that transports low pressure liquid nitrogen through a 7 French catheter via a standard upper scope. In clinical trials, it has been shown to be safe and effective in the treatment of high grade dysplasia and intramucosal carcinoma. It is postulated that cells die from the application of liquid nitrogen due to ice formation within the cell, and subsequent rupture of the cell during the thaw cycle. Additionally, the application of the extreme cold causes the tissue to loose its blood supply which seemed particularly attractive as a treatment option in this patient. Depth of injury correlates with the duration of freeze. In order to reach the submucosal blood supply, the patient's 10 cm long mass was treated with two 30 second sprays of liquid nitrogen. Conclusion: The preliminary evidence gleaned from this case suggests that CSA may be well suited to treat unresectable bleeding tumors in the esophagus. Although a longer follow-up period would be necessary to report extensive effects on transfusion needs, the remarkable reversal of transfusion dependence in this patient argues that CSA may be an effective modality for palliation in these types of diseases.

P919

M2A CAPSULE DIAGNOSIS OF TROPICAL SPRUE

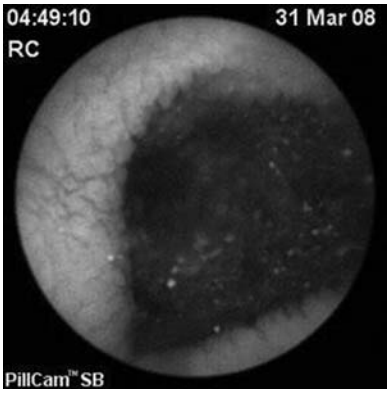
S. J. Rashbaum, MD, L. Lee, B. K. Hudes, MD. Advanced Gastroenterology Associates, Suwanee, GA.

Purpose: Tropical sprue is a malabsorptive small bowel disorder especially characterized by deficiencies of folate and vitamin B12. We present a case where capsule endoscopy in conjunction with appropriate travel history identifies this disease. The case also helps to elucidate the appearance of tropical sprue at M2A capsule endoscopy which has rarely if ever been described in the literature.

Methods: Case: A 56-year old male with recently discovered B12 and folate deficiencies presented with alternating bowel habit and bloating. EGD showed bulbar duodenitis with biopsies revealing mild to moderate chronic inflammation, focal gastric metaplasia, and associated focal villous blunting. The distal duodenum and proximal jejunum were described as normal with biopsies showing mild chronic nonspecific mucosal inflammation. All small bowel biopsies were without viral inclusions, giardia, helicobacter or other organism. Other testing included a normal Endomysial AB IgA, t-Transglutaminase IgA, and serum IgA levels. Patient was sent for small bowel capsule endoscopy with M2A Capsule which demonstrated mucosal changes of villous atrophy throughout the jejunum and ileum. Mild jejunal lymphangiectasia was also noted. Upon further patient questioning, he noted recent travel to St. Lucia two months prior to his diagnosed B12 and folate deficiencies consistent with a diagnosis of tropical sprue.

Results: Discussion: Celiac sprue is characterized by villous atrophy occurring in the proximal small bowel with lesser changes if any in the ileum. However, atrophy may be apparently more widespread in tropical sprue, as described by capsule endoscopy in the presented case. This case also evidences that persistent diarrhea may not be present.

Conclusion: 1)Diagnosis of tropical sprue should be entertained in all patient's with vitamin B12 and folate deficiency. Special care should be made to obtain a travel history in such individuals. 2)Persistent diarrhea may not always be present in tropical sprue 3)Capsule endoscopy of the small bowel may be useful in the diagnosis of tropical sprue by demonstrating extensive changes of villous atrophy throughout the small bowel including the ileum.



Distal ileum

P920

WHEN TEMPORARY CLIPS LINGER: TWO CASES

J. Ju, MD, S. Goebel, MD, J. Shamma'a, MD, U. Sundaram, MD. Division of Digestive Diseases, West Virginia University School of Medicine, Morgantown, WV.

Purpose: Endoscopic clips are designed to be temporary devices in the achievement of hemostasis. Having stopped the acute bleeding, they usually dislodge and pass through the gastrointestinal tract. Studies have looked at early clip dislodgement resulting in rebleeding and this appears to be rare. Whether clips can be retained for long periods of time (e.g. months) is unclear. We report here two patients who had clips retained for five to six months, one in the upper GI tract and the other in the lower GI tract. Patient 1 is a 47-year-old man who presented to WVUH with abdominal pain, nausea, and multiple episodes of hematemesis. On EGD he had a large visible vessel in the cardia just below the GE junction actively oozing fresh blood. Epinephrine was injected into the area and 2 clips (Boston Scientific Resolution clips) were deployed on the vessel. The patient did well and was discharged to home three days later. Six months after his initial presentation, he again presented to the hospital with nausea, vomiting, and abdominal pain. He denied hematemesis. An upper endoscopy revealed erosive gastritis and one retained clip. His symptoms improved with carafate and esomeprazole and he was discharged soon after. Patient 2 is a 64-year-old man with significant lower GI bleed. A colonoscopy revealed multiple polyps, pandiverticulosis and a visible vessel was found in a diverticulum, for which clips were deployed. The patient presented five months later to clinic complaining of intermittent streaks of dark blood in his stools. A repeat colonoscopy seven months after the clip was initially deployed revealed the clip was still present in the right colon. Although neither patients' symptoms were likely secondary to the retained clips, we report two cases of temporary clips remaining in place for several months. Review of the literature suggests that different clips remain attached for different periods of time. For example, in a study by Jensen et. al. Triclips fell off significantly faster than Resolution Clip or QuickClip2 and the Resolution Clips were retained significantly longer than the other two clips. Thus, while it appears that retained surgical clips did not lead to adverse effects in patients, it appears that different brands of clips carry different retention times, and caution should be used in applying clips to sites that are intended to be temporary.

P921

THE COLA WARS CONTINUE: USE OF DIET PEPSI FOR BEZOAR DISSOLUTION

D. M. Weine, MD, K. Kulkarni, MD, I. Weisberg, MD, R. Schaefer, MD, K. Jajoo, MD, C. Frissora, MD. Gastroenterology and Hepatology, New York Presbyterian Hospital - Weill Cornell Medical Center, New York, NY.

Purpose: Gastric bezoars are a rare cause of abdominal pain that can be seen on endoscopic evaluation. Phytobezoar formation usually occurs because of ingestion of foods rich in cellulose and other indigestible solids in patients with poor mastication and delayed gastric emptying. There are a few case reports in the literature using Coca-Cola or diet Coca-Cola in large quantities to break up phytobezoars. Many patients with phytobezoars have gastroparesis secondary to diabetes and should not injest large quantities of regular soda or find it unappealing to have a large volume lavage of soda instilled through a nasogastric (NG) tube. All previous case reports utilize Coca-Cola or diet Coca-Cola. We present the first case of phytobezoar dissolution using diet Pepsi.

Methods: A 54 year old woman with a history of poorly controlled diabetes leading to end stage renal disease requiring renal transplant presented with abdominal pain. She described a burning midepigastric pain, epigastric fullness, nausea and severe reflux. An esophagogastroduodenoscopy (EGD) was performed and revealed two large phytobezoars. On the basis of reports of the efficacy of cola lavage for the treatment of phytobezoars, nasogastric (NG) lavage with 3L of cola over 12 hours was recommended, but she declined the NG tube.

Results: The patient was given three 20oz bottles of diet Pepsi to drink over an eight hour period, and she was made NPO after midnight. An EGD was performed the following morning which demonstrated complete dissolution of the phytobezoar. The remaining food particles were suctioned through the endoscope (Olympus GIF-2T160, 3.7mm aspiration channel), and the endoscope's irrigation port was connected to a bottle containing diet Pepsi for further lavage and suctioning. The patient tolerated the procedure well and reported resolution of abdominal pain the following day.

Conclusion: This case demonstrates a novel approach for the treatment of gastric bezoars. The treatment of gastric bezoars can either be conservative or surgical. The efficacy of large dissolution of gastric bezoars with large volumes of Coca-Cola and direct endoscopic infusion of bezoars has been reported in the past but we propose a less aggressive use of cola as being just as effective. The mechanisms of cola dissolution is not well understood, but it has been proposed that it is a combination of the mucolytic effect of NaHCO3 and the penetration of CO2 bubbles into the surface of bezoars. Thus, in diabetic patients, it is unnecessary to use regular cola beverages that contain high sugar content. In addition, our case is the first reported use of diet Pepsi brand cola for this purpose.

P922

CLOSTRIDIUM, STRONGYLOIDES, LYMPHOMA - FROM COMMON TO RARE CAUSES OF DIARRHEA IN ONE PATIENT

N. E. Gundersen, MD,[1] R. E. Kraichely, MD[2]. 1. Internal Medicine, Mayo Clinic Rochester, Rochester, MN; 2. Gastroenterology, Mayo Clinic, Rochester, MN.

Purpose: We present the case of a 71 year old female of Japanese descent who presented with five months of chronic, watery diarrhea of up to 20 bowel movements daily. Her diarrhea was large volume without cramping, pain, or fevers, and persisted during the night and despite fasting. She also had a 20 pound weight loss and dehydration requiring eight hospitalizations for intravenous fluid administration and symptom control. Her past medical history was significant for human T-lymphotropic virus type I-associated adult T cell leukemia/lymphoma (HTLV-1 ATLL) diagnosed two years prior to admission. At that time, she also was diagnosed with Strongyloides stercoralis infection via small bowel biopsies. Though the parasite was successfully eradicated with ivermectin, strongyloides recurred four months prior to presentation, requiring further ivermectin treatment in addition to lifelong suppressive therapy. Past history also was remarkable for Clostridium difficile infection detected six months prior to presentation, successfully treated with a combination of oral metronidazole and vancomycin. A 72 hour stool collection confirmed large volume diarrhea of greater than 5000 grams. Investigation of the diarrhea was largely unremarkable, including evaluation of infectious (negative Clostridium difficile and enteric pathogen cultures, hepatitis serologies, strongyloides culture, ova and parasite studies, and small bowel aspirate), neuroendocrine (normal vasoactive intestinal peptide, thyroid studies, pancreatic polypeptide, calcitonin, 24 hour urine collection of 5-HIAA and histamine, gastrin and gastric pH level), anatomic (normal endoscopies, abdominal CT and MRI scans), and autoimmune (normal TTG, ANA, AMA, serum IgG/IgA levels, SPEP and UPEP) causes. She had little improvement with loperamide, octreotide, cholestyramine, or tincture of opium. Duodenal biopsy revealed intraepithelial lymphocytosis and an atypical CD4 positive T cell infiltrate, consistent with HTLV-1/ATLL infiltration of the small bowel. Chemotherapeutic treatment with alemtuzumab was recommended. HTLV-1 infection is endemic in many parts of the world, including southern Japan. It is a risk factor for strongyloides infection, which can present with diarrhea. Any patient with HTLV-1 infection and chronic diarrhea should be evaluated for strongyloides infection. Though there are few examples describing HTLV-1 lymphomatous infiltration of the small bowel, our case demonstrates it does occur. Refractory diarrhea in patients with HTLV-1 lymphoma requires extensive evaluation, and may even be an indication for chemotherapeutic treatment of ATLL, as in this case.

P923

MESH MIGRATION INTO THE CECUM FOLLOWING LAPAROSCOPIC INGUINAL HERNIA REPAIR

A. Y. Daas, MD,[1] P. Kulkarni, MD[2]. 1. Division of Digestive Diseases and Nutrition, University of South Florida, Tampa, FL; 2. James A Haley Veterans Affairs Hospital, Tampa, FL.

Purpose: Gastrointestinal luminal foreign bodies are frequently encountered by practicing gastroenterologists. Common causes of GI tract foreign bodies include ingestion, self-insertion and iatrogenic placement of objects inside the GI tract or those that have migrated from adjoining organ systems. Management of these is oftentimes a challenging endeavor. Given the popularity of minimally invasive surgery utilizing polyproplylene mesh for inguinal hernia repair, related complications such as organ injury and infection are increasingly noted. Contrarily, mesh migration has been rarely reported. We report a case of delayed mesh migration into the cecum in a 76 year old male veteran who underwent laparoscopic bilateral inguinal hernia (TEP) repair with bilateral mesh placement in 1996. In November 2004, the patient developed right lower quadrant abdominal pain. Physical examination was unremarkable. CT imaging of

the abdomen revealed mass-like infiltration of the post-surgical site in the right inguinal region. Colonoscopy was performed revealing mesh-like foreign material protruding into the cecum. Given his surgical history, this was consistent with migration of surgical mesh into the cecum. The patient was referred for surgical exploration and extensive post-surgical scarring was evident requiring a right hemi-colectomy with removal of the mesh. The post-operative course was uneventful and the patient did well at follow-up.
Conclusion: This case illustrates an unexpected yet possible late complications related to inguinal hernia mesh repair.

P924

A CASE OF POLYSPLENIA AND AGENESIS OF THE DORSAL PANCREAS REFERRED FOR EUS EVALUATION OF A PANCREATIC HEAD MASS

S. Vela, MD, J. Romagnuolo, MD, FRCPC, MScEpi. Division of Gastroenterology and Hepatology, Medical University of South Carolina, Charleston, SC.

Purpose: Background: Polyspenia is a rare congenital malformation rarely diagnosed in adults. Patients with this syndrome usually do not survive over the age of 5 due to associated cardiac anomalies. Adult polysplenia patients lack the cardiac defects and are usually diagnosed incidentally. Several intra-abdominal anomalies have been described in association with polysplenia, including malformation of the pancreas. We present a case of polysplenia, agenesis of the dorsal pancreas, enlarged liver, and duodenal narrowing referred to our center for endoscopic ultrasound (EUS) of a suspected pancreatic head mass. Case: 47-year-old woman with nausea, vomiting, epigastric pain, and 35 lb. weight loss over 1 year. Her past medical history included diabetes mellitus, hypertension and lung cancer that was cured with left pneumonectomy. She is no longer smoking, but is currently abusing alcohol. Physical examination was notable for absent breath sounds on the left, but was otherwise normal. Complete blood count and basic metabolic panel were normal. AST and ALT were elevated (112 IU/L and 60 IU/L respectively). Bilirubin and alkaline phosphatase were normal. Transabdominal ultrasound and CT scan of the abdomen done at an outside hospital to evaluate her symptoms were read as showing a head of pancreas mass with atrophic vs. absent body and tail of the pancreas. Furthermore, there was perisplenic lymphadenopathy vs. splenule. These results prompted referral to our center for EUS of the pancreatic head mass. On further review of the CT scan 3 splenules were present in the left upper quadrant, and the dorsal pancreas was absent. The liver was enlarged with an atrophic left lobe. EGD was first performed and at the junction of the duodenal bulb to D2 there was a sharp, unusual angulation/distortion. The endoscope was maneuvered upward and to the right to get into D2. There was a muscular web making the area difficult to traverse. EUS was performed and confirmed the absence of the body and tail of the pancreas beyond the portal confluence. There were 3 spenules noted in the usual location of the spleen. In the head and neck of the pancreas the parenchyma was lobular, with hyperechoic foci and strands. The MPD emerged from the papilla along with the CBD, and was of normal appearance and caliber. The portal confluence appeared dilated with an anomalous venous branch. Conclusion: Agenesis of the dorsal pancreas is a rare association with polysplenia. Our case demonstrates polysplenia and agenesis of the dorsal pancreas in addition to the malrotation of the duodenum and enlarged liver that can also occur in these patients.

P925

GASTRODUODENAL ULCERATION AND CMV INFECTION IN A PATIENT TREATED WITH MICROSPHERE RADIOEMBOLIZATION

S. Naymagon, MD,[2] K. K. Patel, MD,[1] M. Sung, MD,[2] M. K. Kim, MD, MSc[1]. 1. Division of Gastroenterology, Mount Sinai School of Medicine, New York, NY; 2. Mount Sinai School of Medicine, New York, NY.

Purpose: Introduction: Radioembolization is an emerging tumoricidal modality that allows targeted delivery of radioactive microspheres. While the precision of this technique offers several advantages over traditional external beam radiation therapy, it still poses significant risks to non-target organs. In this report, we present a case of gastroduodenal ulceration and concomitant cytomegalovirus (CMV) infection in a patient treated with Yttrium-90 microsphere radioembolization. Case Presentation: A 66 year old man with a history of chronic hepatitis B infection and previously resected hepatocellular carcinoma, developed tumor recurrence one year prior, and was treated with Yttrium-90 microsphere radioembolization via the left hepatic artery. At the time of radioembolization, radioactivity was confirmed in the left lobe of the liver and signal was also noted in the duodenum and the head of the pancreas. The patient presented one month after radioembolization complaining of abdominal pain and 30 pound weight loss. An upper endoscopy was performed, revealing multiple erosions in the body of the stomach, a 3 cm, clean-based ulcer with pigmented spots involving most of the pylorus, and two smaller, clean-based ulcers in the duodenum. Biopsies from the ulcers revealed inflamed mucosa and submucosa with scattered synthetic microspherules and CMV inclusion bodies. The patient was treated with intravenous proton pump inhibitors and nutritional support. Symptoms resolved within one week and the patient was discharged, tolerating oral intake. Discussion: We present a case of concomitant radiation-induced gastroduodenal ulceration and CMV infection in a patient treated with intra-arterial Yttrium-90 microsphere radioembolization. Due to the interrelated arterial supply of the liver, pancreas, stomach, and duodenum, the potential delivery of radioactive microspheres to non-target organs, with subsequent injury, is a recognized phenomenon. Furthermore, radiation can lead to local immunosuppression and subsequent opportunistic infections. CMV is known to cause gastritis and ulceration in the setting of immunosuppression and may have contributed to the severity of disease in this patient. We hypothesize that the initial insult caused by ionizing radiation led to local inflammation and immunosuppression that, in turn, allowed latent CMV infection to reemerge and exacerbate the patient's condition. Conclusion: Patients undergoing radiation therapy commonly suffer damage to the alimentary tract. This case suggests that in patients with presumed radiation-induced gastrointestinal disease, infectious etiologies must be considered and ruled out in order to optimize treatment and outcome.

P926

CD4+ T-CELL LYMPHOPROLIFERATIVE DISORDER OF THE GUT

M. S. Harrison, MD, S. Epstein, MD, K. Crawford, MD. Division of Digestive Diseases, Emory University School of Medicine, Atlanta, GA.

Purpose: T-cell lymphomas of the gastrointestinal tract are rare and not well characterized. The principal subtype is enteropathy associated T-cell lymphoma, which tends to have an aggressive course and poor prognosis. In recent years, several case reports have emerged of CD4+ T-cell lymphomas of the gastrointestinal tract unrelated to celiac disease, which have an indolent course associated with an improved prognosis. We report a case of a 53 year old Caucasian male who presented to the gastroenterology clinic with a four month history of diarrhea and a 20 pound weight loss. He denied any nausea, vomiting, abdominal pain, recent travel, or sick contacts. He had empirically started a gluten-free diet, which did not alleviate his symptoms. He had a past medical history of colon polyps with a normal colonoscopy six months prior to presentation. His family history was significant for a maternal grandfather with colon cancer diagnosed in his 70s, and a niece with celiac disease. His physical exam revealed small scattered lymph nodes in his neck. On laboratory exam he had evidence of malabsorption manifested by a low albumin, B12, and VitD25 level. A tissue transglutaminase IgA was negative, and quantitative IgA levels were normal. An esophagogastroduodenoscopy was performed, which revealed a hypopharyngeal mass, and a nodular duodenum with diffuse villous blunting. Multiple biopsies of the duodenum were taken, which showed extensive T cell lymphocytic infiltrates in the lamina propria. Immunohistochemical studies were positive for CD3, CD4, CD45, CD8, and CD5. A computed tomography scan of the chest, abdomen, and pelvis revealed diffuse abdominal and pelvic lymphadenopathy, two areas of small bowel intussusception, wall thickening in the ileum, and splenomegaly. A PET scan showed multifocal lymphadenopathy in the mesentery, retroperitoneum, and bilateral inguinal regions with mild FDG uptake, but no uptake in the gastrointestinal tract. A bone marrow biopsy demonstrated a similar T cell receptor gene arrangement. The patient's clinical history, lack of evidence of celiac disease, and extensive infiltration of the lamina propria with CD4+ T cell lymphocytes suggests CD4+ T cell lymphoma of the gastrointestinal tract, which is rarely described in the literature. Only six other cases have been reported. It is important to distinguish this entity from enteropathy associated T cell lymphoma due to the differences in clinical, pathologic, and prognostic features.

P927

CYTOMEGALOVIRUS ENTEROCOLITIS COMPLICATED BY PSEUDOTUMORS IN THE TERMINAL ILEUM

S. B. Reddy, MD, K. Trivedi, MD, Y. S. Karamurzin, MD, W. Bae, MD, G. C. Albers, MD, N. K. Parekh, MD, MPH. Department of Internal Medicine, Division of Gastroenterology, University of California, Irvine, Orange, CA.

Purpose: Cytomegalovirus (CMV) is known to cause significant enterocolitis in immunocompromised people. We describe pseudotumors of the ileum caused by CMV enterocolitis in a patient with metastatic melanoma. A 67-year-old man with metastatic malignant melanoma status post biochemotherapy one week ago presents with two days of diarrhea, anorexia, abdominal pain, and fevers. On presentation T 38.1°C, BP 89/49, P 102 bpm, RR 44, SaO2 98% on 2lpm. Patient was tachypneic, abdomen without bowel sounds, tympanic, diffusely tender to palpation, and normal rectal exam. Blood: WBC 100, Hb 10.4, Hct 29, Plt 14,000, lactate 4. Stool studies were negative. Imaging: cecal pneumatosis intestinalis and transverse colon distention. Blood cultures: Streptococcus Viridans and Citrobacter Braackii. Patient treated for neutropenic typhlitis with flagyl and meropenem. He developed melena and recurrent fevers on hospital day #24. Esophogastroduodenoscopy (EGD) revealed Dieulafoy's lesion, treated with hemoclips. Hematochezia occurred 3 days later. Repeat EGD showed clips in place over previous lesion without bleeding. Colonoscopy revealed dark clots in terminal ileum (TI), no active bleeding, and friable cecal mucosa. Tagged RBC scan and push enteroscopy to mid-jejunum were negative for active bleed. Cecal biopsies had intranuclear and intracytoplasmic viral inclusions and positive stain for CMV antigen. CMV serologies positive with viremia. Intravenous ganciclovir started, however hematochezia continued. Visceral angiography showed extravasation from distal branch of ileocolic artery localizing to cecum and TI. Twelve hours post-embolization recurrent hematochezia caused hemodynamic instability. Exploratory laparotomy showed several masses in the TI, so ileocecetomy with diverting ileostomy done. Final pathology: CMV without malignancy. Patient recovered post-operatively without further episodes of GI bleed. CMV enterocolitis presents with abdominal pain, bloody diarrhea, weight loss and fever. Diagnosis is made by symptoms, visualization of ulcers, and intranuclear viral inclusions in mucosal cells. CMV of the GI tract usually involves esophagus, colon, and less commonly small intestine. Ganciclovir is the treatment of choice for 3-6 weeks. Surgical intervention is necessary with signs of peritonitis, free perforation or persistent GI bleed. This case shows CMV enterocolitis can develop life-threatening complications such as hemorrhagic ulcerations causing GI bleed and inflammatory pseudotumors contributing to adhesions, and perforation. Failure of patient to improve with appropriate medical therapy should prompt clinicians to further investigate the presence of complicating factors, such as CMV masses.

P928

DIAGNOSIS OF PRIMARY SMALL BOWEL ADENOCARCINOMA BY EUS-FNA

R. L. Johnston, MD, A. Ribeiro, MD. University of Miami Miller School of Medicine-Jackson Memorial Hospital, Miami, FL.

Purpose: Purpose: Primary adenocarcinoma of the small intestine is the most common of primary small intestinal malignant neoplasms. The majority of these occur in the duodenum and are typically diagnosed by endoscopy, CT, or some type of contrast study. We present the case of a patient diagnosed with small intestinal adenocarcinoma with EUS-FNA after an array of other tests were unrevealing. Case: A 73 year-old black female was referred for evaluation of epigastric pain. She experienced gradual onset of the pain 4 months prior and it had been worsening over this time. She described it as a dull ache with radiation to the back and somewhat relieved with oxycodone. This was associated with intermittent nausea and vomiting 4-5 times per week which was not related to food intake and alternated between bilious and undigested food. She experienced an unexplained 40 lb weight loss, decreased appetite, and intermittent loose, watery stools. Physical exam findings included a soft abdomen with mild tenderness in epigastrium but no distention. She was mildly anemic with normal liver chemistries, amylase, lipase, and basic metabolic profile. CA19-9 was mildly elevated at 39 ng/mL. She had previously undergone an upper endoscopy that revealed antral gastritis, a CT colonography that showed only diverticulosis, and a video capsule endoscopy that revealed a few superficial ulcerations in the proximal small bowel. An abdominal CT revealed minimal dilation of CBD with no intrahepatic dilation, slight dilation of PD, streaking within fat planes inferior to pancreas, diverticulosis, and no masses. She was referred for an upper EUS to evaluate for a possible pancreatic head mass. EUS showed undigested food in the stomach and no pancreatic tumor. A hypoechoic solid lesion was seen in the third portion of the duodenum near the SMA that was biopsied via FNA. Enteroscopy was then performed revealing a malignant appearing stricture in the 4th portion of the duodenum that was biopsied. The biopsies obtained during enteroscopy were negative but the FNA revealed adenocarcinoma. Surgery confirmed a primary small bowel adenocarcinoma with positive nodes. Conclusion: Small intestinal adenocarcinoma accounts for only ~2% of GI malignancies but can be some of the most devastating, particularly with lymph node positive disease. This illustrates a serendipitous EUS FNA diagnosis of small bowel tumor after multiple equivocal imaging tests results.

P929

NAUSEA AND ABDOMINAL PAIN IN THYROTOXICOSIS

V. M. Dasari, MD, V. C. Achanta, MD. Internal Medicine, The Mount Vernon Hospital, Mount Vernon, NY.

Purpose: A thirty two year old African American female presented to the hospital with intermittent nausea for two months. Nausea is not associated with vomiting, changes in appetite or bowel habits. It is unrelated to food intake or diurnal variation. She presented to the emergency room twice in the past two months where she was treated symptomatically with intravenous metoclopromide. Labs then revealed mildly elevated liver enzymes and ultrasound of the abdomen did not show any cholelithiasis. This visit she complained of mild, non-radiating right lower quadrant pain with no aggravating or relieving factors. There is no history of headache, dizziness, palpitations, heat or cold intolerance and weight loss. She has no known food or drug allergies and denies social habits. Physical examination and vital signs are normal. Admission labs revealed mildly elevated liver transaminases and negative beta-hCG. Ultrasound abdomen and hepatitis profile was normal. CT scan of the abdomen and head were unrevealing. Later thyroid function tests showed markedly raised tri-iodothyronine, thyroxine and absent thyroid-stimulating hormone. Thyroid uptake scan showed increased uptake in both lobes consistent with Grave's disease. Symptoms improved after starting methimazole and propranolol. Her liver enzymes also normalized within a month after discharge from the hospital. Discussion: Nausea is a common presenting symptom in pregnancy, gastrointestinal, central nervous system, metabolic, infectious and psychiatric disorders, and medication side effect. Review of literature revealed that nausea, vomiting and abdominal pain are rare presenting complaints in hyperthyroidism. It is hypothesized that altered gastric motility or failure of the pyloric sphincter to function properly due to excess thyroid hormone might be the cause and also these toxic substances could be triggering the emesis center. But mechanisms causing these symptoms are yet to be identified. Thyrotoxicosis has also been implicated as a causative factor in hyperemesis gravidarum. Our case is unique, as the patient had no other signs and symptoms of hyperthyroidism except for nausea, abdominal pain and mildly elevated liver enzymes. Conclusion: Nausea, vomiting and abdominal pain are unusual presentations of thyrotoxicosis. We emphasize the importance of including thyroid function tests in the evaluation of patients with prolonged, unexplained gastrointestinal symptoms. Low threshold for this diagnosis had even led to unnecessary laparotomy in some cases. One must have high index of suspicion about the varied clinical manifestations of hyperthyroidism to improve the timeliness and cost effectiveness of the diagnosis in these conditions.

P930

ACTINOMYCOSIS IN MECKEL'S DIVERTICULITIS

T. Soleymani, MD,[1] R. Shakov, MD,[2] C. Mody, MD,[1] N. Parikh, MD,[3] R. S. Spira, MD,[2] J. R. DePasquale, MD[2]. 1. Internal Medicine, St. Michael's Medical Center, Newark, NJ, Seton Hall University, South Orange, NJ; 2. Gastroenterology, St. Michael's Medical Center, Newark, NJ; 3. Pathology, St. Michael's Medical Center, Newark, NJ.

Purpose: Meckel's diverticulum, a true congenital diverticulum, is found in 2% of the population, is located about 2 feet from the ileocecal valve, and often is no more than 2 inches in length. Fifty percent of these cases contain ectopic tissue most commonly gastric and pancreatic. Two percent of patients are symptomatic, most often presenting by the age of 2 years. Males are twice as likely to experience symptoms.

Methods: This case illustrates a rare presentation of Meckel's diverticulum in a adult female with the diverticulum infected by actinomycosis.

Results: A 37 year-old female with history significant for diabetes, presented with 3 day complaints of peri-umbilical abdominal pain. The pain was constant, nine out of ten in severity, dull in nature, non-radiating and associated with nausea and vomiting. Fever, diarrhea, constipation, urinary symptoms, and vaginal bleeding were denied. On admission, the patient's vitals were stable. On exam, there was epigastric and right upper quadrant tenderness with a positive Murphy's sign. Lab results: WBC 21.7, Hbg 12.4, T.Billi 0.9, Alk. Phos 84, AST 19, ALT 13, Amylase 41, and Lipase 19. Patient was kept NPO and started on ciprofloxacin and metronidazole. CT of abdomen revealed a small non-contrast filled loop of bowel in the right mid abdomen suspicious for a Meckel's diverticulum, this was confirmed at exploratory laparotomy and was resected. It measured 7.5 cm in length and 2-3 cm in diameter; the lumen was distended with a thick, whitish, cloudy fluid consistent with an abscess, which grew actinomycosis, sensitive to ciprofloxacin. On post-op day two, the patient was discharged home. She remained symptom free on follow up.

Conclusion: Meckel's diverticulum, the most prevalent congenital anomaly of the gastrointestinal tract, is due to failure of the vitelline duct to obliterate during the fifth week of fetal development. Symptomatic adult patients most commonly present with acute bleeding, diverticulitis or obstruction. In symptomatic patients, surgical resection is the standard treatment. Other complications of Meckel's diverticulum include abscess formation, enteroliths, hemorrhage, obstruction, intussusception, volvulus, perforation, and malignancy (sarcomas). To our knowledge, there has only been one previously reported case of Actinomycosis associated with Meckel's diverticulitis.

P931

A CASE OF ALEUKEMIC MONOCYTIC NEOPLASM CAUSING DIARRHEA AND WEIGHT LOSS

C. D. Clark, MD,[1] D. Holloman, MD,[2] R. Stuart, MD,[1] J. Lazarchick, MD,[2] D. Lewin, MD,[2] L. Comerford, MD[1]. 1. Department of Medicine, Medical University of South Carolina, Charleston, SC; 2. Department of Pathology, Medical University of South Carolina, Charleston, SC.

Purpose: Aleukemic monocytic leukemia (extramedullary monocytic tumor) is a rare malignancy that involves immature granulocytes and/or monocytes forming a mass in a location other than medullary bone. This is the first known report of this neoplasm involving the gastrointestinal tract from the stomach to the colon.

Methods: A 54-year old female developed acute diarrhea, abdominal cramping weight loss and was found to have clostridium difficile colitis at her local hospital. She was treated with metronidazole but her symptoms returned. She underwent a colonoscopy with biopsy at her local hospital and was diagnosed with ulcerative colitis. She was treated with prednisone and her symptoms markedly improved. Unfortunately her symptoms recurred upon tapering of the steroids. She was transferred to our institution where an upper endoscopy showed diffuse edema, erythema, and ulceration in the stomach with erythema and edema in the duodenum. Colonoscopy showed pan colitis with erythema, edema, and small shallow ulcerations that also involved the terminal ileum. The mucosa of the upper GI tract and lower GI tract appeared endoscopically similar. Biopsies of the stomach, duodedum, terminal ileum, and colon all showed lymphocytic infiltration with stains showing no clonal populations. The duodenal biopsies showed some villous blunting. Prometheus Celiac serology and stool cultures were negative. She developed a dry cough and CT scan of the chest, abdomen and pelvis revealed small lymphadenopathy, mesenteric vessel engorgement, and lower lobe pulmonary nodules. CT-guided pulmonary nodule biopsy showed fibrosis, non-caseating granumola, and pronounced lymphocytic infiltration. Azathioprine was started and she eventually had clinical improvement in her symptoms. Repeat upper endoscopy however showed worsening gastritis with large 1-2 cm nodules throughout her stomach. Pathology review of gastric, duodenal and colon biopsies showed worsening infiltration by atypical hematolymphoid cells shown to stain positively for CD43 and KP1. Bone marrow biopsy was completed with resulting lymphocytic predominance, non-caseating granuloma. She was diagnosed with aleukemic monocytic neoplasm. Her condition deteriorated rapidly and she died prior to being offered chemotherapy.

Conclusion: Aleukemic monocytic leukemia is an extremely rare condition during which leukemic cells invade tissue prior to appearance in the bone marrow or peripheral blood. This appears to be the sentinel case of gastrointestinal involvement from the stomach to the colon. Given the rarity of this disorder, treatment has been empirical: radiation to affected tissues and systemic chemotherapy. The prognosis is quite poor.

P932

MASSIVE GASTROINTESTINAL BLEEDING AND DIFFUSE BOWEL WALL THICKENING: A CASE OF ADULT HENOCH-SCHöNLEIN PURPURA (HSP) DEVELOPED AFTER METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) INFECTION

B. Xie, MD, PhD,[2] J. Sotiriadis, MD, PhD,[1] K. Grover, MD,[1] M. J. Sterling, MD,[1] W. Wang, MD[1]. 1. Division of Gastroenterology and Hepatology, UMDNJ - New Jersey Medical School, Newark, NJ; 2. Department of Medicine, UMDNJ - New Jersey Medical School, Newark, NJ.

Purpose: Henoch-Schönlein purpura (HSP) is a systemic vasculitis characterized by immune complex deposition, usually in the skin and kidney, rarely in the gastrointestinal (GI) tract. It occurs mainly in young children. While the triad of purpura, arthritis, and abdominal pain is the classic presentation of HSP, the manifestation of GI involvement in adults is less defined.

Methods: We report a rare case of massive GI bleeding and diffuse bowel wall thickening caused by mesenteric small vessel vasculitis due to HSP post-MRSA infection.

Results: Patient is a 24 year old male with a medical history of multiple left arm MRSA-abscesses in the past. The patient now presents with severe left lower quadrant abdominal pain, hematemesis, and melena. Computed tomography of the abdomen and pelvis revealed diffuse small bowel wall thickening. Subsequent esophagogastroduodenoscopy (EGD) and push enteroscopy showed acute gastritis and "punched-out" ulcers in the proximal jejunum. The patient developed a diffuse palpable, pruritic, coalescing rash throughout his bilateral lower extremities 6 days after the initial symptoms. Skin biopsy of the rash showed vasculitis consistent with HSP. Plasmapheresis and immunosuppressive therapy with oral prednisone were begun. However, the patient developed recurrent hematemesis and melena. Repeat EGD showed an ulcerated esophageal mucosa with severe inflammation; biopsy demonstrated a neutrophilic vasculitis. Small bowel biopsy showed granulation tissue with a neutrophilic vasculitis with fibrinoid necrosis. The patient was kept on bowel rest with parenteral nutrition and given intravenous methylprednisolone. The hospital course was complicated by alveolar hemorrhage and acute renal failure likely from HSP vasculitis, requiring intubation and hemodialysis. Subsequent kidney biopsy showed vasculitis with acute post infectious glomerular nephritis. Eventually, the patient improved clinically with the resolution of the rash and improvement of pulmonary and renal function to baseline. The patient was tapered off steroids, tolerated oral feeds and was finally discharged home on hospital day 21.

Conclusion: HSP vasculitis with diffuse GI involvement causing massive GI bleeding is rare, but carries a high mortality. This case presentation is that of adult onset HSP developed after

MRSA infection in a patient that presented with massive GI bleeding prior to the appearance of typical palpable purpura In an era when MRSA is omnipresent, it should be considered as an important risk factor for developing HSP. Furthermore, early endoscopic intervention and biopsies are vital to diagnosing this rare entity in order to initiate early systemic steroid therapy, especially when the GI hemorrhage is the only initial presentation.

P933

ATYPICAL CASE OF MUCOSAL MALIGNANT MELANOMA:

N. Mahendraker, MD, M. F. Siddiqui, MD, MPH, J. Reddy, MD, FACG. Internal Medicine, University Of Illinois at Urbana-Champaign, Urbana, IL.

Purpose: Malignant melanoma of the gastrointestinal mucosa in the absence of cutaneous lesions is very rare. We report an unusual case of primary malignant melanoma of the duodenal mucosa. A 38-year-old diabetic male presented with nausea, bilious vomiting and severe, colicky, epigastric pain for 3 days associated with worsening jaundice for 7 days. Proton pump inhibitors were started 3 months earlier for "heart burn". Review of systems was positive for decreased appetite. Rest of the history was non contributory. Physical exam revealed stable vitals; scleral icterus and epigastric tenderness. Initial laboratory work up was significant for elevated total bilirubin, transaminases and alkaline phosphatase suggestive of obstructive jaundice. Computed Tomography scan of abdomen with contrast showed hepatic hilar lymphadenopathy and biliary obstruction .Endoscopic Retrograde Cholangiopancreatogram revealed ulcerated proximal duodenal mass with common bile duct (CBD) stricture. Pathology confirmed duodenal malignant melanoma with involvement of CBD. Comprehensive physical exam to rule out any cutaneous or retinal melanoma was negative. Extensive imaging with whole body positron emission tomography and magnetic resonance imaging of the brain did not reveal any other foci. Despite being on chemotherapy and radiotherapy patient rapidly deteriorated with extensive metastasis and expired within 8 months of diagnosis. This case illustrates that a high index of suspicion is warranted to diagnose mucosal malignant melanoma in a timely manner which can originate in esoteric locations and progress rapidly with significant mortality.

P934

CYTOMEGALOVIRUS ENTERITIS IN AN IMMUNOCOMPETENT HOST

S. Madadi, MD,[1] M. Versland, MD[2]. 1. Department of Medicine, Division of Gastroenterology, University of Connecticut, Farmington, CT; 2. Department of Medicine, Division of Gastroenterology, The Hospital of Central Connecticut, New Britain, CT.

Purpose: Introduction: Cytomegalovirus (CMV), a DNA virus is a member of the herpes virus family. CMV infection may affect all parts of the gastrointestinal tract, most commonly the esophagus and the colon. It is most often seen in immunocompromised patients. Small bowel involvement is rare. We herein present a case of an immunocompetent woman with isolated CMV infection of the small bowel. Case Report: A 65 year old Chinese woman was hospitalized with profuse diarrhea, vomiting, abdominal pain, and fever. Her past history was significant for hypertension, depression, osteoarthritis, hysterectomy and breast cancer 8yrs ago treated with lumpectomy and radiation. Her medications included Lotrel, Celebrex, Prozac, Neurontin and Xanax. She was a non smoker and denied any drug use. On physical examination, the patient appeared ill. Her temperature was 101°F, heart rate 142 beats/min and blood pressure 100/72 mmHg. Her abdominal exam was notable for diffuse tenderness with no rebound. Laboratory values on admission were notable for an elevated creatinine but otherwise normal. Her blood and stool cultures were negative. Abdominal computed tomography showed thickening of the mid to distal small bowel. A small bowel follow through showed mucosal edema and ulcerations in the same area. Colonoscopy with intubation of the terminal ileum was normal including random biopsies. HIV test was negative. Her symptoms persisted and she was then taken for laparoscopy where a segment of abnormal small bowel was resected. Histological examination showed atypical cells with intranuclear inclusions. Immunoperoxidase stain for CMV was strongly positive. A high titer of IgM antibodies to CMV confirmed the diagnosis. Antiviral therapy was initiated and the patient recovered. Discussion: CMV infection in immunocompetent individuals is usually asymptomatic, or may produce a mononucleosis-like illness. It generally resolves without treatment. Small bowel involvement is very rare in immunocompetent individuals. A Medline search produced only 7 cases of CMV enteritis in immunocompetent subjects. The ages ranged from 18 to 68 years. Diarrhea was present in all the patients, abdominal pain in 5 cases and fever in 3 cases. Most patients were treated conservatively and symptoms resolved. Four required surgery for intestinal perforation or strictures. The characteristic histological findings of CMV enteritis are cytomegalic inclusion bodies in the endothelial cells of the capillaries. Ganciclovir and foscarnet are the primary treatment agents for clinically significant CMV infection. In conclusion, CMV enteritis is rare in immunocompetent patients but should be considered in the differential diagnosis of acute enteritis.

P935

CHYLOUS ASCITES: A RARE COMPLICATION OF MYCOBACTERIUM AVIUM COMPLEX (MAC) INFECTION AND IMMUNE RECONSTITUTION INFLAMMATORY REACTION (IRIS) IN AIDS

L. K. Jha, MD,[1] N. Timilsina, MD,[1] M. Bidros, MD,[1] S. Nupur, MD,[1] F. Fallick, MD,[2] J. Kurz, MD,[2] M. Dahdouh, MD[3]. 1. Department of Medicine, St. Barnabas Hospital, Bronx, NY; 2. Department of Gastroenterology, St. Barnabas Hospital, Bronx, NY; 3. Department of Infectious Disease, St. Barnabas Hospital, Bronx, NY.

Purpose: A 40 year old African American male with h/o AIDS (CD4 count of 0/μL), h/o pulmonary MAC infection with dissemination, non-compliance with medical treatment came to ED for evaluation of gradually worsening abdominal distension for a month associated with weight loss. On admission, he was afebrile, normotensive, but slightly tachycardic. Laboratory examination showed WBC of 21.8 per mm3 with 89.6 % neutrophils, and albumin of 1.4 g/dl. CT scan of abdomen/ pelvis showed massive ascites with retroperitoneal and retrocaval lymphadenopathy. Abdominal paracentesis revealed cloudy fluid with WBC of 1800 per mm3, 78% neutrophils, and SAAG was 0. Patient was given antimicrobial coverage for spontaneous bacterial peritonitis; and empiric intensive treatment for MAC peritonitis was started with rifabutin, azithromycin, ethambutol, amikacin, and ciprofloxacin. Antiretroviral therapy was restarted. Microbiological analysis of the peritoneal fluid showed acid-fast bacillus and blood culture grew mycobacterium species confirmed to be MAC by DNA probe. Three weeks later, patient's CD4 count improved to 34/μL, however he developed worsening ascites and fever with repeat CT scan showing loculated pocket of ascites. Repeat paracentesis showed chylous peritoneal fluid with WBC of 375 per mm3, 56% neutrophils, and triglycerides level of 780 mg/dl. Antiretroviral therapy was discontinued and steroids were added to intensive MAC treatment for suspected IRIS. Patient's stool, sputum, blood as well as ascitic fluid culture grew MAC. Patient's ascites and fever resolved, steroids tapered, and antiretroviral therapy was resumed. Three weeks later, repeat CT scan of abdomen showed no loculation of ascites with minimal improvement. He was treated with ciprofloxacin and amikacin for 28 days and discharged to rehabilitation facility for intense nutrition support, on azithromycin, rifabutin, ethambutol, bactrim, and antiretroviral therapy. At three months post admission, patient had repeat CT scan that showed no ascites and improvement in adenopathy. In the literature, there are only four reported cases of chylous ascites as a complication of disseminated MAC infection in adult patients to our knowledge, and two reported cases complicated by immune reconstitution inflammatory syndrome (IRIS). Though chylous ascites is a rare complication of disseminated MAC infection, it should be considered in the differential diagnosis of ascites in patients with AIDS.

P936

EOSINOPHILIC ASCITES POSTPARTUM

I. Hepburn, MD, S. Sridhar, MBBS, R. R. Schade, MD. Medicine, Medical College of Georgia, Augusta, GA.

Purpose: Eosinophilic ascites (EA) is a rare disorder of unknown etiology that is a part of the syndrome of eosinophilic gastroenteritis. Characterized by peripheral and tissue eosinophilia it can affect any area of the digestive system and all layers of the gut wall.

Methods: We report a case of EA that developed 10 weeks postpartum.

Results: The patient a 20 year old female had no past medical history. She experienced rapid onset of nausea, nonbloody vomiting and diarrhea for several weeks accompanied by abdominal pain and swelling. She noted weight gain of 20 Lbs and leg edema. Her pregnancy had been uneventful. There was no history of transfusions, recent travel, respiratory symptoms, rash, allergies, or ill contact. There was no history of illicit drug or alcohol use, she was taking no medications, and there was no history of thyroid or liver disease. Physical examination: Skin and mucosa clear, no jaundice. Cardiovascular exam and thyroid were normal. Abdomen was distended and tender to palpation diffusely with shifting dullness present. Bilateral leg edema was seen. Laboratory data: Hgb 11g/dL, Hct34, PLT 278, WBC 12.8k/ml, differential segmentonuclear 50%, lymphocytes 9%, monocytes 1%, eosinophils 38%. Serum electrolytes, coagulation studies, thyroid and liver tests were normal. HIV ELISA was negative. Parasitic infestation was excluded by stool and serological studies. US of the liver was normal with all vessels patent. Diagnostic paracentesis revealed hazy dark fluid with no cytological signs of malignancy, protein level 4.5g/dL, albumin 2.4g/dL, RBC 12K/ml, WBC 1780/ml with significant eosinophilia 82%. Tuberculosis was ruled out by negative cultures. Bone marrow biopsy showed normal hemopoesis with 20-25% eosinophils and normal cytogenetics. EGD demonstrated mild mucosal erythema. Mucosal biopsies from the esophagous,stomach and duodenum contained no eosinophils. The patient was treated with prednisone with rapid resolution of her symptoms.

Conclusion: EA is classified according to the predominance of eosinophilic infiltration in the different layers of the intestinal wall. Clinical manifestations depend on the affected layers and range from barely perceptible symptoms to intestinal obstruction or ascites. The mucosal infiltration results in vomiting and diarrhea sometimes with hematochezia. Muscularis involvement results in gut wall thickening and may lead to obstruction. The serosal form is the most unusual and leads to eosinophilic ascites. Steroid therapy is effective, sometimes long term low dose maintenance steroid therapy is required to prevent reoccurrence of the EA. It is an important consideration in the differential evaluation of ascites.

P937

DON'T SWALLOW YOUR GUM: ABNORMAL POSITRON EMISSION TOMOGRAPHY (PET) SCAN SECONDARY TO BUBBLE GUM ADHERENT TO THE COLONIC MUCOSA

J. Hall, MD, A. Movva, MD, S. Sridhar, MB, BS, FACG, S. M. Chamberlain, MD, FACG. Section of Gastroenterology and Hepatology, Medical College of Georgia, Augusta, GA.

Purpose: A 42-year-old female was referred to us following an abnormal PET scan one month after a right breast lumpectomy for intraductal carcinoma. The PET scan used 18F fluorodeoxyglucose (FDG) with tandem computed tomography (CT) and demonstrated increased activity in the ascending colon, especially in the cecum, most of which appeared to be intraluminal. No other area of abnormal uptake in the abdomen was seen (Image 1). The patient had no family history of colon cancer or bowel symptoms.

Methods: The colonoscopy revealed a large wad of pink bubble gum adherent to the proximal right colon wall. The gum was piece-meal snared and removed with 2 Roth baskets (Image 2). Otherwise, the colon appeared normal. A follow up CT scan demonstrated that the intraluminal defect had resolved.

Results: This is a case of a false positive PET caused by adherent bubble gum in the colon. PET scans detect malignancy by demonstrating alterations in metabolic and molecular activity. FDG-PET evaluates changes in glycolysis. This leaves PET scans subject to false positive results by any process that increases glucose metabolism or alters the rate of glycolysis, as would occur with mucosally adherent sugared gum.

Conclusion: To our knowledge, this is the first case report of sugared gum in the colon causing abnormal uptake on PET scan. There was one previous case report of abnormal uptake of the tongue during FDG-PET because the patient had chewed gum prior to the PET scan. This case differs from other previous false positive PET scan cases due to foreign bodies, because it details a foreign body causing abnormal FDG uptake, as opposed to a foreign body causing granulomatous reactions, which then secondarily cause alterations in glycolysis resulting in the false positive result. This case teaches us to consider alternate diagnoses and even foreign bodies when dealing with abnormal PET imaging. Finally, it reinforces us to follow what our mothers said: "Don't swallow your gum."

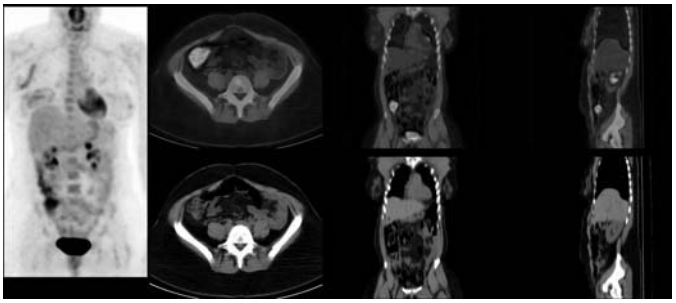


IMAGE 1: FDG-PET scan, showing right colon uptake.

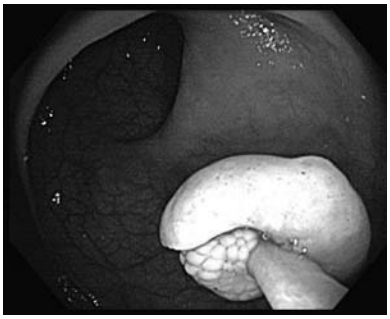


IMAGE 2: Endoscopic removal of gum with Roth basket.

P938

ISCHEMIC COLITIS, ACALCULOUS CHOLECYSTITIS AND CATASTROPHIC LONGITUDINAL TRANSVERSE MYELOPATHY IN ANTIPHOSPHOLIPID SYNDROME AND SJOGREN'S VASCULITIS

B. Ericsoussi, MD, R. Andina, MD, M. Wichter, MD, C. Berkelhammer, MD, FACG. Internal Medicine, University of Illinois, Oak Lawn, IL.

Purpose: Introduction: Ischemic colitis, acalculous cholecystitis and transverse myelitis are known hypercoagulable and autoimmune manifestations of antiphospholipid syndrome (APS) and Sjogren's vasculitis (SV). We describe a patient who developed ischemic colitis, acalculous cholecystitis and catastrophic longitudinal transverse myelopathy (CLTM) secondary to APS and SV. Case: 52 year old previously well female presented with severe right upper quadrant (RUQ) pain associated with constipation. Physical examination was only notable for RUQ tenderness. Her ALT was 74 U/L (normal 10-40). Her AST, bilirubin and alkaline phosphatase were normal. Ultrasound of gallbladder was normal. Hepatobiliary scan showed ejection fraction of 4% (normal < 35%) consistent with gallbladder dyskinesia. Colonoscopy showed circular ulcerations in the left colon, raising the possibility of ischemic colitis from vasculitis. Colonic biopsies were consistent with ischemic colitis. Post-operatively she developed rapidly progressive paraplegia. MRI was consistent with CLTM. She also developed deep venous thrombosis. Cardiolipin antibodies were elevated: IgG 34 gpl (normal < 20), beta-2-glycoprotein IgM was 95 gpl (normal < 20) and IgG 57 gpl (normal < 20). These antibodies remained positive three months later. Lupus anticoagulant was negative. The Anti-Ro (SS-A) was elevated at 129 U/ml (normal < 25). She responded well to a course of steroids, azathioprine and anticoagulation. Discussion: Ischemic colitis, acalculous cholecystitis and transverse myelitis have been rarely associated with APS as well as SV. In previous reports these manifestations have occured separately in association with APS and SV, rather than as a cluster complex. We feel our patient likely had both APS and SV. She did satisfy the International Consensus criteria for probable catastrophic APS (CAPS) as well. Physicians should consider APS and SV as well as CAPS in patients with ischemic colitis, acalculous cholecystitis and transverse myelitis.

P939

A CASE OF PRIMARY PAPILLARY SEROUS CARCINOMA OF THE PERITONEUM IN A MAN

T. Yoshino, MD,[1] S. Hozawa, MD,[1] T. Kimura, MD,[2] M. Jinzaki, MD,[3] Y. Yamada, MD,[1] Y. Yamagishi, MD,[1] H. Kanamori, MD,[1] Y. Okada, MD,[3] T. Hibi, MD[1]. 1. Division of Gastroenterology, Department of Internal Medicine, Keio University School of Medicine, Tokyo, Japan; 2. Department of Pathology, Keio University School of Medicine, Tokyo, Japan; 3. Department of Radiology, Keio University School of Medicine, Tokyo, Japan.

Purpose: Immunohistological and electron microscopic examinations at autopsy were performed to confirm a diagnosis of a patient, who was clinically diagnosed as poorly differentiated adenocarcinoma by percutaneous biopsy of thickening part of peritoneum.

Methods: Enhanced CT scan showed distended stomach and rectum, broad intestinal wall thickening, thickening peritoneum, enlarged mesenteric lymph nodes, small amount of ascites, mild hydronephrosis and thrombosis of innominate and jugular vein. The echo-guided biopsy of the thickening part in the peritoneum was performed, and the lesion was diagnosed as poorly-differentiated adenocarcinoma. However, immunohistological analysis and additional imaging studies could not determine a primary lesion. At autopsy, immunohistochemical studies were performed using primary antibodies for pancytokeratin, epithelial membrane antigen, carcinoembryonic antigen, CA125, neuron-specific enolase, calretinin, D2-40, WT1, cytokeratin 7, cytokeratin 20, BerEP4, LeuM1, CA19-9, chromogranin, synaptophysin, and thyroglobulin. Electron microscopic examination was further performed.

Results: Histological examination revealed invasive growth of neoplastic cuboidal or columnar cells with eccentric nuclei forming papillary and glandular structures. Psammoma bodies were found. These microscopic features were highly reminiscent of ovarian/peritoneal serous adenocarcinoma of women. Tumor invasion was observed in subcutaneous tissue of the abdominal wall. The tumor also invaded the right ureter, resulting in hydronephrosis of the right kidney. No tumor was found in paratesticular regions. Metastasis of the tumor was found in lymph nodes (mesenteric, paraaortic, and paratracheal), left adrenal gland, and bilateral lungs. The lungs showed marked lymphangitis carcinomatosa and tumor emboli in the pulmonary artery branches. Venous thrombi containing metastatic tumor cells filled the lumina of the left jugular vein and left renal vein. No primary tumor was found in the visceral organs. The tumor cells were positive for pancytokeratin, EMA, monoclonal CEA, CA125, and NSE. They were negative for calretinin, D2-40, WT1, cytokeratin 7, cytokeratin 20, BerEP4, LeuM1 (CD15), CA19-9, chromogranin, synaptophysin, and thyroglobulin. In electron microscopic examination of the tumor cells, no apparent microvillus was found, although a small number of irregular short cytoplasmic processes were observed. Bundles of intermediate filaments were not seen in these cells. These findings indicated that the tumor was papillary serous adenocarcinoma of the peritoneum in a man. The diagnosis of peritoneal malignant mesothelioma was unlikely.

Conclusion: This report is the third case of PSCP in male.

P940

A RARE CASE OF COMMON VARIABLE IMMUNODEFICIENCY MASQUERADING AS CELIAC DISEASE

M. Windham, MD, S. Chaudhry, MD. Gastroenterology, University of Tennessee, Memphis, TN.

Purpose: INTRODUCTION Common Variable Immunodeficiency (CVID) occurs secondary to failure of B-cell proliferation resulting in low levels of immunoglobulin. We present an unusual case of CVID which initially presented with findings suggestive of celiac disease. CASE A 38 y/o female presented to our facility with complaints of diarrhea, intermittent abdominal pain, nausea, vomiting, and myalgias for 6 months. Also she reports weight loss of 50 pounds. According to the patient's history, she was diagnosed with celiac disease four months ago, and initially responded to a gluten-free diet. On presentation, she was afebrile, hypotensive and tachycardic. Clinical examination revealed diffuse, abdominal tenderness to palpation without guarding or rebound. Examination of skin was normal. Esophagogastroduodenoscopy (EGD) showed duodenitis and benign gastric mucosa. Histological examination of small bowel and gastric biopsy specimens revealed marked active enteritis with villous atrophy, and intraepithelial lymphocytosis and lymphocytic gastritis. Her IgA tissue transglutaminase and IgA AGA were normal. Colonoscopy showed active inflammation in the terminal ileum and pancolitis with rectal involvement. Histological examination of her colonic mucosa was normal. The diagnosis of celiac disease was reconfirmed on the basis of endoscopic and histiological findings. Diarrhea improved on discharge after treatment with Lomotil. After initial improvement, her symptoms returned. A repeat EGD with small bowel biopsies and a surgical laparotomy with mesenteric lymph node and small bowel biopsy were performed. The biopsy of the mesenteric lymph node showed aggregates of B-cell corresponding to follicles seen on hematoxylin and eosin-stained with T-cells in paracotical region. Flow cytometry of lymph node showed no evidence of clonal B-lymphocyte population or aberrant T-cell antigen expression. Small bowel biopsy displayed marked intraepithelial lymphocytosis with near-total villous atrophy and lymphocytic gastritis. HLA DQ2 and DQ8 were obtained which were negative. Patient did not have celiac disease. Additionally, Allergy and Immunology further evaluated her hypogammaglobunemia, ordering immunoglobulin levels as well as T and B cell enumeration studies as well as mitogen stimulation with lymphoblastic transformation studies. This data showed markedly decreased levels of IgG, IgA, and IgM. These findings along with the aforementioned tests were used to confirm a diagnosis of CVID. DISCUSSION Similarities between these two clinical entities may lead to an inappropriate diagnosis with associated morbidities.

P941

RHINOCEREBRAL MUCORMYCOSIS WITH CRANIAL NERVE INVOLVEMENT PRESENTING WITH DYSPHAGIA IN AN IMMUNOCOMPROMISED CIRRHOTIC PATIENT

M. Tiewala, MBBS, MD,[1] G. Fruchter, MD[2]. 1. Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY; 2. Gastroenterology, VA NY Harbor Healthcare System, Brooklyn, NY.

Purpose: To highlight mucormycosis with cranial nerve involvement presenting with dysphagia in an immunocompromised cirrhotic patient.

Methods: A 59 year old male with Laennec's cirrhosis, diabetes mellitus, and coronary artery disease presented to the emergency department with left sided facial pain following a tooth extraction 2 days earlier. His facial swelling was initially attributed to the tooth extraction. He had left sided facial numbness and drooping, with flattening of the left nasolabial fold. The Head CT and MRI on admission were essentially unremarkable. In view of dysphagia to both solids and liquids, with inability to swallow and choking on liquids, the GI team was consulted. He denied any nausea, vomiting, odynophagia, or abdominal pain. The following day he developed diplopia, and the next day became blind in the the left eye. On exam he was tachycardic, Tmax 100 F, 120/60 mm of Hg, and respiratory rate of 16 per minute. He had slurred speech, was unable to open left eye and had no vision in that eye. Pupils were sluggish in response to light and poorly reactive bilaterally with bilateral ptosis. Absent left ocular motion. Poor gag reflex was present; tongue movements were fine. Abdominal exam was significant for moderate ascites. During hospital stay he developed a white count of 24,000, and became hemodynamically unstable requiring ICU monitoring. A repeat CT of the sinuses now showed bilateral mucosal thickening of the ethmoid, frontal and maxillary sinuses, with frothy mucous in the sphenoid sinus. On nasal endoscopy a necrotic left middle turbinate was seen with white spores in the posterior nasopharynx, biopsies positive for mucor like fungus. The patient was started on amphotericin B and an emergent tracheostomy, radical maxillectomy, and left orbital exenteration was performed. Post-op the patient continued to deteriorate and he expired two days later.

Results: -NA-

Conclusion: Mucormycosis in cirrhosis is rare and has a poor prognosis. The immunocompromised state present in cirrhotics as well as the underlying diabetes represented risk factors in our patient. This case highlights a rapidly progressive fatal case of rhinocerebral mucormycosis presenting with dysphagia due to cranial nerve neuropathy. Literature search reveals a small case series of cirrhotics with mucormycosis presenting with upper motor neuron signs, but this case is unique in its presentation with dysphagia. In view of the immunocompromised state of cirrhotics, it is important to maintain vigilance for an opportunistic infection. Furthermore, oropharyngeal dysphagia warrants a full neurological evaluation to assess for presence of cranial neuropathy.

P942

A RARE CASE OF BREAST CANCER METASTASIS PRESENTING AS LINITIS PLASTICA OF STOMACH AND COLON

A. Malhotra, MD,[1] P. Guturu, MD,[1] B. S. Mohammed, MD,[2] G. S. Raju, MD[1].
1. Gastroenterology and hepatology, UTMB, Galveston, TX; 2. Department of Pathology, UTMB, Galveston, TX.

Purpose: 71-year-old Hispanic female patient underwent screening colonoscopy with complaints of recent onset of constipation and weight loss. At the same time an upper endoscopy was done to evaluate for decreased appetite and early satiety. She had significant past medical history for recurrence of breast cancer with diffuse skeletal metastasis 2 years ago after a decade of cancer free period. Currently, she was receiving palliative chemotherapy. On examination, she appeared cachectic and pale. Laboratory examination disclosed normocytic anemia, with a Hb level of 10.5 g/dL (normal range for Hb in our institution is 11.5- 15.5 g/dL). Colonoscopy revealed an irregular configuration of the mucosal surface, luminal narrowing, and poor distensibility in the mid-transverse colon (Fig. A). Multiple biopsies were obtained. Histopathologic examination of the biopsy specimen revealed colonic mucosa with metastatic adenocarcinoma, morphologically consistent with lobular carcinoma of breast (Fig. B). EGD revealed thickened gastric folds; multiple biopsies were obtained. Histopathologic examination of the gastric biopsy specimens also revealed metastatic adenocarcinoma from breast. Extrahepatic gastrointestinal metastasis from breast cancer is uncommon. Metastases to the stomach and small bowel from breast cancer are reported to be more frequent than colonic and rectal involvement. Two reviews dealing with metastatic breast cancer have reported the involvement of colon in about 4% of the patients. Lobular carcinoma is the most common histological type of breast cancer that metastasizes to the colon and rectum. It is important to realize that patients with known breast cancer, especially of the lobular type, with vague, nonspecific abdominal signs and symptoms, particularly of an obstructing nature should be endoscopically screened for gastrointestinal metastases.

P943

CHEST DISCOMFORT CAUSED BY TRANSMURAL MIGRATION OF SURGICAL MATERIAL AFTER FUNDOPLICATION

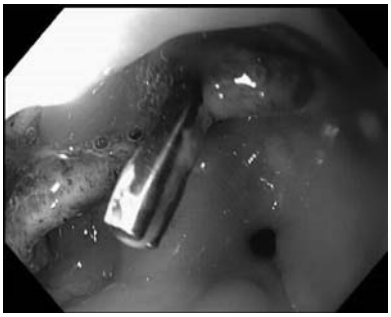
R. Borsatto, MD,[1] N. J. Shernoff, MD[2]. 1. Gastroenterology, Carl T. Hayden Veteran Affairs Medical Center - Phoenix, AZ, Phoenix, AZ; 2. Gastroenterology/Hepatology, University of Arizona, Tucson, AZ.

Purpose: Introduction: Transmural migration of surgical material is a rare situation with few cases reported. The most common cases were related to migration of gel material placed at the submucosal GE junction as an alternative of fundoplication. Esophageal foreign bodies occur more often associated with accidental ingestion especially in children and in adults with mental disorder, alcohol intoxication and reduced oral-palate sensation.

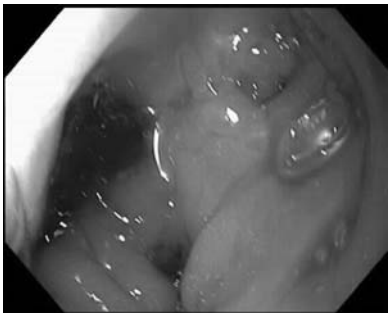
Methods: Case: A 46-year-old caucasian woman who underwent laparoscopic Nissen fundoplication 10 years prior presents with symptoms described as increasing difficulty swallowing and chest discomfort for 1 month. Initially it was thought that symptoms could be related to GER with possible hiatal hernia recurrence. Barium swallow showed distorted GE junction and large sliding hiatal hernia although increased dosage of PPI to 40mg twice a day did not improve symptoms.

Results: Endoscopy was performed and a foreign body consisting of suture material and a metalic clip was identified at 34cm from incisors within the esophageal lumen. The suture was cut and retrieved using a Olympus loop cutter.There was a local edema and narrowing of the lumen but no difficult progression to the stomach. During retroflexion in the fundus we observed an intact fundoplication. Patient's symptoms subsided one week after the procedure.

Conclusion: Discussion: Although rare, foreign body secondary to transmural migration of surgical material should be thought in patients who underwent fundoplication and have recurrent symptoms even many after the procedure. Radiologic examination is important but could be misinterpreted. Endoscopic evaluation is essential for diagnosis and possible treatment.



Suture material in the esophageal lumen



Esophageal inflammation after suture material removed

P944

DOUBLE TAKE: GASTRIC POLYPS ARE REAL!

S. C. Leverage, MD, L. R. Pena, MD. University of Kentucky, Lexington, KY.

Purpose: A 47-year-old woman with history of GERD on chronic PPI and hyperplastic colon polyps presents to GI clinic with iron deficiency anemia of unknown etiology. She has a family history significant for a brother with a Schatzki's ring of the esophagus as well as Barrett's esophagus, a father with colon cancer detected at age 50, two paternal uncles with colonoscopies revealing less than 100 polyps, a paternal great-grandfather with colon cancer, and a maternal grandfather with gastric cancer. Patient's hemoglobin and hematocrit were 10.5 g/dL and 31.6%, respectively. Iron studies revealed an iron level of 25 ug/dL, TIBC of 488 ug/dL, ferritin of 6 ng/ml, transferrin of 390 mg/dL, and transferrin saturation of 5%. Colonoscopy revealed a sessile, 3mm polyp in the ascending colon and a sessile, 4 mm polyp in the rectum both with biopsy results consistent with a hyperplastic polyp. EGD revealed a mild Schatzki ring in the lower third of the esophagus, a medium-sized hiatal hernia, and 30-50, 5 to 30 mm pedunculated and sessile polyps with no stigmata of recent bleeding in the gastric antrum and body of the stomach. The examined duodenum was normal. Histology confirmed these were fundic gland polyps. Video capsule endoscopy revealed multiple large pedunculated and sessile polyps with no bleeding or stigmata of recent bleeding in the gastric body, fundus and antrum. The patient was evaluated for genetic mutations of the APC or MYH genes because of the multiple, large fundic gland polyps and her family history of colon cancer. Genetic testing came back negative for any mutations in the APC or MYH genes. Ultimately, it was felt that the patient's multiple polyps were secondary to chronic PPI use and were not secondary to malignancy. Polyps are often incidentally discovered on endoscopy and should not simply be overlooked. They require a "double take". Biopsy is necessary for histological evaluation. When multiple gastric polyps are found, particularly to the degree in this case, further evaluation should be undertaken, regardless of histologic type. Assessing the possibility of genetic mutations that could predispose to GI malignancy is reasonable. APC or MYH gene mutations may be revealed which correlate highly with FAP. In addition, there is a clear correlation between fundic gland polyps and FAP. This could have serious implications for a patient leading to colon cancer. Suddenly, the incidental finding of a gastric polyp which may have been overlooked is very significant. In conclusion, gastric polyps need diagnostic evaluation beyond what is seen during endoscopy which is a change from the current practice during many endoscopies.

P945

HYPOCALCEMIA DUE TO PROTON PUMP INHIBITORS IN A PATIENT WITH PARATHYROID INSUFFICIENCY

B. M. Craft, MD,[1] M. F. Vela, MD[2]. 1. Department of Medicine, Medical University of South Carolina, Charleston, SC; 2. Digestive Disease Center, Medical University of South Carolina, Charleston, SC.

Purpose: Proton pump inhibitors (PPIs) are among the most commonly prescribed medications in the United States and are generally safe with few side effects. We report a case of recurrent symptomatic hypocalcemia associated with PPI use. A 33 year old female with a history of papillary thyroid cancer resection and subsequent diminished PTH activity requiring oral calcium carbonate to maintain normocalcemia presented with postprandial heartburn. She was started on omeprazole/sodium bicarbonate 40mg once daily for GERD. After one week of therapy she developed cramping,tetany,and perioral numbness and tingling; serum calcium levels revealed a decrease in calcium levels from a baseline 9.0 to 6.5mg/dL despite her oral calcium supplementation. Upon discontinuation of omeprazole/sodium bicarbonate, her calcium levels normalized and the symptoms of hypocalcemia resolved. Symptoms of GERD persisted and Esomeprazole 20mg once daily was begun. After one week of therapy, the symptoms of hypocalcemia returned and serum calcium levels decreased to 7.3mg/dL. Because esomeprazole 20mg failed to control her heartburn, the dose was increased to 40mg once per day without an increase in her calcium supplementation. This resulted in yet another episode of symptomatic hypocalcemia and a drop in calcium levels to 6.3 mg/dL. Her calcium supplementation was changed from calcium carbonate to calcium citrate, resulting in normalization of serum calcium levels; however, calcium carbonate caused significant dyspepsia. Eventually the dose of calcium citrate was titrated so that normocalcemia could be acheived with only minimal dyspepsia with esomeprazole 40 mg per day. The acidic environment in the stomach increases calcium solubility by releasing ionized calcium salts from its insoluble forms. Calcium malabsorption secondary to acid suppression by PPI therapy appears to have caused symptomatic hypocalcemia in this patient with parathyroid insufficiency. Gastrectomy and pernicious anemia have been shown to increase the risk of osteopenia and fracture, and recent studies suggest that chronic acid suppression therapy may lead to an increased risk of hip fractures possibly related to decreased calcium absorption. Symptomatic hypocalcemia due to PPIs is rarely seen in patients with normal parathyroid function. The case we report should alert clinicians about this possible complication of PPIs in patients with hypoparathyroidism, and should also be a reminder about the potential for asymptomatic hypocalcemia in other patients. Compared to calcium carbonate, calcium citrate appears to be better absorbed in the setting of pharmacological acid suppression and should be the supplementation of choice in these patients.

P946

GASTROPARESIS FOLLOWING SMALLPOX VACCINATION

J. T. Laczek, MD, R. K. Wong, MD. Dept. of Gastroenterology, Walter Reed Army Medical Center, Washington, DC.

Purpose: Gastroparesis is a disorder characterized by symptoms of gastric retention and evidence of delayed gastric emptying in the absence of mechanical obstruction. Established causes of gastroparesis include systemic disease (such as diabetes mellitus) and abdominal surgery. There are also three reported cases of gastroparesis occurring following vaccination. We present an additional case of post-vaccination gastroparesis, occurring following a smallpox vaccination.

Methods: A 37-year-old Caucasian woman in her normal state of good health underwent smallpox vaccination. Within 24 hours, she developed a globus sensation and facial flushing, which were treated with corticosteroids and antihistamines. Over the next three weeks, she was seen multiple times for dysphagia, nausea, headaches, and a sensation of her throat closing. She was treated with epinephrine, H1 and H2 receptor antagonists, and a prolonged course of corticosteroids. Her symptoms further evolved to include dyspnea, chest tightness, palpitations, dizziness, and elevated blood pressure. One month after the onset of her symptoms, pulmonary consultation was obtained; laryngoscopy revealed denuded epithelium on her vocal cords, consistent with GERD. Two months after the onset of her symptoms, she was seen in our GI clinic. A review of gastrointestinal symptoms was notable for persistent nausea, frequent vomiting, heartburn, and regurgitation. An EGD was normal and 24-hour ambulatory pH testing showed significant acid reflux (JD score 86). A nuclear medicine gastric emptying study showed 93% of gastric contents retained at 90 minutes. Based on these findings and the temporal relation of her symptoms to her smallpox vaccination, she was diagnosed with post-vaccination gastroparesis. Her GERD was treated with a PPI . She was unable to tolerate metoclopramide for treatment of her gastroparesis, while domperidone (20 mg po qid) and erythromycin (250mg po tid) were ineffective. Her symptoms have persisted for more than eight months and nonpharmacological treatment is being considered.

Results: To our knowledge, this is the fourth reported case of post-vaccination gastroparesis. Tetanus, anthrax, and hepatitis B vaccinations were implicated in the previous three reports, making this the first reported case of gastroparesis following smallpox vaccination.

Conclusion: This case demonstrates that gastroparesis is a potential adverse effect of vaccination. Although exceedingly rare, post-vaccination gastroparesis can significantly impair patients' quality of life. Physicians should consider this diagnosis and investigate accordingly when patients present with compatible symptoms after receiving a vaccination.

P947

ALCOHOL INDUCED ISCHEMIC GASTRIC NECROSIS

K. Grover, MD,[1] B. Xie, MD, PhD,[2] W. Wang, MD[1]. 1. Division of Gastroenterology and Hepatology, UMDNJ - New Jersey Medical School, Newark, NJ; 2. Department of Medicine, UMDNJ - New Jersey Medical School, Newark, NJ.

Purpose: Ischemic gastric necrosis (IGN) is a rare clinical entity with an unknown incidence. Etiologies include atherosclerosis, embolism, infection, corrosive burns, and idiopathic. Most reported cases have had advanced necrosis and required surgical treatment.

Methods: We report a case of epigastric pain and upper GI bleeding caused by IGN due to alcohol ingestion which was managed conservatively.

Results: A 43 year old male with a past medical history of AIDS, hypertension, and chronic alcohol abuse presents to the emergency department with epigastric pain and hematemesis for 1 day. The patient admitted to drinking 10 beers and a 1/3 pint of vodka the previous day. He denied use of any illicit substances or medications for 3 weeks. He had a heart rate of 122, however his blood pressure remained stable. Abdominal examination revealed epigastric tenderness to light and deep palpation, however no rebound or guarding. Laboratory evaluation noted normal basic chemistry, amylase, lipase, coagulation and hepatic panels. The hemoglobin was 9.0 g/dL, platelet count was 53,000 and white blood cell count was 1,900. The patient was started on pantoprazole and octreotide intravenous drips and emergent upper esophagogastroduodenoscopy (EGD) was done. EGD found candida esophagitis and a small Mallory-Weiss tear. Biopsies were obtained from the stomach as the mucosa was noted to be diffusely edematous, erythematous, and friable. Post procedure the patient was placed on IV fluconazole and continued on the pantoprazole drip. Serial blood counts showed a drop in the hemoglobin. Four units of packed red blood cells were transfused with an appropriate response in hemoglobin and vital signs. The patient was started on a clear liquid diet the following day. There were no further episodes of hematemesis and no further transfusions were required. Repeat EGD was done 72 hours after admission noted decreased gastric edema and friability. Pantoprazole drip was changed to twice a day oral dosing and the diet was advanced. Pathology showed ischemic mucosal necrosis of the stomach. There were no viral inclusion bodies, *H. pylori* or vasculitis noted. The patient was subsequently discharged with planned follow up.

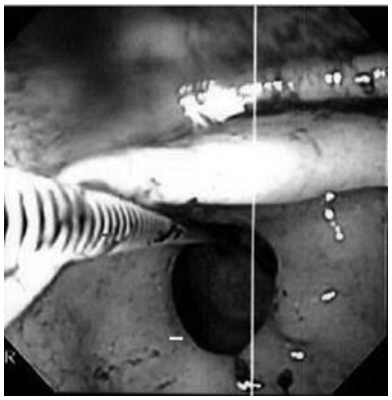
Conclusion: IGN has been scarcely reported in the literature. To our knowledge, this is the first reported case of alcohol induced IGN. EGD and biopsy confirmation are important to help guide therapy. Treatment should include acid suppression with proton pump inhibitor, aggressive hydration and blood transfusion to prevent further ischemia and necrosis. Repeat EGD is warranted to evaluate the severity and response to conservative treatment, and to determine the need for surgical intervention.

P948

ALBUMIN INJECTION FOR ENDOSCOPIC HEMOSTASIS OF BLEEDING PEPTIC ULCER DISEASE

J. Bucobo, , MD,[1] R. D. Shaw, , MD,[6] M. D. Harris, , MD,[1] K. Matthes, , MD,[2] B. Halwan, , MD, MS,[4] E. L. Artifon, , MD, PhD,[3] V. Mittal, , MD,[5] A. Kumar, , MD[6]. 1. Division of Gastroenterology and Hepatology, Stony Brook University Medical Center, Stony Brook, NY; 2. Harvard Medical School, Boston, MA; 3. University of Sao Paulo Medical School, Sao Paulo, Brazil; 4. SUNY Downstate Medical Center, Brooklyn, NY; 5. UT Southwestern, Dallas, TX; 6. Northport Veterans Affairs Medical Center, Northport, NY.

Purpose: Evidence supports the use of thermocoagulation for endoscopic treatment of high-risk stigmata (HRS) in patients with bleeding peptic ulcer disease (PUD). If thermocoagulation cannot be performed, epinephrine injection (EI) may help tamponade bleeding vessels. We report the injection of albumin in 2 patients to treat bleeding PUD since thermocoagulation was technically unfeasible. 1) A 1.5 cm ulcer with oozing was noted on the superior and posterior aspect of the duodenal bulb in a 77 year old male. The ulcer, immediately adjacent to the pylorus, was inadequately visualized to perform thermocoagulation (Figure 1). The bleeding site was injected with 20 cc of 25% albumin. Next day endoscopy revealed a healing white-based ulcer and relatively normal appearing adjacent mucosa. 2) Active bleeding from recurrent gastric ulcers in an 85 year old male was treated with endoclips. Ongoing oozing and inaccurate clip deployment led to difficulty in deploying additional endoclips or performing coaptive thermocoagulation. 20 cc of 25% albumin was injected with excellent results. Both patients recovered uneventfully. Coaptive thermocoagulation, i.e. forceful tamponade & welding of bleeding peptic ulcers is challenging. The presence of active bleeding may render it difficult to pinpoint the bleeding site, ulcer location may make it difficult to apply maximal forward pressure for coaptation, prior endoscopic therapy may obliterate the field making it impossible to intervene, and physicians with low GI bleeding case volume may lack the necessary skill. Although EI may help tamponade the bleeding vessel, its effect is short lived. Suboptimal thermocoagulation may cause tissue damage and increase risk of bleeding, especially in patients with low platelet count and/or coagulopathy. Various viscous solutions such as albumin have been utilized for submucosal cushions and may be injected for prolonged tamponade of bleeding vessels. Mechanical obliteration using visco-elastic material injection is a simple, safe and effective strategy for endoscopic hemostasis. Studies to evaluate the appropriate injectate and effectiveness of these strategies are underway.



P949

MORE THAN A POLYP

H. Naina, MD,[1] S. Harris, MD[2]. 1. Internal Medicine, Division of Oncology, Mayo Clinic, Rochester, MN; 2. Internal Medicine, Mayo Clinic, Rochester, MN.

Purpose: Gastrointestinal metastasis from the lung cancer is rare and when encountered the common site of metastasis is usually to the small bowel. The diagnosis of metastasis made either on imaging or during symptomatic presentation such as bleeding or intestinal obstruction. We report a case of asymptomatic metastatic lung cancer detected as a sessile polyp on a routine colon cancer screening. A 65 year old male was followed up by his primary care physician

for hypertension and hyperlipidemia. His past history was notable for recurrent diverticulitis in the past requiring sigmoid resection and a rectal polyp (tubular adenoma, low grade dysplasia) discovered 8 years ago. He was on medications for his hypertension and hyperlipidemia. He had no prior history of smoking, or family history of cancer. He was asymptomatic during the clinical visit. He underwent colon age appropriate cancer screening and a 1 cm sessile poly was found in the distal transverse colon. The biopsy results of his sessile poly showed moderately differentiated adenocarcinoma. Immunohistochemical stains were performed using antibodies directed against synaptophysin, PSA, cytokeratin 20, chromogranin, cytokeratin 7, S100, and TTF-1.The neoplastic cells showed strong cytoplasmic positive staining for cytokeratin 7 and strong nuclear staining for TTF-1. The positive TTF-1 staining virtually excluded a colorectal primary malignancy. The combination of immunostains plus histology was consistent with a metastatic non-small cell carcinoma from a pulmonary primary. The patient had no history of pulmonary symptoms such as cough, chest pain or dyspnea. He underwent a CT scan of the chest which showed multiple pulmonary nodules, largest measuring 5.5x3.3cm with mediastinal lymph adenopathy. A flexible bronchoscopy was performed and biopsy from the lung confirmed the diagnosis of grade 3/4 adenocarcinoma of the lung. Later he was evaluated in oncology where a review of systems revealed occasional headache without any other neurological symptoms. His clinical examination was again unremarkable however a CT scan of the head showed multiple cystic lesions with vasogenic edema. Treatment was started with Carboplatin and Paclitaxel, but disease progression occurred on combination chemotherapy. Gastrointestinal metastasis from the lung cancer is rare, and to the best of our knowledge this is the first case report of stage IV metastatic lung presenting as sessile polyp in an asymptomatic patient.

P950

METASTATIC RENAL CELL CARCINOMA PRESENTING AS A COLOCOLIC INTUSSUSCEPTION

K. L. Reed, DO, K. R. Patel, MD, S. A. Sorser, MD, R. Taha, DO, J. Greer, MD. Providence Hospital, Southfield, MI.

Purpose: Introduction Intussusception is a rare disorder in which the intestine prolapses into an immediately adjacent portion of the intestine forming a telescoping effect. This can often lead to obstruction. Intussusception is the most common cause of intestinal obstruction among children and its etiology is often idiopathic, while a small portion of cases are brought on by a viral infection. Intussusception in adults is a rare phenomenon. Most cases of adult intussusception are the result of an underlying organic cause. Case Presentation A 60-year-old African American male with a history of peptic ulcer disease presented to the emergency room complaining of intermittent abdominal pain associated with progressively worsening constipation of two weeks duration, as well as an unintentional 15 pound weight loss over the prior 2 months. Initial work up included computed tomography (CT) of the abdomen, which showed a large left renal mass, diffuse wall thickening in the descending colon associated with intussusception. Note was also made of a probable colonic mass and multiple pulmonary nodules. A colonoscopy was performed and findings were consistent with an intussusception and an obstructive lesion at 60 centimeters. Biopsies of the lesion were obtained and the area was tattooed with India ink. Necrotic tissue fragments and acutely inflamed benign colonic mucosa were identified on histologic examination. The patient underwent exploratory laparotomy with left partial colectomy and primary anastomosis. A left radical nephrectomy was also attempted, but the tumor was deemed unresectable. The pathology obtained from the partial colectomy was consistent with metastatic renal cell carcinoma. Discussion Renal cell carcinoma is rare, accounting for only 3% of all adult malignancies. Approximately 30% of the cases present with metastatic disease, with a 5-year survival of less than 5%. Intussusceptions account for only 3% of obstructions in adults and of these 90% have an identifiable pathologic lead point. The majority of intussusceptions are either enteric or ileocolic cases, with only one third of adult intussusceptions being colocolic or colorectal in nature. Approximately two thirds of colonic cases have a malignant basis compared to one quarter of enteric types. Debate has centered on whether to perform endoscopic reduction before surgical resection. However, recent trends have favored surgical resection without prior reduction in order to prevent tumor seeding.

P951

BREAST CANCER METASTASIZING TO MULTIPLE COLON POLYPS

B. Hameed, MD,[1] S. Razzaque, MD,[1] A. s. Abdulkarim, MD,[2] N. A. Chaudhary, MD[2]. 1. Gastroenterology, University of Minnesota, Minneapolis, MN; 2. Gastroenterology, Regions Hospital, St. Paul, MN.

Purpose: Common sites of metastasis for the breast cancer are bones, lungs, central nervous system and liver. Colon is the rarest site of metastasis for breast cancer. 84 year old female with history of stage III infiltrating lobular carcinoma of the breast presented with abdominal discomfort and diarrhea. Extensive work up was negative. Colonoscopy showed three polyps (2-6 mm) in the cecum and ascending colon and about 10 mm polyp at the hepatic flexure. No masses or other lesions seen on colonoscopy. Pathology of hepatic flexure polyp showed sessile serrated adenoma and cells positive for CKAE1/AE3 and ER positive staining consistent with metastatic lobular carcinoma. Similarly biopsy specimen from ascending and cecum showed tubular adenoma and metastatic carcinoma of breast (confirmed with CKAE1/AE3 and ER positive staining, PR and CD68 was negative). Histological comparison was also done from her breast cancer which revealed similar tumor. Patient is currently on systemic chemotherapy (faslodex) and doing well. There are about <30 cases in the literature of breast cancer with metastasis to colon in alive individuals. Most of these tumors were lobular carcinoma. Our patient is unique as there is no other case report of breast cancer with metastasis to colon polyps in an alive patient. Diagnosis of colon metastasis from breast is difficult because of non specific symptoms, variable imaging presentations and its rarity. Patients with history of breast cancer presenting with abdominal pain, diarrhea or obstruction should be examined for possible colon metastasis.

P952

SORBITOL INDUCED COLONIC NECROSIS: A CASE REPORT

T. Zolfaghari, MD,[1] M. Erfani, MD,[1] P. Joseph, MD,[1] H. Hertan, MD, FACG,[1] N. Kiyici, MD, FACG,[1] A. Feliz, MD[2]. 1. Gastroenterology, Our Lady of Mercy Medical Center, Bronx, NY; 2. pathology, our lady of mercy medical center, Bronx, NY.

Purpose: Sodium polystyrene sulfonate is a cation exchange resin, which primarily acts in the colon. It is often administered with an osmotic laxative (sorbitol),PO or rectally. Gastrointestinal adverse reactions include anorexia,nausea, vomiting,constipation,fecal impaction, and intestinal necrosis (rare). Here we present an uncommon case of ulceration of the ascending colon following multiple oral administrations of sodium polystyrene sulfonate-sorbitol.

Methods: A 70 yo♀ was admitted with urinary tract infection and pre-renal azotemia. She received 5 oral doses of Sodium polystyrene sulfonate-sorbitol for hyperkalemia and later developed lower abdominal pain. Colonoscopy revealed a solitary 5 cm raised erythematous ulcer in the ascending colon(Fig.1). Biopsy showed necrotic tissue and purple crystals in inflammatory exudates(Fig.2). Patient's symptoms were improved spontaneously after discontinuation of therapy.

Results: Colonoscopic and pathologic findings were consistent with Sorbitol induced colitis. First case of uremia and colonic necrosis after sodium polystyrene sulfonate-sorbitol enema was reported in 1987. A study in a rat model has shown that sorbitol is in fact the cause of the intestinal necrosis. The exact mechanism by which sorbitol induces intestinal necrosis is unknown.

Conclusion: Sorbitol induced colitis is a rare condition which may have significant morbidity and mortality. Considering the adverse reactions, this therapy must be used with caution and should be limited to life-threatening hyperkalemia. Physicians must remain vigilant for any signs or symptoms of intestinal problems.

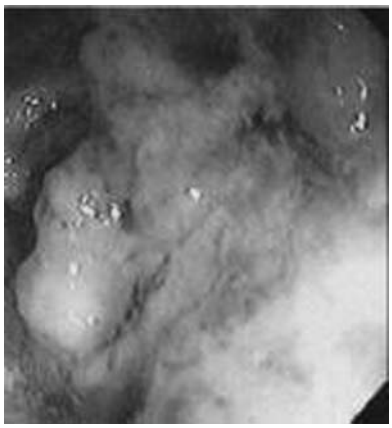


Fig.1- Colonoscopic view of the ascending colon ulcer.

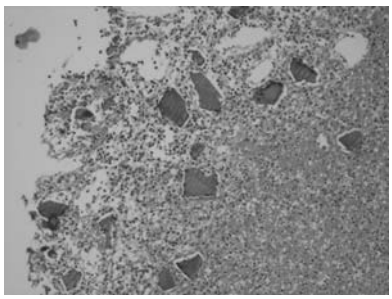


Fig.2- Sodium polystyrene sulfonate (Purple)crystals within the Inflamatory exudates.

P953

CYTOMEGALOVIRUS COLITIS IN AN IMMUNOCOMPETENT PATIENT: REVIEW OF ENDOSCOPY FINDINGS

P. Kanth, MBBS,[1] J. Thumar, MD,[1] G. Respicio, MD,[1] E. M. Rubinstien, MD,[2] Z. Anthony, MD[3]. 1. Internal Medicine, University of Connecticut Health Center, Farmington, CT; 2. Infectious disease, Saint Francis Hospital and Medical Center, Hartford, CT; 3. Gastroenterology, Saint Francis Hospital and Medical Center, Hartford, CT.

Purpose: Cytomegalovirus colitis is an uncommon condition seen in immune-competent patient. We describe a case of CMV colitis in an immune-competent patient.Also discussed is literature review of endoscopy findings of CMV colitis in immunocompetent patient.

Methods: A relatively healthy 60 yr old lady presented with one week h/o bloody diarrhea. She was seen in community and was tested c-diff stool toxin positive. She was started on metronidazole followed by vancomycin after no improvement in symptoms were noticed. She continued to remain ill and colonoscopy was performed. Colonoscopy biopsy and Antigen test detected CMV infection. She was started on treatment with gancilcovir with dramatic clinical response.During her hospital stay she also developed pulmonary embolism. She recovered from above complications and was discharged with uneventful follow up.

Results: Colitis is most prevalent presentation of CMV infection in immune-competent patients.Comprehensive data of endoscopy findings of CMV colitis in such pts is not well documented in literature.We reviewed endoscopic findings of all individual documented cases of CMV colitis in immunocompetent patients in English literature.Patients with Inflammatory bowel disease were excluded. As per our review of 50 patients (table),40% underwent colonoscopy.Recto-sigmoid region was the most predominant location involved. 40% of pts undergoing colonoscopy had right colon involvement. Approx 50% patients had either isolated or multiple ulcerations. The ulcerations described were largely superficial in nature.Some cases described linear ulceration. Inflammation, edema and erythema of colonic mucosa were other prominent features. Few cases described 'pseudomembrane' formation.One case of large mass like lesion masquerading colon cancer have been reported. The predominant pathology apart from ulcerations were acute and chronic inflammation including inflammatory cells in lamina propria and sub-mucosa. Few cases of cryptitis and crypt abscess have also been reported.

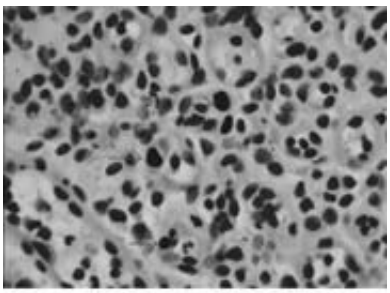
Conclusion: Cytomegalovirus colitis, although predominantly seen in immunosuppressed state, can also occur in previously healthy patient. It is important to recognize the infection earlier in course of disease process to prevent worse outcome.

Patient undergoing procedure

Total number of patients	No. of Pts with colonoscopy	No. of Pts with sigmoidoscopy	No. of Pts with Proctoscopy
50	20 (40%)	29 (58%)	1 (2%)

Predominant location in Pts undergoing colonoscopy

Pts undergoing colonoscopy	Right colon involvement	Left colon involvement
20	8 (40%)	12 (60%)



CMV inclusions:Immunoperoxidase stain

P954

COLON CANCER PRESENTING AS SUSPECTED APPENDICITIS WITH ABSCESS FORMATION

T. J. Zellman, MD,[1] A. Patel, MD, FACP, FACG[2]. 1. Internal Medicine, William Beaumont Hospital, Royal Oak, MI; 2. Gastroenterology, William Beaumont Hospital, Royal Oak, MI.

Purpose: Introduction: Colorectal cancer (CRC) is the second leading cause of cancer-related death in the Western world. Abscess formation occurs in only 0.3-0.4% of colorectal cancer cases. As an initial presenting symptom, it is even more uncommon. This can make early diagnosis challenging. We describe a patient who presented with an abdominal abscess, presumed to have ruptured appendicitis, and at surgery found to have CRC at the site of the abscess. Case Description: A 58 year old white male presented with a one-week history of intermittent, cramping periumbilical abdominal pain with radiation to the right lower quadrant. It was associated with decreased appetite and fever. He later admitted he had suffered a bout of severe right lower quadrant pain several months prior for which he did not seek medical treatment. CT scan of the abdomen and pelvis showed a right lower quadrant abscess, as well as thickening of the wall of the terminal ileum and cecum, suggestive of a perforated appendix. He was placed on parenteral antibiotics and underwent CT-guided drainage of the abscess. During his stay, he remained afebrile. His oral intake and abdominal pain improved. The drain was removed and he was discharged on oral antibiotics. A repeat CT scan one month later showed a mass in the right lower quadrant above the cecum. Colonoscopy was performed, which revealed a large ascending colonic mass. Biopsy was consistent with invasive adenocarcinoma. Subsequently, he underwent right colectomy, followed by chemotherapy. Discussion: Because of the variability in presentation, CRC has been called one of the "great imitators" and can mimic almost any other abdominal disease. Abscess formation as an initial presentation of CRC is exceedingly rare. When this occurs, the patient often presents with atypical findings, making it difficult to accurately diagnose and distinguish it from other disease entities. Delay in diagnosis can significantly affect patient morbidity and mortality. Conclusion: Clinicians should be cognizant that colorectal cancer and abscess formation can occur concomitantly. Colorectal cancer should be considered in the differential diagnosis of a patient who presents with an unexplained abdominal abscess.

P955

ATTENUATED FAMILIAL ADENOMATOUS POLYPOSIS (AFAP) PRESENTING AS AMPULLARY ADENOCARCINOMA-A CASE REPORT

N. Verma, MD,[1] A. Murthy, MD,[1] V. Sood, DO,[2] K. Linos, MD[3]. 1. Internal Medicine, Albany Medical College, Albany, NY; 2. Gastroenterology, Albany Medical College, Albany, NY; 3. Pathology, Albany Medical College, Albany, NY.

Purpose: To report a rare case and emphasize the significant association of AFAP with ampullary adenocarcinoma.

Methods: Literary Review and Clinical Vignette

Results: To report the various types of occurences in AFAP and highlight the need for further research in dealing with these presentations.

Conclusion: A 66-year-old male with a family history of colon cancer presented with a two week history of right upper quadrant pain, jaundice, and 4.5-kilogram weight loss. Initial laboratory values revealed a total bilirubin of 21.6mg/dL with direct bilirubin 12.6mg/dL, alkaline phosphatase 462 IU/L, aspartate transaminase 73 IU/L, alanine transaminase 85 IU/L, amylase 64 IU/L, lipase 32 IU/L, and white blood cell count of 8.8 thousand per cubic millimeter. Right upper quadrant ultrasound revealed a distended gallbladder with multiple gallstones, and a 1.1 cm stone in the common bile duct with severe intra and extra hepatic biliary dilatation. Subsequently an ERCP was performed which identified numerous gastric polyps and a large, fungating ampullary mass. Cholangiogram at the time of ERCP revealed multiple stones in the bile duct. Sphincterotomy and biliary stent placement were then performed to relieve the patient's biliary obstruction. Biopsies were taken from both the ampullary mass and the gastric polyps. Pathology revealed the gastric polyps to be fundic gland polyps and the ampullary mass biopsy showed adenomatous mucosa with focal high grade dysplasia. Follow up CT scan of the abdomen and pelvis revealed a 2.7 x 2.2cm mass in the region of the ampulla/ pancreatic head. Further work up with endoscopic ultrasound identified the mass at the level of the ampulla, which was staged T2N0Mx by endosonographic criteria. Colonoscopy was then performed which revealed numerous 1-5 mm polyps in the ascending colon, hepatic flexure, and proximal transverse colon. Biopsies of these polyps were consistent with tubular adenomas. The patient was referred to surgery for Whipple resection of the ampullary mass and subtotal colectomy for resection of the multiple colonic adenomas. Surgical pathology revealed ampullary adenocarcinoma arising in association with tubulovillous adenoma and colectomy specimen identified numerous adenomas consistent with adenomatous polyposis syndrome. We present a rare case of attenuated familial adenomatous polyposis syndrome initially presenting as obstructive jaundice secondary to ampullary adenocarcinoma.

P956

A 50-YEAR-OLD MAN WITH AN UNCOMMON POLYP

P. H. Panagiotakis, MD. Gastroenterology & Hepatology, ISJ-Mayo Health System, Mankato, MN.

Purpose: A 50-year-old asymptomatic man came for repeat colonoscopy. One year before, he underwent a screening colonoscopy during which a diminutive polyp was found in the cecum. The polyp was removed with moderate difficulty. The biopsy showed a mucosal fragment with focal erosion. His gastroenterologist recommended repeat colonoscopy in 1 year. During repeat endoscopy, a 4 mm yellowish sessile hard polyp was found in the cecum. The Jumbo forceps could not excise the polyp, so polypectomy with a hot snare was performed successfully. There were no complications. Histological examination revealed a completely excised granular cell tumor.

Methods: Granular cell tumor (GCT) is a relatively rare soft tissue neoplastic tumor of neural derivation, which commonly occurs in the oral cavity and subcutaneous tissue and is uncommon in the colon and rectum. The GI tract harbors approximately 5% of all GCTs. The most common site for GCT in the GI tract is the esophagus, followed by the duodenum, anus and stomach. Lesions can be incidental findings, or they may give rise to obstructive or pressure symptoms when large enough and in a critical location. Malignancy is rare and has been found to correlate with tumor size (more than 60% of metastatic GCTs were larger than 4 cm). Since colonic GCTs are usually benign, endoscopic removal is the most appropriate therapy.

Results: Diagnosis is based on histopathological findings: (1) small, uniform nuclei without mitotic figures; (2) histiocyte-like bland-looking neoplastic cells with abundant granular eosinophilic cytoplasm containing acidophilic, PAS-positive, diastase-resistant granules; (3) stain positively for S-100 protein, neuron-specific enolase, and NK1-C3 in almost all cases. The tumor cells are non-immunoreactive for epithelial, muscle, endothelial and glial cell markers. This is useful for differentiating a granular cell tumor from other diagnostic possibilities. The found lesion had the typical characteristics of GCT. Since the patient was asymptomatic we did not pursue further work-up. He will have a repeat colonoscopy in 1 year.

Conclusion: In conclusion, GCTs of the colon can be found incidentally during colonoscopy and endoscopic removal of the tumor is a safe and feasible treatment. Endoscopists should consider GCTs in the differential diagnosis of submucosal tumors of the colon.

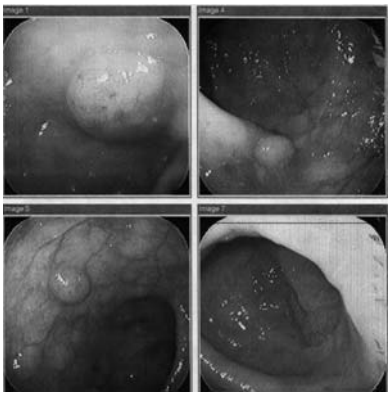
P957

MANTLE CELL LYMPHOMA OF THE COLON: A RARE MALIGNANCY!

E. O. Osemobor, MD,[2] R. Jindal, MD,[1] M. Charles, MD[2]. 1. Department of Medicine, Division of Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY; 2. Department of Medicine, Division of Gastroenterology, Brookdale University Hospital Medical Center, Brooklyn, NY.

Purpose: Mantle cell lymphoma of the colon is a rare entity and reported only in isolated case reports. It is known to comprise less than 0.2% of primary malignant turmors of the colon. We present a case of mantle cell lymphoma of the colon with lymphomatous polyposis and in-

volvement of the brain and orbits. CASE: A 70 year old man, originally from Panama, who had migrated to United States at 33 years of age, with no significant past medical history, presented with a weight loss of 30 pounds over one year. The patient denied history of fever, chills, night sweats, abdominal pain, gastrointestinal bleeding, cough, shortness of breath or chest pain. On physical exam, there was marked proptosis, no lymphadenopathy and unremarkable abdominal exam. Labs revealed anemia with no iron deficiency. Colonoscopy revealed multiple polyps in the ascending, transverse, descending and sigmoid colon, and biopsies were suggestive of mantle cell lymphoma. Immunophenotype was CD5+, CD 20+, CD 43+, CD 23-, also BCL1+ consistent with mantle cell lymphoma. Flow cytometry showed CD 19+, CD 20+, CD5+, CD 38+ and CD 23-ve. EGD showed antral gastritis with intestinal metaplasia. MRI of the brain revealed multiple lesions in the brain and orbits. Bone marrow examination revealed no involvement with the lymphoma. The patient was started on chemptherapy with Rituximab, Adriamycin, Vincristine and Cyclophosphamide and survived for 8 months after diagnosis. Mantle cell lymphoma of the colon is a rare malignancy which may present as a solitary colonic nodule or as lymphomatous polyposis as in our patient. The current treatment approach for mantle cell lymphoma of the colon is still unsatisfactory and experimental chemotherapies are under investigation.



P958

AN UNUSUAL CAUSE OF DIARRHEA

Y. Langman, MD, I. Tepler, MD, A. Kramer, MD, A. Gotian, MD, L. J. Brandt, MD. Gastroenterology, Montefiore Medical Center, Bronx, NY.

Purpose: A case vignette providing insight in an usual GI manifestation of a rare disease

Methods: Case report

Results: JC is a 79 year old woman with systemic mastocytosis who presented with one month of fevers, nausea, vomiting and diarrhea. 1 month prior to admission, she was diagnosed with Clostridium difficile colitis. The diarrhea improved after a course of metronidazole, however, it worsened a few weeks prior to admission. The patient was first diagnosed with systemic mastocytosis 3 years prior to admission, and had received chemotherapy including Gleevec, dasatinib and steroids. Her disease course was notable for cutaneous manifestations, diffuse adenopathy and cirrhosis with ascites, thought secondary to hepatic infiltration of mastocytes. On exam, bitemporal wasting was noted. She had an erythemetous rash on her lower extremities, but no urticaria pigmentosa. Abdominal exam was significant for ascites and a palpable spleen tip and liver edge. On admission, her white blood cell count was 14,000 but a C. difficile toxin antigen was negative twice. She was empirically treated with metronidazole and cholestyramine without improvement. A colonoscopy was then performed. Endoscopically, the mucosa appeared erythematous with rare pseudomembranes. Biopsies were taken throughout the colon. On histologic examination, no pseudomembranes were seen but increased mast cells were found in the lamina propria throughout the colon. CKIT (CD117 and CD68) mutation markers were positive. Systemic mastocytosis is a rare disease likely related to mutations within KIT, a tyrosine kinase receptor for stem cell factor (involved in maturation of mast cells). The disease can have varied clinical manifestations most often including urticaria pigmentosa. Gastrointestinal manifestations have been well described and incidence ranges in different case series from 14% to 85% and include nausea and vomiting, peptic ulcer disease, gastrointestinal bleeding, hepatomegaly, splenomegaly and diarrhea. . However, other than a few case reports, few studies have examined colonic involvement in mastocytosis. Because of the rarity of this disease most studies and case series have been small with heterogeneous patients.

Conclusion: Our patient was found to have many mast cells in the lamina propria and mutations in C KIT consistent with mastocytosis. Her diarrhea was possibly secondary to infiltration in the lamina propria by mast cells within the colon. Treatment includes histamine H2-receptor antagonists, mast cell stabilizers (such as cromolyn sodium) or interferon-alpha based treatment.

P959

CHEMICAL COLITIS: AN UNUSUAL COMPLICATION OF A GYNECOLOGICAL PROCEDURE

R. Ahmed, MD, W. C. Gallahan, MD, J. D. Long, MD. Gastroenterology, Wake Forest University Baptist Medical Center, Winston Salem, NC.

Purpose: Case: A 51-year-old female presented to Gynecology with feculent vaginal discharge, concerning for a recto-vaginal fistula. Flexible sigmoidoscopy and barium enema were normal. Gynecology instilled a saline-peroxide solution into her rectum via rigid sigmoidoscopy to assess for effervescence into the vagina. No fistula was found. The day after, she had mild rectal bleeding. The hematochezia worsened, followed by tenesmus and abdominal pain, prompting admission five days later. Abdominal CT revealed circumferential thickening and inflammatory stranding involving the descending and sigmoid colon. Flexible sigmoidoscopy revealed severe proctitis and distal colitis with friable, erythematous mucosa covered with whitish exudates (Figure A). Pathology showed mucosal erosion, hemorrhage, and inflammation, consistent with chemical colitis. With IV antibiotics and bowel rest, her abdominal pain and hematochezia resolved. She was discharged on antibiotics and was asymptomatic one month following her procedure. Discussion: Fewer than 100 cases of chemical colitis have been reported. Most have involved the inadvertent contamination of endoscopes with hydrogen peroxide and/or glutaraldehyde during the disinfection process. Peroxide mixtures are also used in the diagnosis of recto-vaginal fistulae. Other implicated agents include alcohol, radiocontrast agents, formalin, ergotamine, hydrofluoric acid, acetic acid, ammonia, and sodium hydroxide. There are reports of these agents being used intentionally in bowel cleansings and suicide attempts. Patients typically present with abdominal pain, rectal bleeding, and diarrhea, making the diagnosis challenging if a thorough history is not obtained. Persistent symptoms warrant diagnostic endoscopy. Instantaneous effervescence and blanching with saline lavage can be observed endoscopically, known as the "snow white sign." Histology often reveals "pseudolipomatosis," in addition to hemorrhage and inflammation. Depending on the depth and extent of injury, patients can develop colonic strictures, fistulae, ischemic colitis, and even peritonitis requiring colectomy. Most patients improve with conservative medical management. Chemical colitis should be highly suspected in patients presenting with acute colitis following lower endoscopy.

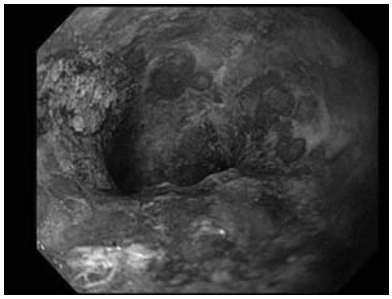


Figure A

P960

LOCALIZED GASTROINTESTINAL HISTOPLASMOSIS PRESENTING AS LOWER GI BLEEDING IN AN IMMUNODEFICIENT PATIENT

G. D. Valdez, MD, A. Raval, MD, R. D. Smalligan, MD, MPH, C. Mathews, MD. Internal medicine department, ETSU, Johnson city, TN.

Purpose: 1-Describe Localized gastrointestinal histoplasmosis as an unusual cause of lower GI bleeding in patients with HIV.

Methods: A 27 year old male from Guatemala with no PMH admitted with one-month history of hematochezia associated with LLQ abdominal pain,generalized weakness, intolerance to exercise and dizziness.no fever, chills, melena, and change in his weight. PE: BP108/61, HR100 bpm, T°97.5°, RR 18. HEENT: Pale mucosal membranes, no ulcers,no thrush,Neck supple, no lymphadenopathy,Lungs clear,CVRR, Abdomen soft,NT, no organomegaly. LABS: BUN 17 mg/dl,creat 0.9mg/dl, Na131,K 3.7, Cl 102,Ca 7.7, TP 7.3, ALB 2.3 gr/dl,AST 34 IU/lt, ALT 20 IU/lt,LDH 159 IU/Lt, Bil: 0.3mg/dl,AP: 80 IU/dl, Hb 8.8, Ht 26.6%,WBC 4500/mm3, N:64%,L: 27%, PLT 336,000/mm3, CT scan of the abdomen: diffuse periaortic and mesenteric lymph nodes,no hepato-splenic abnormalities,COLONOSCOPY: 2 colonic ulcers at 40 and 50 cms, multiple superficial ulcers,no hemorrhoids, BIOPSY :lymphoid aggregates and yeast morphologically compatible with histoplasma species. positive Elisa for HIV, negative urinary histoplasma Ag, Normal immunoglobulin level, CD4:104. Bone marrow biopsy normal and CT of the chest unremarkable. Patient was started on Amphotericin B with excellent clinical course no further bleeding episodes.

Results: Although gastrointestinal histoplasmosis is considered uncommon,Autopsy studies reveal GI involvement in 70-90% of patients with progressive disseminated histoplasmosis (PDH). Clinical manifestations range from diarrhea, dysphasia, intestinal perforation or obstruction .Gastrointestinal histoplasmosis is an unusual cause of lower gastrointestinal bleeding (LGIB) in AIDS population with only few cases reported. Most common causes of LGIB in AIDS population are CMV colitis, Idiopathic colonic ulcers, hemorrhoids, anal fissure and Kaposi's sarcoma. Our patient had no systemic symptoms at the time of presentation, and had negative urinary histoplasma antigen (which is positive only in 25% cases of localized forms). Although in 23 % patients the colonic mucosa is grossly normal (specially inmunocompromised patients), colonic ulcers 0.2- 4 cms diameter, with raised borders surrounded by erythema may be found with microscopy revealing lymphohystiocytic infiltrates,histiocytes and fungi inside macrophages, Treatment is with amphotericin B followed by itraconazole.

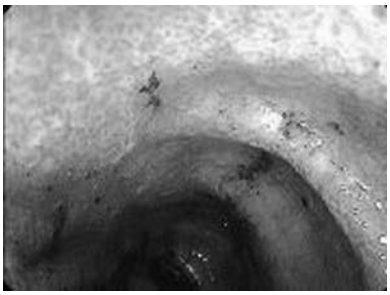
Conclusion: This case depicts gastrointestinal histoplasmosis as an unusual cause of LGIB in AIDS patients

P961

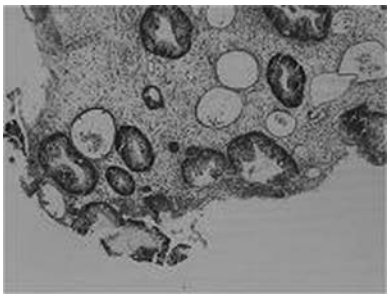
CAPECITABINE INDUCED COLITIS CYSTICA SUPERFICIALIS

P. J. Sargon, MD, B. Qazi, MD, T. Laurie, MD, H. Kavin, MD. Gastroenterology, Advocate Lutheran General Hospital, Park Ridge, IL.

Purpose: A 68 year-old woman on capecitabine for metastatic bilateral breast cancer presented with a two-week history of diffuse lower abdominal discomfort, diarrhea, fever, nausea and loss of appetite. Diarrhea was high volume, intermittently bloody, and watery. Physical exam revealed a soft, mildly distended abdomen, tender to palpation in the lower quadrants. Labs revealed WBC 25.4k/mcL and negative C.difficile toxins x3, stool cultures and O&P. AST was 53u/L, ALT 56u/L, ALP 173u/L, and bilirubin 0.8mg/dL. Non-contrast CT revealed a small amount of ascites in the abdomen. Colonoscopy revealed pancolitis, which was friable, granular, erythematous, and edematous, with a loss of normal vascular pattern. Random biopsy showed distorted mucosa and lamina propria with chronic inflammatory infiltrate and multiple dilated cystic glands lined with cuboidal epithelium. Pt was treated with IV steroids as an inpatient and a taper of oral steroids upon discharge. Prior to that, she did not respond to therapy with multiple abx and was refractory to cholestyramine, somatostatin, tincture of opium, metamucil, and imodium. The patient was diagnosed with capecitabine-induced colitis. Capecitabine is a 5-FU prodrug that is selectively converted in tumor cells and liver tissue. Through its use in the treatment of colorectal and breast cancer, capecitabine has been shown to induce GI toxicity including common side effects such as diarrhea, abdominal pain, nausea, and vomiting, as well as rare side-effects such as necrotizing enterocolitis. Our literature search produced only one reported case of capecitabine-induced pancolitis. In our case, the patient was able to achieve complete resolution of symptoms after one week of steroids.



Erythema and superficial ulcerations throughout colon.



Sigmoid biopsy showing ditroted, inflamed mucosa with dilated and cystic glands lined by flat or cuboidal epithelium.

P962

RECTO-URETHRAL FISTULA: A LATE, BUT UNUSUAL COMPLICATION OF RADIATION THERAPY FOR PROSTATE CANCER

L. K. Chan, MD, P. O. Arnold, MD. Division of Gastroenterology, Virginia Commonwealth University Health System, Richmond, VA.

Purpose: To describe a rare complication of prostate cancer therapy infrequently encountered by gastroenterologists.

Methods: Adenocarcinoma of the prostate is the most common malignancy in American men and carries significant consequences. There are many surgical or radiation-based treatments; the combination of EBRT with brachytherapy carries significant risk of rectal toxicity. This rectal toxicity can manifest as hematochezia or rectal bleeding. There are rarer but more serious complications from radiation treatment such as recto-urethral fistulas (RUF), but one must be astutely aware. We describe a patient with previously treated prostate cancer who had a solitary rectal ulcer with fistulous tract from rectum to urethra.

Results: A 70 year old African American male presented complaining of rectal pain and intermittent hematochezia. He also reported tenesmus and occasional drainage of clear liquid suspected to be urine via rectum with passage of feces. Two years previously, he underwent combination prostatic seed implants and external beam radiation for prostate cancer. Physical examination described pain on palpation of the anterior rectal wall at the level of the prostate and the presence of occult blood in the stool. There were no other pertinent findings. Laboratory data was unremarkable except for urinalysis findings consistent with cystitis. Colonoscopy revealed friable rectal mucosa and a deep, 1.5 cm ulcer in the distal rectum on the anterior rectal wall. Biopsy specimens noted chronic inflammatory changes; there was no evidence of infectious or neoplastic processes. Computed tomography of the pelvis described air and contrast between the urinary bladder and the rectum indicating a recto-vesicular fistula.

Conclusion: Prostate cancer is a serious disease, and radiation treatment can carry significant gastrointestinal effects. Radiation proctitis can require repeated hospitalizations, procedures, and blood transfusions. Endoscopic therapy with argon plasma coagulation (APC), can provide substantial symptomatic relief over several sessions. Surgery is reserved for those patients with no other therapeutic options. The endoscopic approach for a patient with suspected radiation-induced injury to the rectum should be cautious. On encountering a rectal ulcer, one should carefully sample the affected tissue to exclude an alternate etiology; other diagnostic modalities including radiographs and cystoscopy should be pursued to confirm the diagnosis. RUF is not usually discovered by a gastroenterologist. Upon encountering the male patient previously treated with radiation to the prostate, one must be aware of the possibility of this phenomenon and exercise appropriate caution.

P963

DELAYED DIAGNOSIS OF SPLENIC HEMATOMA AFTER ROUTINE COLONOSCOPY

A. Movva, MD, S. Marek, MD, D. Raina, MD, S. Sridhar, MB, BS, FACG. Section of Gastroenterology and Hepatology, Medical College of Georgia, Augusta, GA.

Purpose: Sixty-seven cases of splenic hematoma after colonoscopy have been reported in the literature. This complication is rare, however it is associated with significantly increased morbidity and mortality. We report a case of a large splenic hematoma following colonoscopy, highlighting a delay in the diagnosis of this complication.

Methods: A 46-yr-old woman with a family history of colon cancer underwent an elective outpatient screening colonoscopy. She did not use anti-platelet or anti-coagulant agents prior to the procedure. The procedure was uneventful with intubation of the cecum. The patient tolerated the procedure well. Numerous colonic diverticula and a single 5mm polyp in the rectosigmoid region were noted. Polypectomy was performed using cold biopsy forceps.

Results: She presented to her family practitioner 8 days following the procedure with a sharp left upper quadrant pain radiating to the sternum and left shoulder tip. The pain was worse with deep inspiration and unchanged with movement of the left shoulder joint. The physical examination was unremarkable except for mild diffuse abdominal tenderness. A 12 lead electrocardiogram was normal. She was treated with omeprazole 20mg po daily for presumed gastroesophageal reflux disease. Musculoskeletal pain due to faulty sleep position was thought to be the cause of her shoulder pain and she was therefore instructed not to lie on the affected shoulder. Six weeks later, she presented to the Emergency Department with similar complaints, which had been continuous with no improvement after the empirical therapy. A chest x-ray showed blunting of the left costophrenic angle. The blood tests revealed normal complete blood count, metabolic profile, liver enzymes, serum amylase and serum lipase levels. She was treated with levofloxacin for presumed pneumonia. A subsequent contrast enhanced chest and abdominal CT found a large (9 x 6.3 x 11cm) subcapsular splenic fluid collection, which was confirmed by an ultrasound exam. A total of 360ml of old blood and fluid were drained percutaneously with ultrasound guidance. The patient made an uneventful recovery with resolution of her symptoms. A 4-week follow-up ultrasound showed complete resolution of the splenic hematoma.

Conclusion: To our knowledge, the delay to diagnosis from the colonoscopy is the longest reported in a patient with continuous symptoms. This case highlights the need for a high index of suspicion for splenic injury after colonoscopy in order to avoid a delayed or missed diagnosis. With the higher number of colonoscopies performed each year in the United States, it is likely that this complication is significantly under recognized and reported.

P964

PSEUDO-CARCINOMATOSIS – AN ATYPICAL PRESENTATION OF PSEUDOMYXOMA PERITONEI IN A MORBIDLY OBESE PATIENT

M. Lufrano, DO, T. Bradley, MD, J. Costable, MD, I. Storch, DO. Medicine, North Shore University Hospital, Manhasset, NY.

Purpose: Introduction: Pseudomyxoma peritonei is a rare clinical entity typically diagnosed on clinical presentation with increased abdominal girth, abdominal mass, or abdominal pain mimicking acute appendicitis. We present a morbidly obese male with vague gastrointestinal complaints and right upper quadrant fullness who was found to have carcinomatosis on computed tomography. Multiple fine needle aspirations failed to yield a diagnosis. Laparotomy was performed and revealed pseudomyxoma peritonei. Case: A 55 year old, morbidly obese Caucasian man presented with a six month history of intermittent diarrhea, occasional nausea and vomiting, and dyspeptic symptoms. He reported a family history of pancreatic malignancy. On physical examination, the patient was a large male (BMI 43) with right upper quadrant fullness, however no distinct mass was appreciated. Computed tomography of the abdomen and pelvis revealed ascites and marked infiltration of the omentum, suggestive of carcinomatosis. Upper endoscopy and colonoscopy were normal. Tumor markers including CA 19-9, CEA, and alpha-fetoprotein were also within normal limits. Fine needle aspiration of the peritoneum revealed fibroadipose tissue and cytopathology of the ascites was negative for malignant cells. Repeat aspiration yielded similar results. A diagnostic laparoscopy with omental biopsy revealed mucin, with rare clusters of well-differentiated adenocarcinoma, consistent with a diagnosis of pseudomyxoma peritonei. Discussion: Pseudomyxoma peritonei is manifested by diffuse gelatinous implantation of the peritoneal cavity and omentum most commonly from an appendiceal mucinous neoplasm. The diagnosis is often challenging in part due to its non-specific symptoms at presentation. Classic radiographic findings include scalloping of organs, ascitic septations and curvilinear calcifications. Our patient had vague gastrointestinal complaints and radiographic findings consistent with carcinomatosis. "Pseudocarcinomatosis" has been described in association with peritoneal fasciolisis, coccidioidomycosis and intraperitoneal endometriosis. Our case illustrates the importance of considering pseudomyxoma peritonei in the differential diagnosis of patients presenting with radiographic findings consistent with carcinomatosis, especially when no primary malignancy can be identified and repeat cytology is negative.

P965

HEMOPERITONEUM WITHOUT PERFORATION OR SPLENIC RUPTURE AFTER COLONOSCOPY

G. D. Liss, MD, S. B. Benjamin, MD. Gastroenterology, Georgetown University Hospital, Washington, DC.

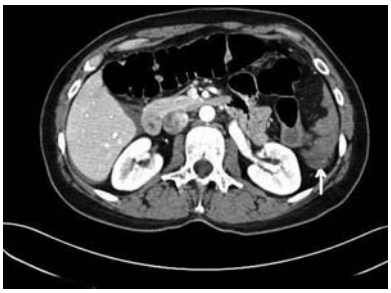
Purpose: Complications of colonoscopy (CLN) are frequently reported and studied. We report a unique scenario of post CLN hemoperitoneum without perforation or splenic rupture.

Methods: 44yo female with h/o of Meckel's diverticulum s/p resection as a newborn underwent uneventful CLN and upper endoscopy (EGD) for the evaluation of diarrhea. EGD was nor-

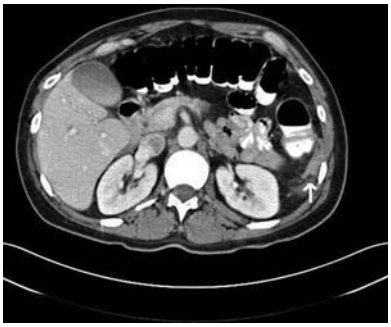
mal. The CLN involved a 1cm pedunculated polypectomy via hot snare. Post procedure the patient complained of abdominal pain. Physical exam was normal except for LLQ abdominal tenderness. Due to the pain, CT was performed demonstrating an intraperitoneal bleed without perforation or splenic rupture. Post procedure labs included hematocrit 35.7 (baseline 42.8) with normal platelets, PT/PTT. Decision was made to admit patient for observation. Surgery was consulted. Serial CBCs and abdominal exams were performed. Patient's hematocrit fell to 28.8 on day 2.

Results: Repeat CT was performed on day 3 showing improvement in the size of the hemoperitoneum. During the hospital stay, patient received IV then PO narcotics once able to tolerate PO diet. She was discharged on day 5.

Conclusion: Many complications relating to CLN with and without polypectomy have been reported. Post procedure bleeding manifesting as rectal bleeding has been well documented. Intraperitoneal bleeding is less common, but still reported in the setting of splenic rupture. Our patient is unique in that she exhibited hemoperitoneum without perforation or splenic rupture. Her history of prior surgery and presumed adhesions is likely her risk factor for this unique presentation.



INITIAL CT



FOLLOW UP CT

P966

ACUTE APPENDICITIS: AN UNUSUAL COMPLICATION FOLLOWING COLONOSCOPY

J. Leigh, MD, MPH,[2] J. M. Roa, DO,[1] M. S. Hoffman, MD, MPH[1]. 1. Gastroenterology, Bay Pines VA, St. Petersburg, FL; 2. USF College of Medicine, Tampa, FL.

Purpose: Acute appendicitis following colonoscopy is exceptionally rare with less than a dozen documented in current literature. We describe two cases of this rare complication.

Results: Case 1: A 46 year old male underwent a follow-up colonoscopy for a family history of colon cancer and history of polyps with no remarkable findings other than internal hemorrhoids. The prep for the procedure was excellent and the entire colon was visualized without difficulty. The patient returned to the hospital approximately three hours post procedure complaining of nausea, vomiting and 9 out of 10 sharp pain in the upper mid to left abdominal area. On admission patient had a temperature of 100.9 F and a WBC of 17.9. A CT of the abdomen revealed a distended appendix and significant stranding in the surrounding mesentery consistent with appendicitis. The following morning a laparoscopic appendectomy was performed with findings of a necrotic appendix. Case 2:A 53 year old male underwent colonoscopy for the evaluation of chronic constipation and possible narrowing of the colon as seen on barium enema. The colonoscopy was to the terminal ileum and revealed skipped areas of ulceration and granularity in the terminal ileum, right colon and sigmoid colon. Multiple biopsies were taken within these areas. The colonoscopy and biopsies were consistent with Crohn's colitis. Three days later the patient began to experience abdominal pain but did not seek medical attention until eight days post procedure. Upon presenting to the emergency room patient had peritoneal signs with hypotension and leukocytosis. An abdominal x-ray revealed free air below the diaphragm. During emergent laparotomy there was no evidence of colonic perforation and there was a great amount of foul smelling pus in the area of the appendix and the tip of the appendix was perforated.

Conclusion: Diagnosis of appendicitis can be quite challenging following colonoscopy since the early symptoms may mimic other, more frequently encountered complications such as post-polypectomy syndrome and other non specific causes of abdominal pain. While rare, appendicitis is an important complication to keep in mind when treating patients with post colonoscopy abdominal pain.

P967

COLONIC SPIROCHETOSIS: AN UNUSUAL CAUSE OF ASYMPTOMATIC COLONIC ULCERATION

M. Khashab, MD, S. Wilson, MD, W. Cho, MD. Medicine, Indiana University/Roudebush VAMC, Indianapolis, IN.

Purpose: Spirochete is implicated for its pathogenic role in invasive hepatic infection and hepatitis, and spirochetemia. However, its role in colonic injury is not well established. We report an unusual case of colonic spirochetosis causing colonic ulcer.

Methods: Clinical case presentation and review of English medical literature on intestinal spirochetosis.

Results: A 55 year-old homosexual male with HIV on HAART therapy presented for screening colonoscopy. He denied recent fevers, chills, weight loss, abdominal pain, blood in stool, constipation or diarrhea. Laboratory results were notable for a CD4 count of 237 cells/mL and HIV RNA by PCR < 50 copies/mL. A colonoscopy was normal except for a non-bleeding 4 mm ulcer in the cecum. Pathology of the ulcer biopsy specimens demonstrated mild acute cryptitis with a prominent luminal brush border. No viral inclusions were identified. A Warthin-Starry stain showed luminal spirochetes on the surface epithelium (Figure 1). Intestinal spirochetosis was diagnosed and the patient was treated with metronidazole and remained asymptomatic over 6 months.

Conclusion: This is the first report of a patient with intestinal spirochetosis (IS) presenting with an asymptomatic colonic ulcer. Although IS has been described in homosexual men and patients with AIDS, colonoscopic exams often reveal a normal appearing mucosa or edematous and erythematous mucosal changes without ulceration. The cecal ulcer in our patient is likely a manifestation of invasive IS, presumably from pathogenic organisms or enteric commensal organisms due to other factors such as increased microorganism virulence and/or diminished host defense, leading to an inflammatory response. Diagnosis is usually made by histology noticing a 3-μm basophilic fringe on the intestinal mucosal epithelium on hematoxylin and eosin (HE) sections, and often confirmed with a silver stain like Grocott or Warthin-Starry. Symptomatic or invasive IS patients can be treated after alternative causes have been excluded. The treatment of choice for IS is metronidazole. In asymptomatic IS patients, a conservative clinical follow up is often advised. However, our patient was treated with metronidazole given the mucosal damage with ulceration in the cecum.

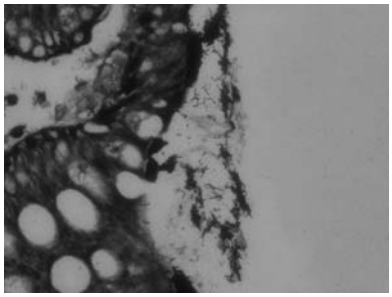


Figure 1. Warthin-Starry stain showing luminal spirochetes on the colonic surface epithelium.

P968

MICROCYTIC ANEMIA IN A PATIENT WITH MALIGNANT MELANOMA: AN UNCOMMON PRESENTATION

L. K. Andrews, MD, S. Yong, MD, K. Islam, MD. Medicine, Loyola University Medical Center, Maywood, IL.

Purpose: This is an unusual case of microcytic anemia in a 52 year old female with malignant melanoma (T3N2M0) who presented to the hospital with hip pain after a fall. A CT of the pelvis did not show any hip abnormalities, but revealed asymmetric wall thickening of the rectum and a right posterolateral 17 X 13 mm perirectal lymph node. The patient had no hematemesis, melena or hematochezia. Her physical exam was unremarkable. Subsequent colonoscopy revealed a 3-4 cm necrotic, friable mass located on the inside of the ileocecal valve extending into the cecum. No other gross abnormalities were seen throughout the colon. Biopsy results of the colonic mass were consistent with melanoma with tumor cell staining positive for S100, HMB45 and melanin. The tumor cells failed to stain with CK7, CK20 and CDX2. Upper endoscopy revealed no abnormalities except mild antral erythema. Melanoma is one of the more uncommon types of malignancies, yet it is one of the most common tumors to metastasize to the gastrointestinal (GI) tract. Most often, melanoma of the GI tract is in the form of metastasis, although rare occurrences of primary melanoma in the GI tract have been reported. Although melanoma will most commonly metastasize to the lung and lymph nodes, any organ can be affected by the disease. The most common site of metastasis to the GI tract is the liver and small intestine, followed by the colon in which metastasis can also be seen 20-28% of the time. Metastases to the GI track often times go undiagnosed. If symptoms do occur, they are often symptoms typical of any type of tumor in the GI tract including hematemesis, abdominal pain, small bowel obstruction, melena and tenesmus. When patients with metastatic melanoma to the GI tract are symptomatic, it often correlates with more severe disease and a worse prognosis. Select symptomatic patients can be treated with surgery for palliation and some studies show it may in fact improve survival. Our case demonstrates a patient with melanoma metastatic to the lung, brain and omentum, who presents with new onset anemia and now found to have new metastasis to the colon. Metastatic melanoma to the colon is relatively uncommon and patients are frequently asymptomatic and, therefore, often undiagnosed. If symptoms do occur, they are often obvious in the form of hematemesis, melena, and severe abdominal pain. In patients with metastatic melanoma with even mild signs and symptoms, the physician should have a high suspicion for metastases to the GI tract. Endoscopic evaluation should be considered in all patients with melanoma who present with microcytic anemia in order to rule out gastrointestinal metastasis.

P969

SEVERE PROXIMAL MUSCLE WEAKNESS IN A PATIENT WITH COLON CANCER: PARANEOPLASTIC SYNDROME OR IDIOPATHIC INFLAMMATORY MYOPATHY?

O. Anand, MD. Gastroenterology and Hepatology, Kansas University Hospital, Kansas City, KS.

Purpose: Since the original description in 1887, dermatomyositis (DM) has become a well-recognized entity, characterized by nonsuppurative inflammation of skeletal muscles, pain and proximal muscle weakness with or without cutaneous lesions and sympathetic hyperactivity. In 1916 Stertz first called attention to DM coupled with visceral malignancy with most common sites being stomach 15.6%, breast 13.8%, lung 12.9%, ovary 9.2%, colon 3.7%. The onset of DM may precede, coincide or follow the diagnosis of malignancy.

Methods: An 82-year-old otherwise healthy Caucasian male presented with a 3-week history of fevers, weight loss, drenching night sweats, severe proximal leg muscle weakness and pain, yet minimally elevated CPK and aldolase. Symptoms began shortly after right hemicolectomy for a superficially invasive, well differentiated, nonmetastatic adenocarcinoma of the colon. Physical exam was remarkable for symmetric 3+ leg edema with exquisite tenderness to palpation, proximally diminished motor strength with no other neurological deficits. Thorough skin exam revealed no lesions, however patient reported having facial rash a few weeks prior to the onset of muscle weakness, attributed to a sunburn. Laboratory testing showed leukocytosis of 46K, anemia,CRP 29.8, LAP score 158K, ferritin 1259; fluctuating troponins; mildly elevated CPK and aldolase. Extensive workup with autoimmune, paraneoplastic, tumor marker panels, SPEP/UPEP, TSH, PSA, cortisol, HIV Ab, blood, sputum and urine cultures, PET/CT, MRI of the spine, ECHO was unrevealing. BM biopsy showed hypercellular (80%) marrow consistent with a reactive process, Philadelphia chromosome negative. EMG was consistent with inflammatory myopathy. MRI showed increased T2 signal intensity within multiple leg muscles and edema consistent with myositis. Open muscle biopsy revealed perimysial lymphohistiocytic inflammation with perivascular atrophy, strongly suggestive of DM. Muscle weakness dramatically improved after initiation of a high-dose steroid therapy.

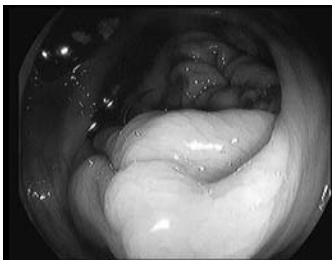
Conclusion: Based on temporal relationship between the diagnosis of colon cancer and onset of severe proximal muscle weakness, preceded by characteristic facial rash in an otherwise healthy man, we hypothesize that in our case DM represents a paraneoplastic syndrome rather than idiopathic inflammatory myopathy. Multiple studies demonstrated that patients with tumor-associated DM are less likely to have myositis-specific autoantibodies, so do our patient. Gastrointestinal involvement in DM ranges from severe inflammatory disease resulting from myoenteric dysmotility to colon cancer. Cutaneous paraneoplastic lesions of colon cancer are nonspecific immune type reactions and warrant further workup for an underlying malignancy.

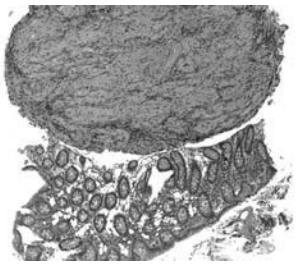
P970

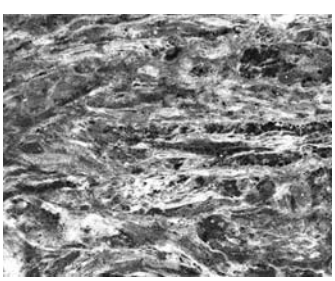
MULTIPLE GRANULAR CELL TUMORS OF ASCENDING COLON: A CASE REPORT AND LITERATURE REVIEW

J. Ye, MD,[1] R. Gaskins, MD,[1] J. Stead, MD,[2] U. Sundaram, MD[1]. 1. Section of Digestive Diseases, West Virginia Univesity, Morgantown, WV; 2. Department of Pathology, West Virginia University, Morgantown, WV.

Purpose: Granular cell tumor (GCT), also known as Granular cell Schwannoma or Abrikossoff tumor, is rare in the colon. It is commonly seen in the subcutaneous tissue and other soft tissue in the body. In the GI tract, it usually presents in the oral cavity or esophagus. Most GCTs are small submucosal benign tumors with maximal reported size of 1.5 cm in colon; however, a malignant counterpart has been reported. It is almost impossible to differentiate it from other benign or malignant epithelial cell tumors and other submucosal tumors by endoscopy. Here we report the first case of an aggregate of multiple GCTs with the largest tumor more than 1.5 cm in the ascending colon. A 39-year-old male patient underwent a screening colonoscopy. Two other polyps detected and removed from cecum and sigmoid had normal histology. Several large flat lesions in ascending colon with largest one of 1.5 X 2.0 cm were biopsied (Fig 1). Pathological examination reported a benign submucosal granular cell tumor (Fig 2). The tumor consisted of nests of neoplastic cells with abundant granular eosinophilic cytoplasm and strong expression of S-100 protein (Fig 3). Since there were multiple GCTs in aggregates with benign histology, endoscopic removal did not appear feasible. It was elected to observe the patient with repeat colonoscopy in 2-3 years. GCT should be in the differential diagnosis of colonic tumors.







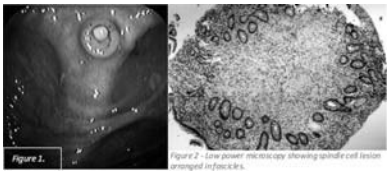
P971

RARE CASE OF AN INCIDENTALLY FOUND APPENDICEAL NEUROMA

Y. Tsirlin, MD,[1] A. W. Seymour, MD,[3] G. Fruchter, MD[2]. 1. Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY; 2. Gastroenterology, VA NY Harbor Healthcare System, Brooklyn Campus, Brooklyn, NY; 3. Pathology, VA NY Harbor Healthcare System, Brooklyn Campus, Brooklyn, NY.

Purpose: We present a case of incidentally diagnosed appendiceal neuroma, which has long been considered a rare histological finding. Case Summary: This is a case of a 65 year old male undergoing chemotherapy for a recently diagnosed metastatic urethral cancer. GI service was consulted to evaluate occult blood in the stool in view of recently diagnosed DVT and need for anticoagulation therapy. Pt underwent EGD, which was essentially unremarkable and a colonoscopy that revealed a 1 cm transverse colon tubulovillous polyp and a small 4mm nodule that was seen protruding from the appendiceal orifice (Figure 1). This appendiceal nodule was probed with biopsy forceps and then removed with same. Histological examination of the appendiceal nodule revealed a spindle cell lesion compatible with a neuroma (Figure 2). This was confirmed by immunopathological staining; lesion was positive for S-100 protein and negative for CD34, CD117 and smooth muscle actin. Discussion: Differential diagnosis of an appendiceal nodule is fairly broad and includes both benign and malignant lesions. Among more commonly reported findings are those of adenocarcinoma, either primary or metastatic, carcinoid, lipoma and lymphangioma. Less commonly reported findings include mucinous cystadenocarcinoma and pseudomyxoma peritonei. Appendiceal neuroma (AN) is a rare histological finding and considered to be a benign entity. It is usually asymptomatic, though isolated cases of appendicitis-like symptoms have been described. AN can arise from mucosa or submucosa with or without fibrous obliteration of appendiceal lumen. The presence of fibrous obliteration would more likely present with associated symptoms. Enterochromaffin cell proliferation and neural elements are responsible for development of AN; the simple presence of endocrine cells within an AN should not be mistaken for carcinoid tumor.

Conclusion: The incidental colonoscopic finding of an appendiceal nodule has a broad differential diagnosis that clinicians should be aware of; malignancy should always be excluded. Fortunately, many of these nodules are benign, including such rare findings as an appendiceal neuroma, presented here.



P972

A CASE OF SERONEGATIVE AUTOIMMUNE PANCREATITIS

L. Thummalakunta, MD, MPH,[1] N. Raghuwanshi, MD, MBA,[2] F. Burton, MD,[2] R. Gupta, MD[1]. 1. Internal Medicine, St.Luke's Hospital, Saint Louis, MO; 2. Gasteroenterology, Saint Louis University, Saint Louis, MO.

Purpose: A 50 year old obese female with a previous history of cholelithiasis status post cholecystectomy presented with complaints of epigastric pain for the past one week. The pain was moderate to severe in intensity and was radiating straight through to her back. It started after consumption of fatty food. It was associated with nausea and vomiting. She also had a 10 pound weight loss in the last 2 months. She did not have jaundice. On initial presentation a clinical diagnosis of acute pancreatitis was made. The patient subsequently underwent two endoscopic retrograde cholangiopancreatographys(ERCPs) at outside hospitals with failed biliary cannulation. An endoscopic ultrasound(EUS) was then performed which showed a small pancreatic lesion. A fine needle aspiration(FNA) was performed and cytology was negative for malignancy. The CBD was successfully cannulated on the third ERCP attempt and the findings revealed a stricture at the distal third of the CBD and a pancreatic duct stricture at neck of ventral pancreatic duct. A biliary stent was then placed. The patient was discharged home but continued to have nausea, vomiting and abdominal pain for the next 6 weeks. The patient suddenly spiked a high fever along with recurrence of the abdominal pain requiring readmission. An ERCP was performed which demonstrated a CBD stricture suspicious for extrinsic compressive effect from pancreas. Possible filling defects vs. air bubbles above stricture were noted. A biliary balloon dilatation of stricture was performed and a biliary stent was placed. A Computed tomography scan of the abdomen revealed the presence of an enlarged pancreatic head without the presence of a definite mass. The laboratory studies including an amylase, lipase and alkaline phosphatase were normal. The abdominal pain did improve, so the patient was discharged with a plan for repeat ERCP and EUS on an outpatient basis. A distal CBD stricture with proximal dilatation was again evident. The EUS again revealed a discrete lesion within the head of the pancreas. The FNA specimen was diagnosed as adenocarcinoma. Given the above findings, the patient was referred for a pancreaticoduodenectomy. The histological analysis revealed lymphoplasmacytic infiltrate surrounding the ducts and lobular with parenchyma fibrosis consistent with autoimmune pancreatitis. During the work up to discern the etiology of her recurrent acute exacerbation of chronic pancreatitis, the antinuclear antibodies (ANA), anti-smooth muscle antibody (ASMA) and IgG4 serologies were normal. Her IgG4 level was 19mg/dl with the normal range being between 7 and 89mg/dl. Our specimen was sent for IgG4 immunohistochemical staining by Mayo Clinic which was positive.

P973

ACUTE ABDOMEN ON HEMODIALYSIS

Z. Perveze, MD,[1] N. Saffarian, MD,[3] A. Chaudhary, MD, FACG[2]. 1. Internal Medicine, Medical College of Georgia, Augusta, GA; 2. Gastroenterology, Medical College of Georgia, Augusta, GA; 3. Internal Medicine, Trinity Hospital, Minot, ND.

Purpose: Intro: There are numerous reports of acute hemolysis during hemodialysis over the past two decades. Etiology of hemolysis in hemodialysis patients is usually related to problems with dialysate, which include overheating; hypotonicity; contamination with formaldehyde, bleach, chloramine or nitrates from water supply; and copper from copper tubing. Red cell

fragmentation can also occur due to pump malocclusion, inappropriate single needle dialysis ie high flow, or collapse of arterial line. Immune factors as with mismatched transfusion, drugs or hemoglobin abnormality can also be the cause for hemolysis. We report kinking of arterial blood line which resulted in acute pancreatitis as a consequence of acute hemolysis in chronic hemodialysis patient. Case: A 79 year old male with history of end stage renal disease was admitted for dialyisis. Right after dialysis, the patient experienced nausea, vomiting and abdominal pain radiating to the back. Labs drawn at dialysis showed hemoglobin of 8.2 g/dl, which dropped from 10.2 g/dl. Other labs included amylase of 1415 U/L, LDH 3965 IU/L, haptoglobin of 64.9 mg/dl and total bilirubin of 6 mg/dl. Electrolytes, PT, PTT, AST, ALT, complement factors, vitamin B-12, folate and ceruloplasmin were within normal range. ANA, serum and urine electrophoresis were negative. Peripheral blood smear revealed target cell, ovalacytes, schistocytes, helmet and tear drop cells. CT scan of abdomen was done which showed pancreatitis. Imaging did not reveal any gallstones and all other etiologies of pancreatitis were ruled out. Workup for paroxysmal nocturnal hemoglobinuria, glucose-6- phosphate dehydrogenase deficiency and autoimmune hemolysis was negative. There was no contamination with formaldehyde, chloramine, nitrates, copper or hypotonicity of the dialysate. Mechanical hemolysis due to kinking of line was presumed to be the cause. The patient was kept NPO, intravenous fluids and pain management was initiated. After replacing a new line there were no further hemolytic episodes. His condition improved during the hospital stay and was discharged home after two weeks. Discussion: Acute hemolysis on hemodialysis has become rare in recent years. This makes it extremely difficult to link hemolysis with acute pancreatitis in patients on hemodialysis unless it is high on the list of differential. In this case, after excluding all known causes of pancreatitis by radiology, serology and drug screening we proposed hemolysis induced by kinked hemodialysis blood line as a cause of acute pancreatitis. By emphasizing such an unusual mechanism of hemolysis leading to acute pancreatitis, we want to highlight the principle of root cause analysis which eventually led us to the etiology.

P974

METASTATIC BREAST CARCINOMA PRESENTING AS OBSTRUCTIVE JAUNDICE AND GASTROINTESTINAL BLEEDING

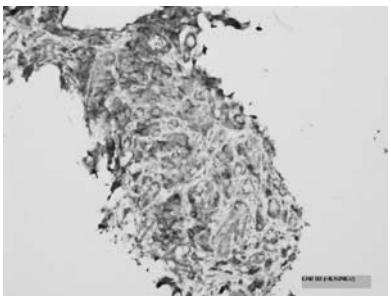
R. Pawa, MD,[1] Z. Oshikanlu, MD,[1] V. Gupta, MD, PhD,[1] U. Abbasi, MD,[1] H. Nemat, MD,[2] J. Cowan, MD[1]. 1. Gastroenterology, Columbia University College of Physicians and Surgeons, Harlem Hospital Center, New York, NY; 2. Geriatric Medicine, Long island Jewish Medical Center, New Hyde Park, NY.

Purpose: We report a rare case of a patient who presented with obstructive jaundice from a pancreatic tumor metastasizing from breast cancer and gastrointestinal bleeding secondary to esophageal and gastric metastasis. Gastrointestinal tract metastasis from primary breast carcinoma is present in 14% to 35% of cases in autopsy series, with gastric involvement in 6% to 18% of cases. Management of these metastasis differs from the management of conventional primary cancers.

Methods: Chart review and review of available literature using Medline and relevant bibliographies of published articles.

Results: A 52-year-old woman presented with complaints of melena, painless jaundice and fatigue. Her past medical history included a modified radical mastectomy three years ago for invasive ductal carcinoma. Physical examination was remarkable for pallor and scleral icterus. Laboratory work-up was consistent with anemia and marked elevation in total bilirubin (19.3 mg/dl) and alkaline phosphatase (2933 U/L). Abdominal and pelvic CT scanning (with oral and intravenous contrast) showed dilated intrahepatic and extrahepatic bile ducts and a rounded soft tissue mass in the head of the pancreas. Esophagogastroduodenoscopy (EGD) was performed which revealed a 4 mm non-bleeding lesion in the distal esophagus and a 1 cm bleeding lesion at the cardia which was treated with endoscopic therapy and esomeprazole. Biopsies were obtained from the esophageal and gastric lesions. Endoscopic retrograde cholangiopancreatography (ERCP) with contrast medium showed a diffusely dilated biliary tree. A sphincterotomy was performed, brush cytology obtained and a stent was placed in the common bile duct. Immunohistochemical analysis of the biopsy specimens tested positive for cytokeratin 7 and ERBB-2. Further immunostaining of the original breast tumor specimen was consistent with the same immunophenotype.

Conclusion: As the prognosis of cancer patients has been improving gradually, gastrointestinal metastasis will be encountered more often. The goals of therapy (i.e., cure, palliation, quality of life) should be clear in each case and survival expectancy from the primary disease and associated conditions estimated.



Immunohistochemical staining of gastric lesion

P975

PANCREATIC MASS ASSOCIATED WITH RECURRENT ACUTE PANCREATITIS IN A PATIENT WITH PULMONARY SARCOIDOSIS: DIAGNOSIS OF PANCREATIC SARCOID ESTABLISHED WITH EUS/FNA

M. M. Mathew, MD, J. L. Kalarickal, MD, S. D. Pollack, MD, V. Joshi, MD. GI, Tulane University, New Orleans, LA.

Purpose: Sarcoidosis is a chronic multisystem disease characterized by the presence of non-caseating granulomas in various organs most commonly involving the lungs. Pancreatic involvement is rare. It typically presents as an asymptomatic pancreatic mass diagnosed incidentally during surgery or autopsy. We present a case of pancreatic mass presenting as recurrent acute pancreatitis in a patient with quiescent pulmonary sarcoidosis.

Results: The present case is a 39 year old African-American female with a past medical history of previously treated pulmonary sarcoidosis confirmed by bronchoscopic biopsy, a prior episode of acute pancreatitis of uncertain etiology, diabetes, and hypertension. She presented with non-radiating, sharp, post-prandial low back pain associated with emesis for three days. There was no history of weight loss or steatorrhea. Initial evaluation revealed an elevated amylase 390 U/L (N: 25-115) and lipase 261 U/L (N: <61) consistent with the diagnosis of acute pancreatitis. Review of her history revealed no alcohol use, medication changes, abdominal trauma or pancreatic surgery. Further work-up showed normal liver chemistries, serum calcium and triglyceride level. The patient underwent computed tomography of the abdomen with intravenous contrast which revealed a 2.2 cm mass within the head of the pancreas. These findings were associated with dilation of the main pancreatic duct and parenchymal changes suggestive of chronic pancreatitis (CP). Endoscopic retrograde pancreatography showed multiple strictures of the main pancreatic duct and dilation of the secondary branches as seen in CP. Serologies including CA 19-9 and quantitative measurements of serum IgG4 subclass were unremarkable. Subsequent endosonography revealed a 3 cm hypoechoic mass arising from the head of the pancreas associated with changes of the pancreatic parenchyma suggestive of an infiltrative process but did not meet endosonographic criteria for CP. Fine needle aspiration (FNA) of the mass revealed clusters of epithelioid cells consistent with non-caseating granulomas. Stains for acid-fast bacilli were negative. A diagnosis of recurrent acute pancreatitis secondary to granulomatous disease, likely sarcoidosis, was made. The patient was placed on steroid therapy.

Conclusion: The clinical presentation of recurrent pancreatitis associated with a pancreatic mass due to sarcoidosis has never been reported and can only be established at laparotomy. To our knowledge this is the first report of granulomatous pancreatitis (presumably sarcoid of the pancreas) diagnosed using endoscopic ultrasound with FNA. We highlight the role of endoscopic ultrasound with FNA as a safe, minimally invasive alternative to surgery to aid in this diagnosis.

P976

PANCREATIC TUBERCULOSIS MASQUERADING AS METASTATIC PANCREATIC NEOPLASM

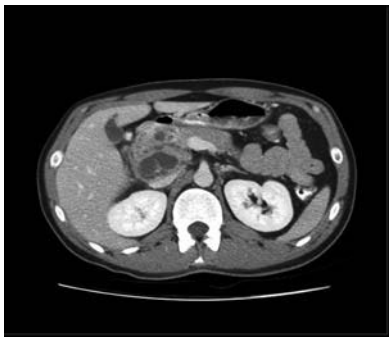
U. Abbasi, MD, R. Pawa, MD, V. Gupta, MD, PhD, J. Cowan, MD. Gastroenterology, Columbia University College of Physicians and Surgeons, Harlem Hospital Center, New York, NY.

Purpose: The incidence of pancreatic tuberculosis has increased recently, probably because of increase in travel to countries where tuberculosis is endemic and in patients who are infected with HIV or otherwise immunocompromised. The manifestation of the disease is usually that of a pancreatic mass mimicking carcinoma, but can also present as obstructive jaundice, pancreatic abscess, acute or chronic pancreatitis.

Methods: Chart review and review of available literature using Medline and relevant bibliographies of published articles.

Results: A 32-year-old gentleman from Dominican Republic with no previous history of tuberculosis presented with abdominal pain, vomiting and a 15 lb weight loss over two months duration. Ultrasonography (US), computer tomography (CT) scan and magnetic resonance imaging (MRI) were suggestive of a multicystic irregular pancreatic head mass which appeared inseparable posteriorly form the IVC and extended along the portal vein and proper hepatic artery to the porta hepatis, without any associated biliary or pancreatic duct dilatation. Also noted were enlarged mesenteric lymph nodes and features suggestive of small bowel obstruction. Tumor markers, CEA and CA 19-9 were within normal limits. The initial impression was malignant pancreatic neoplasm with mesenteric spread and small bowel obstruction and the patient was scheduled for an exploratory laprotomy. At operation, 10 x 8 cm cystic mass was seen in mesentery, containing thick creamy material. The mesenteric cystic mass was dissected out and the small bowel involved with this area of mesentery was transected and resected en bloc with the mass. A fine needle aspiration of the pancreatic head mass was done with a 25 G needle and the same material as in the mesenteric cyst was obtained. Histological examination of the mesenteric lymph node and fine needle aspiration cytology from the head of the pancreas confirmed the diagnosis of tuberculosis. Patient recovered following the administration of antituberculosis chemotherapy.

Conclusion: Pancreatic tuberculosis should be considered in the differential diagnosis of pancreatic masses, particularly if the patient is young, not jaundiced and from an area of high TB prevalence.



Heterogeneous complex cystic mass of the pancreatic head

P977

PANCREATIC TUBERCULOSIS IN A PATIENT WITH HIV: A RARE DIAGNOSIS

D. Singh, MD, W. K. Clarkston, MD. Internal Medicine, University of Missouri Kansas City, Kansas City, MO.

Purpose: Pancreatic and peripancreatic tuberculosis is extremely rare even in countries with high endemism.Fewer than 40 cases of pancreatic tuberculosis have been reported worldwide.There is a recent increase in such cases,but the infrequency with which it is encountered makes it a formidable diagnostic challenge.

Methods: We report a 47 year old Ethiopian immigrant male with HIV presented with fever,abdominal pain and weight loss.He appeared weak and diaphoretic but was awake and oriented.His vital signs were stable,except for temperature of 103.0F.His physical exam was unremarkable,except for mild abdominal tenderness and splenomegaly.

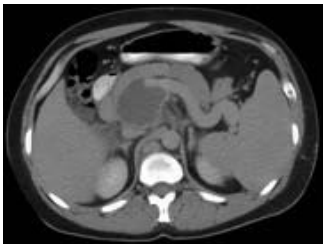
Results: CT scan abdomen showed a complex cystic mass in the pancreatic head with internal septations, associated with extensive retroperitoneal adenopathy.Necrotic pancreatitis and pseudocyst were considered much less likely given the apparent septations and associated adenopathy.A CT guided biopsy of multiple periaortic lymph nodes was positive for mycobacterium tuberculosis complex by smear and culture.He was started on 4 drug antitubercular therapy, resulting in resolution of the pancreatic mass after 9 months(see images).

Conclusion: Although rare,pancreatic and peripancreatic tuberculosis should be considered in the differential diagnosis of cystic lesions of the pancreas.On review of literature,the key to diagnosis of pancreatic tuberculosis is CT guided needle biopsy of the involved tissue and these masses respond well to antitubercular therapy.

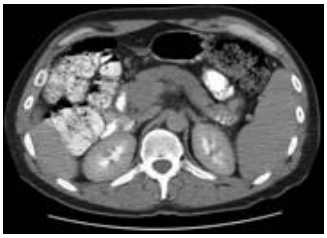
Diagnostic indicators for pancreatic tuberculosis (based on the review of literature)	Diagnostic indicators in our patient
Cystic pancreatic mass in younger patients	Present
HIV status	Present
Immigrant population	Present
Fever	Present
Abdominal Pain	Present

LABORATORY INVESTIGATIONS IN OUR PATIENT

Tests	Results
CD4	31
Lipase	448 (Normal=40-300)
CA 19.9	38.0 (Normal=0-54.9)
Complete blood count	Anemia, lymphocytopenia



CT abdomen showing the complex cystic pancreatic mass.



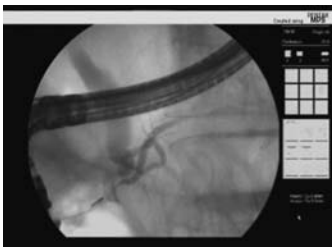
CT abdomen showing resolution of the cystic pancreatic mass after nine months of antitubercular therapy.

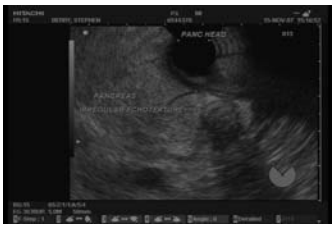
P978

ANSA PANCREATICA AND RECURRENT PANCREATITIS

H. Mahjoob, MD, J. Carroll, MD, R. Jha, MD, E. H. Kramer, BS, F. Al-Kawas, MD. Medicine, Georgetown University Medical Center, Washington, DC.

Purpose: Introduction: Ansa Pancreatica is a type of pancreatic ductal variation. The significance of this type of pancreatic duct anomaly and its relationship to the development of pancreatitis is unclear. Case Report: We report the case of a 51-year-old male who presented with 10 episodes of acute pancreatitis and a 30 Lb weight loss over the course of a year. CT scan and MRI findings were consistent with acute pancreatitis. An ERCP was performed, revealing a loop of the pancreatic duct in the head with a branch that directed towards the minor papilla consistent with Ansa Pancreatica. A prophylactic 5F 3cm stent was placed into the pancreatic duct via major papilla. Sphincterotomy was not performed. EUS revealed a tortuous pancreatic duct with a circular course, located in the pancreatic head. The duct was of normal caliber, at 1.7mm. Acute inflammatory changes were noted in the parenchyma of the tail of the pancreas. The patient was discharged and shortly after readmitted with another episode of pancreatitis. ERCP was again performed and the pancreatic duct was cannulated and anomaly of pancreatic duct was identified. Despite multiple attempts, it was not possible to cannulate the minor papilla to establish its patency. Pancreatic sphincterotomy was performed via the major papilla. A prophylactic 4F 3cm single pig tail stent was placed into the pancreatic duct, and a sphincterotomy was extended over the stent. The patient has been asymptomatic for last six months and gained 20lbs after discharge. Conclusion: It is presumed that the drainage of pancreatic juice can be impaired by Ansa Pancreatica ductal variation. Such patients are vulnerable to the development of pancreatitis. Pancreatic sphincterotomy via major papilla and/or minor papilla may be considered as a treatment modality in symptomatic patients with this type of anomaly.





P979

A RARE PRESENTATION OF SYNCHRONOUS ESOPHAGEAL AND PANCREATIC ADENOCARCINOMA WITH METASTASIS

E. Madrigal, MD,[1] M. M. Tsushima, MD,[1] W. Srikureja, MD,[1] R. Griffin, MD,[2] C. Jackson, MD[2].
1. Gastroenterology, Loma Linda University Medical Center, Loma Linda, CA;
2. Gastroenterology, Jerry L. Pettis Memorial VA Medical Center, Loma Linda, CA.

Purpose: Most cases of multiple cancers with esophageal adenocarcinoma are associated with head and neck cancers or gastric cancers. We report a rare case of synchronous esophageal and pancreatic adenocarcinoma.

Methods: A 59-year-old Caucasian male with a history of alcohol abuse and a 40-pack year smoking history presented with a chief complaint of severe epigastric abdominal pain, anorexia, and a 25-pound weight loss over 6 months. On admission, he was afebrile and in mild distress. Physical examination revealed tenderness to palpation in the mid-epigastric region. Laboratory examination revealed a total bilirubin 3.4 mg/dL [0.2-1.2 mg/dL], direct bilirubin 2.1 mg/dL [0.0-0.3 mg/dL], alkaline phosphatase 708 IU/L [50-136 IU/L]. Abdominal CT scan showed intrahepatic biliary dilatation, common bile duct 1.5 cm in diameter, and mild pancreatic duct dilatation, with no obvious abnormal density or enhancing lesion in the pancreas. Bilateral adrenal gland masses, 3.5 cm on the left, 2.6 cm on the right, were also noted. EGD showed a circumferential mass in the distal esophagus, extending from 35 to 40 cm from the incisors. Biopsies revealed poorly differentiated adenocarcinoma. A subsequent EUS showed that the esophageal mass extended through the muscularis propria. In addition, a 9.1 x 6 mm hypoechoic left lobe liver nodule, a 2.5 x 1.6 cm left adrenal mass involving the body and tail of the pancreas with upstream ductal dilatation, and a 2.3 x 1.9 cm mass in the head of the pancreas were observed. FNA of the pancreatic body mass and celiac node showed malignant cells consistent with adenocarcinoma. Ascitic fluid obtained during the EUS showed reactive mesothelial cells.

Results: ERCP revealed a stricture in the head of the pancreas and a 2 cm distal common bile duct stricture with marked dilation of the proximal bile duct. A 10 x 40 mm metal biliary stent was successfully placed across the stricture. An EGD followed with successful placement of a covered 10 cm esophageal stent. The patient was referred for palliative chemoradiation followed by systemic chemotherapy. However, the patient and his family opted for hospice care. He died two months later.

Conclusion: In order to be considered synchronous secondary to a dual primary source, each cancer must appear malignant and distinct. In addition, the probability of one being a metastatic lesion of the other must be excluded. Although a distinction may be based on histology, as CA 19-9 stain is very specific for pancreatic cancer, up to 55% of esophageal adenocarcinomas will stain for CA 19-9 as well. This patient was considered to have two primaries due to the location of the mass in the head of the pancreas, which is the usual presentation for a primary pancreatic tumor.

P980

ACUTE PANCREATITIS INDUCED BY GASTROSTOMY TUBE (GT) MIGRATION: A CASE SERIES

M. Erfani, MD, T. Zolfaghari, MD, H. Hertan, MD, FACG. Gastroenterology, Our Lady of Mercy Medical Center, Bronx, NY.

Purpose: Approximately 120,000 percutanaeus endoscopic gastrostomy (PEG) procedures are performed in US annually. Although PEG placement is generally safe, 16 to 70% complication rate is reported. Minor complications include wound infection, tube dysfunction, gastric outlet obstruction, peristomal leakage, bleeding, cutaneous or gastric ulceration, pneumoperitoneum and temporary ileus. Major complications include necrotizing fasciitis, esophageal or gastric perforation, buried bumper syndrome, and inadvertent PEG removal. Here we present another complication of GT migration into the duodenum. This complication has been under-recognized and rarely reported.

Methods: This is a case series study. Five nursing home patients with PEG who were admitted with obstructive symptoms, elevated serum amylase and lipase and normal liver enzymes were reviewed. In all cases the physical and radiological examination [fig. 1], revealed migration of the GT into the duodenum. Symptoms were resolved after GT replacement or retraction. Serum amylase and lipase were also normalized within 2 to 3 days. No other causes for acute pancreatitis were identified. In one case the patient was re-admitted several times with migrated GT and similar findings. Pancreatic enzymes were normalized after GT replacement in every occasion.

Results: In all cases, there was evidence of migrated GT balloon compressing periampullary area with increased amylase and lipase, which normalized when the balloon was deflated and moved away from the ampullary region. This condition was associated with balloon-type internal bolster, replaceable GT.

Conclusion: In elderly patients with PEG, abdominal pain, vomiting and hyperamylasemia, a migrated GT to the periampullary region should be looked for and the GT should be repositioned.

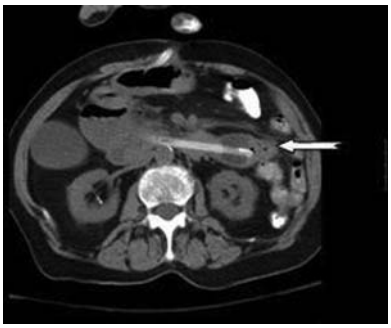


FIG. 1- Arrow shows migrated GT balloon into the duodenum.

P981

HEMOLYSIS INDUCED ACUTE PANCREATITIS

A. R. Seyal, MD,[1] C. R. Marino, MD[2]. 1. Internal Medicine, University of Tennessee, Memphis, TN; 2. Internal Medicine, Veterans Affairs Medical Center, Memphis, TN.

Purpose: INTRODUCTION Hemolysis induced pancreatitis has been rarely reported in literature. We describe a dialysis patient who developed severe hemolysis due to dialysis tube kinking resulting in release of free heme causing acute pancreatitis

Results: Case Report:- 53 years old African American male with past medical history of hypertension and end stage renal disease on hemodialysis developed chest tightness and shortness of breath during routine hemodialysis. A kink was noticed in the dialysis tubing after the patient was symptomatic. Examination showed temperature 98.9 F, pulse of 88, and blood pressure of 228/114 mm of Hg. Other than mild icterus rest of the examination was unremarkable. Hemoglobin dropped from 15.2 g/dL to 8.2 g/dL with a Hematocrit of 15.2 %. Total Bilirubin was 17.9 mg/dl and unconjugated Bilirubin was 15 mg/dl. Aspartate aminotransferase and alanine aminotransferase were 723 U/L and 34 U/L respectively, lactate dehydrogenase of 16,231 U/L, and serum Haptoglobin was low indicating intravascular hemolysis.Next day he started experiencing escalating epigastric pain. Serum amylase was 960 U/L and serum lipase was 3600 U/L consistent with acute pancreatitis. CT scan did not show gallstones or changes consistent with chronic pancreatitis. Serum calcium level was 7.4 mg/dL and triglycerides were 265 mg/dL. Patient was not on any medication known to cause pancreatitis. Diagnosis of hemolysis induced pancreatitis was made. He was kept nothing per oral and given intravenous fluids, blood transfusions and proton pump inhibitors with resolution of symptoms.

Conclusion: Acute pancreatitis is an acute inflammatory condition of the pancreas. Etiologies include alcoholism, gallstones, hypertriglyceridemia, hypercalcemia, drugs, and trauma. Although mechanism of hemolysis induced pancreatitis is not well understood, massive intravascular hemolysis leads to release of large amounts of free heme exceeding the binding capacity of hemopexin and overwhelming heme oxygenase system. Free heme causes increase in vascular permeability, formation of reactive oxygen radicals, adhesion molecule expression and leukocyte recruitment. Massive hemolysis also leads to activation of coagulation cascade forming microthrombi and damaging vascular integrity of pancreatic microvasculature. Some or all of these mechanisms can potentially cause pancreatitis. Management is largely conservative for acute pancreatitis.

P982

BILIARY VENOUS FISTULA AFTER PERCUTANEOUS BILIARY DRAIN PLACEMENT

S. Scanlon, MD, K. Ravi, MD, M. D. Topazian, MD. Internal Medicine, Mayo Graduate School of Medical Education, Rochester, MN.

Purpose: A 76 year old female presented with jaundice and twelve pound weight loss over one month. Liver function tests (LFTs) were notable for total bilirubin 8.5, direct bilirubin 6.8, AST 106, ALT 119, and Alkaline phosphatase 617. An abdominal and pelvic CT showed a 5.5cm predominantly low-density porta hepatic and hepatic hilar mass as well as a 4.2 x 6.7cm heterogeneously enhancing mass in the right pelvis. The patient was admitted to a local hospital for percutaneous transhepatic cholangiogram with percutaneous drain placement. Two days later, she required revision of the drain leading to a steady decline in LFTs. On the subsequent day, she developed fever, rigors, and leukocytosis. She received Levaquin 750 mg by mouth daily for suspected acute cholangitis. She underwent a CT guided liver biopsy which was inconclusive and was transferred to a tertiary care center for ERCP. During routine ERCP for brush biopsies and plastic biliary stent placement, a communication was appreciated between the biliary system and the hepatic vein with reversal of flow consistent with a biliary venous fistula. This was not previously seen on prior cholangiograms. Given concern of ongoing bacteremia, she completed a two week course of Levaquin 750 mg by mouth daily and Flagyl 500 mg by mouth three times daily. Four weeks later she underwent repeat ERCP with stent removal and replacement with an uncoated Flexxus biliary stent. A biliary venous fistula was not seen during this exam. Fistulas between the biliary tree and the hepatic vein are typically produced during percutaneous drain placement. It is rare for such communications to become clinically evident. In this case, the obstructed bile duct created a pressure gradient favoring reversal of flow and consequently bilhemia. Treatment of bilhemia was previously limited to surgery involving resection of the involved liver. Endoscopic interventions have become the procedure of choice to treat bilhemia associated with obstructive common bile duct lesions. However, there have been few cases which examine the need for antibiotics when such fistulas are discovered. Theoretically bile is sterile, however in the case of biliary duct obstruction, recent percutaneous interventions, and presence of SIRS criteria, when is it indicated to treat? Some authors surmise that prompt resolution of the obstruction and reversal of the gradient may be sufficient since this will normalize the pressure gradient, however the role for antibiotics is unclear in a situation like above when SIRS criteria are present, but source of infection is uncertain. In conclusion, we present a rare case of biliary venous fistula and bilhemia with response to endoscopic intervention and antibiotics.

P983

SARCOIDOSIS PRESENTING AS CHOLANGIOCARCINOMA

J. Braha, DO,[1] T. Hsieh, MD,[1] J. Mirchandani, MD,[1] K. Iswara, MD,[1] J. Li, MD,[1] S. Tenner, MD, MPH[2]. 1. Medicine, Maimonides Medical Center, Brooklyn, NY; 2. Medicine, State University of New York - Health Sciences Center, Brooklyn, NY.

Purpose: Sarcoidosis is an idiopathic granulomatous disease that has a myriad of manifestations. We present a patient who presented with obstructive jaundice and a periportal mass, initially thought to have either cholangiocarcinoma or lymphoma, found, after extensive evaluation, to have Hepatobiliary Sarcoidosis.

Methods: A 42 year-old female presented to our institution with jaundice, right upper quadrant pain, nausea and non-bloody, non-bilious vomiting for three days. She reported a 60lb weight loss in the previous six months and had recently quit cigarette smoking. Past medical history was significant for hypertension. She denied any history of alcohol, drug abuse or hepatobiliary disease. Physical examination was significant for mild hepatomegaly, right upper quadrant tenderness and absence of a Murphy's sign. Laboratory examination revealed elevated liver function testing, bilirubin 2.8 mg/dl. Computed Tomographic scan showed a 1.6 cm mass anterior to the left portal vein,compressing the common hepatic bile ducts resulting in ductal dilatation. There was diffuse periportal lymphadenopathy. Endoscopic ultrasound was performed confirming the 1 cm periportal mass, an FNA was performed. Cytology was non-specific, negative for malignancy.

Results: Laproscopy was performed with biopsy of the periportal adenopathy revealing non-necrotizing granuloma. Chest radiograph revealed diffuse interstitial infiltrates. PPD was negative. The patient was diagnosed with sarcoidosis. Biliary obstruction was treated by ERCP and stent placement. Oral steroid therapy was begun. The patient quickly responded with resolution of symptoms, weight gain, and normalization of LFTs.

Conclusion: This case supports the importance of obtaining histology to confirm the diagnosis of a suspected malignancy. Sarcoidosis should be considered in the differential diagnosis of biliary obstruction mimicking carcinoma. Prompt endoscopic and medical therapy appears to result in a quick resolution of symptoms.

P984

GALLBLADDER TUBERCULOSIS MIMICS CHOLECYSTITIS

R. Blatt, MD, N. Shahnavaz, MD, T. Dhere, MD, M. Goldstein, MD. Emory University, Atlanta, GA.

Purpose: A 37-year-old impoverished African-American male with a history of hemophilia A presented with complaints of two months of right upper quadrant abdominal pain, nausea, night sweats, and low grade fevers. Abdominal exam revealed a tender right upper quadrant. Labs were unremarkable. A right upper quadrant ultrasound revealed a thickened gallbladder wall and gallstones consistent with cholecystitis, which led to a cholecystectomy. There was no evidence for peritoneal tuberculosis intraoperatively. However, the pathology report of the gallbladder revealed caseating granulomas containing acid fast bacilli (AFB) consistent with a diagnosis of tuberculosis. The patient's PPD, HIV test, chest X-ray and sputum AFB were all negative. Post-operatively the patient showed an improvement in symptoms and was discharged two days later and referred for tuberculosis treatment. Tuberculosis (TB) has changed its face recently due to increasing numbers of HIV infections, poverty, and migration. Very few cases of gallbladder tuberculosis (GT) have been reported. A correct preoperative diagnosis of GT is rare, and it can mimic other gallbladder diseases. GT often occurs in women over 30 years of age and can present with cystic duct obstruction and gallstones. The route of infection may be peritoneal, hematogenous or lymphatic. GT may present with symptoms such as abdominal pain, weight loss, fever, nausea, vomiting or a palpable abdominal mass. Anemia, elevated ESR, and positive tuberculin tests are usually found during laboratory examination. In most reported cases the chest X-rays were normal. The abdominal ultrasound and computed tomography scan findings may also show a gallbladder mass, dilated gallbladder, thickened gallbladder wall, ascites, biloma or abdominal lymphadenopathy. However, these finding are not specific for GT. The correct diagnosis of gallbladder tuberculosis is usually made after a cholecystectomy. However, with a high index of suspicion, aspiration cytology of tuberculomas or percutaneous drainage of bile with culture could confirm the diagnosis of GT in some patients without surgery. This case demonstrates the need to consider GT in patients with known TB or high risk patients with symptoms consistent with gallbladder disease.

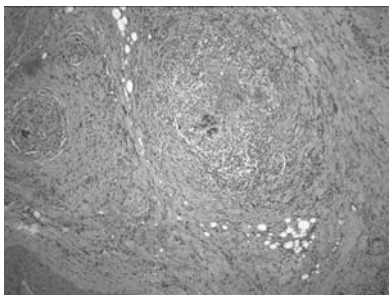


Figure. Gallbladder Tuberculosis described above

P985

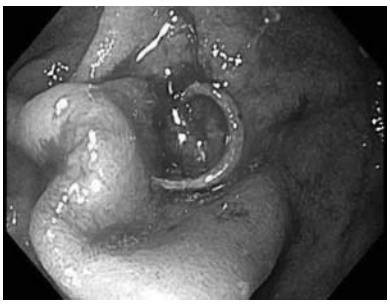
ACUTE DUODENAL ANISAKIASIS WITH ASSOCIATED HEPATOPANCREATIC COMPLICATIONS

E. Wang, BA, N. Kaur, MD, R. Saad, MD. University of Michigan Medical Center, Ann Arbor, MI.

Purpose: Anisakiasis is a gastrointestinal infection caused by the Anisakis larvae, a nematode found in undercooked seafood. Although fewer than 10 cases are diagnosed annually in the U.S., the incidence is expected to rise due to the increase in raw fish consumption. There have been few reported cases of duodenal anisakiasis and its complications.

Results: Case: A 25-year-old previously healthy man presented with 4 days of severe epigastric pain of acute onset 48 hours after eating squid. Physical exam only revealed epigastric tenderness. Laboratory studies were remarkable for a leukocytosis of 11.2 x 10^3 cells/μL, eosinophilia of 7.1%, AST 118 units/L, ALT 124 units/L, alkaline phosphatase 177 units/L, total bilirubin 1.6 mg/dL, serum amylase 120 units/L, and serum lipase 112 units/L. Abdominal CT scan and right upper quadrant ultrasound were unremarkable. Upper endoscopy revealed a 1 cm worm in the second portion of the duodenum. This was extracted with biopsy forceps and morphologically identified as Anisakis simplex. Albendazole therapy was initiated to ensure eradication. Two days later, his pain was resolving and laboratory abnormalities were normalizing.

Conclusion: Clinical presentation of anisakiasis can be variable, including symptoms of abdominal pain, nausea, vomiting, and diarrhea. Patients may develop low-grade fever with mild to moderate leukocytosis. The range of peripheral eosinophilia varies widely. Acute anisakiasis can be overlooked and has been misdiagnosed as acute appendicitis, Crohn's disease, peptic ulcer disease, and gastric cancer. For gastroduodenal anisakiasis, endoscopy continues to be diagnostic and potentially therapeutic. Endoscopic removal results in quicker relief of symptoms and is thought to prevent an allergic reaction and the formation of eosinophilic granulomas. The Anisakis larvae may invade the gastrointestinal wall to the level of the muscularis mucosae and cause edema, eosinophilic infiltration, and a granulomatous reaction. For our patient, the rise in hepatopancreatic enzymes suggests transient extrahepatic biliary obstruction caused by edema at the Sphincter of Oddi from mucosal damage by the Anisakis larvae. Discovery of the Anisakis larva in the second portion of the duodenum and relatively rapid resolution of the laboratory abnormalities help support this hypothesis.



P986

WHITE BILE IN MALIGNANT BILIARY OBSTRUCTION

A. Mreyoud, MD, S. Mehboob, MD. Internal Medicine/Gastroenterology, VAMC/University at Buffalo, Buffalo, NY.

Purpose: A 57 year-old Caucasian male with previous history of cholecystectomy presented with two weeks history of generalized pruritus, jaundice, dark-colored urine and acholic stool associated with right upper quadrant abdominal discomfort, and anorexia. His clinical data showed a total bilirubin level of 25.4 mg/dL (0.1 to 1.0 mg/dL), alkaline phosphates level of 455 U/L (50 to 136 U/L), an Aspartate Aminotransferase (AST) level of 109 U/L (12 to 34 U/L) and Alanine Aminotransferase (ALT) level of 278 U/L (10 to 55 U/L). Abdominal CT scan demonstrated a low density lesion in the pancreatic head with dilated intra-hepatic and common hepatic ducts. ERCP revealed high grade distal CBD stricture with upstream dilation of common hepatic duct. A biliary stent was placed successfully through the stricture with drainage of colorless-transparent fluid "White bile". Brushings from the biliary stricture showed atypical cytology suspicious for malignancy. CA 19-9 was elevated 420 Units/mL (0-35 U/mL). PET scan demonstrated hyper metabolic lesion in the head of the pancreas with no evidence of metastases. Patient underwent surgical exploration with intent for Whipple's procedure but was found to have pancreatic head carcinoma with metastatic lesion to the surface of the liver. Therefore, surgery was aborted. He underwent Hospice care and expired three months later.

Methods: '

Results: White bile (WB) is a misnomer, referring to the translucent, colorless bilirubin – free fluid occasionally found in occluded bile ducts. The cause for the absence of the bile pigments, salts, or cholesterol in this "White bile" are not completely understood. WB was experimentally developed in a dog model when the common bile and the cystic ducts were ligated. In contrast "black" bile occurred when only the common bile duct was ligated leaving the gallbladder in communication with obstructed duct. Flow in the extrahepatic duct was assessed by the aid of radioiodinated human serum albumin. When "Black bile" was present, the direction of flow was from the extrahepatic ducts into the gallbladder. Whenever "white bile" developed, a reverse flow from the extrahepatic into the liver was observed. The pressure in extrahepatic ducts that contain white bile was higher than those filled with black bile. In the absence of the gallbladder and its water absorption activity, the colorless mucus secretion of the bile ducts seems to "back wash" into the liver and replaces the bile present in the ducts at the time of obstruction. The presence of "white bile" in patients with malignant obstructive jaundice underwent endoscopic biliary drainage is associated with more cholangitis after drainage and significantly less bilirubin, total bile acid and median survival.

Conclusion: '

P987

GANGLIOCYTIC PARAGANGLIOMA OF THE COMMON BILE DUCT

M. Muthuswamy, MD, Z. Zhang, MD, E. Stueben, MD. Internal Medicine, LSU HSC - University Medical Center, Lafayette, LA.

Purpose: We present a rare case of a gangliocytic paraganglioma (GP) in the common bile duct causing painless, obstructive jaundice.

Methods: Case Report

Results: A 71 year old female presented to the emergency room with a history of fluctuating jaundice with loose bowel movements for 8 weeks. Initial evaluation several weeks prior with ultrasound and abdominal CT were unremarkable. She denied most other symptoms including fever, chills, pain and bleeding. She did have a past history of breast cancer treated with lumpectomy and radiation. Physical examination showed scleral icterus and jaundice, but a benign abdominal exam. Laboratories were significant for a mild elevation in the CA 19-9 (114), normal CEA, total bilirubin of 11.5, Alkaline Phosphatase 42, INR 1.92, Albumin 1.8. A repeat ultrasound revealed evidence of a dilated common bile duct (12 mm) and intrahepatic biliary dilation. The patient underwent an endoscopic retrograde cholangiopancreatogram which revealed a 2 x 3 cm polypoid mass involving the distal common bile duct just above the intrapancreatic portion approximately 2-3 cm proximal to the ampulla. Brushing was performed for cytology, but this returned negative. A sphincterotomy with billiary stent placement was performed. The patient's jaundice improved substantially subsequent to this. CT and MR – cholangiogram of the abdomen showed a smooth soft tissue density in the common bile duct. There was still high suspicion for malignancy, so she then underwent an exploratory laparotomy. Cholecystectomy, common bile duct exploration and resection of the intra and extrahepatic common bile duct were performed, along with regional portal lymphadenectomy and a Roux-en-y choledochoduodenostomy. The specimen did show evidence of acute and chronic cholecystitis. The common bile duct revealed a 2.5 x 2 x 3 cm ulcerated polypoid mass. Microscopic examination showed nests of ganglionic cells with enlarged densely hyperchromatic nuclei, some of which were multi-loculated, all compatible with gangliocytic paraganglioma. All other pathology specimens revealed no evidence of tumor. On follow up two months and eight months after surgery, the patient was doing well, without any further jaundice or symptoms.

Conclusion: GPs are rare tumors first described in 1962. The duodenum is the most common site for GPs. Gastrointestinal bleeding and abdominal pain are common presenting symptoms. Its usual endoscopic appearance is as a submucosal mass, often resulting in negative mucosal biopsies. These neoplasms are largely benign in clinical course, although a few cases of regional lymph node metastases have been noted. A review of the literature shows 4 cases similar to ours where the GP originated in the biliary system.

P988

KLATSKIN-LIKE BILIARY SARCOIDOSIS

2008 ACG Presidential Poster Award Recipient

J. M. Petersen, DO, FACG, FACP. Borland-Groover clinic, Jacksonville, FL.

Purpose: Clinical Vignette: Sarcoidosis is a multisystem granulomatous disease of unknown etiology that presents most often in young adults with hilar adenopathy, pulmonary infiltrates, skin or eye lesions. Hepatobiliary involvement is asymptomatic in most, with non-caseating granulomas seen often. Cholestatic hepatitis with liver chemistry resembling PBC or PSC has been described. Intra-hepatic cholestasis, hepatosplenomegaly, pre-sinusoidal portal hypertension, portal fibrosis, and cirrhosis may be seen. Abnormalities of the large bile ducts and extrahepatic tree is rarely seen, and we describe a Klatskin-like biliary confluence granulomatous obstruction that responded to balloon dilation, stenting, and corticosteroid therapy. Case: A 38 yr. old caucasian female presented with painless jaundice. She complained of pruritus, weakness, fatigue, dark urine and malaise. Initial labs: Bilirubin 11, AST-107, ALT-92, GGT-431 (Nl 15-85), Alk. Phos-635, CEA-1.2, Nl p-ANCA, Nl Ig's, ACE-28 (Nl 8-21); ANA, AMA, copper, Ferritin were WNL. U.S. revealed intra-hepatic duct dilations; CT and MRCP with confluence region mass effect with marked proximal ductal dilation. A 3 cm portacaval node was noted; ERCP with Spyglass cholangioscopy displayed a tight confluence stricture, with extension into the right hepatic system; After balloon dilation of both right and left ducts, cholangioscopy revealed a nodular duct wall and brushings and directed biopsy bites were collected. Histology from the confluence revealed non-caseating granulomas with chronic cholangitis; No malignancy was detected. A 10 F stent was placed into the dominant right system and the bilirubin fell from 17 to 11 mg/dl overnite. The pateint was treated with Urso and 40 mg of Prednisone. Follow-up 2 weeks later: Bili.-1.5, GGT-135, ALT-48. Conclusions: Sarcoidosis is a chronic granulomatous disease that may present in young adults as a hepatocellular or cholestatic process. Extra-hepatic biliary obstruction may result from peri-ductal adenopathy or from ductal infiltration. Cholangioscopy may prove beneficial in directing biopsies and/or brushings to rule out carcinoma. Biliary sarcoidosis appears to be exquisitely sensitive to biliary stent decompression and corticosteroids.

P989

SANDOSTATIN DESENSITIZATION: A STRATEGY USEFUL FOR PATIENTS WITH CARCINOID TUMORS, INTOLERANT TO SANDOSTATIN

S. Vinjamaram, MD, S. Khubchandani, MD, R. Iyer, MD. Roswell Park Cancer Institute, Bufffalo, NY.

Purpose: Currently there are no guidelines to manage patients with carcinoid tumors who would benefit from sansdostatin but are unable to tolerate it. We attempt a desensitizing strategy in such patients.

Methods: 49-year old white male was evaluated for a history of painless jaundice of 1-week duration. He reported facial flushing, lasting years. Asymptomatic otherwise, and had no other significant personal or family history or physical examination findings other than facial flushing. Work up revealed distension of the gall bladder and dilatation of the common bile duct (CBD) (1.9cm), hepatic ducts and a 3.5cm hypodense lesion in the head of the pancreas. Patient underwent multiple endoscopic retrograde cholangiopancreatographies (ERCP) with stent placement; CBD biopsies and brushings did not reveal malignancy. Subsequent CT scan of the abdomen revealed multiple 10-15 mm ill-defined hepatic lesions and increased fullness in the pancreatic head. Biopsy of the pancreas revealed a low-grade neuroendocrine tumor of the pancreas head and neck. Octreotide uptake was noted in the head and neck of the pancreas and two hepatic lesions. Patient had an elevated chromogranin-A level of 6. While the patient was waiting for surgery (whipple procedure), he was started on sandostatin 150 mcg SQ bid, to

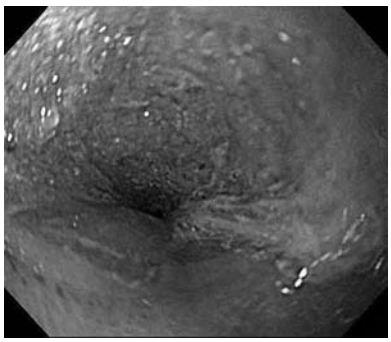
be continued for 2 weeks, followed by long acting sandostatin once every month. However, patient reported severe nausea, vomiting, diarrhea, abdominal cramps after each dose of 150 mcg and was challenged a few days apart with 3 doses. There is no literature to guide management of these patients in terms of strategies for desensitizing patients as sandostatin can cause disease stabilization as well as minimize anesthesia complications during the peri-operative period and ultimately benefit the patient. We attempted a trial of gradually increasing the dose of sandostatin, starting at less than 1/3rd of the recommended dose, at 25 mcg subcutaneously (SQ) twice a day.
Results: As the patient tolerated the dose, it was doubled every 3 days to eventually reach a dose that is within the lower range of recommended for achieving steady state concentrations. Upon reaching the targeted dose of 150 mcg SQ bid, he tolerated it without the intial severe gastrointestinal effects. Following this he was given a long acting sandostatin LAR injection of 20mg deep intramuscularly, which he tolerated well, with some relief of his flushing as well.
Conclusion: There are no guidelines to manage patients with carcinoid tumors who are unable to tolerate sandostatin. We report a desensitizing strategy that can be useful in such patients and situations where sandostatin is indicated for therapy of tumor (as a disease stabilizing agent) or for control of carcinoid symptoms.

P990

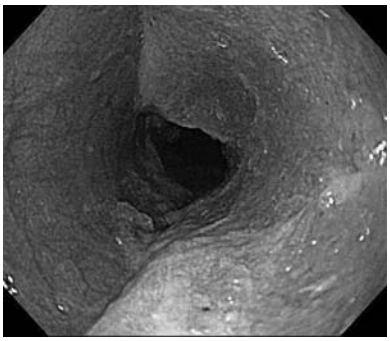
***H. PYLORI* IN THE PATCH!**
M. Jindal, MD, R. Jindal, MD, A. Aytaman, MD. Gastroenterology, VA NYHHS, Brooklyn, NY.
Purpose: Inlet patch is a heterotopic site of gastric mucosa in the upper esophagus. Its endoscopic prevalence has been reported to be ranging from 0.1-10%. *Helicobacter pylori* can infect heterotopic gastric mucosa anywhere in the gastrointestinal tract, including in the upper esophagus, and may rarely produce symptoms. We present a case of *H. pylori* infection in an inlet patch. Case Report: A 51 year old man with past history of ankylosing spondylitis and diabetes mellitus reported post-prandial burning epigastric pain of 1 month's duration, associated with occasional heartburn and weight loss of seven pounds in the past year. Dypepsia did not respond to empiric therapy with a proton-pump inhibitor and the patient was not anemic. He underwent elective esophagogastroduodenoscopy (EGD) that revealed antral gastritis and a 15mm elliptical area of salmon colored mucosa just below the upper esophageal sphincter, suggestive of inlet patch. Biopsy from the patch revealed body type gastric mucosa and focal antral features. *H. pylori* was detected in the specimen on Giemsa staining. Chronic inflammatory infiltrate was noted with mild acute inflammatory activity. No intestinal metaplasia was reported in the biopsy specimen. Patient was given treatment for *H. pylori* with amoxicillin, clarithromycin and omeprazole for two weeks. Dyspepsia resolved completely and the patient has been symptom-free since treatment. Discussion: Inlet patch is a possible site for *H. pylori* infection. The infection closely correlates with presence of *H. pylori* in the stomach, and independent infection of the inlet patch has not been reported. Detection of inlet patch appears to be endoscopist dependent and careful examination of the upper esophagus should be performed during every EGD. The exact significance of eradication of *H. pylori* from the inlet patch is not known, however inlet patch has been postulated to be a source of oral transmission of *H. pylori*. Inlet patch may also be a site of persistent infection after conventional treatment given to eradicate *H. pylori*.

P991

OBSTRUCTION WITH A PATENT LUMEN: A CASE OF POWDERED PSYLLIUM AND ACUTE ESOPHAGEAL OBSTRUCTION
P. Pico, MD, M. Hassan, MD, B. Hameed, MD. Gastroenterology and Internal Medicine, University of Minnesota, Minneapolis, MN.
Purpose: Psyllium is one of the most commonly used fiber supplements worldwide. There have been case reports of esophageal and intestinal bezoars mass obstruction from psyllium use. A 60 year old male with no history of dysphagia presented with a globus sensation few minutes after taking his daily psyllium supplement. He was unable to swallow solids or liquids. Endoscopy revealed a material bonded to the surface just distal to the oropharynx continuous to the gastro esophageal junction. The material had glue like gelatinous appearance, circumferentially adherent to the underlying mucosa. The lumen of the esophagus remained patent with no mass obstruction. The patient had immediate resolution of symptoms after the procedure. At follow-up endoscopy, there was complete passage of material. Exam revealed a normal mucosa without strictures, rings or abnormalities of peristalsis. Psyllium and Plantago Ovata. In 1986, the FDA recommended dividing doses of psyllium supplements and addended their report in 2007, listing intestinal obstruction as a side effect of granular forms of psyllium. This modification, however, specifically states that this listing does not apply to psyllium powder. This patient illustrates the first published case report of obstruction by coating of the esophagus from the powdered form of psyllium. Physicians should be aware of psyllium use in patients presenting with obstruction.



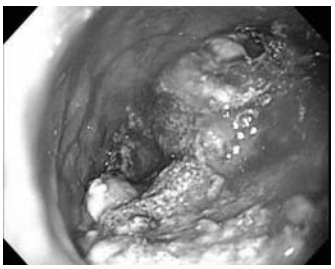
Psyllium powder coating the esophagus.

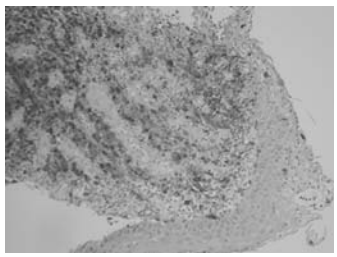


Psyllium powder coating the esophagus.

P992

A DIFFICULT DIAGNOSIS TO SWALLOW: MALIGNANT MELANOMA DIAGNOSED BY ENDOSCOPY
N. R. Sharma, MD,[1] V. Vrcelj, MD,[2] P. Kulkarni, MD[1]. 1. Department of Gastroenterology, University of South Florida, Tampa, FL; 2. Department of Pathology, James A Haley Veterans' Administration Hospital, Tampa, FL.
Purpose: Primary melanoma of the esophagus is an extremely rare diagnosis. Bulky esophageal melanomas are even rarer. We report a case of Malignant Melanoma involving the esophagus in a patient with no prior history of the disease who presented with complaints of dysphagia.
Case Report: 79 yo male with a history of prostate cancer, CAD with CABG, and CVA comes to the hospital with complaints of progressive solid food dysphagia and weight loss for 2 months. The patient had no history of Melanoma. A heterogeneously hyperpigmented bulky lesion was seen on EGD from 25cm to 35cm in the mid esophagus. The mass was friable and involved 2/3 of the lumen. A small, 3mm, dark, hyperpigmented lesion was also seen in the gastric body. Biopsies confirmed Melanoma on s100 staining at both sites. Pt was note to have metastatic disease to the liver, and multiple lung nodules on staging CT. The primary Internal Medicine team did not note any evidence of Melanoma on skin exam. Eye exam done by Ophthalmology also did not find any evidence of Melanoma. In view of advanced disease, only palliation was sought. A gastric feeding tube was placed by interventional radiology. Pt was started on Temodar by Oncology, and sent with Hospice follow up. **Discussion:** Primary Esophageal Melanoma of the esophagus is rare diagnosis with less then 250 cases reported in the world literature to date. Esophageal Melanoma is a very aggressive tumor which carries a poor overall prognosis. There is limited data, primarily in the form of case reports, about potential surgical cures for very early stage disease. Treatment is evolving. Once metastatic, the prognosis for the disease is poor and palliative care should be considered.





P993

AN UNUSUAL ETIOLOGY OF DYSPHAGIA IN A PATIENT WITH ACROMEGALY
C. J. Romero, MD, E. J. Gonzalez, MD, V. L. Carlo, MD. Gastroenterology, University of Puerto Rico, San Juan, PR.
Purpose: 58 year-old women with history of diabetes mellitus and high blood pressure presented to our clinics with complaints of intermittent dysphagia to solids for four years. She states that since 5 months ago, these episodes have become more frequent, usually occurring less than one second after swallowing with associated regurgitation of intact meals. There was no history of odynophagia, heartburn, vomiting, retrosternal chest pain or weight loss. She denied smoking or alcohol abuse. Physical examination revealed a protuberant mandible and puffy hands. No halithosis or signs of malnourishment were present. A barium swallow showed a stricture of the esophagus at the level of the aortic knob. A subsequent upper endoscopy revealed no mucosal lesion supporting an extraluminal etiology of dysphagia. A right aberrant subclavian artery causing thoracic esophagus compression was identified by CT scan. A diagnosis of acromegaly was entertained by the presence of an elevated insulin-like growth hormone levels and physical exam findings. Further imaging studies identified a pituitary mass and patient is on scheduled for transphenoidal resection. Dysphagia lusoria is a rare disorder in adults. The worsening of dysphagia in this patient led to a diagnosis of acromegaly. Oropharyngeal dysphagia in patients with acromegaly secondary to macroglossia has been previously described. To our knowledge, dysphagia lusoria associated to acromegaly has not been previously reported.

P994

GRANULAR CELL TUMOR OF THE ESOPHAGUS: CASE REPORT AND LITERATURE REVIEW

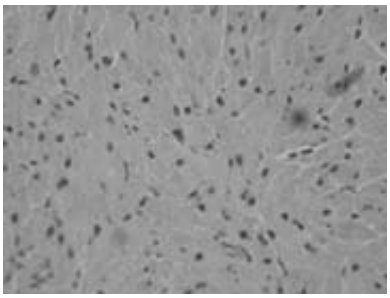
N. J. Landesman, DO,[1] J. R. Miller, DO,[1] B. L. Himes, DO[2]. 1. Gastroenterology, Genesys Regional Medical Center, Grand Blanc, MI; 2. Pathology, Genesys Regional Medical Center, Grand Blanc, MI.

Purpose: 24 y.o. female referred for 10-month history of emesis and abdominal pain underwent EGD revealing a white-yellow submucosal growth at 32 cm from the incisors measuring 1 cm in length and 0.5 cm in width. Pathology report read: "One fragment consists of pink-staining granular cells with small, rounded nuclei consistent with granular cell tumor (GCT). Cells are strongly positive for S-100 and vimentin. Features of malignancy are absent".

Methods: Abrikossoff first described "granular cell myoblastoma" in 1926. It was considered a myogenic tumor until Fisher and Wechsler's 1962 challenge. Using electron microscopy and Wallerian degeneration studies, they noted similarities between a myoblastoma cell and a degenerating Schwann cell. Today, most pathologists and oncologists acknowledge the neural origin of GCTs supported by positive IHC staining for CD68, Ki-67 (slightly), NKI/C3, NSE, nestin, p53 (slightly), S-100 protein, and vimentin. In addition, positive PAS stain with resistance to diastase digestion and nonreactivity to HHF35, desmin, and alpha-smooth muscle actin are characteristic.

Results: GCTs comprise only 0.03% of all tumors, and GI GCTs are even more rare with the distal 1/3 of esophagus cited most frequently. Mean age of diagnosis is 45 years with equal M:F ratio. Dysphagia is the most common symptom correlating to > 1 cm size. Classic appearance is a small, non-tender, broad-based, submucosal growth resembling a "molar tooth" when central depression exists. A rubbery or firm consistency is characteristic with pink-tan, gray-white, or white-yellow coloration. EUS reveals a homogenous, hypo/isoechoic submucosal lesion. Approximately 200 cases have been documented.

Conclusion: GCTs are notoriously benign, but no management guidelines exist. Presently, an esophageal GCT > 2 cm size, symptomatology, interval growth, recurrence, tissue invasion, or advanced histologic/sonographic features prompt resection. Preoperative EGD re-evaluation with confirmatory biopsy followed by EUS to address muscularis and lymphatic invasion are recommended. EMR, Nd:YAG laser ablation, and APC are safe, effective alternatives to surgery in the absence of muscularis or lymphatic involvement. Esophageal GCTs are not radiosensitive, but recurrence is uncommon.



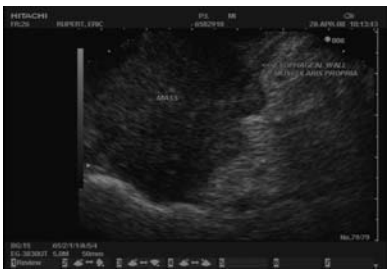
Cells with granular, pink-staining cytoplasm and small nuclei

P995

SQUAMOUS CELL CARCINOMAS OF THE ESOPHAGUS APPEARING AS LEIOMYOMAS BY EUS AND EGD

E. H. Kramer, BS, H. Mahjoob, MD, J. Carroll, MD. Medicine, Georgetown University Medical Center, Washington, DC.

Purpose: Introduction: Esophageal Squamous Cell carcinomas (SCCA) and leiomyomas are felt to be readily distinguishable from each other, as they originate from different hisotolgic wall layers, and have classically different appearances on presentation. Typical esophageal SCCA's are easily diagnosed by standard endoscopy, by their obvious mucosal friability and their intraluminal mass effect. Conversely, esophageal leiomyomas originate from the deeper muscular layers of the wall, and have a classic endoscopic appearance of a submucosal appearing lesion, with smooth, intact overlying mucosa without friability. We describe two cases of esophageal SCCA that masqueraded as leiomyomas on presentation by endoscopy, EUS and cross sectional imaging. Case 1: A 61 y/o male with a 30 pack year history of smoking presented with a 3 month history of dysphagia. Chest CT revealed a smooth soft tissue mass arising from the esophagus. EGD confirmed a submucosal appearing lesion, with smooth overlying mucosa. EUS demonstrated the lesion to be a hypoechoic mass with irregular borders arising from the muscularis propria, suggestive of a leiomyoma. FNA was done into the lesion and the cytology revealed poorly differentiate SCCA. Case 2: A 75 y/o female with a history of breast cancer presented with chest tightening and a decreased appetite. EGD showed a submucosal appearing lesion in the mid-esophagus with normal overlying mucosa. EUS showed this to be a hypoechoic mass, contiguous with the muscularis propria, likely representing a leiomyoma. FNA was done into the lesion, revealing poorly differentiated SCCA. Conclusion: A hypoechoic esophageal mass arising from the muscularis propria layer on EUS is pathognomonic of a leiomyoma, and FNA into the mass may not always be done because the EUS appearance is so suggestive. We report two cases of SCCA of the esophagus, which had a very atypical growth pattern, with preservation of the mucosal layer, and extension deep into the esophageal wall muscular layer, resulting in an appearance on endoscopy, EUS and CT that mimicked a leiomyoma. This suggests that even with a classic appearance on EUS of a leiomyoma, FNA may be critical to obtain an accurate cytologic diagnosis as SCCA can also present in this manner.



P996

GIANT ESOPHAGEAL LIPOMA IN AN ASYMPTOMATIC PATIENT: A CASE REPORT

C. Glynn, MD, W. V. Harford, MD, A. A. Siddiqui, MD. Internal Medicine, Dallas Veterans Affairs Medical Center, Dallas, TX.

Purpose: Benign lipomas of the esophagus are extremely rare and account for only 0.4% of the tumors arising from the digestive tract. These tumors arise from the proximal esophagus near the cricopharyngeal muscle. We report a case of an asymptomatic patient with a giant intramural lipoma of the upper thoracic esophagus found incidentally on a CT scan. A 75-year-old asymptomatic white male undergoing a preoperative chest x-ray prior to hand surgery was found to have a mass in the superior mediastinum. Computed tomography (CT) of the chest revealed a polypoid submucosal mass with fat density that arose from the cervical esophagus and extended 12cm caudally (fig. 1). Upper gastrointestinal endoscopy showed a submucosal space-occupying mass with normal overlying mucosa. Based upon the above findings, the patient was referred for surgical resection. A vertical esophagotomy was made and the mass was resected along with the pedicle. The pedicle was cauterised. The esophageal incision was then sutured. Pathology of the polyp showed a lipoma comprising of mature adipose tissue collection. The postoperative course was uneventful, and the patient was discharged 3 days after the operation. Giant esophageal lipomas are extremely rare and fewer than 20 surgical cases have been reported in the literature. These are benign slow-growing, pedunculated tumors that usually arise from the upper third of the esophagus. Most cases are asymptomatic and are found incidentally. Symptoms include dysphagia, regurgitation, and epigastric pains. Our case was unique because of the patient was asymptomatic despite the large polyp size. In most cases, the diagnosis is made by endoscopy or barium esophagogram. Diagnosis can also made in a rapid, noninvasive fashion by CT scan which shows low-density tissue absorption related to fatty tissue having (–50 to –150) Hounsfield Units. The size and location often determines the method of resection. Small polyps can safely be removed endoscopically while large masses should be resected surgically because of the risk of bleeding.

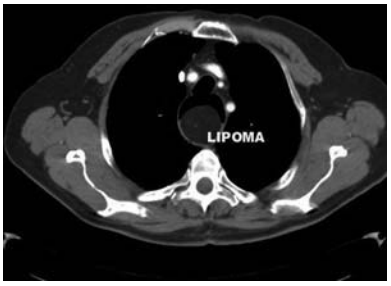


Figure 1

P997

ATTEMPTED REMOVAL AND SUBSEQUENT FRAGMENTATION OF THREE SELF-EXPANDING METAL STENTS

J. A. Wilson, MD, M. H. Delegge, MD, FACG. Gastroenterology, Medical University of South Carolina, Charleston, SC.

Purpose: Self-expanding metal stents (SEMS) have been designed to be removed endoscopically. These stents have increasingly been used to treat benign disease, particularly esophageal perforation. The ideal type of stent and the ideal duration of placement for this indication are unknown. We report two cases in which a total of three Alimaxx-E™ (Alveolus, Inc) stents were placed to treat post-dilation esophageal perforations. All three stents fragmented during attempted endoscopic removal.

Methods: Case 1: An 84 year old female presented with dysphagia after radiation treatments (XRT) for breast cancer. At endoscopy an esophageal stricture was seen and dilated with a Savory dilator. The dilation was complicated by a 2 cm mid-esophageal perforation. A covered self-expanding Nitinol stent (Alimaxx-E™, Alveolus, Inc) that is designed for endoscopic removal was placed. The patient initially did well but 12 months later presented with dysphagia and a 20 lb weight loss due to esophageal stenosis around the proximal end of the stent. The stenosis was dilated and stent removal was attempted. The manufacturer guidelines for removal were followed; the purse string was grasped and pulled. The proximal end fragmented and broke away. A rigid endoscope and forceps were used to separate and remove the stent in a piecemeal fashion, and after 4 hours the entire stent was successfully removed. Case 2: A 71 year old male presented with dysphagia after XRT for head and neck cancer. An esophageal stricture developed and was dilated with a Savory dilator, and this was complicated by a 5 cm mid-esophageal perforation. Two Alimaxx-E stents were placed to completely cover the perforation. After 3 months stent removal was attempted. Endoscopic forceps were used to grasp the purse string, and again the proximal end fragmented and broke away. The stent was eventually removed piecemeal using an endoscope and forceps. The second stent was grasped by

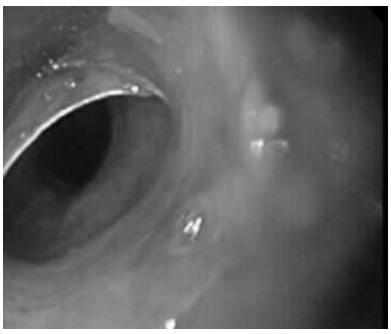
the purse string and removal resulted in it breaking into two halves. The first half was easily removed, but the second half could not be pulled proximally. The esophagus was accessed through a pre-existing gastrostomy and the stent remnant was pulled into the stomach. The distal end was then grasped with a snare and removed through the mouth. After 5 hours both stents were successfully removed.
Results: It is unclear why all three of these stents fragmented. Gastric acid may have played a role. The manufacturer recommendations were carefully followed. Multiple in vivo studies in humans have demonstrated that Nitinol implants in other body locations do not corrode, even after twelve months.
Conclusion: Based on our experience we recommend caution when placing SEMS for benign esophageal disease.

P998

TPMT TESTING AND HEPATOTOXICITY IN THE ELDERLY
S. Sarij, MD, K. Islam, MD. Gastroententerology, Hepatology and Nutrition, Loyola University Medical Center, Maywood, IL.
Purpose: Managing older patients with Inflammatory Bowel Disease (IBD) can be clinically challenging due to co-morbid illnesses, atypical presentation and varying response to therapy. Most therapies for IBD have not been studied specifically in the elderly. Current guidelines and principles of medical treatment are the same irrespective of age. With improved diagnostic modalities and increased treatment options, there is an aging population of IBD patients. Older patients currently represent at least 15% of newly diagnosed IBD. The clinician must apply caution when treating IBD in older patients, especially when monitoring for drug toxicity. We present a case of a 69-year-old female with Crohn's Colitis who developed elevated liver enzymes due to Azathioprine (AZA) therapy. This occurred despite thiopurine s-methyltransferase (TPMT) testing and appropriate dosing. This 69 year old female had a complicated course of Crohn's colitis. She initially underwent a left transverse loop colostomy for a bowel obstruction. She later developed strictures, requiring resection of the distal colon and proximal rectum. Maintained on Mesalamine, the patient presented five years later with hematochezia and abdominal pain, requiring a course of steroids. The patient had previously been tried on AZA, but it was stopped because of mild alopecia. She underwent TPMT enzyme testing, which revealed 35.2 Enzyme Units (normal activity). Her baseline liver enzyme and function tests were normal. One week after starting AZA, liver enzymes increased to more than three times the upper limit of normal. No other etiology of hepatoxicity was found. Lab values returned to normal after the AZA was discontinued. The Immunomodulators AZA and 6-mercaptopurine (6-MP) are widely used drugs in IBD. Current guidelines highlight the utility of dosing based upon TPMT activity and metabolite levels. Patients' enzyme activity determines dosing. Older patients with IBD are often treated in a similar fashion as younger patients. However, many factors make them more likely to experience adverse effects of medications. Increased hepatotoxicity in older patients is likely attributable to altered pharmacokinetics and pharmacodynamics. Our case report highlights the need for increased caution when treating IBD, with closer follow up and more frequent evaluations of liver enzymes. To conclude, there is a need for randomized studies to determine the optimal dosing method in older patients.

P999

PLUMMER-VINSON SYNDROME IN A PATIENT WITH ULCERATIVE COLITIS
S. Mishra, MD, M. Demetria, MD, B. M. Attar, MD, PhD. Division of Gastroenterology and Hepatology, Cook County- John H.Stroger Hospital, RUSH University, Chicago, IL.
Purpose: Plummer-Vinson syndrome is defined by the classic triad of dysphagia, iron deficiency anemia, and esophageal web. The syndrome is rare and the prevalence has fallen in the last few years. We present a case of Plummer-Vinson syndrome in an Asian Indian male associated with ulcerative colitis.
Methods: 58 yr old Asian Indian male presented with intermittent dysphagia to solids for over 5 years and symptomatic anemia. Physical examination was unremarkable except for koilonychia. Laboratory data showed a hemoglobin 0f 6.5 gm/dl, MCV of 53 fl, Ferritin of 1.7 ng/ ml, negative tTG. Esophogram showed narrowing of the esophagus at C7 T1 level. On upper endoscopy patient had a proximal esophageal web and gastric atrophy with biopsy showing H.Pylori infection. The duodenum appeared normal. Colonoscopy was performed to evaluate for iron deficiency anemia. It showed mild pan colitis with histopathology suggestive of ulcerative colitis.
Results: Patient underwent Savary dilatation of the esophageal web and was started on oral Iron supplements and Mesalamine. On follow up at 6 months the anemia had completely resolved and, patient did not have any symptoms of dysphagia.
Conclusion: Plummer-Vinson syndrome is rare. Different case series suggest an association with Celiac disease, menorrhagia, hiatal hernia and gastric cancer. The pathogenesis is unknown and iron deficiency, malnutrition, genetic predisposition and autoimmune process have been proposed as putative factors. Our patient's iron deficiency was most likely due to Ulcerative colitis. He was a vegetarian and high fiber and phytate in the diet typical of Asian Indians could have also contributed by reducing iron absorption. Based on literature review this is the first case report of Plummer-Vinson syndrome in association with ulcerative colitis.



Upper esophageal web

P1000

RECURRENT APPENDICITIS MASQUERADING AS CROHN'S DISEASE
M. E. Moscandrew, MD, S. V. Kane, MD, MSPH. Gastroenterology, Mayo Clinic Rochester, Rochester, MN.
Purpose: Recurrent appendicitis is the clinical entity in which a patient with pathologically confirmed acute appendicitis describes one or more prior episodes with identical symptoms that resolved without surgical intervention. Although rare, patients report previous episodes of pain and then relief of their symptoms after appendectomy.
Methods: A 31-year-old man with a history of HLA-B27 spondyloarthropathy presented to the GI clinic with complaints of two weeks of sharp mid-abdominal pain associated with bloating and cramping. A laboratory evaluation (CBC, Chem 7, LFTs, amylase and sed rate) was within normal limits. A CT scan demonstrated bowel wall thickening and mural stratification in the distal terminal ileum. A colonoscopy showed "nodularity" in the TI to 15 cm but overlying mucosa appeared normal. Small bowel and colonic biopsies were normal. It was thought that the CT abnormalities showed more proximal small bowel disease and, therefore, were not seen on endoscopy. A diagnosis of Crohn's disease was made and the patient's symptoms completely resolved with Infliximab. In 3 months, he returned to the clinic complaining of one week of increasing periumbilical abdominal pain radiating to the RLQ, similar to but not as severe as the prior abdominal pain. Physical exam: +Rovsig's sign. CT enterography was consistent with acute appendicitis. No small bowel abnormalities were seen.
Results: The patient underwent a laparoscopic appendectomy that revealed pathologically confirmed acute appendicitis with a large amount of inflammation and adhesions around the appendix. The remainder of the bowel appeared normal. Since appendectomy, the patient has not had recurrent abdominal pain.
Conclusion: This case illustrates the importance of correlating endoscopic and CT findings as well as recognizing the existence of recurrent appendicitis. Although this diagnosis is rare, identifying this entity is critical to the institution of appropriate treatment and the prevention of possible peritonitis. This case serves as a reminder not to discount the diagnosis of appendicitis in patients with prior episodes of similar abdominal pain.

P1001

METASTATIC CROHN'S DISEASE: A RARE CUTANEOUS MANIFESTATION OF INFLAMMATORY BOWEL DISEASE
W. C. Gallahan, MD,[1] J. L. Jorizzo, MD,[2] R. S. Bloomfeld, MD[1]. 1. Gastroenterology, Wake Forest University Baptist Medical Center, Winston Salem, NC; 2. Dermatology, Wake Forest University Baptist Medical Center, Winston Salem, NC.
Purpose: Case: A 29 year old man with a history of Crohn's disease presented with an ulcerating skin lesion on his right flank. He required an ileocecal resection two years ago. He had a post-operative recurrence and was then in clinical remission on Azathioprine monotherapy. The patient initially developed a subcutaneous nodule on his right flank. This progressively enlarged, became erythematous, and finally ulcerated (see Figure A). Magnetic Resonance Enterography revealed a minimally thickened ileum and a subcutaneous soft tissue lesion over the right flank with no associated fistula. Skin biopsy revealed granulomatous dermatitis, consistent with metastatic Crohn's disease (see Figure B). The patient was treated with adalimumab with resolution of this lesion. Discussion: Metastatic Crohn's disease is a rare cutaneous manifestation of the disorder which involves granulomatous inflammation which is not contiguous with the gastrointestinal tract. The hallmark histologic findings are sterile granulomas, mimicking the classic intestinal findings of Crohn's disease. Other conditions which must be excluded include pyoderma gangrenosum, cutaneous sarcoidosis, and mycobacterial infection. The presence of these lesions typically parallels active intestinal inflammation. Metastatic Crohn's disease often arises in skin creases, including submammary, inguinal, and perineal folds. However, lesions have been reported to occur on the limbs, trunk, vulva, penis, and face. The treatment of metastatic Crohn's disease includes standard Crohn's disease therapies, such as systemic steroids, antibiotics, azathioprine, and 6-mercaptopurine. Successful treatment with infliximab has been reported. We believe that this is the first case report of metastatic Crohn's disease successfully treated with adalimumab.

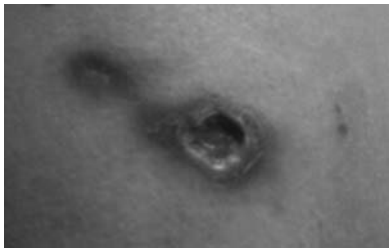


Figure A

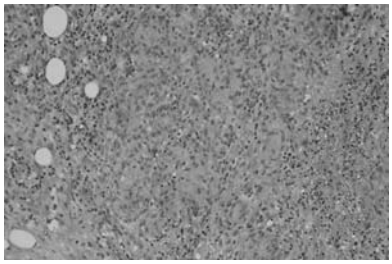


Figure B
Disclosure - Dr. Bloomfeld: Abbott- speaker's bureau, Centocor- speaker's bureau, Prometheus- speaker's bureau

P1002

MESALAMINE INDUCED EOSINOPHILIC ORGANIZING PNEUMONIA

S. Kumar, MD,[2] E. Scherl, MD,[1] V. E. Jacob, MD,[1] B. P. Bosworth, MD[1]. 1. Gastroenterology and Hepatology, Roberts IBD Center, Weill Medical College of Cornell University, New York, NY; 2. Medicine, New York Presbyterian Hospital: Columbia Presbyterian Medical Center, New York, NY.

Purpose: Introduction: The 5-aminosalicylates are first-line therapy for treating ulcerative colitis (UC), and are generally well-tolerated and safe. However, despite their minimal systemic absorption, adverse effects include pancreatitis, pneumonitis, and interstitial nephritis. This is the first case of eosinophilic organizing pneumonia as a result of 5-ASA treatment. Case Description: A 28 year old man was in good health until the age of 26, when he presented with bloody diarrhea and was diagnosed with left sided UC with no evidence of Crohn's disease. He was initially treated with 6.75g of balsalazide, however his symptoms persisted and he was later started on prednisone and an additional 2.4g of mesalamine (Lialda, Shire Pharmaceuticals Inc., Wayne, PA) for a total molar equivalent of 4.8g of mesalamine. He was steroid refractory and 6-MP 1.5mg/kg was added. Symptoms persisted and he was admitted for IV cyclosporine (CSA). He was induced into remission on 4mg/kg of CSA and placed on PCP prophylaxis. He was discharged on a rapid prednisone taper, oral CSA for 4 months, and continued on his 6-MP, Lialda and balsalazide. Several months later, he developed a non-productive cough and dyspnea. Chest CT revealed lobar consolidation and nodular infiltrates. Bronchoscopic biopsies demonstrated organizing eosinophilic pneumonia, and chronic and non-necrotizing granulomatous inflammation. Initially, all medications were discontinued and he was treated with clarithromycin. His cough resolved, but his bloody diarrhea returned. He was reinduced with CSA and 6-MP, and presently remains in remission 8 months later on 6-MP monotherapy with symptomatic and radiographic resolution of the pneumonia. Discussion: Inflammatory bowel disease itself can cause pulmonary infiltrates that may be associated with granulomas, and reports of inflammatory lung diseases related to 6-MP exist. However, in those circumstances, there is <1-month between onset of symptoms and 6-MP initiation; this patient had been on 6-MP for >6 months at the time of presentation. The eosinophilic inflammatory infiltrate is consistent with a medication reaction, but is not described in those patients with 6-MP exposure. Specifically as well, the presence of non-necrotizing granulomas associated with interstitial pneumonia appears to indicate mesalamine-induced injury. It is unclear whether the balsalazide, with a colonic azo-bonded release, or the Lialda, with an ileal a pH dependent release(allowing for increased potential for systemic absorption), is the culprit offensive agent. While 6MP and IBD can cause inflammatory lung disease, 5-ASA induced interstitial pneumonia is best recognized by its eosinophilic infiltrates and non-necrotzing granulomas.

Disclosure - Ellen Scherl: Consultant: Shire Pharmaceuticals, Inc.

P1003

MARIJUANA: A PROBLEM OR A SOLUTION?

C. Takkar, MD, R. Anaparthy, MD. UTMB, Galveston, TX.

Purpose: Cannabis is well recognized for its antiemetic properties. Interestingly, chronic cannabis use can lead to paroxysmal vomiting which can present in a pattern identical to cyclic vomiting syndrome. It is associated with compulsive bathing which patients report can relieve their intense nausea and vomiting.

Methods: We report a case of 19 year old male who presented with relentless nausea and vomiting of one day duration. Patient claimed that warm showers alleviated the intensity of his symptoms. Of note, he had several admissions to the pediatric service for similar symptoms in the past. Social history was remarkable for marijuana abuse for last four years. He also mentioned that paroxysms of vomiting started after marijuana use. Exam revealed moderate dehydration, otherwise normal. Labs revealed positive drug screen for THC and evidence of intravascular depletion and hypokalemia which resolved with replacement. After extensive work up including normal CBC, amylase, lipase, LFTs, ferritin, ceruloplasmin; negative hepatitis serologies and porphyria screen; negative advanced imaging including a CT abdomen, HIDA scan, upper GI series, gastric emptying study and endoscopy revealing erythema of distal esophagus, stomach cardia and proximal body with submucosal hemorrhage consistent with retching trauma, diagnosis of 'Cannabis hyperemesis' was made. Patient was managed with IV fluids, antiemetics and alprazolam to reduce anxiety. His symptoms improved by third day and he was able to tolerate oral intake. Patient declined outpatient drug rehabilitation but agreed to abstain on his own. Subsequent clinical course was marked for periods of abstinence which were symptom free and relapses of marijuana use associated with recurrence of same symptoms.

Results: Discussion Marijuana use is widely prevalent in the United States. Delta-9 tetra hydro cannabinol, the active ingredient and synthetic derivatives of marijuana are used as antiemetic for refractory vomiting. Cannabinoid hyperemesis is a paradoxical reaction consisting of chronic cannabis use, episodic severe nausea, vomiting, abdominal pain and an abnormal bathing behavior. It is postulated that imbalance between autonomic and thermoregulatory centers in hypothalamus and limbic system is one of the mechanisms of causation. Also, a recent randomized controlled trial revealed that 9 THC has inhibitory effect on gastric emptying of solid food which could contribute to the clinical spectrum in these patients.

Conclusion: Our case suggests that in patients with chronic or episodic vomiting and abdominal pain without obvious etiology, especially if associated with compulsive bathing behavior, diagnosis of cyclic vomiting syndrome with concomitant cannabis abuse should be considered.

P1004

ACUTE APPENDICITIS IN A PATIENT WITH SITUS INVERSUS

E. Boyle, MD, P. Caushaj, MD. The Western Pennsylvania Hospital, Pittsburgh, PA.

Purpose: Situs inversus is a rare developmental anatomic anomaly with a frequency of 1 in 10,000 live births. In patients with situs inversus, there is transposition of the viscera in the thoracic and/or abdominal cavity through the sagittal plane, creating a "mirror-image" from normal anatomy. Multiple other congenital abnormalities are common in patients with situs inversus including cardiovascular malformations, bronchiectasis, asplenia or polysplenia, and duodenal or esophageal atresia. Kartagener's syndrome is frequently found with dextrocardia and some form of situs inversus.

Methods: Review of patient chart

Results: A 42 year old male presented with 3 day history of diffuse abdominal pain which became localized to the periumbilical area. He also complained of nausea, vomiting, and loss of appetite. He has a history of abdominal situs inversus and colon cancer diagnosed at the age of 27. At presentation, he was afebrile, not tachycardic, and had a WBC of 10.6. A CT scan showed evidence of situs inversus viscerum and acute appendicitis with the appendix located inferior to the umbilicus. A laparoscopic appendectomy was performed without complication. The patient had a routine postoperative course and was discharged on postoperative day 1.

Conclusion: Patients presenting with intra-abdominal pathology and situs inversus can present a challenge in diagnosis. Specifically, patients with left-sided appendicitis can present with left lower quadrant pain that can be interpreted as a different process, such as diverticulitis. When the presentation is not straightforward, a CT scan is invaluable as an aid in the diagnosis of the correct disease process as it will show evidence of situs inversus. Laparoscopy can also be useful in defining the anatomy in these difficult situations.

P1005

UTILITY OF BLOOD CULTURES AS ROUTINE ADMISSION ORDERS FOR PATIENTS ADMITTED TO THE HOSPITAL WITH ACUTE DIVERTICULITIS

J. Rutkoski, MD, J. McCormick, DO, P. Caushaj, MD. The Western Pennsylvania Hospital, Pittsburgh, PA.

Purpose: The purpose of this study is to assess the impact routine blood cultures have on the management / outcome of patients admitted with the working diagnosis of acute diverticulitis.

Methods: Retrospective chart review of all patients admitted to the Western Pennsylvania Hospital Main and Forbes Regional campuses from June 1, 2004 to June 30, 2007 with the diagnosis of acute diverticulitis and whom had blood cultures performed upon admission.

Results: The charts of 30 patients admitted with the diagnosis of acute diverticulitis in whom blood cultures were obtained were reviewed. Cultures were followed for a minimum of 5 days before reports were finalized. None of the cultures obtained yielded growth of any organisms. This is irrespective of severity of illness based upon: temperature, WBC count, presence of bandemia, and CT scan findings at presentation, as well as, the need for surgical intervention during their primary admission. There were no changes in antibiotic regimens until the patients were able to tolerate oral intake and prepared for discharge.

Conclusion: There is no evidence to support the notion that blood cultures alter the decision making or care of patients with acute diverticulitis. This is a clearly a misappropriation of hospital and patient financial resources. Based upon the results of this study it is suggested that blood cultures no longer be obtained as routine admission orders for patients with acute diverticulitis.

P1006

SURGICAL REPAIR VERSUS A REMOVABLE ESOPHAGEAL PLASTIC STENT FOR TREATMENT OF POST-SURGICAL ESOPHAGEAL LEAKS: A DECISION ANALYSIS

C. Glynn, MD, A. A. Siddiqui, MD. Internal Medicine, UT Southwestern Medical Center, Dallas, TX.

Purpose: Surgical repair (SR) in patients with leakage after esophageal surgical anastomosis or perforation can be associated with poor results and carries a high morbidity and mortality. These patients may fare better with placement of a Polyflex® esophageal plastic stent (PS). We designed a decision model to address whether SR verses PS is the optimal treatment modality in patients with post-surgical esophageal leaks.

Methods: The base cohort was patients presenting with post-operative esophageal leaks. We analyzed success rates, complication rates and costs of the two treatment modalities: SR and PS. Baseline outcomes and costs were based on published reports. Success was defined as no major procedure-related and long-term complications over a 1-month period. Failure of therapy was defined as recurrent symptoms or death due to a procedural complication. Sensitivity analyses and cost-effectiveness analyses for the various strategies were performed.

Results: SR had a success rate in 51% whereas PS was successful in 69% of cases. The overall complication rate in the SR cohort was 38% compared to 19% in the PS group. Mortality in the SR cohort was 3.4 times that of the PS cohort. SR was also found to be the most expensive treatment strategy, with an incremental cost of $22,163 compared to $8731 for the PS group. Sensitivity analyses confirmed PS as the dominant strategy.

Conclusion: PS is the preferred treatment strategy for patients with leakage after esophageal surgery.

P1007

CONSISTENCY OF ESTIMATED UTILITIES FROM SF-36 SCORES IN PATIENTS UNDERGOING BIOFEEDBACK THERAPY FOR CHRONIC CONSTIPATION

J. T. Go, MD,[2] C. K. Brown, MS,[1] J. Paulson, BS,[1] S. Rao, MD, PhD, FRCP[1]. 1. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA; 2. The Center for Research in the Implementation of Innovative Strategies in Practice (CRIISP), VA Iowa City Healthcare System, Iowa City, IA.

Purpose: Health-related quality of life (HRQOL) is commonly assessed using the validated short form (SF-36) health survey and is represented in 8 domains. Although useful, this assessment becomes problematic when employing cost-effectiveness studies where utilities, a scale from 0 (death) to 1 (full health), is the preferred denominator. The aim of this study was to compare the consistency of estimated utilities from SF-36 using three widely used translation methods.

Methods: SF-36 scores of patients with dyssynergic defecation who underwent two methods of biofeedback therapy (home vs. office) were converted to utility scores. The Nichol, Fryback and Brazier translation methods yielded 3 estimated utilities at baseline and after treatment in both the home and office biofeedback groups. Different health state questionnaires were used to derive these translation equations: mark II health utility index (HUI2) for Nichol, quality of well-being (QWB) for Fryback and short form-6D (SF-6D) for Brazier. The consistency of the 3 estimated utilities were compared using ANOVA with 3 fixed effects factors: type of biofeedback therapy (home vs. office), treatment phase (baseline vs. post-treatment) and translation method (Nichol, Fryback or Brazier). Pair-wise correlation between translation methods was also studied.

Results: 51 patients (25 office and 26 home) completed biofeedback therapy; Median age 35.6 and 48 were female. The median values for the estimated utilities from SF-36 using three different translation methods showed inconsistent results (Table). Although, similar trends were seen with an increase in utility from baseline to post-treatment, the magnitude of the increase

differs widely with each of the 3 translation methods. After adjusting for type of biofeedback therapy and treatment phase, only translation method remains statistically different (p<.0001). Furthermore, pair-wise correlation coefficient varies: Brazier vs. Fryback (r=0.41, p<.002), Brazier vs. Nichol (r=0.84, p<.0001) and Fryback vs. Nichol (r=0.57, p>.0001).
Conclusion: The choice of translation method can affect estimated utilities and consequently may influence the interpretation of a cost-effectiveness study. These factors should be considered when analyzing data for cost effectiveness studies.

Office Biofeedback

	Baseline			Post-treatment		
	Median	25%	75%	Median	25%	75%
Nichol	0.763	0.692	0.859	0.821	0.736	0.931
Fryback	0.688	0.624	0.740	0.698	0.650	0.757
Brazier	0.709	0.626	0.813	0.755	0.604	0.886

Home Biofeedback

	Baseline			Post-treatment		
	Median	25%	75%	Median	25%	75%
Nichol	0.854	0.747	0.900	0.866	0.761	0.937
Fryback	0.722	0.697	0.760	0.749	0.683	0.791
Brazier	0.771	0.630	0.869	0.801	0.685	0.931

P1008

PATIENTS WITH DIABETES MELLITUS, ELEVATED CHOLESTEROL AND INCREASED BMI WHILE ON MEDICATIONS DO NOT HAVE AN INCREASED RISK OF COLORECTAL ADENOMA

P. Kanth, MBBS,[1] T. Huang, MD,[2] J. Tian, MD,[3] A. B. Nagar, MD[2]. 1. Internal Medicine, University of Connecticut Health Center, Farmington, CT; 2. Gastroenterology, Yale University School of Medicine, New Haven, CT; 3. Internal Medicine, Bridgeport hospital and Yale University School of Medicine, Bridgeport, CT.

Purpose: Colorectal carcinoma (CRC) is a leading cause of cancer death in the USA. Screening reduces mortality, but there is poor compliance with guidelines.The metabolic syndrome increases the risk of colorectal cancer but this association with colorectal adenomas has not been extensively reported.The aim of this study is to describe the association of serum lipoproteins, diabetes and Body mass index (BMI) in patients with colorectal adenoma.
Methods: Design: IRB approved single VAMC, retrospective study. Inclusion: Screening or diagnosis of CRC, > 50 yrs, no colonoscopy within 10 yrs and documented glucose, HbA1c and lipoprotein levels on medical treatment. Exclusion: CRC and IBD. Data: EMR: adenoma finding, F/h of CRC, diabetes, serum lipoprotein levels, HbA1c, BMI, ASA, insulin and lipid medications. Advanced adenoma: villous, >1 cm or CIS; Obesity: BMI > 29: Elevated Cholesterol: >200 mg/dl Subjects had none, one, two or three risk factors studies (Obesity, DM and cholesterol). Univariate analysis was used to compare all variables that increase risk of polyps using X2 tests. P of < 0.05 is significant. Multivariate logistic regression was used to evaluate the predictive effect of independent risk factors on the adenoma incidence.
Results: A total of 734 patients were included in the study (table), with 96.7 % male and median age of 60 years. 101 patients had no metabolic risk factors. The overall rate of adenoma incidence for all patients was 28% (211/734) and advanced adenoma was 10.9% (80/734). Among the 101 patients without metabolic risk factors, adenoma incidence was 25.7% (26/101) compared to an adenoma incidence of was 29.2% (185/633) with metabolic risk factors (p= 0.47). Presence of 1, 2 or 3 metabolic risk factors did not increase the risk of adenoma or advanced adenoma incidence: 28%, 29%, 34% for adenoma (p=0.6) and 11%, 9%, 11% for advanced adenoma (p=0.19), respectively. Multivariate logistic regression demonstrated age (>= 65 vs. < 65 years old) was an independent risk factors for colon adenomas (OR 2.0). This is an ongoing study.
Conclusion: Despite having risk factors for metabolic syndrome, patients, who are on medications to control diabetes and dyslipidemia, did not have an increased risk of adenoma or advanced adenoma. This information is clinically useful to patients and primary care providers. Larger studies are necessary to confirm these findings and extend it to polyp recurrence.

Number of patients with 1,2 and 3 risk factors

Variable	Normal Chol+ Normal BMI+No DM(CONTROL)	DM+ normal Chol + normal BMI	High Chol +Normal BMI+No DM	High BMI + Normal Chol+ No DM	High BMI +High Chol+No DM	DM+High Chol+Normal BMI	DM+High BMI+Normal Chol	DM + High BMI+High Chol
No of Patients(734)	101	18	196	83	172	35	39	90

High cholesterol,High BMI and Diabetes Mellitus are taken as risk factors
DM:Diabetes Mellitus
Chol:Cholesterol

Table of Age and Sex with Number of risk factors

Age	Control/ Male	Control/ Female	1 risk factor/ Male	1 risk factor/ Female	2 risk factors/Male	2 risk factors/ Female	3 risk factors/ Male	3 risk factors/ Female
<50	7	2	9	1	4	3	0	0
50-64	63	1	188	5	161	10	53	0
>64	28	0	92	1	69	0	37	0

P1009

RANDOMIZED CONTROLLED TRIALS OF PROTON-PUMP INHIBITORS IN NIGHTTIME GERD: A SYSTEMATIC REVIEW

P. Kothawala, MD, MPH,[1] S. Lange, MD,[2] J. McGuigan, MD,[3] D. Aguilar, MPH,[1] D. Morgenstern, MD,[4] N. Yan, PhD,[4] B. Dean, PhD, MPH[1]. 1. Cerner LifeSciences, Beverly Hills, CA; 2. Mayo Clinic, Jacksonville, FL; 3. University of Florida, Gainesville, FL; 4. Wyeth Pharmaceuticals, Collegeville, PA.

Purpose: To assess heterogeneity in enrollment criteria, methodology and methodological quality, and outcomes across randomized-controlled clinical trials (RCTs) evaluating the efficacy of proton-pump inhibitors (PPIs) in controlling nighttime symptoms of gastroesophageal reflux disease (GERD).
Methods: MEDLINE and EMBASE databases from 1990 to June 2007 were searched. Studies were included if the design was a RCT, at least one treatment arm was PPI, the subjects were adults with nighttime GERD, and nighttime symptoms were assessed. The methodological quality of trials was evaluated using the score devised by Jadad et al (ranging from 1=low to 5=high). We also assessed nighttime criteria used for patient enrollment, nighttime outcomes measured, and the nighttime definition used.
Results: Thirty-two RCTs compared the efficacy of PPI with placebo only (n=7), H2-receptor antagonist only (n=12), another PPI only (n=11) or both placebo and H2-receptor antagonist (n=2) in controlling nighttime GERD. Methodological quality of trials was high with 28 of the 32 trials attaining a Jadad score of at least 3 points. Source of data collection was patient daily diaries across all studies. The majority of studies assessed nighttime symptoms as a secondary outcome; erosive esophageal healing was usually the primary endpoint. Most studies assessed efficacy at 8 weeks or less; only 3 studies measured the long-term efficacy of PPI (pantoprazole [n=2] and rabeprazole [n=1]) for a year. Criteria for enrolling nighttime GERD patients (frequency and/or severity of nighttime symptoms) lacked consistency. Thirty studies (94%) assessed nighttime heartburn; few studies evaluated overall nighttime symptoms (n=4) and only one study evaluated regurgitation as an independent outcome. Nighttime heartburn outcomes measured were percentage of patients without nighttime heartburn (n=18), percentage of heartburn-free nights (n=15), heartburn severity score (n=11) or time to heartburn relief (n=6). The time window for the assessment of nighttime symptoms was reported in only 3 studies (9%) and was not based on specific hours but on sleep or posture (retiring or lying down to sleep).
Conclusion: RCTs of PPI therapy in nighttime GERD are of high methodological quality but are heterogeneous with respect to their definition of nighttime symptoms and outcomes. Consensus on diagnostic criteria for nighttime GERD would be anticipated to increase generalizability of results and guide the diagnosis and management of nighttime symptoms. Long-term observational studies may be helpful in translating the efficacy of PPI observed in clinical trials to real-world patients.
Disclosure - Drs. Kothawala and Dean, and Mr. Aguilar are employees of Cerner LifeSciences, a provider of research and consulting services to pharmaceutical companies, including Wyeth. Drs. Lange and McGuigan are consultants to Wyeth. Drs. Morgenstern and Yan are employees and stockholders of Wyeth.
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P1010

HEPATITIS C VIRUS SPONTANEOUS CLEARANCE RATES IN A RURAL VETERAN AFFAIRS CLINIC

M. L. Matteson, APN,[1] S. Opperman, APN,[2] M. L. Bechtold, MD,[1] S. R. Puli, MD[1].
1. Department of Gastroenterology and Hepatology, University of Missouri-Columbia, Columbia, MO; 2. Department of Gastroenterology and Hepatology, Harry S. Truman Veterans' Memorial, Columbia, MO.

Purpose: Hepatitis C virus (HCV) is a widely recognized pathological entity, especially in the veteran population. Veterans enrolled in a midwestern veteran hospital and clinic represent a rural population, with the prevalence of hepatitis C presumably mirroring that of urban VAs. No data has been published to fully evaluate the HCV spontaneous clearance rates (SCR) in a rural-based VA hospital or clinic. The purpose of this study is to evaluate the spontaneous clearance rates of HCV in rural veterans in a nurse-managed hepatology clinic.

Methods: After VA/IRB approval, the rural VA database was searched retrospectively from 2000 to 2006, to identify veterans who were HCV positive. HCV RNA viral loads were assessed to determine viremia versus spontaneous clearance. Spontaneous clearance of HCV was defined as HCV antibody positive and a serum HCV RNA viral load of < 50 IU/ml without treatment. Categorical variables were compared by Fisher's exact test and chi-square test. Continuous variables were compared by parametric tests. Comparisons were made by univariant and multivariant analysis.

Results: The VA database search identified 395 veterans with Hepatitis C. Of these, 46 (11.6 %) had HCV RNA < 50 IU/ml (i.e. SCR) and 107 patients had viremia. The mean age of the veterans with SCR was 54.86 ± 8.43 (SD), with 41 male and 5 female noted. Race was primarily Caucasian with two African-American females. Mean body mass index (BMI) of SCR veterans was 29.2 ± 6.43 (SD). Among these veterans, females had a mean BMI of 27.6 ± 3.89 (SD), and males had a mean BMI of 29.4 ± 6.69 (SD). The difference among veterans with SCR and viremia are shown in table 1. Liver biopsy was performed in two veterans in which both had fibrosis scores of F4.

Conclusion: Rural midwestern veterans had a 12% spontaneous clearance rate of HCV. Veterans with SCR were older when compared to veterans with viremia. There was no statistically significant difference in BMI, co-morbid illness, sex, and race between veterans with SCR and viremia.

Table 1: Shows the differences among HCV patients with spontaneous clearance of virus and patients with viremia

	SCR (n=46)	Viremia (n=107)	p
Age (years)	54.87 ± 8.43	49.54 ± 6.44	<0.0001
Body Mass Index	29.19 ± 6.43	30.85 ± 6.04	0.13
Co-morbid illnesses	67.39 %	73.83 %	0.23
Male	95.65 %	93.45 %	0.29
Caucasians	89.13 %	95.33 %	0.88

P1011

LABORATORY PREDICTORS OF SEVERE CLOSTRIDIUM DIFFICILE ASSOCIATED DIARRHEAL DISEASES

J. K. Patel, MD, D. Satani, MD, K. L. Cervellione, MA, M. Em, BS, A. A. Patel, MD, F. Bagheri, MD. *Internal Medicine, Jamaica Hospital Medical Center, Jamaica, NY.*

Purpose: There are currently few laboratory markers that are indicative of clostridium difficile (CDIF) infection, other than leukocytosis. A recent report suggests that thrombocytosis may also be predictive of CDIF infection. Few studies to date have directly investigated the relationship between leukocytosis, thrombocytosis, and severity of CDIF infection. Identifying laboratory values suggestive of CDIF infection can improve the timeliness of diagnosis, and recognizing cases that have the most potential for being severe can aid in improving prognosis.

Methods: All patients with a discharge diagnosis of CDIF infection in 2006 were identified. The data from the first 90 reviewed charts was used in this study. Of these cases, 79 had complete information available for study inclusion. Fourty-two cases were considered severe, which was defined as having at least one of the following: 1) Toxic megacolon; 2) perforation; 3) colectomy; 4) shock requiring vasopressor therapy; 5) death within 30 and related to infection; 6) fever, leukocytes > 10,000 and abdominal pain; or 7) histologically or endoscopically proven pseudomembraneous colitis.

Results: There was no statistical difference between patients with severe (n=42) and with non-severe (n=37) CDIF infections in terms of age, gender, number of cases with positive assay results, and number of patients in the ICU at time of development of symptoms. There was also no difference in the number with mucus present in the stool, though the severe group did have more patients with blood present in the stool (p=.03). Independent sample t-tests between groups (treating laboratory values as continuous) revealed that leukocyte counts were significantly higher in patients with severe infection (p<.01); there was no significant difference in terms of platelet counts. Significantly more patients with severe CDIF had leukocytosis (leukocytes>10,000) than those with non-severe CDIF. There was no difference between groups in terms of number of patients with with thrombocytosis (platelets>600,000).

Conclusion: The results of our preliminary study suggest that, while thrombocytosis may be an accurate predictor of patients who have CDIF infection, it does not discriminate between those with non-severe and severe cases. Leukocyte counts, on the other hand, are accurate predictors of severe infection. Higher levels of leukocyte counts are indicative of more severe infection. This data may aid in the identification of individuals who need more aggressive treatment to improve clinical prognosis.

P1012

HEALTH-RELATED QUALITY OF LIFE IN TNF-ANTAGONIST–NAÏVE PATIENTS WITH CROHN'S DISEASE DURING SHORT- AND LONG-TERM ADALIMUMAB TREATMENT

D. T. Rubin, MD,[1] P. J. Rutgeerts, MD,[2] J. Colombel, MD,[3] E. Q. Wu, PhD,[4] A. P. Yu, PhD,[4] J. Chao, PhD,[5] P. Mulani, PhD[5]. *1. Section of Gastroenterology, University of Chicago, Chicago, IL; 2. University Hospital of Gasthuisberg, Leuven, Belgium; 3. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 4. Analysis Group, Inc., Boston, MA; 5. Abbott Laboratories, Abbott Park, IL.*

Purpose: Crohn's disease (CD) is associated with comorbidities such as pain, depression, and fatigue, which can decrease patients' health-related quality of life (HRQOL). Adalimumab, a fully human monoclonal antibody targeting tumor necrosis factor (TNF), is approved for treatment of adults with moderate to severe CD.

Methods: We evaluated the impact of adalimumab maintenance therapy on HRQOL in TNF-antagonist–naïve patients with CD in the CHARM trial. In CHARM, patients received an open-label induction regimen of adalimumab 80 mg at baseline (Week 0) followed by 40 mg of adalimumab at Week 2. At Week 4, patients were stratified by response (a decrease of ≥70 points from baseline CDAI score) and randomized to receive a maintenance regimen (40 mg adalimumab every other week or every week) or placebo. Patients were included in the analysis regardless of Week 4 response status, and the two adalimumab arms were combined for analysis. HRQOL was assessed at Weeks 0, 4, 12, 26, and 56 using the Zung Self-Rating depression scale, Functional Assessment of Chronic Illness Therapy–Fatigue scale, Inflammatory Bowel Disease Questionnaire (IBDQ), and a visual analogue scale for pain. When patients dropped out or switched to open-label therapy, the last observations were carried forward. Only patients with data available at baseline and at least 1 time point at or after Week 12 were included in the analysis. Differences in the changes in HRQOL measures from baseline to each time point were compared between adalimumab and placebo using an analysis of covariance method that controlled for baseline score and Week-4 responder status.

Results: Patients in the CHARM trial had substantial impairment of HRQOL at baseline, and HRQOL improved across all measures during the 4-week induction phase. Compared with placebo treated patients, patients who continued adalimumab maintenance therapy reported less depression, less pain, and fewer fatigue symptoms from Week 12 to Week 56 (all p<0.05). Adalimumab maintenance therapy also showed a significant benefit on the IBDQ at all time points after the induction period (p<0.05).

Conclusion: For TNF-antagonist–naïve patients with CD, adalimumab maintenance therapy provided sustained improvements in HRQOL over 56 weeks of treatment. This research was funded by Abbott Laboratories, Abbott Park, IL.

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P1013

ASSOCIATION BETWEEN RACE AND THE PERCEPTION AND RESOLUTION OF HEARTBURN (HB) IN PATIENTS WITH GERD

P. Sharma, MD,[1] H. B. El-Serag, MD, MPH,[2] J. T. Monyak, PhD,[3] M. Illueca, MD[3]. *1. University of Kansas Medical Center, Kansas City, MO; 2. Baylor College of Medicine, Houston, TX; 3. AstraZeneca LP, Wilmington, DE.*

Purpose: Racial differences in the baseline severity and subsequent resolution of HB symptoms after PPI therapy in GERD patients have not been studied previously. Our aim was to test for an association between race and baseline HB severity and resolution in patients with GERD.

Methods: Patient-reported symptom data from 2 randomized, double-blind trials of similar design comparing esomeprazole 20 or 40 mg once daily with placebo (SH-QBE-0053 and -0054) were pooled and analyzed. Eligible adults had a history of HB for ≥6 mo with symptoms on ≥4 of the last 7 d before study entry and were negative for erosive esophagitis as confirmed by endoscopy within 10 d of study entry. Patients recorded daily HB severity (scale: *none, mild, moderate, severe*) on diary cards and returned cards at weeks 2 and 4. HB resolution was defined as recordings of *none* for HB symptoms on each of the past 7 d. Proportional odds models tested for an association of patient-reported race with baseline HB severity. Logistic regression models (LRMs) were fit with HB resolution as the dependent variable and race (white vs nonwhite [ie, all other reported races]) as an independent variable. The LRMs adjusted for treatment, study, baseline HB severity, age, sex, body mass index, *Helicobacter pylori* result, and presence of hiatal hernia.

Results: The mean age of the 704 patients included was 46 y (38% men; 85% white). Baseline HB severity for white (n=601) vs nonwhite (n=103) patients was not signifcantly different (*none*, 19.1% vs 20.4%; *mild*, 36.4% vs 37.9%; *moderate*, 34.1% vs 34.0%; *severe*, 10.3% vs 7.8%, respectively; $P = .59$). The unadjusted and adjusted LRMs showed no significant association of race with HB resolution ($P = .22$ and .24, respectively). The unadjusted and adjusted odds ratio estimates (HB resolution) for white vs nonwhite races were similar (1.36 [95% CI, 0.8–2.2] and 1.4 [95% CI, 0.8–2.3], respectively). The other variables had no significant interactions with race.

Conclusion: In patients with symptomatic GERD, we found no evidence that race influences baseline HB severity (ie, symptom perception) or efficacy of PPI treatment for HB resolution.

HB resolution rates (95% CI) by race (N=704)

	HB resolution rate, % (95% CI)			
Race	**n**	**Placebo**	**n**	**PPI**
White	200	13.5 (8.8-18.2)	401	36.9 (32.2-41.6)
Nonwhite	38	10.5 (0.8-20.3)	65	30.8 (19.5-42.0)

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P1014

ROLE OF IMMUNO-NUTRITION (ALANYL-GLUTAMINE DIPEPTIDE) IN CRITICALLY ILL PATIENTS

S. Varshney, MS, FRCS, FACS, S. Vyas, MSc, H. Bains, PhD, R. Varshney, MS, V. Singh, MS, D. Purohit, MS, K. K. Maudar, MS, PhD. GI Surgery, Bhopal Memorial Hospital and Research Centre, Bhopal, India.

Purpose: Glutamine is the most abundant amino acid in the body. Post operatively glutamine levels are reduced and remain low inspite of amino acid infusion (without glutamine). Prolonged low levels of glutamine are associated with poor prognosis and high mortality. There is conflicting data regarding usefulness of Glutamine in critically ill patients. We aimed to study the usefulness of intravenous glutamine in these patients.

Methods: Critically ill patients admitted at Bhopal Memorial Hospital Research Centre between January 2006 and January 2007 were chosen to participate in the study, according to the inclusion and exclusion criteria. Inclusion criteria: Patients between 18 and 55 years of age requiring parenteral nutritional support for 7- 10 days of major abdominal surgery or severe abdominal pathology. Exclusion criteria: Patients with severe hepatic or congestive cardiac failure or renal dysfunction. Hyper hydration states. Disturbed electrolyte homeostasis. Unconscious patients,Uncooperative patients Patients with any contraindication to parenteral nutrition Informed written consent was obtained for the participation in the study. Patients were divided into 2 groups. Control group: received TPN (1 to 1.5L) for 7- l0 days. Study group: received TPN as control group and additionally also received Alanyl-glutamine dipeptide (20% 100ml intravenously over 4 hours) for 7-10 days. Alanyl-glutamine dipeptide was administered in a dose corresponding to >or= 0.2 gm/kg/day.

Results: 36 patients were enrolled in study group (patient which received Dipeptiven) and 36 patients in control group (without Dipeptiven). Study group had 24 males (M: F= 2:1) aged between 18 to 55 years (average age 45.75 years). Control group had 19 males, aged between 18-55 years (average age 45.1 years) Diagnosis and treatment details of both the groups were comparable. There was significant decrease in C reactive protein levels, APACHE II score and incidence of post operative chest infection in the study group. There was also improvement in serum albumin and total lymphocyte count in the study group. However, there was no significant improvement in weight gain, mid arm circumference, serum globulin level and total leucocyte count in the study group.

Conclusion: This is the first prospective controlled Indian study to compare the efficacy and safety of immunonutrition (Dipeptiven) in critically ill Indian patients. Parenteral immunonutrition (Dipeptiven) had beneficial (positive) effect on nitrogen balance of critically ill patients and reduces incidences of chest infection. Larger studies are required to confirm the beneficial effect of immunonutrition (glutamine) in critically ill patients.

P1015

INFLAMMATORY BOWEL DISEASE PATIENTS' ADHERENCE TO AND SATISFACTION WITH TREATMENT

H. C. Waters, MBA,[1] K. Annunziata, MA,[2] A. Naim, MD,[1] D. Freedman, MBA,[2] C. T. Piech, MBA[1]. 1. Centocor Ortho Biotech Services, LLC, Horsham, PA; 2. Consumer Health Sciences International, Princeton, NJ.

Purpose: To assess patient compliance and satisfaction with treatments for inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC).

Methods: Data were collected via the National Health and Wellness Survey (NHWS) during Q1-Q3 2007. Invitations were sent to a sample of Internet panel participants age 18 and above, and were stratified by gender, age and race. Respondents were given a four-question standardized scale[1] to measure adherence to prescribed treatment regimens. Satisfaction with treatment was rated on a seven-point Likert scale (where 1 = Extremely dissatisfied and 7 = Extremely satisfied).

Results: The NHWS survey was completed by 63,012 people, of whom a total of 776 were self-identified as being diagnosed with CD (n = 330; 45% female; average age = 46.8 years) or UC (n = 446; 59% female; average age = 51.5 years). Use of the following medications was reported: aminosalycilates (5ASAs, n = 298), steroids (n = 85), immunomodulators (IMMs, n=61), antibiotics (n = 45), infliximab (n = 28) and other anti-tumor necrosis factors (anti-TNFs, n = 7). Approximately 65% of patients reported good to complete compliance with their IBD medications. Forgetting to take medication was the reason cited most for non-compliance. A greater percentage of respondents indicated complete or good compliance with infliximab (75%) than other medications, including steroids (69%), IMMs (72%), 5ASAs (63%) and antibiotics (47%). Furthermore, 75% of infliximab-treated respondents indicated being extremely or very satisfied with treatment, as compared with 55% using 5ASAs, 49% taking antibiotics, 41% taking IMMs and 32% taking steroids.

Conclusion: Patient reported adherence to treatment regimens was higher among infliximab users, and notably higher than adherence to other treatment interventions. Satisfaction with infliximab was also rated high. Optimizing compliance rates across treatments may help improve patient outcomes. Further studies are needed to understand the interaction of compliance rates and patient satisfaction in this patient population. References: 1. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. *Med Care*1986;24(1):67-74.

Disclosure - Centocor Ortho Biotech Services, LLC employees: HC Waters,A Naim, CT Piech Consultants for Centocor Ortho Biotech Services: K Annunziata, D Freedman
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P1016

REAL WORLD DOSING OF ANTI-TUMOR NECROSIS FACTOR THERAPIES IN THE TREATMENT OF ADULTS WITH CROHN'S DISEASE

H. C. Waters, MBA,[1] T. Meekins, MBA,[2] A. Bewtra, MS,[2] R. S. McKenzie, MD,[1] B. Tang, MD,[1] C. T. Piech, MBA[1]. 1. Centocor Ortho Biotech Services, LLC, Horsham, PA; 2. Wolters Kluwer Health, Yardley, PA.

Purpose: To compare real-world vs. labeled anti-tumor necrosis factor (TNF) dosing in adults with Crohn's disease (CD).

Methods: A retrospective claims analysis was conducted for CD patients aged 18 years and older using Wolters Kluwer Health's Source Lx Longitudinal patient database. Newly initiated adalimumab (ADA) or infliximab (IFX) patients, determined by a 90-day absence of claims for either agent prior to the index date, with continuous enrollment and therapeutic persistence for the study duration, were analyzed. Labeled dose was calculated monthly as the cumulative sum of 40 mg syringes (ADA) or 100 mg vials (IFX) required from the first day of the index month through December 31, 2007, inclusive of induction and maintenance dosing. The IFX labeled dose assumed 4-8 vials per infusion, representing the labeled dose range (5 mg/kg-10 mg/kg) for an average patient weighing 71 kg, which was the mean weight of patients in the IFX clinical trial. Mean cumulative utilization was analyzed for each drug monthly and compared with the labeled dose.

Results: There were 1,299 patients with ADA (average age 41.6; 61% female) and 2,118 patients with IFX (average age 42.9; 57% female). For ADA, 48.6% patients were at or below the labeled dose, while 51.4% were above the labeled dose. The average difference between mean prescribed dose and labeled dose for ADA was +5.51 syringes. For IFX, 57.7% patients were below the lowest labeled dose of 5 mg/kg, 32.9% were within the 5 mg/kg to 10 mg/kg range, while only 9.4% were above the highest labeled dose of 10 mg/kg. The average difference between mean prescribed dose and lowest labeled dose (5 mg/kg) was -2.10 vials.

Conclusion: Our results revealed that in CD, most (51.4%) ADA patients were above the labeled dose, while few (9.4%) of IFX patients were above the labeled dose. Payers should analyze their own data to determine if these same trends are seen and, if so, determine the impact of these dosing patterns to the plan.

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P1017

PATIENT PERCEPTION OF DISEASE CONTROL IN ULCERATIVE COLITIS

H. C. Waters, MBA,[1] S. Berg, MBA,[2] J. Kelly, MBA,[1] C. T. Piech, MBA[1]. 1. Centocor Ortho Biotech Services, LLC, Horsham, PA; 2. GfK V2, LLC, Blue Bell, PA.

Purpose: To compare patient perception of disease control in ulcerative colitis (UC) to the number and severity of disease flares.

Methods: A market analysis of patients and products (MAPP) study was conducted with UC patients and gastroenterologists. Patients were required to be at least 18 years of age, have a confirmed diagnosis of UC for at least 2 years, and be currently under a physician's care.

Results: The study included 175 patients. The mean age was 42 years, and 73% of patients were female. Although UC patients claimed to be satisfied with their current conventional therapy, they still experienced regularly frequent symptoms from their UC. While a majority of patients perceived themselves to have their mild (88%) and moderate (76%) UC under control, only 25% of patients with severe disease believed that their UC was controlled. However, 88% of patients who considered their UC controlled and 94% of patients who considered their UC uncontrolled experienced 2 or more flares per year; 58% of all patients experienced 4 or more flares per year. Steroids were used to control two-thirds of these flares. The majority of mild (61%) and moderate (80%) UC patients indicated that their flares were moderate in nature, while 50% of patients with severe disease indicated their flares were severe. Over half (53%) of patients indicated that their flares lasted 1 to 2 weeks in duration. In addition, over half of the UC patients admitted to stockpiling steroids so that they could self-treat their future flares. Half of the patients suffered from depression.

Conclusion: Although patients and physicians may consider that the disease is under control, the majority of UC patients reported having multiple disease flares each year. These flares were of moderate to severe intensity and lasted several weeks. Reasons for the disconnect between perceived disease control and actual control should be explored further to enable better treatment of UC.

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P1018

SELF-REPORTED QUALITY OF LIFE IN INFLAMMATORY BOWEL DISEASE

H. C. Waters, MBA,[1] K. Annunziata, MA,[2] A. Naim, MBA,[1] B. Tang, MD,[1] D. Freedman, MBA,[2] C. T. Piech, MBA[1]. 1. Centocor Ortho Biotech Services, LLC, Horsham, PA; 2. Consumer Health Sciences International, Princeton, NJ.

Purpose: To assess quality of life in patients with inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC).

Methods: Data were collected via the National Health and Wellness Survey (NHWS) during Q1-Q3 2007. Invitations were sent to a sample of Internet panel participants age 18 and above, and were stratified by gender, age and race. The SF-12 was used to evaluate patient reported quality of life (QoL).[1]

Results: The NHWS survey was completed by 63,012 people, of whom a total of 776 were self-identified as being diagnosed with IBD (CD=330, 45% female, mean age = 46.8 years; UC=446, 59% female, mean age = 51.5 years). Patients diagnosed with IBD reported lower physical (41.7 CD, 41.0 UC) and mental (44.6 CD, 43.3 CD) QoL than non-IBD respondents (47.3 physical, 47.9 mental). As disease severity increased, QoL decreased in both CD and UC for both physical and mental health. IBD patients taking infliximab, aminosalycilates and immunomodulators reported higher physical (43.2, 42.8 and 43.1 respectively) and mental (44.1, 44.8 and 45.2, respectively) QoL scores than patients taking other medications. Those taking steroids and antibiotics reported the lowest levels of physical (38.8 and 37.6, respectively) and mental (39.2 and 37.6, respectively) QoL.

Conclusion: Patients with IBD reported lower QoL than those without IBD, and QoL worsened as disease severity increased. However, those patients taking infliximab, immunomodulators and aminosalycilates had higher physical and mental QoL than those taking steroids and antibiotics. Further research on optimal treatment regimens for IBD patients is warranted.

References: 1. Ware JE, Kosinski M, Turner-Bowker DM, Gandek B. 2002. How to score Version 2 of the SF-12 Health Survey (with supplement documenting Version 1). Lincoln, RI: QualityMetric Incorporated.

Disclosure - Centocor Ortho Biotech Employees: Heidi C. Waters, Ahmad B. Naim, Boxiong Tang, Catherine Tak Piech Consultants for Centocor Ortho Biotech: Katherine Annunziata, Deborah Freedman

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P1019

PATIENT OUTCOMES AFTER PLACEMENT OF PEG AT BAY PINES VA HEALTHCARE SYSTEM

A. Fernandes, MD, T. H. Huynh, DO, M. S. Hoffman, MD, T. Buchanan, BS. Gastroenterology, Bay Pines VA Healthcare System, Bay Pines, FL.

Purpose: The primary aim of the study was to retrospectively determine if a patient's Charlson Comorbidity Index (CCI) correlates with survival after placement of a percutaneous endoscopic gastrostomy (PEG). The CCI is a weighted score of comorbid conditions that is used for predicting mortality in long-term longitudinal studies. A secondary aim of the study was to compare the outcomes at our institution with previously published national data.

Methods: The electronic medical records of all patients who underwent PEG placement between January 2004 and April 2007 at the GI Lab of Bay Pines VA Healthcare System (BPVAMHS) were reviewed. The 30-, 60-, 90-, 180- and 365-day mortality rates after PEG placement were determined. Basic demographic data such as sex and age were also collected, as well as the indication for PEG. CCI scores were calculated by analyzing the medical diagnoses patients had at the time of the procedure. A statistical analysis was carried out in an attempt to establish a correlation between patients' CCI and mortality.

Results: A total of 122 patient records were reviewed. The majority of veterans were male (97.5%), with a mean age of 66.6 years (range 35-93). The most common indication for the procedure was head and neck cancer (59%), followed by dysphagia (18%). 15 patients (12.3%) died within 30 days of PEG placement, and an additional 11 patients (9%) died between 31 and 60 days after the procedure. The placement of PEG did not appear to have contributed to any of the early deaths. 33 patients (27.1%) died in the period between 61 and 365 days post-procedure, but over half of all patients (51.6%) were alive at the one year mark. CCI scores ranged from 0 to 14, in a curve with a rough bell-shape distribution. The most frequent CCI score was 6 (16.4%), and 4 was the second most common (15.6%). 68 patients (55.7%) had a CCI score equal or greater than 5 at the time of the procedure. A non-parametric test (Spearman's rank correlation coefficient) showed a statistically significant correlation between increasing CCI score and a higher mortality rate (p=0.01).

Conclusion: There was a significant correlation between a higher Charlson Comorbidity Index at the time of endoscopic percutaneous placement of gastrostomy and decreased survivorship. Mortality rates post-PEG placement at BPVAMHS compared favorably with previously published national data.

P1020

DOES MULTI-DRUG CROHN'S THERAPY RESULT IN IMPROVED PATIENT OUTCOMES?

R. Panaccione, MD,[1] S. V. Kane, MD,[2] D. Wolf, MD,[3] S. Plevy, MD,[4] M. J. Atkinson, PhD,[5] S. Panjabi, PhD,[6] S. Hass, PhD[6]. 1. Department of Medicine, University of Calgary, Calgary, AB, Canada; 2. Inflammatory Bowel Disease Center, Mayo Clinic, Rochester, MN; 3. Atlanta Gastroenterology Associates, Atlanta, GA; 4. Department of Medicine, University of North Carolina School of Medicine, Chapel Hill, NC; 5. PRO-Spectus and UCSD, Health Services Research Center, Encinitas, CA; 6. Pharmacoeconomics, Elan Pharmaceuticals, Inc., South San Francisco, CA.

Purpose: To investigate the relationship between patient-reported outcome (PRO) measures and the number of drug classes patients were receiving for management of their Crohn's disease (CD).

Methods: US patients from a CD panel were recruited to complete a survey containing the Tool to Rapidly Assess Crohn's Medications (TRAC-Med), the Short Inflammatory Bowel Disease Questionnaire (SIBDQ), the Treatment Satisfaction Questionnaire for Medication (TSQM), the Centers for Epidemiological Studies–Depression scale (CES-D), and items regarding self-reported disease severity and medication use. Patients were grouped by the number of drug classes of interest (corticosteroids, immunosuppressants, and anti-TNFs) received for CD management. The relationship between number of drug classes and PROs was analyzed to evaluate whether patients receiving multiple therapies have poorer outcomes, recognizing the potential circularity of the relationship (ie, disease severity being a determinant of the number of drug classes and vice versa).

Results: 247 patients completed the survey (mean age=44, females=62%). Of these, 198 patients were treated with one or more of the drug classes of interest (corticosteroids, immunosuppressants, anti-TNFs) and were included in the analyses. A majority received a single drug class (64%), with 30% and 6% receiving 2 and 3 drug classes, respectively. There was a significant association between number of drug classes and disease severity; 67% on 1 drug class reported being in remission or having mild disease vs 17% of those receiving 3 drug classes. Patients on more drug classes (3 vs 2 vs 1) were more likely to indicate interest in therapy change as assessed using the TRAC-Med (P=0.06). Of note, interest in a therapy change was found to be independent of the drug class received. The mean total IBDQ scores (estimated from SIBDQ) were found to be significantly lower (134.9 vs 122.4 vs 86.3, P<0.001) as number of drug classes received increased from 1 to 3, respectively. Statistically significant reductions were observed in global treatment satisfaction scores as the number of drug classes increased (63.7 for 1 vs 53.8 for 2 vs 49.3 for 3, P<0.01). A statistically significant association was observed between increasing number of drug classes and depressed mood (Pearson chi-square=6.7, P=0.035).

Conclusion: These results suggest that multi-drug class therapy may not, from the patient perspective, achieve the intended therapeutic goals (ie, greater interest in therapy change, poorer quality of life, lack of satisfaction with treatment, and depressed mood). The findings support ongoing assessments of patient outcomes and evaluation of alternative treatment options to achieve optimal results.

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P1021

RESPONSE AFTER 12 WEEKS OF ADALIMUMAB THERAPY IN PATIENTS WITH CROHN'S DISEASE WHO WERE NONRESPONDERS AT WEEK 4

R. Panaccione, MD,[1] W. Sandborn, MD,[2] J. Colombel, MD,[3] P. F. Pollack, MD,[4] N. Chen, MS,[4] J. Chao, PhD,[4] P. Mulani, PhD[4]. 1. Department of Medicine, University of Calgary, Calgary, AB, Canada; 2. Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 3. Centre Hospitalier Universitaire de Lille, Hôpital Claude Huriez, Lille, France; 4. Abbott Laboratories, Abbott Park, IL.

Purpose: The fully human, anti-TNF monoclonal antibody adalimumab (ADA) is approved for treatment of adults with Crohn's disease (CD). In clinical trials, 52–58% of patients responded to ADA by Week 4.[1,2] However, some patients require additional time to respond. Physicians may benefit from additional data on the length of an adequate trial of ADA for their patients.

Methods: This analysis assessed the efficacy of ADA at Week 12 among patients who did not respond after 4 weeks using data from CHARM and the open-label extension (OLE) of GAIN. In CHARM, following a 4-week induction period in which all patients received OL ADA 80/40 mg at Weeks 0/2, patients were randomized to placebo, ADA 40 mg every other week (eow), or ADA 40 mg weekly. In GAIN, patients who failed infliximab were randomized to ADA 160/80 mg or placebo induction at Weeks 0/2. After 4 weeks, patients could enroll in an OLE trial in which they received ADA 40 mg eow. Clinical response (CR-70) and remission (CDAI<150) rates at Week 12 were evaluated for 1) CHARM patients who were randomized to blinded ADA 40 mg eow and did not achieve a CR-70 response at Week 4 and 2) GAIN patients who received OL ADA 40 mg eow after being randomized to blinded ADA 160/80-mg induction dose and not achieving a CR-70 response at Week 4.

Results: In CHARM, 260 patients were initially randomized to blinded ADA 40 mg eow. Among 88 patients who did not respond (CR-70) at Week 4, 60% achieved CR-70 and 28% achieved remission by Week 12. By Week 12, 82% and 57% of patients who were randomized to eow (including Week 4 responders and nonresponders) achieved CR-70 and remission, respectively. In GAIN, 159 patients were initially randomized to ADA 160/80 mg; 150 with non-missing CDAI entered the OLE. Among 69 patients who did not respond (CR-70) at Week 4, 67% receiving OL ADA eow achieved CR-70 and 25% achieved remission by Week 12. Combining responders and nonresponders (n=150), most patients achieved CR-70 response (85%) and remission (45%) by Week 12.

Conclusion: Most initial Week-4 nonresponders benefited from continued treatment with ADA 40 mg eow through Week 12, with almost two-thirds achieving CR-70 response and more than one-fourth achieving remission. Continuing ADA therapy for up to 12 weeks in patients not responding to initial induction dosing yielded incremental benefits in clinical response.

REFERENCE(S): [1]Colombel JF, et al. *Gastroenterology*. 2007;132:52–65; [2]Sandborn WJ, et al. *Ann Intern Med*. 2007;146:829–38. This research was funded by Abbott Laboratories, Abbott Park, IL.

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P1022

LOW HEALTH LITERACY IS ASSOCIATED WITH LESS KNOWLEDGE ABOUT COLORECTAL CANCER BUT NOT ADHERENCE TO COLONOSCOPY AMONG VETERANS

S. Sultan, MD,[1] C. Newlin, , ,[3] P. Shah, MBBS,[1] R. Beyth, MD, MSc,[2] D. Provenzale, MD, MS[3]. 1. Department of Gastroenterology, University of Florida College of Medicine, Gainesville, FL; 2. RORC and GRECC, NF/SG Veterans Health System, Gainesville, FL; 3. Center for Health Services Research in Primary Care, Durham Veterans Affairs Medical Center, Durham, NC.

Purpose: Low literacy is an important predictor of health behavior and has been shown to have an impact on adherence to medications and recommendations to undergo cancer screening.

Our objective was to determine the association between health literacy, knowledge and adherence to colonoscopy among veterans at high risk for colorectal cancer(CRC).
Methods: In this prospective, observational cohort study, subjects referred for diagnostic evaluation of heme-positive stool, hematochezia, anemia, or a family history of CRC, were recruited from the Durham VA Gastroenterology Clinic. Subjects completed a validated CRC knowledge questionnaire (total knowledge score ranged from 0-100) and were administered the Rapid Estimate of Adult Literacy in Medicine (REALM). The REALM was used to classify individuals as having adequate (>9th grade) or low (<8th grade) health literacy (LHL). The primary endpoint was adherence to colonoscopy, defined as an individual having undergone a complete colonoscopy. Chi-square statistic and T-test were used to evaluate differences between groups.
Results: A total of 619 subjects completed the study. Mean age was 59 years and 91% were male; 53% were White, 42% Black; 44% of subjects had LHL. Total knowledge score was slightly lower in the LHL group (76% vs. 80%; p=0.02). Overall adherence rate was high: 518 (84%) completed their diagnostic colonoscopy. Adherence status between the 2 groups was lower in the LHL group but this difference was not statistically significant (82% versus 86%, p=0.24).
Conclusion: LHL is associated with less knowledge about CRC screening but this is the only study to date that has looked at the impact of health literacy on outcomes such as adherence to diagnostic colonoscopy. While LHL rates were high in this cohort of veterans, and this may have translated into less knowledge about CRC, importantly, it did not have an impact on adherence to diagnostic colonoscopy. These findings are especially significant since adherence to colonoscopic evaluation is imperative in this patient population referred for diagnostic evaluation.

P1023

RELEVANCE OF THE GASTROINTESTINAL SYMPTOM RATING SCALE (GSRS) IN PATIENTS WITH CELIAC DISEASE

B. Abraham-Van Parijs, MD, PhD,[1] M. Price, MA, MEd,[2] F. Leon, MD, PhD,[3] S. Fehnel, PhD[2]. 1. Scientific Affairs and Clinical-Regulatory Strategy, Alba Therapeutics, Baltimore, MD; 2. RTI Health Solutions, RTI International, Research Triangle Park, NC; 3. Clinical Development & Medical Affairs, Alba Therapeutics, Baltimore, MD.

Purpose: While patient-reported outcome (PRO) measures are routinely used to evaluate clinical response in GI treatment trials, there is no PRO measure accepted for use in clinical trials of Celiac Disease (CeD). As there are no approved medicines for the treatment of CeD, clinical research and prospectively-defined efficacy outcomes are in early development. Our objectives were to identify symptoms of concern for CeD patients and to determine if the Gastrointestinal Symptom Rating Scale (GSRS) (Dimenas et al., 1993) would be a relevant and appropriate PRO for use in clinical trials of novel treatments for celiac disease (CeD). This study is the first to report an evaluation of the content validity of the GSRS for use in a CeD population.
Methods: Two iterative sets of in-depth interviews were conducted on 21 patients with CeD who had a diagnosis confirmed through upper endoscopy with biopsy and/or a serum antibody test (Anti-tTG). All participants completed an open-ended interview detailing their experiences with CeD, including all symptoms and their impacts. The same participants also completed a cognitive debriefing of the GSRS, providing feedback and detailing the relevance and relative importance of each item within their personal experience of CeD.
Results: GI symptoms were reported as both prevalent and highly variable among CeD patients (see table). All participants said that they were likely to develop GI symptoms following unintentional gluten exposure. Participants reported that the GSRS amply covers GI symptoms as they relate to CeD and did not identify any GI symptoms important in CeD which were not addressed by the GSRS (providing strong support for the content validity of the GSRS within this patient population).
Conclusion: The majority of concerns reported by CeD patients were GI symptoms; some domains in the GSRS were identified as more relevant than others. Future efforts will evaluate the psychometric properties of pertinent subscales of the GSRS within the population of patients with CeD.

Spontaneously Reported Symptoms of CeD	GSRS item topics *most* relevant to CeD	GSRS item topics *least* relevant to CeD
diarrhea	diarrhea	hunger pain
bloating; gas; flatulence	bloating	heartburn
fatigue	gas	stomach rumbling
weight loss	abdominal pain or discomfort	burping
anemia	constipation	
pain; cramping		
constipation		
nausea		
excessive illness (viral and other infections, sinusitis, etc.)		
headaches; migraines		
'brain fog'		

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P1024

COMPLIANCE WITH PROTON PUMP INHIBITOR THERAPY IMPACTS RESOLUTION OF GERD SYMPTOMS - PRELIMINARY RESULTS

T. S. Dabade, BA,[1] D. M. Geno, CCRP,[2] S. V. Kane, MD, MPH,[2] M. Crowell, PhD,[3] S. C. Adamson, MD,[4] R. DeJesus, MD,[5] F. B. Enders, PhD,[6] A. J. Majka, MD,[7] C. W. Howden, MD,[8] Y. Romero, MD[2]. 1. Medical School, Mayo Clinic, Rochester, MN; 2. Gastroenterology & Hepatology, Mayo Clinic, Rochester, MN; 3. Gastroenterology & Hepatology, Mayo Clinic, Scottsdale, AZ; 4. Family Medicine, Mayo Clinic, Rochester, MN; 5. Primary Care Internal Medicine, Mayo Clinic, Rochester, MN; 6. Biostatistics, Mayo Clinic, Rochester, MN; 7. General Internal Medicine, Mayo Clinic, Rochester, MN; 8. Gastroenterology, Northwestern University, Chicago, IL.

Purpose: While the efficacy of Proton Pump Inhibitor (PPI) therapy for healing erosive reflux esophagitis is well known from randomized controlled trials, how patients take their medications in the real world, and if they stop once symptoms are relieved and start their own "on demand" regimen, is not known. The primary aim of this study was to assess the correlation between GERD symptom resolution with compliance in taking a daily PPI for 8 weeks in patients with Los Angeles (LA) grade B, C or D esophagitis.
Methods: In this prospective descriptive cohort study, symptomatic outpatients with LA grades B-D esophagitis were placed on esomeprazole 40 mg once daily for 8 weeks. GERD symptoms were recorded using the validated Mayo Dysphagia Questionnaire-30 at baseline and 8 weeks. To meet criteria for GERD symptoms patients had to report experiencing heartburn at least once per week that also radiated to the neck, awoke them at night, or improved with antacids, or report weekly acid regurgitation. Medication compliance was monitored using a Medication Event Monitoring System® (MEMS) bottle cap and by capsule counting. The MEMS cap contains a microchip that records the date and time the bottle is opened. By convention, compliance was defined as taking greater than 80% of the medication over the 8 weeks (≥ 45/56 capsules).
Results: 173 patients with LA grades B-D esophagitis were screened between 1/30/2008 and 6/6/2008 of which 56 were eligible to participate. The majority of screen failures were inpatients (N=54) and patients without sufficient GERD symptoms (N=30). Of the 56 eligible patients, 29 (52%) enrolled in the study [15 males (52%), mean age 48.7 years; LA grade B=23, C=3, D=3] and 12 (21%) declined. Evaluating physicians did not allow contact with 12 patients due to a plan for twice daily dosing. Three potential subjects were identified after they had left the Clinic. To date, 11 subjects have completed the trial of whom 6 (55%) were compliant and 5 (45%) non-compliant in taking their prescribed daily PPI. The mean number of capsules taken by the compliant group was 54 compared to 27 capsules by the non-compliant group ($p<0.05$). GERD symptoms resolved in 5 (83%) compliant subjects and 1 (20%) non-compliant subject. Despite lack of compliance, very few capsules were returned after completing the study.
Conclusion: Preliminary results indicate a large percentage of patients taking PPI's for symptomatic grade B, C or D erosive esophagitis are non-compliant in the short-term. The resolution of GERD symptoms appears to correlate with compliance. Capsule counts are a poor proxy for compliance with prescribed PPI use in patients with erosive esophagitis. This project was supported by an AstraZeneca Investigator-Initiated Award.
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P1025

MANAGEMENT OF DIVERTICULITIS IN YOUNG PATIENTS

P. Giuseppucci, MD, P. Donnelly, MD, P. Caushaj, MD. The Western Pennsylvania Hospital, Pittsburgh, PA.

Purpose: Our objective was to evaluate their clinical presentation and management of patients under 45 years with acute diverticulitis.
Methods: Retrospective, single institution study with review of the literature. We reviewed all charts of patients under 45 years that were discharged from the hospital with a diagnosis of diverticular disease (ER-GI lab-Inpatient). Our inclusion criteria were those patients with CT scan diagnosis and/or operative report of left sided diverticulitis. We excluded all patients in which symptoms were not due to diverticular disease and those with right side diverticulitis. Patient data, including demographics, Hinchey classification, non-operative and operative procedures performed, length of hospital stay, complications and recurrence were collected and studied.
Results: 153 patients under 45 years were discharged with diagnosis of diverticular disease. In 80 patients the main complaint was not due to diverticular disease and in 3 patients there was a right-sided diverticulitis and were exclude from the study. Seventy patients had one or more episodes of acute diverticulitis. The mean age was 35 years (Median 36 years- Range 22- 43 years) and the male-female ratio was 46/24. Fifty patients (71%) were admitted to the hospital whereas 20 patients (29%) were treated as outpatients. Sixty two patients (89%) had a non-complicated or Hinchey I diverticulitis, 6 patients (9%) Hinchey II and 2 patients (2%) Hinchey III-IV. Sixteen patients (23%) had a recurrence in a mean time of 8 months, (Median 4.5 Month, Range 1 week- 4 years) and only two needed emergency surgery. All patients were non-complicated diverticulitis or Hinchey I in the first episode and all except one that recurred with a Hinchey III had the same stage at the recurrent episode. Recurrence was based on readmission to the hospital. Overall, 17 patients (23 %) with diverticulitis had surgery; Ten surgeries (59%) were elective and 7 (41%) urgently.
Conclusion: Reviewing the literature and based in our experience, acute diverticulitis does not appear to be a more virulent disease in patients under 45 year of age than in older patients

P1026

FACTORS ASSOCIATED WITH INCREASED COST IN PATIENTS HOSPITALIZED WITH ACUTE APPENDICITIS OVER THE LAST 15 YEARS

S. Kapoor, MBBS, MPH, D. M. Krishnamurty, MBBS, S. Jagannath, MD, J. M. Buscaglia, MD. Medicine—Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, MD.

Purpose: Acute appendicitis remains one of the most common abdominal diseases requiring hospitalization and emergency care. The cost of hospitalization from appendicitis continues to rise. Factors associated with this increased cost have not been previously assessed on a large scale basis. The study aim was to identify the factors associated with increased cost for hospital admissions due to acute appendicitis.

Methods: Retrospective analysis of the Johns Hopkins Hospital financial database was performed using appendicitis as the primary diagnosis with ICD9 codes 540.9, 541.0 and 542.0 between the years 1993 and 2008. Age, gender, race, primary hospital service (Medical vs. Surgical), number of pre-operative and post-operative days, and source of admission (emergency room vs. non-emergency room) were evaluated as potential factors associated with increased cost. Univariate and multivariate linear regression analyses were performed to identify significant covariates

Results: From 1993-2008, 792 patients were admitted with a primary diagnosis of acute appendicitis in our tertiary care center. Complete data were available for 751 patients. Mean hospitalization costs were higher in adult compared to pediatric (<18 y/o) patients by $1713 per patient (p<0.001). Patients admitted to the hospital from non-emergency room settings and to the Medical Service incurred greater costs by $2369 (p<0.001) and $5457 (p<0.001), respectively. The cost of hospitalization was lower among patients who underwent surgery within 48 hours of diagnosis by $6979 per patient (p<0.001). Patients admitted for more than 2 days post-operatively incurred higher costs by $4236 compared to those who spent less than 2 days in the hospital following their operation (p<0.001). Differences in mean cost were also seen among the categories of gender and race, but neither reached statistical significance (p≥0.05).

Conclusion: Factors associated with higher cost of hospitalization due to acute appendicitis include adult age group, admission to the Medical Service, inpatient stay >2 days before surgery, non-emergency room admissions, and post-operative stay longer than 2 days. Changes in hospital policies to address these factors may significantly reduce overall hospitalization costs for patients with suspected appendicitis.

P1027

RESIDENT PHYSICIANS COMFORT WITH MANAGING GASTROINTESTINAL BLEEDING AT THE COMPLETION OF INTERNAL MEDICINE RESIDENCY

H. Nguyen, MD, J. Gladden, MS, S. Zeddun, MD, M. Borum, MD, EdD, MPH. Division of Gastroenterology and Liver Diseases, George Washington University, Washington, DC.

Purpose: Gastrointestinal (GI) bleeding is a core topic in internal medicine residency training. It is critical that internal medicine residents are comfortable managing GI bleeding because it is potentially life-threatening. This study evaluated internal medicine resident physicians' comfort with gastrointestinal bleeding management as well as the effectiveness of various teaching modalities.

Methods: An anonymous survey addressing core gastroenterology topics was distributed to all PGY-3 internal medicine resident physicians at an urban university medical center. Information was collected about the benefit of various teaching modalities during residency training and resident physicians' comfort level with management of gastrointestinal bleeding. The teaching modalities evaluated included attending rounds, autopsy conference, didactic rounds, direct patient care (inpatient and outpatient), grand rounds, individual reading, journal club, morning report and noon conference. A database was developed. Statistical analysis was performed using Chi-square tables with statistical significance set at p<0.05.

Results: Twenty of 29 (69%) completed surveys were returned. Inpatient care, individual readings and didactic rounds were reported to be the most helpful teaching modalities for resident physicians to learn GI bleeding management. Each of these teaching modalities was found to be superior (p=0.0015) to outpatient care for learning GI bleeding. When resident physicians were surveyed regarding their comfort level with GI bleeding, 37% felt uncomfortable with GI bleeding management. However, no resident physician cited GI bleeding as an area needing improvement in the residency curriculum and 30% of the resident physicians listed GI bleeding management as an area of strength in the curriculum.

Conclusion: GI bleeding is a core topic in residency training and a frequent cause of hospitalization. It is critical that resident physicians are able to manage GI bleeding. This study revealed that certain teaching modalities were more helpful than others for understanding GI bleeding. However, approximately one-third of the resident physicians reported that they were not comfortable with their GI bleeding management skills upon completion of residency. Further study is necessary to define methods to improve internal medicine resident physicians' comfort level with GI bleeding.

P1028

FAVORABLE GI PROFILE OF CELECOXIB VS NSNSAIDS BASED ON POOLED ANALYSIS OF 21 CELECOXIB RANDOMIZED CONTROLLED TRIALS

L. Niculescu, MD,[1] C. Li, PhD,[2] J. Huang, PhD,[3] S. Mallen, MD[1]. 1. Global Medical, Pfizer, New York, NY; 2. Statistics, Pfizer, New York, NY; 3. Clinical Programming and Writing, Pfizer, New York, NY.

Purpose: To compare the gastrointestinal (GI) tolerability of celecoxib with that of nonselective (ns) NSAIDs in patients with osteoarthritis (OA), adult rheumatoid arthritis (RA) or ankylosing spondylitis (AS).

Methods: Randomized, controlled trials from the Pfizer Corporate Clinical Trials Registry, available as of October 31, 2004 were selected using the following criteria: (1) Parallel-group study design and planned treatment duration of ≥2 weeks (2) At least one nsNSAID (naproxen, ibuprofen or diclofenac) as a comparator (3) At least one arm with 200 mg or 400 mg celecoxib per day. Data was pooled by treatment and by subject from the safety analysis population of each included study. The primary end point of the analysis was the combined incidence of tolerability-related GI adverse events (AEs) (abdominal pain, dyspepsia, nausea, diarrhea and flatulence). The secondary endpoints included the incidence of all AEs, incidence of GI AEs, and time to study discontinuation due to GI AEs and due to GI tolerability AEs.

Results: Twenty-one studies involving 23,545 patients (mean age [SE] 60.7 (0.1) years) met the selection criteria. In total 85.9%, 12.1% and 1.9% of patients were treated for OA, RA and AS, respectively, with a mean (median) treatment exposure of 0.21 (0.2) years. Most patients were female (72.6%) and Caucasian (72.7%). The table shows the incidence of AEs, GI AEs, and GI tolerability AEs. Significantly more patients treated with each nsNSAID than with celecoxib experienced a tolerability-related GI AE, or a general GI AE (each comparison: p<0.0001 vs each nsNSAID). Starting at week one, significantly fewer patients treated with celecoxib discontinued treatment due to GI AEs compared with those treated with naproxen (1.7% vs 3.7% p<0.0001). The difference in discontinuations due to GI AEs for celecoxib versus ibuprofen and versus diclofenac reached statistical significance at week 4 (vs ibuprofen 3.1% vs 5% p=0.0156; vs diclofenac 3.1% vs 3.7% p=0.0314). The time to discontinuation due to a tolerability-related GI AE followed a similar pattern.

Conclusion: In this pooled analysis, OA, RA and AS patients treated with celecoxib had fewer GI tolerability-related AEs. Celecoxib treated patients also had fewer GI AEs and fewer discontinuations due to GI AEs and GI tolerability AEs than patients treated with naproxen, ibuprofen or diclofenac.

Incidence of GI AEs

	Celecoxib* N=14450	Naproxen N=2953	Ibuprofen N=499	Diclofenac N=5643
All AEs n (%)	6542 (45.3)	1730 (58.6) p<0.0001	296 (59.3) p<0.0001	2638 (46.7) p=0.0593
GI AEs n (%)	2891 (20.0)	932 (31.6) p<0.0001	155 (31.1) p<0.0001	1370 (24.3) p<0.0001
GI tolerability AEs n (%)	2319 (16.0)	717 (24.3) p<0.0001	121 (24.2) p<0.0001	1121 (19.9) p<0.0001

p value is compared to celecoxib group; *pooled doses

Disclosure - L Niculescu, C Li, J Huang and S Mallen are all employees of Pfizer Inc, who manufacture the product celecoxib.

P1029

RENAL EFFECTS OF LONG TERM 5-ASA

2008 ACG Presidential Poster Award Recipient

H. Patel, MD,[1] A. Brar, PhD,[2] K. N. Jeejeebhoy, MD[3]. 1. Department of Medicine, University of Toronto, Toronto, ON, Canada; 2. Department of Public Health, University of Toronto, Toronto, ON, Canada; 3. Department of Medicine, Department of Gastroenterology, St. Michael's Hospital, University of Toronto, Toronto, ON, Canada.

Purpose: A number of case reports link the use of 5-aminosalicylic acid (5-ASA) to interstitial nephritis in patients with inflammatory bowel disease (IBD). The improved side effect profile of mesalamine has enabled the use of increased doses that are much further possible than with sulfasalazine. The aim of this study was to investigate whether long-term high dose 5-ASA has harmful effects on renal function in patients with IBD.

Methods: This is a retrospective analysis of 171 consecutive outpatients with Crohn's disease (CD) or ulcerative colitis (UC). Serum creatinine levels and body weight were measured just prior to start of treatment and at the end of treatment or the current level if still on treatment. Co-morbid illnesses that could affect renal function and nephrotoxic medications were recorded.

Results: In 171 patients (93 female, 78 male), the mean daily dose of 5-ASA was 3.65±0.85 g/day and a cumulative dose of 11±7.7 kg over an interval of 8.4±5.9 years. There were no differences in baseline characteristics amongst those with UC and CD. The serum creatinine increased from 76.8 to 88.7 umol/L (p<0.0001, n=171) and the CrCl fell significantly from 104.6 to 93.1 mL/min (p<0.0001, n=82). There was one case of interstitial nephritis reported. Forty-one patients had a >10% decline in CrCl of which 11 patients had a nephrotoxic co-morbidity or medication. The distribution of treatment includes mesalamine (74.3%), sulfasalazine 15.2%, and combination 10.5% with duration of treatment 7.2±4.5y, 12.3±8.7y, and 11.2±6.7y, respectively. Univariate analysis demonstrates that duration of treatment correlate significantly with a change in the CrCl (p=0.04) whereas treatment effect (mesalamine vs. sulfasalazine) is only marginally significant (p=0.07). The duration of treatment is the most important covariate for the whole population and when analyzed by treatment group with change in CrCl, those treated with Sulfasazine had a strong correlation (r=-0.54, p=0.0154) while non-significant in the Meselamine group (r=0.06, p=0.4017). In multivariate analysis the decline in CrCl was negatively correlated with the pre-treatment CrCl (r =-0.34; p=0.002) and positively correlated with average daily dose of 5-ASA (r=0.32; p=0.003).

Conclusion: This is the first study to show a significant decline in CrCl with a dose- and duration-dependent relationship. The duration of treatment contributes significantly to the change in renal function. Baseline renal dysfunction also correlated with a greater decline in CrCl suggesting that greater vigilance be exercised in those with nephrotoxic co-morbidities or medication. The risks need to be further evaluated since 5-ASA is widely used for long term maintenance therapy in patients with IBD.

P1030

PROSPECTIVE EVALUATION OF EPSTEIN-BARR VIRUS AND INFLAMMATORY BOWEL DISEASE

K. Ransibrahmanakul, MD,[1] I. Grishina, BS,[2] S. Sankaran, PhD,[2] L. Do, MD,[1] A. Thai, MD,[1] W. Trudeau, MD,[1] M. Henthorn, RN,[1] S. Dandekar, PhD,[2] T. Prindiville, MD[1].
1. Gastroenterology and Hepatology, UC Davis, Sacramento, CA; 2. Medical Microbiology and Immunology, UC Davis, Davis, CA.

Purpose: With the increasing use of immunomodulators and biologics, concerns have been raised regarding the risk of development of lymphoma in IBD patients. EBV has been associated with lymphomas in post-transplant and immunosuppressed patients. The aim of this study is to prospectively determine EBV viral replication in association with disease activity and medications in patients with IBD.

Methods: 29 patients with IBD were studied (Table 1). CDAI and IBDQ values were determined using standard questionnaires. DNA was extracted from peripheral blood mononuclear cells (PBMC) of patients with IBD. Cell numbers were calculated using a CCR5 standard

curve. EBV loads per million PBMC were determined using a real-time PCR assay. Statistical significance of the data was determined using the Chi square and Student T tests.
Results: Our preliminary findings reveal that EBV viral replication is low in 62.2% of patients who are in remission or have mild disease activity as measured by CDAI (Table 2). For those with at least moderate disease activity (CDAI > 220), 3 (60%) patients have intermediate or high EBV viral replication. EBV viral replication is low in 92.9% of patients whose relapses of IBD are not affecting the quality of life (IBDQ > 170). For those with IBDQ < 170, 19 (59.5%) patients have intermediate or high EBV viral replication. The relationship between IBDQ and EBV viral replication appears to be statistically significant ($p < 0.01$).
Conclusion: EBV viral replication may be significant in more than half of the IBD patients with at least moderate disease activity as measured by the CDAI and quality of life impairment produced by relapses of IBD as measured by the IBDQ. The relationship between medications and EBV viral replication in this group has yet to be analyzed. The significance of the association between EBV viral replication and disease activity will need to be determined.

Table 1. Clinical Characteristics

N = 29	No. (%)
Age (years, mean)	53.9 (range 21-70)
Male/Female	13/16
Crohn's disease	24 (82.8)
Ulcerative colitis	5 (17.2)
Race	
Caucasian	25 (86.2)
African-American	2 (5.7)
Hispanic	1 (3.4)
Middle-eastern	1 (3.4)
Medications at enrollment	
Mesalamines	11 (37.9)
Corticosteroids	7 (24.1)
Immunomodulators	23 (79.3)
Biologics	
Induction	4 (13.8)
Maintenance	21 (72.4)

Table 2. EBV viral replication and disease activity

EBV viral loads	Low No. (%)	Intermediate No. (%)	High No. (%)	
	(<40)	(41-1000)	(>1000)	
CDAI (N=42)				P > 0.05 (NS)
<220	23 (62.2)	9 (24.3)	5 (13.5)	
>220	2 (40)	2 (40)	1 (20)	
IBDQ (N=46)				P < 0.01
<170	13 (40.6)	14 (43.8)	5 (15.7)	
>170	13 (92.9)	0	1 (7.2)	

CDAI = Crohn's Disease Activity Index; IBDQ = Inflammatory Bowel Disease Questionnaire

P1031

DOES USE OF VIDEO CAPSULE ENDOSCOPY IN PATIENTS WITH KNOWN OR SUSPECTED INFLAMMATORY BOWEL DISEASE CHANGE THEIR MANAGEMENT?

W. Blonski, BS, D. Kotlyar, MD, PhD, N. A. Ahmad, MD, D. Jaffe, MD, G. R. Lichtenstein, MD. Division of Gastroenterology, University of Pennsylvania, Philadelphia, PA.

Purpose: Video capsule endoscopy (VCE) is capable of identifying small bowel mucosal lesions not visible with other traditional endoscopic and radiographic imaging modalities. The impact of use of VCE and its ability to influence patients' management is poorly characterized. The objective of the present study was to determine the impact of VCE on management of patients with known or suspected inflammatory bowel disease (IBD).
Methods: A retrospective review of a prospectively collected VCE database was performed at our Institution. Medical records were reviewed for 66 consecutive patients who underwent VCE evaluation from February 2006 to February 2008.
Results: Of the 66 patients screened, 16 (24%) had suspected or known IBD. Of these 10 (63%) were female, and the mean age was 46.3 yrs (range 25-64 yrs). All 16 patients (100%) had diarrhea; of these five (31%) were known to have IBD (four patients were known to have CD, one was known to have UC), and 11 (69%) were suspected of having IBD. Patients had symptoms for a mean duration of 5.3 yrs (range: 1-18 yrs). The findings of VCE were notable for: four patients (25%) had superficial nonspecific mucosal erosions; one (6%) had nonspecific mucosal fold irregularity; one (6%) had 3-4 nonspecific areas of scattered erythema in the small bowel, and the remaining 10 patients (63%) had no observable abnormalities identified by VCE. These particular findings were insufficient to establish any new or change any established diagnoses in our patient population.
Conclusion: In our referral population, the use of VCE did not change the management of patients with known or suspected IBD. We suggest that large, prospective, collaborative multicenter trials should be performed to better assess the cost-benefit ratio of using VCE in patients with known or suspected IBD.

P1032

HIGH-GRADE DYSPLASTIC ADENOMA-LIKE MASS LESIONS ARE NOT AN INDICATION FOR COLECTOMY IN PATIENTS WITH ULCERATIVE COLITIS: REPORT OF 10-YEARS FOLLOW-UP

W. Blonski, MD, PhD,[1] D. Kotlyar, BS,[1] E. E. Furth, MD,[2] M. Osterman, MD,[1] G. R. Lichtenstein, MD[1]. 1. Division of Gastroenterology, University of Pennsylvania, Philadelphia, PA; 2. Division of Anatomic Pathology, University of Pennsylvania, Philadelphia, PA.

Purpose: The management of polypoid dysplasia in ulcerative colitis (UC) is evolving. Currently, the presence of dysplasia in flat mucosa is regarded to be an indication for colectomy in pts with UC. The management of high grade dysplasia in polypoid lesions is not well characterized. Our previous study observed that the presence of high grade dysplasia (HGD) in (adenoma-like mass lesions) ALMs in the absence of any synchronous flat dysplasia does not mandate colectomy (Scand J Gastroenterol 2008, in press). The aim of this study was to update with 4-years of additional follow-up on this previously reported cohort of 9 pts.
Methods: Pathology and clinical databases were systematically searched for the presence of dysplastic lesions in inflammatory bowel disease (IBD) from 1997-2004. Nine previously reported pts were identified with UC who had HGD in DALMs in the absence of any synchronous flat dysplasia. Their pathology, endoscopy and clinical records were reviewed and updated from 2004-2008.
Results: Seven of 9 (77%) pts had pancolitis. There were a total of 9 ALMs with HGD (polyps in the area of active colitis) in 8 pts and 1 sporadic adenoma (outside the region of active colits) with high-grade dysplasia in 1 pt. The polyps were found in varied locations in the colon: 1(10%) in cecum, 3 (30%) in ascending colon, 1(10%) in descending colon, 3(30%) in sigmoid colon, and 2(20%) in rectum. All polyps were adenomatous. The mean duration of disease was 23.3 yrs (10-46 yrs). There were 52 surveillance colonoscopies performed in this cohort (mean 5.8 colonoscopies/patient) between 1997-2008. The pts were followed for a mean of 124.5 months (100-147 months). Three of 9 pts (33%) had colectomy. No pts in this cohort were detected to have carcinoma in surveillance biopsies and/or in their resection specimens.
Conclusion: Our follow-up data confirms and strengthens our previous findings that the presence of high grade dysplasia in ALMs does not mandate colectomy. Continued close observation is suggested in this pt cohort after complete excision of polyps is performed. Future prospective studies on large cohort of pts are required to fully validate our findings.

P1033

FACTORS PREDICTIVE OF RELAPSE IN PATIENTS WITH ULCERATIVE COLITIS (UC): A SYSTEMATIC REVIEW

W. Blonski, MD, PhD, D. Kotlyar, BS, M. Osterman, MD, F. Aberra, MD, G. R. Lichtenstein, MD. Division of Gastroenterology, University of Pennsylvania, Philadelphia, PA.

Purpose: The course of UC is characterized by periods of activity and inactivity. The aim of this study was to perform a systematic review of factors predictive of UC relapse reported in the literature.

Methods: We performed a combined Medline, EMBASE, Ovid, ISI, PubMed and Cochrane Review search. We examined full text articles, written in English, published between Jan 1960 and Dec 2008 using keywords: UC, relapse, recurrence and exacerbation. Only studies using multivariate logistic regression analysis (MLVA) in pts with UC were included in the analysis.

Results: We identified 1095 articles of which 1073 were excluded based on title and abstract. There were 22 articles included in full review, of which 11 were excluded due to lack of MLVA. There were 11 studies identified which met inclusion criteria (Table).

Conclusion: There are still not enough studies to conclusively judge which factors are responsible for greater relapse rates. Significant limitations exist because of shortcomings of the published studies. Future adequately powered, well designed studies are required to conclusively assess which factors confer higher relapse rates.

Study	Factors predictive of relapse	Results
Leo 1989	fiber-poor diet >10 prior relapses Presence of Extraintestinal Manifestations	$\chi 2 = 6.1$ p=0.513
Levenstein 2000	>2 yr stress	HR=2.8 (95%CI 1.1-7.2)
Tibble 2000	fecal calprotectin > 50 mg/L	RR=18.2 (95%CI 4.0-82.5)
Bitton 2001	↑previousrelapses in women age 20-30 yrs basal plasmacytosis on biopsy	HR=1.6 (95%CI 1.2-1.9) HR=0.4 95% CI:0.2-0.7 HR=4.5 95%CI 1.7-11.9
Kane 2003	no adherence with meds	HR=5.5 (95%CI: 2.3 - 13)
Bitton 2003	↑stressful events	HR= 1.26/per event (95% CI: 1.04-1.53)
Jowett 2004	young age ↑intake of: meat protein alcohol sulphur sulphate intake ↑disease activity during remission (simple clinical colitis activity index)	OR=0.74per 10yrs (95%CI 0.59-0.96) OR= 3.2(95%CI 3.2-7.8) OR=3.0(95%CI 1.25-7.19) OR=2.71(95%CI 1.1-6.67) OR=2.8 (95%CI 1.19-6.4) OR=2.6(95%CI 1.08-6.3) 1OR=1.5 (95%CI 0.67-3.18) 2 OR=5.3 (95%CI 2.00-14.0) 3 or 4OR=9.30 (95%CI 3.50-24.7)
Costa 2005	fecal calprotectin > 150 µg/g	HR=14.39(95%CI: 3.15-65.84)
Yamamoto 2005	rectal mucosal IL-8 ≥160 pg/mg age<30 yrs ≥ 5prior relapses	HR=4.7 (95%CI 1.2-18.9) HR=7.3 (95%CI 1.4-38.3) HR=4.3 (95%CI 1.2-16.1)
Nishio 2006	grade on magnifying colonoscopy (pit patterns in rectal mucosa)	RR= 2.06 (95%CI 1.34 -3.17)
Hoie 2007	female sex 5-ASA glucocorticosteroids smoking cessation	HR=1.2 (95% CI 1.1-1.3) HR=1.9 (95%CI 1.6-2.2) HR=5.6 (95%CI 4.5-6.9) HR=1.3 (95%CI 1.1-1.6) vs. non-smokers

P1034

EFFICACY OF INTENSIFICATION THERAPY WITH CERTOLIZUMAB PEGOL IN CROHN'S DISEASE PATIENTS INCLUDED IN A COMPASSIONATE-USE PROGRAM

I. Fernandez-Blanco, MD,[1] J. Hinojosa, MD[2]. 1. IBD Unit, Clinica Moncloa, Madrid, Spain; 2. Gastroenterology Unit, Hospital de Sagunto, Valencia, Spain.

Purpose: A compassionate-use program allows physicians to use certolizumab pegol (CZP) in patients with Crohn's disease (CD) who failed approved therapies. The aim of this study was to evaluate efficacy and tolerability of intensification therapy with CZP 200 mg eow in a subgroup of CD patients initially responding to 400-mg induction and maintenance.

Methods: Disease duration, smoking status, concomitant medication, length and doses of each anti-TNF were recorded as well as the cause of dropout or intensification. Efficacy end point was the percentage of patients achieving clinical remission (CD Activity Index [CDAI] and Harvey–Bradshaw Index [HBI]) by last assessment point.

Results: Six CD patients were included (Table). All patients had active CD when CZP was started, with inflammatory manifestations (1/6), fistulizing phenotype (2/6) and perianal disease (3/6). Previous surgeries were undergone in 4/6 patients. IFX and/or ADA were stopped due to loss of response in all cases. Two patients were receiving concomitant azathioprine and 1 was tapering steroids. Four patients had failed IFX and ADA, and 2 had failed IFX only. The number of IFX and ADA doses ranged from 4 to 6 and 1 to 24, respectively. Mean duration of CZP was 32.8 ± 15.3 weeks with a mean of 13.5 ± 8.4 weeks on CZP intensification (Table). CZP was stopped in 2 patients in clinical remission because of active enterocutaneous fistula and a nonclinically defined respiratory infection. CZP intensification therapy achieved clinical remission (CDAI <150 or HBI ≤4) in 5/6 patients.

Conclusion: CZP intensification therapy successfully achieved remission, with no net dose increase, in this particularly refractory population of CD patients for whom approved therapies had failed.

	Mean	SD	Min	Max
Age at diagnosis (y)	32.2	7.3	26.0	43.0
Disease duration (y)	9.3	6.1	1.0	18.0
# Doses				
IFX	5.5	0.9	4.0	6.0
ADA	5.8	13.0	1.0	24.0
CZP 200 mg	6.2	4.2	2.0	12.0
CZP 400 mg	6.2	4.3	2.0	13.0
Duration (weeks)				
CZP 200 mg	19.3	16.9	4.0	42.0
CZP 400 mg	13.5	8.4	5.0	26.0

Certolizumab pegol was provided free of charge by UCB, Brussels, Belgium, within the European COMPAS program

Disclosure - Dr Hinojosa - UCB, Advisory Committee Memeber

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P1035

THE ROLE OF VIDEO CAPSULE ENDOSCOPY IN PATIENTS WITH SUSPECTED SMALL BOWEL CROHN'S DISEASE DESPITE A NORMAL ILEOSCOPY

G. D. Liss, MD, H. Charbel, MD, K. Bull-Henry, MD, A. Charabaty, MD. Gastroenterology, Georgetown University Hospital, Washington, DC.

Purpose: To evaluate the benefit of performing video capsule endoscopy (VCE) in patients with suspected Crohn's Disease of the small bowel (SB-CD) despite a normal exam of the ileum on colonoscopy.

Methods: We prospectively recorded the findings of patients who have undergone both a colonoscopy (CLN) with exam of the terminal ileum and a VCE for the evaluation of suspected SB-CD at our institution between January 2006 and March 2008. Positive findings on ileoscopy and VCE suggestive of CD included the presence of ulcers, erosions, inflammatory polyps, and inflammatory strictures. Isolated erythema was considered a normal finding in this study. NSAIDs use was recorded.

Results: A total of 47 patients with suspected SB-CD underwent CLN with ileoscopy and VCE. 30 patients were female and 17 patients were male, with a mean age of 38 years. Patient's symptoms included abdominal pain, blood in the stool, and diarrhea. Ileoscopy was normal in 35 patients (74.5%) and abnormal in 12 patients (25.5%). VCE was normal in 34 patients (72.3%) and abnormal in 13 patients (27.7%). VCE was abnormal in 5 of the 35 patients with normal ileoscopy (14.3%). All 5 patients in this subset had ulcers and/or erosions in the proximal and mid-small bowel. None of these patients had reported NSAID use. The VCE was normal in 4 of the 12 patients with ileal ulcers on CLN, but it detected proximal and mid-SB ulcers in the remaining 8 patients.

Conclusion: VCE is a valuable tool for the diagnosis of SB-CD and the evaluation of the extent of SB involvement with CD in a subset of patients whose diagnosis would have been missed if it was solely based on a normal exam of the ileum on colonoscopy.

P1036

PET/CT IDENTIFIES SUBCLINICAL INFLAMMATION IN PATIENTS WITH QUIESCENT ULCERATIVE COLITIS

D. T. Rubin, MD,[1] B. L. Surma, RN,[1] K. M. Schnell, AB,[1] S. Gavzy,[1] A. P. Bunnag, AB,[1] D. Huo, MD, PhD,[2] D. E. Appelbaum, MD[3]. 1. Medicine, University of Chicago, Chicago, IL; 2. Health Studies, University of Chicago, Chicago, IL; 3. Radiology, University of Chicago, Chicago, IL.

Purpose: Positron emission tomography (PET) using 18fluorodeoxyglucose (FDG) is a non-invasive, functional imaging modality most often used to assess cancer. Prior research in patients with active inflammatory bowel disease has shown that PET/CT correlated with active bowel inflammation. It remains unknown whether there is a PET signal in clinically quiescent disease. The aim of this study was to perform PET/CT on patients with quiescent ulcerative colitis (UC) in order to understand the limits of this technology for the assessment of inflammatory activity.

Methods: We identified patients diagnosed with UC who were in remission, strictly defined as those who had recent endoscopy showing both endoscopic and histologic quiescence as well as a Mayo Clinic UC Disease Activity Index score of 0 and at least 6 month recall of no flares. PET/CT of abdomen and pelvis was performed in standard fashion, using 10mCi of 18FDG (IV) with a 60 min uptake delay. Uptake in each of four colon segments (recto-sigmoid(r-s), descending, transverse and ascending), as well as the distal small bowel were scored on a 3 point scale (0=no uptake or uptake ≤liver; 1=uptake somewhat >liver, 2=uptake much greater than liver). Binary scoring of any or no inflammation as well as the score for each segment were recorded. Extra-intestinal findings were noted.

Results: Ten patients participated: median age 60yo, range 36-73yo; 6 male. Patients had pancolitis (n=9) or extensive colitis (n=1) and median disease duration was 32y (range 9-51y). PET scan was performed mean 37 d after the endoscopy (range 12-84 d). Six patients had no increased uptake on PET; 3 patients had increased PET signal in the r-s region (scores of 1, 2 and 1); 1 patient with a r-s score of 1 also had an ascending colon score of 1; and 1 patient had an ileal signal of 1 and no colonic signal. The patient with ileal uptake also had a focal marked PET signal in the liver and later was found to have focal low grade dysplasia and underwent colectomy and liver biopsy which revealed Crohn's ileocolitis with high grade dysplasia and a hepatic adenoma.

Conclusion: In this study of UC patients in stable endoscopic, histologic and symptomatic remission, 33% had a PET signal in the rectosigmoid colon, suggesting subclinical but active in-

flammation in that region. In addition, PET accurately identified one patient thought to have UC who had Crohn's ileocolitis, but did not identify colonic high grade dysplasia in this same patient. These findings suggest limited sensitivity of standard assessment including mucosal biopsies to determine disease quiescence, the lack of utility of PET for dysplasia in colitis, and the potential for PET to clarify disease diagnosis in some patients with indeterminate colitis.
Disclosure - David T. Rubin - Consultant, Speaker's Bureau, Grant/Research Support: Procter and Gamble Pharmaceuticals Bonnie Surma - Not Applicable Kerry Schnell - Not Applicable Samuel Gavzy - Not Applicable Alana P. Bunnag - Not Applicable Dezheng Huo - Not Applicable Daniel Appelbaum - Not Applicable
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P1037

ILEAL CALPROTECTIN LEVELS PREDICT COLON ENDOSCOPIC ACTIVITY IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE

S. V. Sundararajan, MD,[1] N. Schamberg, MD,[2] S. A. Gonzalez, MD, MPH,[3] E. Scherl, MD,[2] B. P. Bosworth, MD[2]. 1. Department of Medicine, Weill Cornell Medical Center/New York Presbyterian Hospital, New York, NY; 2. Division of Gastroenterology and Hepatology, Weill Cornell Medical Center/New York Presbyterian Hospital, New York, NY; 3. Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Stanford, CA.

Purpose: Calprotectin is a calcium-binding protein found in the cytosol of neutrophils; it is elevated in fecal specimens of patients with colonic inflammation such as those with Crohn's disease(CD) or Ulcerative Colitis(UC). Fecal calprotectin correlates with endoscopic severity and histologic inflammation in the colon. The goal of this study was to determine if ileal calprotectin more accurately predicts endoscopic disease activity in patients with ileal involvement of their IBD.

Methods: Subjects diagnosed with IBD undergoing colonoscopy were enrolled. Samples for calprotectin were aspirated from the terminal ileum and colon. Levels were analyzed using Genova Diagnostics ELISA. Biopsies were taken from the terminal ileum and colon. Clinical disease activity was measured via Harvey Bradshaw Index(CD) and Mayo score(UC); endoscopic activity index(EAI) was measured via Mayo score. This study was approved by the Weill Cornell Medical College IRB; all patients gave informed consent

Results: 15 patients were included in this study: 13 had CD, 2 had UC, and 1 had indeterminate colitis. Median age was 34, disease duration 5.5 years, and 60% of patients were male. Ileitis was present on biopsy in 27% of patients. Ileal endoscopic scores were normal in 53% of patients, mild in 33%, and moderate/severe in 13%. Colon endoscopic scores were normal in 47%, mild in 27%, and moderate/severe in 27%. Ileal and colonic calprotectin levels strongly correlated with colon EAI(r= 0.76,p=0.001 and r=0.74,p=0.002, respectively). Using linear regression analysis, ileal calprotectin had a significant association with increasing colon EAI($p = 0.05$) that appeared to be independent of age, gender, and disease duration($p= 0.07$). Ileal and colonic calprotectin levels >50µg/mL were associated with abnormal colonic endoscopic activity(p=0.01 and p=0.003, respectively). Receiver operating characteristic(ROC) analysis demonstrated that levels >50µg/mL were predictive of abnormal colon EAI for ileal calprotectin(sensitivity 63%, specificity 100%, ROC AUC 0.81) and colonic calprotectin(sensitivity 100%, specificity 71%, ROC AUC 0.86). No associations were observed between calprotectin levels and ileal endoscopic activity or symptom scores.

Conclusion: Ileal calprotectin did not predict ileal endoscopic disease. However both ileal and colonic calprotectin levels were predictive of abnormal colonic endoscopic disease activity. This may reflect that terminal ileal aspirates could be colonic in origin and thus be reflective of a backwash of colonic contents. Further studies investigating the role of ileal calprotectin in patients with more extensive ileal disease are warranted.

Patient Characteristics

NUMBER OF PATIENTS ENROLLED	15
AGE(Range)	34(19-57)
GENDER Female Male	 6(40%) 9(60%)
DIAGNOSIS Ulcerative Colitis Crohn's Disease	 3 (20%) 12 (80%)
DURATION OF DISEASE(years)	5.5(0.2-35)
DISTRIBUTION OF DISEASE Ileum Ileum & Colon Colon	 7 (47%) 5 (33%) 3 (20%)
PRIOR SURGICAL RESECTION	4(27%)
THERAPY Biologics Immunomodulators Mesalamine	 6 (40%) 3 (20%) 7 (47%)

Endoscopic Findings

ENDOSCOPIC ACTIVITY INDEX	ILEUM	COLON
Normal	8 (53%)	7 (47%)
Mild	5 (33%)	4 (27%)
Moderate/Severe	2 (13%)	4 (27%)

P1038

ABROGATION OF EXPERIMENTAL COLITIS BY TURMERIC CORRELATES WITH REDUCTION IN NF-KB NUCLEAR TRANSLOCATION AND COX-2 EXPRESSION

T. Ali, MD, S. Ramalingam, PhD, D. Subramaniam, PhD, R. , PhD, C. , MD, S. Anant, PhD. Department of Medicine-Digestive Disease and Nutrition, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

Purpose: Inflammatory bowel disease (IBD) is characterized by chronic inflammation of the bowel. The available treatment has varying efficacy and are expensive. Consequently, there is a need for alternative agents. Turmeric (Curcuma longa) is a widely used spice with anti-inflammatory properties. The active principle, called curcumin or diferuloylmethane, has been shown to exhibit numerous activities. It regulates the expression of inflammatory enzymes, cytokines, adhesion molecules and cell survival proteins. Curucmin is a potent inhibitor of the transcription factor Nuclear Factor kB (NF-kB), which regulates the expression of genes that contribute to tumorigenesis, inflammation, cell survival, cell proliferation, invasion and angiogenesis. The aim of this study was to determine whether treatment with turmeric ameliorates colonic inflammation histologically and at molecular level in a mouse model of IBD.

Methods: SJL/J strain mice with trinitrobenzene sulfonic acid (TNBS) induced colitis were treated for 7 days with 5% turmeric. Body weight and colon length were noted. Histologic analysis was performed following hematoxylin and eosin staining. RT- PCR, western blot and immunohistochemistry were performed to detect COX-2, MIP-2, IL-1 beta and NF-kB mRNA and proteins.

Results: Mice administered TNBS showed severe signs of persistent inflammation, which was reduced when fed a diet containing turmeric. Body weight was markedly decreased in TNBS treated mice by 21.6%, but only by 9.3% in mice also fed turmeric. TNBS treatment also significantly reduced colon length to 24% when compared to control group but was 97% of controls in mice also treated with turmeric. The histological score was significantly decreased in turmeric (2.1 +/- 0.14) treated mice when compared to TNBS alone (3.2 +/- 0.2). Weak expression of MIP-2, IL-1 beta and COX-2 was detected in normal colon. Their expression was increased several folds after TNBS exposure while turmeric decreased its expression and brought them back to near normal levels. Caspase-3 levels were also higher in TNBS mice but reduced in turmeric treated mice. Nuclear translocation of NF-kB was significantly higher in TNBS treated colon tissue when compared to controls or turmeric treated groups. Similarly COX-2 expression was significantly higher in TNBS group, while the turmeric treatment brought it back to near normal

Conclusion: Administration of turmeric significantly attenuates wasting disease and colonic inflammation induced by TNBS, through inhibition of apoptosis and suppressing the activation of NF-kB. Our findings suggest therapeutic value of turmeric in treatment of inflammatory bowel disease. Further clinical studies are suggested to explore this beneficial effect

P1039

Poster Withdrawn

P1040

DYSLIPIDEMIA AND LIPOPROTEIN PROFILES IN INFLAMMATORY BOWEL DISEASE (IBD)

R. R. Sappati Biyyani, MD,[1] B. S. Putka, MD,[2] K. D. Mullen, MD[2]. 1. Hospital Medicine, Case Western Reserve University @ MetroHealth Medical Center, Cleveland, OH; 2. Gastroenterology, Case Western Reserve University@ MetroHealth Medical Center, Cleveland, OH.

Purpose: Dyslipidemia (elevated total cholesterol, elevated low-density lipoproteins (LDL), elevated triglycerides (TG), decreased high-density lipoproteins (HDL) is a major risk factor for developing coronary artery disease (CAD). A characteristic lipoprotein profile with increased TG's and decreased HDL levels is commonly seen with systemic lupus erythematosis(SLE)and the levels correspond to the SLE disease activity. An increase in inflammatory cytokines (TNF-α, interleukin-1 and interferon-γ) decreases lipoprotein lipase (LPL) enzyme activity. As in SLE, high levels of circulating inflammatory cytokines are seen in IBD. However, the lipoprotein profile in IBD has not been studied. The aim of this study is to describe the prevalence of dyslipidemia and characterize the lipoprotein profiles in IBD patient population.
Methods: Medical records of 784 patients diagnosed with IBD at an academic medical center between 2000-2007 were retrospectively reviewed for lipoprotein profiles, serum albumin levels, risk factors modifying LDL treatment levels, frequency of different combinations of lipoprotein values in abnormal range and anti-hyperlipidemic medication use. The lipoprotein values and risk factors are based on the Third National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) report. Only patients with documented IBD diagnosis and lipoprotein profiles are included in the study. Values are expressed as percentages.
Results: 501 patients (186 males and 315 females) diagnosed with IBD (229 Crohn's disease (CD) and 272 ulcerative colitis (UC) qualified for the study. 283 patients without complete lipoprotein profile are excluded. Patients are grouped based on the gender and IBD disease type (CD v/s UC). Albumin levels are not significantly different. Lipoprotein profiles of IBD groups are shown in the table 1. The percentage of dyslipidemia in IBD is about 19-48%. Interestingly 48% of male CD and male UC patients have HDL values below 40 mg/dL. Risk factors modifying LDL levels are as shown in table 2. Smoking rate is significantly higher in the CD group. Anti-hyperlipidemia medication use is about 12-23%. Patients qualified per NCEP ATP-3 but not on treatment is about 15-27%. The frequency of different combinations of abnormal lipoprotein values are in table 3. All four lipoprotein values in abnormal range is more commonly seen in female IBD group.
Conclusion: To date, this is the only study describing dyslipidemia, characterizing lipoprotein profiles and their treatment trends in IBD patient population. More aggressive approach in profiling and treating dyslipidemia using NCEP-ATP III guidelines in IBD seems warranted.

Table 1: Lipoprotein profiles of IBD patients (in percentages).

	Female CD group	Female UC group	Male CD group	Male UC group
Total Cholesterol (>200 mg/dL) (%)	25	36	27	31
LDL (100-130 mg/dL) (%)	37	32	40	39
LDL (>130 mg/dL) (%)	24	34	31	32
HDL (<40 mg/dL) (%)	26	19	48	48
Triglycerides (>150 mg/dL) (%)	24	27	22	31
Anti-hyperlipidemia medication use (%)	19	21	12	23
Qualified but not on Anti-Hyperlipidemia Treatment (%)	27	15	17	17

Table 2: Risk factors modifying LDL treatment goals (%). Table 3: Frequency of different combinations of abnormal lipoprotein values (%)

	Female CD group	Female UC group	Male CD group	Male UC group
Mean Albumin (mg/dL)	3.87	3.87	3.97	4.03
Diabetes (%)	7.9	11.3	7.7	9.5
Hypertension (%)	41	42.9	28.6	26.3
CAD 9%)	10.8	11.9	6.6	12.6
Active Smokers (%)	37.4	14.7	33	16.8
One Lipoprotein value in abnormal range (%)	28	22	31	31
Two Lipoprotein values in abnormal range (%)	21	26	21	27
Three Lipoprotein values in abnormal range (%)	10	19	7	11
Four Lipoprotein values in abnormal range (%)	22	23	4	5

Combined tables 2 & 3.
Table 2: Risk factors modifying LDL treatment goals (in percentages)

Table 3: Frequency of different combinations of abnormal lipoprotein values(Total cholesterol >200 mg/dL, LDL >130 mg/dL, HDL <40 mg/dL and triglycerides >150 mg/dL in percentages).

P1041

A DYNAMIC MODEL OF COLONIC CONCENTRATIONS OF DELAYED-RELEASE 5-AMINOSALICYLIC ACID (ASACOL)

M. P. Thorpe, BS,[1] K. S. Putt, BS,[2] E. D. Ehrenpreis, MD,[3] B. Hannon, PhD[4]. 1. Division of Nutritional Sciences, University of Illinois, Urbana, IL; 2. Biochemistry, University of Illinois, Urbana, IL; 3. Medicine, Enanston/Northwestern Health Care, Evanston, IL; 4. Geography/NCSA, University of Illinois, Urbana, IL.

Purpose: 5-aminosalicylic acid (5-ASA) is used for induction and maintenance therapy in patients with ulcerative colitis. Asacol is 5-ASA coated in Eudragit-S, a pH sensitive capsule, Designed for release in the terminal ileum and colon. Asacol is administered in three daily doses as the standard dosing regimen. Administration of Asacol as a single daily may improve patient adherence. Pharmacokinetic data for orally administered 5-ASA is generally limited to urine, fecal and blood concentrations of the drug. These are not as well correlated to clinical efficacy as actual levels of the drug in the colon. This study is a computer simulation of the pharmacokinetic distributions of 5-ASA in the colon under one-a-day and three-a-day dosing regimens of Asacol. We predict that one-a-day dosing will not substantially alter 5-ASA concentrations or time course in the colon.
Methods: Using published data on gastrointestinal motility, 5-ASA absorption and clearance of colonic contents with defecation, the levels of 5-ASA in the four major segments of the colon were predicted after Asacol administration by a dynamic model using STELLA software. 5-ASA levels were predicted in the healthy colon as well as during variations in motility and the frequency of defecation, designed to simulate active ulcerative colitis.
Results: Model predictions indicated no substantial differences in total or regional 5-ASA levels under the various simulated conditions between 800 mg doses of Asacol administered t.i.d compared with one 2400 mg dose administered q.a.m. Steady state concentrations were achieved in 96 hours for both dosing regimens. In the healthy colon, each dosing regimen produced a maximum colonic retention of ~5.1g and average of ~4.1g, with 39% in the ascending colon, 33% in the transverse colon, and 14% each in the descending and sigmoid colon. Simulated increases in colon motility or the defecation rate exaggerated this uneven distribution, increasing the portion of drug found in the proximal colon. Reductions in normal motility conserved drug levels throughout the colon, whereas increasing the defecation rate up to 12 daily produced dramatic declines in all regions, with a maximum total colonic retention of ~2.3 g and an average colonic retention of ~1.2 g.
Conclusion: These data suggest that Asacol may be administered as a single dose with little change in efficacy. Results also support experimental and clinical observations that increased 5-ASA dose or alternative route of administration may be necessary to achieve adequate 5-ASA concentrations in the distal colon during acute exacerbations of ulcerative colitis.

P1042

COMMON PRESENTING PATTERNS IN PATIENTS WITH UPPER GASTROINESTINAL CROHN'S DISEASE

R. D. Wu, MD,[1] L. Baidoo, MD[2]. 1. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA; 2. Gastroenterology, University of Pittsburgh Medical Center, Pittsburgh, PA.

Purpose: Crohn's disease (CD) is a debilitating disease that can affect the entire gastrointestinal tract. While most patients with CD present with symptoms involving the small bowel (particularly, distal ileum), colon, and perianal area, symptomatic upper gastrointestinal (UGI) involvement is uncommon and is currently estimated at 4% of Crohn's cases. In patients with active CD, new UGI symptoms are sometimes misdiagnosed as GERD or ulcer disease until the patient is observed to be refractory to common treatment, thus leading to delayed recognition and possibly increased morbidity. Specific diagnostic guidelines for UGI CD have not been established. A retrospective chart review was conducted to identify presenting characteristics of patients who were eventually found to have UGI CD. Awareness of common presentations of patients with UGI CD may lead to earlier diagnosis and treatment, thus improving patient outcome and avoiding complications.
Methods: 33 patients with evidence of CD involving the UGI tract (mouth, esophagus, stomach, duodenum) were identified from University of Pittsburgh Medical Center records during a review period from October 1992 until August 2007. For each patient, usual demographics and initial presenting symptoms of CD, and the areas of Crohn's involvement were assessed. IRB approval was obtained.
Results: The average chart review period was 66.0 ± 42.7 months. All patients were Caucasian and 15 (45.5%) were male. Evidence of UGI involvement of CD was confirmed by traditional methods of capsule endoscopy, upper endoscopy with biopsy, or imaging studies. Mean age of initial presentation with CD was 22.5 ± 11.3 years, and 20 patients (60.6%) had upper GI manifestations of Crohn's disease at initial presentation. 10 (30.3%) patients had a positive family history for IBD. The most common initial complaint was abdominal cramping (25 patients, 75.8%) followed by increased frequency of bowel movements (18 patients, 54.5%) and nausea/vomiting (13 patients, 39.4%). Weight loss was reported in 10 (30.3%) patients. Most patients with esophageal involvement reported reflux or odynophagia. The most common areas of UGI involvement in these patients were the duodenum (24 patients, 72.7%) and the stomach (20 patients, 60.6%).
Conclusion: Symptoms of abdominal cramping, nausea, heartburn, or odynophagia in patients with known or suspected CD should trigger workup to evaluate UGI CD. Patients with persistent epigastric pain or heartburn despite treatment with proton pump inhibitors should also be evaluated for CD. Early recognition and proper treatment of UGI CD can ensure adequate surveillance and potentially reduce the morbidity of the disease.

Common symptoms and areas of involvement in patients diagnosed with upper gastrointestinal CD

Area involved	Patients (N=33)	Symptoms	Patients (N=33)
Mouth	4	Abdominal cramping	25
Esophagus	4	Diarrhea/frequency	18
Stomach	20	Nausea/vomiting	13
Duodenum	24	Weight loss	10
Jejunum	10	Bleeding	7

P1043

EARLY TRANSABDOMINAL ULTRASOUND EVALUATION CAN PREDICT CLINICAL RESPONSE TO THERAPY IN PATIENTS WITH ACTIVE ULCERATIVE COLITIS

A. Yoshida, MD, F. Ueno, MD, K. Kobayashi, MD, H. Yoshimatsu, ME, K. Takatuka, MD, S. Iwabuchi, MD. Center for Digestive and Liver Disease, Ofuna Chuo Hospital, Kamakura, Japan.

Purpose: CONTEXT: Lack of objective measures to evaluate response to initial treatment of active ulcerative colitis frequently causes delay in modification of treatment. Transabdominal ultrasound (TAUS) is a convenient noninvasive procedure and measured bowel wall thickness is known to correlate with degree of inflammation. However, whether findings on TAUS in early phase of treatment can predict outcome of active ulcerative colitis has not been determined. QUESTION: Can TAUS measurement of bowel wall thickness predict outcome of patients with active ulcerative colitis?

Methods: Design: Prospective analysis of a cohort followed for 8 weeks. Setting: Primary and referral center of a hospital in urban area in Japan. Patients: Twelve patients with active ulcerative colitis who received usual pharmacological therapy as well as cytapheresis. Mean UC-DAI score was 9.8 before enrollment. Prognostic factor: Total colonic wall thickness and submucosal thickness measured by TAUS performed at 2 to 3 weeks after initiation of the treatment. Outcomes: UC-DAI score measured at 8 weeks after initiation of treatment. Score less than 4 defined as response to treatment.

Results: MAIN RESULTS: Total colonic wall thickness adjusted by body surface areas (1.8 vs. 2.9 mm) and submucosal thickness (1.3 vs. 2.2 mm) were significantly lower in a group of 7 responders, compared to a group of 5 non-responders (P<0.05). LIMITATIONS: The trial size was small, and blinded evaluation was not done.

Conclusion: Early application of TAUS may predict clinical response later in the course of therapy in patients with active ulcerative colitis.

P1044

CERTOLIZUMAB PEGOL THERAPY IN A PATIENT WITH CROHN'S DISEASE WITH PREVIOUS LOSS OF RESPONSE TO 2 ANTI-TNF AGENTS

E. Doménech, MD,[1] J. Cabriada, MD,[2] A. Bernal, MD,[2] C. Cara, MD,[3] M. Gassull, MD[1]. 1. Gastroenterology Department, Hospital German Trías I Pujol, Badalona, Spain; 2. Servicio de Digestivo, Hospital de Galdakao, Vizcaya, Spain; 3. Department of Medicine, UCB Pharma, Madrid, Spain.

Purpose: The purpose of the certolizumab pegol (CZP) compassionate-use program, COMPAS, is to allow physicians to give CZP to CD patients who failed other approved therapies.

Methods: *Patient*: Female (22 years) diagnosed with extensive CD aged 7 years, localised at the proximal ileum and colon. She suffered symptomatic stenosis and chronic inflammatory activity despite treatment with azathioprine (AZA) 2.5 mg/kg/d and methotrexate 25 mg/week. She had undergone 5 surgical procedures: stricturoplasty, jejuno-ileal resection, left hemicolectomy, and 2 ileocaecal resections (last Mar 2004). *Initial biologic therapy*: In 2000, she responded (CD Activity Index [CDAI]: 80) to 3 induction doses (5 mg/kg) of infliximab (IFX) with concomitant AZA. Administration of IFX 6 months later caused a mild infusion reaction but administration was completed. Relapse occurred in Feb 2003, despite AZA and previous surgeries, and required IFX that resulted in an infusion reaction and drug withdrawal. In Mar 2005, while on immunosuppressants, clinical and endoscopic recurrence occurred. Remission was achieved using AZA (2.5 mg/kg/d) and adalimumab (ADA; 160/80 mg induction then 40 mg biweekly) but relapse occurred in Oct 2005. Systemic corticosteroids (1 mg/kg/d) were given and ADA dose increased to 40 mg weekly. Clinical remission was maintained for 16 months, during which colonoscopy showed congestion and erythema without ulcerations in 2 segments (2-3 cm length) located at the rectosigmoidal and ileocolonic anastomosis. Barium study and capsule endoscopy revealed no small bowel alterations. In Feb 2007, the patient relapsed and a scintigram with HMPAO-Tc 99m-labelled leukocytes showed uptake in the ileocolonic (with potential fistula) and left colon areas. Colonoscopy revealed local activity in anastomotic areas, including ulcerations. Enteral supplements and CZP therapy were initiated.

Results: CZP was administered (400 mg induction Weeks 0, 2 and 4, then 400 mg/monthly from Week 8) and clinical remission achieved from Week 4 (Table). Enteral nutrition was withdrawn after 4 weeks and the patient has no abdominal pain or diarrhoea.

Conclusion: Sequential secondary failure to 2 anti-TNF drugs does not preclude use of a third. CZP effectively induced and maintained remission in a CD patient with previous loss of response to 2 other biological agents.

	Week									
	0	**4**	**8**	**12**	**16**	**20**	**24**	**26**	**30**	**34**
CDAI	295	136	103	85	100	107	84	60	80	70
Calprotectin mg/kg	880	500	310	310	894	402	2160		1040	
CRP mg/L	3.2	1.5	2.5			8.4	4.1		5.4	6.8
ESR mm/h	8	5	13	13		14	13	14	14	17

Disclosure - Dr Doménech - Advisory Committee: UCB; Dr Cara - Employee: UCB.

P1045

HYPERHOMOCYSTEINEMIA AND THE RISK OF THROMBOEMBOLISM AND ATHEROSCLEROSIS IN IBD

M. Arif, MD, D. G. Binion, MD. Medicine, Medical College of Wisconsin, Milwaukee, WI.

Purpose: Patients with inflammatory bowel disease (IBD) have an increased risk of thromboembolism (TE). Hyperhomocysteinemia has been shown to be an independent, modifiable risk factor for thrombosis and atherosclerosis. We determined if there is an association between elevated homocysteine levels and vascular complications in IBD patients.

Methods: This was a retrospective observational study of IBD patients (n= 951) followed in a tertiary center over a 5-year period. Demographic information, type of IBD (Crohn's Disease (CD) or Ulcerative Colitis (UC), number and distribution of TE events were recorded. TE events included arterial and venous thromboses, pulmonary emboli (PE) and ischemic cerebrovascular accidents (CVA) following radiographic confirmation. Atherosclerotic disease included coronary and peripheral vascular disease. Hyperhomocysteinemia was defined as a total homocysteine (tHcy) concentration of >14 micromoles per liter (μmol/L). IBD patients with no documented TE or atherosclerosis served as the control group for the case-control study.

Results: TE events were identified in 92 out of 951 (9.7%) IBD patients, including, 79 patients with arterial or venous thrombi and 13 patients with ischemic CVAs. In the control group, hyperhomocysteinemia was identified in 7 out of 60 (11.7%) patients. Sixty-one patients with TE had tHcy levels measured as part of the hypercoagulability evaluation, and out of these only 4 patients (6.6%) had elevated tHcy concentrations (p=0.33 vs control group). Two patients with arterial or venous thrombi and 2 patients with cerebrovascular disease demonstrated hyperhomocysteinemia. Coronary or peripheral vascular disease was identified in 33 out of 951 (3.5%) IBD patients. Twenty-three patients had measured homocysteine levels, and out of these 8 (34.8%) had elevated tHcy levels (p=0.02 vs control group). Mean tHcy concentration in the control group was 9.91 ± 0.53 μmol/L which was similar to the mean tHcy concentration (8.74 ± 0.35 μmol/L) in the TE group (p=0.09). However, IBD patients with atherosclerotic disease had a significantly higher mean tHcy concentration (12.69 ± 1.11 μmol/L) compared to IBD controls (p=0.004).

Conclusion: In our study, there was no correlation between hyperhomocysteinemia and risk of thromboembolism in our cohort of IBD patients. However, one third of IBD patients with atherosclerotic disease had elevated tHcy concentrations. Hyperhomocysteinemia did not appear to play a major role in TE complications in IBD. Prophylactic use of folic acid and cobalamin supplements may be warranted in IBD patients at risk for atherosclerotic disease.

P1046

LONG-TERM FOLLOW-UP OF THE USE OF RIFAXIMIN IN MAINTAINING CLINICAL REMISSION IN MODERATE AND SEVERE CROHN'S DISEASE

B. P. Bosworth, MD,[1] F. I. Scott, MD,[2] V. E. Jacob, MD,[1] E. Scherl, MD[1]. 1. Roberts IBD Center, Gastroenterology and Hepatology, Weill Medical College of Cornell University, New York, NY; 2. Medicine, Weill Medical College of Cornell University, New York, NY.

Purpose: Rifaximin is a non-absorbable antibiotic that has been associated with improvement in Crohn's disease (CD). Most of the trials to date have had only short term follow-up (4-24 weeks). The purpose of our study was to evaluate the use of rifaximin as long-term maintenance therapy in patients with active CD.

Methods: A retrospective chart review was performed on all CD patients at the Roberts IBD Center who had been on rifaximin for >6 months (180 days). In order for the patient to be included in the analysis, there needed to be complete documentation of the duration and extent of disease as well as the severity of disease –prospectively recorded Harvey Bradshaw Index (HBI). Patients on concurrent antibiotics at any point in their rifaximin therapy were excluded. The primary endpoint was the efficacy of rifaximin in maintaining remission in active CD. Secondary end-points include efficacy at 1 year, mean duration of rifaximin therapy and overall median reduction in HBI.

Results: We identified 16 patients on rifaximin for >6 months. The patients had a median age of 49.7 years (range 23-72), were 44% male and had CD for a median of 7.5 years (range 2-40). The location of disease was evenly distributed between ileo-colic disease, strictly colonic disease and strictly ileal disease. There were 2 cases of pouchitis. The median daily dose of rifaximin was 800 mg. The median pre-rifaximin HBI was 7.5 (range 2-21). The median score post-rifaximin was 2.0 (range 1-27, p<0.01), with 56% of patients in remission (HBI ≤3). At the end of treatment, the median score was 2.0 (p<0.01). The median duration of rifaximin in this group of patients on therapy for >6 months was 84 weeks (range 36-170). Concurrent medications included immunomodulators (9 patients) and anti-TNF-α agents (3 patients). A subset of 11 patients who were maintained on rifaximin for greater than 1 year demonstrated remission in 55% of patients, with a median HBI change from 6.0 (range 2-21) to 2.0 (range 2-8) (p<.01). At the end of treatment in the >1 year cohort, the median HBI was 3.0 (p<.01). The mean duration of therapy was 103 weeks (range 52-170). Concurrent medications included immunomodulators (5 patients) and anti-TNF-α agents (2 patients). No patients in our study experienced adverse events related to rifaximin.

Conclusion: This small retrospective study shows that rifaximin is both a safe and effective adjunct in inducing and maintaining remission in CD. While we excluded other antibiotic exposure, over half of the patients were on concomitant biologic or immunomodulator therapy. Larger prospective studies are warranted to evaluate the role of long-term rifaximin use for induction and maintenance of remission in IBD, and its potential steroid-sparing effect.

Disclosure - Dr. Scherl - Consultant: Salix Pharmaceuticals, Advisory Board Dr. Bosworth - Consultant: Salix Pharmaceuticals, Adivsory Board

P1047

A NOVEL MTOR INHIBITOR IS EFFICACIOUS IN A MURINE MODEL OF COLITIS

N. M. Dagia, PhD,[1] M. R. Bhonde, PhD,[1] R. D. Gupte, PhD,[1] R. A. Vishwakarma, PhD,[2] S. Kumar, PhD,[2] S. Sharma, PhD[1]. 1. Pharmacology, Piramal Life Sciences Limited, Mumbai, India; 2. Medicinal Chemistry, Piramal Life Sciences Limited, Mumbai, India.

Purpose: Ulcerative colitis is an autoimmune-inflammatory disease characterized by increased proliferation of colonic epithelial cells, dysregulation of signal transduction pathways, elevated mucosal T-cell activation, increased production of pro-inflammatory cytokines (e.g., TNF-α, IFN-γ), and enhanced leukocyte infiltration into colonic interstitium. Several compounds that possess anti-proliferative activities (e.g., rapamycin and its analog everolimus; mammalian target of rapamycin (mTOR) inhibitors) and/or inhibit IFN-γ production (NCX-1015, a nitric oxide derivative of prednisolone) exhibit a therapeutic effect in murine models of colitis. In this study, we report that a novel aminopyridine based molecule (P2281) is a mTOR inhibitor and is efficacious in a murine model [the dextran sulfate sodium (DSS) model] of human colitis.
Methods: Cell-based ELISAs, Western blot analysis and DSS-model of colitis were employed.
Results: In vitro studies using western blot analysis and cell-based ELISA assays each showed that P2281 inhibits mTOR activity (69% inhibition of mTOR phosphorylation at 10 μM in ELISA assays). In vitro and in vivo assays of pro-inflammatory cytokine production revealed that P2281 diminishes induced IFN-γ synthesis/release (IC50: ~20 μM) but not TNF-α synthesis/release (IC50: >100 μM). In the disease model of colitis (i) macroscopic colon observations revealed that P2281, administered intraperitoneally, significantly inhibited DSS-induced weight loss (5.70 +/- 2.4 % for P2281-treated mice vs. 17.75 +/- 3.07% for control mice), improved rectal bleeding index (0.42 +/- 0.08 for P2281-treated mice vs. 0.67 +/- 0.17for control mice), decreased disease activity index (3.92 +/- 0.8 for P2281-treated mice vs. 6.83 +/- 0.76 for control mice) and reversed DSS-induced shortening of the colon (colon lengths: 11.15 +/- 0.3, 6.85 +/- 0.39, and 7.88 +/- 0.3 cms for naïve, control and P2281-treated mice, respectively); (ii) histological analyses of colonic tissues revealed that P2281 attenuated DSS-induced edema, prominently diminished the leukocyte infiltration in the colonic mucosa and resulted in protection against DSS-induced crypt damage.
Conclusion: These results provide direct evidence that P2281, a novel mTOR inhibitor, suppresses DSS-induced colitis by inhibiting synthesis/release of pro-inflammatory mediators (e.g, IFN-γ) and leukocyte infiltration, and is a potentially attractive therapeutic for colitis.
Disclosure - All authors are employees of PLSL. P2281 was synthesized by PLSL.

P1048

NPS31807, A HERBAL EXTRACT, SUPPRESSES DSS-INDUCED MURINE COLITIS

N. M. Dagia, PhD, R. D. Gupte, PhD, S. Dadarkar, PhD, A. A. Tannu, M Pharm, M. G. Jadhav, M Pharm, S. Sharma, PhD. Pharmacology, Piramal Life Sciences Limited, Mumbai, India.

Purpose: Ulcerative colitis is an autoimmune-inflammatory disease characterized by increased production of pro-inflammatory cytokines (e.g. TNF-α, IL-1β, IL-6) in colonic epithelial milieu, plus enhanced leukocyte infiltration into colonic interstitium. NPS31807, a herbal extract, markedly decreases in vitro and in vivo LPS-induced pro-inflammatory cytokine (TNF-α) release and TNF-α-induced endothelial cell adhesion molecule (ECAM) expression and the resultant leukocyte adhesion. In this study, we probed the hypothesis that NPS31807 is efficacious in a pro-inflammatory cytokine-associated murine model [the dextran sulfate sodium (DSS) model] of human colitis.
Methods: NPS31807 was administered orally coincident with or after DSS treatment was initiated.
Results: Macroscopic observations revealed that NPS31807 attenuated DSS-induced weight loss (9.70 +/- 2.6% for NPS31807-treated mice vs. 17.75 +/- 3.07% for control mice) and rectal bleeding index (0.42 +/- 0.08 for NPS31807-treated mice vs. 0.67 +/- 0.17 for control mice), improved stool consistency index (1.00 +/- 0.4 for NPS31807-treated mice vs. 1.67 +/- 0.33 for control mice), decreased disease activity index (3.92 +/- 0.9 for NPS31807-treated mice vs. 6.83 +/- 0.76 for control mice) and inhibited DSS-induced shortening of the colon (colon lengths: 11.15 +/- 0.3, 6.85 +/- 0.39 and 8.28 +/- 0.2 cms for naïve, control and NPS31807-treated mice, respectively). Histological analyses of colonic tissues revealed that NPS31807 attenuated both DSS-induced edema as well as leukocyte infiltration in the colonic mucosa and resulted in protection against DSS-induced crypt damage. RT-PCR analysis of colonic tissue revealed that NPS31807 blocked DSS-induced expression of pertinent inflammatory mediators: TNF-α, IL-1b, IL-6, E-selectin and VCAM-1 (100% suppression of aforementioned inflammatory mediators compared to vehicle control). Most importantly, NPS31807 greatly protected mice against DSS-induced colitic-death even after disease expression was evident (50% increase in survival compared to DSS control).
Conclusion: These results provide direct evidence that NPS31807 suppresses DSS-induced colitis by inhibiting production of key inflammatory mediators and leukocyte infiltration, and is a potentially attractive therapeutic for colitis.
Disclosure - All authors are employees of PLSL. Somesh Sharma: Patent Holder

P1049

MEDICATION PROFILE OF PATIENTS IN THE UNIVERSITY OF PUERTO RICO INFLAMMATORY BOWEL DISEASE REGISTRY

J. Melendez, MD,[1] Y. Larregui, Pharm D,[2] J. M. Vazquez, Pharm D,[2] V. L. Carlo, MD,[1] E. A. Torres, MD, MACG[1]. 1. Internal Medicine, University of Puerto Rico, School of Medicine, San Juan, PR; 2. University of Puerto Rico, School of Pharmacy, San Juan, PR.

Purpose: The prevalence of IBD (Crohn's disease and ulcerative colitis) in Puerto Rico has increased significantly in recent years. Experience with these diseases outside of a referral center is limited. A registry for IBD, created by the University of Puerto Rico (UPR) Center for IBD, has collected data from subjects all over the island for 12 years. The Registry contains data related only to the time of entry; there is no longitudinal follow-up. We analyzed the medication profile and IBD related surgeries of patients participating in the IBD Registry of the UPR Gastroenterology Research Unit in order to characterize the therapies used and identify any trend by disease severity.
Methods: This descriptive study reports the medication profile of 507 individuals with ulcerative colitis (UC) or Crohn's disease (CD). The information compiled was used to present descriptive statistics by gender, diagnosis, pharmacological therapies (aminosalicylates, steroids, immunomodulators and anti-TNF antibodies) and IBD related surgical interventions (as indicators of disease severity). The Registry of IBD has continuing approval by the Medical Sciences Campus Institutional Review Board (IRB # 1250195).
Results: The study included 256 females and 251 men. They were 241 patients with UC (48%) and 266 patients with CD (52%). One hundred eighty UC patients (75%) had used aminosalicylates, 173 patients (72%) had used steroids, 35 patients (15%) had received immunomodulators and 2 patients (0.8%) had used anti-Tumor Necrosis Factor (TNF) antibodies. Two hundred eighteen CD patients (82%) had used aminosalicylates, 197 patients (74%) had used steroids, 118 patients (44%) had received immunomodulators and 26 patients (10%) had used anti-TNF antibodies. Fifty-three patients with UC (22%) and 146 patients with CD (55%) had IBD related surgery. The great majority of them had received aminosalicylates and steroids. Although biological agents and immunomodulators were less commonly used, mostly prescribed for CD, there was an increased use of immunomodulators in IBD patients with surgeries. Steroid use was almost equivalent in both IBD populations despite a trend towards greater steroid use in UC patients with colectomy and nonsurgical CD patients.
Conclusion: Aminosalicylates and steroids are the mainstays of medical treatment for IBD in Puerto Rico. The use of biological agents and immunomodulators appears to be limited to severe disease. A prospective analysis to detect changes in prescribing practice, as the use of aggressive therapy becomes more prevalent, is needed.

P1050

RDEA119, A POTENT AND HIGHLY SELECTIVE MEK1/2 INHIBITOR IS BENEFICIAL IN DEXTRAN SULFATE SODIUM (DSS)-INDUCED CHRONIC COLITIS IN MICE

M. Miampamba, PhD, G. Larson, BSc, C. Lai, MSc, A. Johansen, BSc, J. Miner, PhD, J. Vernier, PhD, J. Girardet, PhD, B. Quart, PhD, Pharm D. Discovery Biology, Ardea Biosciences, Inc, San Diego, CA.

Purpose: Ulcerative colitis (UC) is a chronic relapsing immune mediated disorder characterized by diffuse mucosal inflammation limited to the colon. Various components of the immune system including secreted inflammatory mediators are implicated in the pathogenesis of the disease. Mitogen-activated protein kinase (MEK) signaling pathways are known to play an important role in the development of inflammatory diseases via the regulation of cytokine production. This study was designed to assess the effect of RDEA119, a potent highly selective inhibitor of MEK1/2 signaling pathways in DSS-induced chronic UC in mice.
Methods: Male C57BL/6 mice were used in two separate studies. Study 1: Mice were exposed to two cycles of DSS (1% DSS in drinking water). Mice were then dosed orally (QD) with either 1:9 cremophor-saline (C-S; vehicle) or RDEA119 (0.3, 1, or 3 mg/kg) for 8 consecutive days, and euthanized on day 9. Positive control mice received the anti-TNF-alpha antibody remicade (10 micrograms/g body weight every over day; SC) and examined as above. Study 2: Conducted as above with the dosing period extended to 14 days. Mice were euthanized and examined on day 15 post-dosing initiation. Colonic tissues were harvested and the effectiveness of RDEA119 in achieving and maintaining the therapeutic goal of mucosal healing assessed. Disease activity index (DAI) and tissue myeloperoxidase (MPO) activity were assessed at the end of study 2.
Results: (1) Compared to C-S (7.4+/-0.9), RDEA119 at 3 mg/kg (4.4+/-0.7) significantly reduced the histological damage score of colon by 41% as illustrated by the well-preserved mucosal architecture and reduced tissue infiltration. Remicade (5.6+/-1.0) reduced the colonic damage by 24% only. (2) Compared to C-S (6.4+/-1.4), RDEA119 at 1 (3.4+/-0.4) and 3 (2.6+/-0.5) mg/kg significantly reduced the histological damage score by 47% and 59% respectively. The magnitude of colonic damage reduction was of 22% in mice treated with remicade. Increased DAI in C-S (0.7+/-0.1) was significantly reduced in mice treated with RDEA119 at 1 (0.1+/-0.1; 86% reduction) and 3 (0.3+/-0.1; 57% reduction) mg/kg. Compared to absolute DSS control "ADSSC"(0.9+/-0.2), RDEA119 at 1 and 3 mg/kg reduced the DAI by 89% and 67% respectively. Increased MPO activity in colonic tissues from ADSSC(0.323+/-0.05 U/mg tissue"UMT") was also reduced by RDEA119 at 1(0.201+/-0.06 UMT; 40% reduction) and 3(0.162+/-0.03 UMT; 52% reduction) mg/kg. Remicade(0.197+/-0.03 UMT) reduced MPO activity by 41%.
Conclusion: RDEA119 (0.3-3 mg/kg; PO) improves chronic murine DSS colitis. Blockade of MEK1/2 signaling pathways is a suitable strategy to treat UC as well as Crohn's disease. RDEA119 is considered a promising investigational therapy for inflammatory diseases.

P1051

THE ROLE OF SEROLOGIC MARKERS IN IDENTIFYING INFLIXIMAB RESPONSE IN ULCERATIVE COLITIS

D. M. Weine, MD,[1] B. P. Bosworth, MD,[1] D. Poppers, MD,[2] E. Scherl, MD[1]. 1. Gastroenterology and Hepatology, New York Hospital - Weill Cornell Medical Center, New York, NY; 2. Gastroenterology, Lenox Hill Hospital, New York, NY.

Purpose: The definition of colitis is evolving from the traditional two-disease model – ulcerative colitis (UC) and Crohn's disease (CD) – towards an immuno-inflammatory spectrum of disease. Molecular diagnostic tools, including serological markers for perinuclear anti-neutrophil cytoplasmic antibody (pANCA) which suggests more of a UC phenotype, as well as both anti-Saccharomyces cerevisiae antibody (ASCA) and outer membrane porin of Escherichia coli (OmpC) suggest more of a CD phenotype, hold promise for stratifying differing patterns of colitis. Furthermore, anti-CBir1 antibody helps distinguish between UC and CD in pANCA positive patients. While infliximab (IFX) is approved for the treatment of both CD and moderate to severe UC, approximately one third of UC patients do not respond. The primary objective is to assess whether serologic markers identify a subset of patients with UC who are likely to respond to infliximab therapy.
Methods: We retrospectively reviewed those patients with UC who were treated with IFX from January 2002 to September 2006 and also were tested for serologic markers including ASCA, pANCA and OmpC. The Ulcerative Colitis Disease Activity Index (UCDAI) was calculated on all patients in a prospective manner. All patients included in the study underwent mucosal evaluation both prior to and following IFX treatment. The primary endpoint was response to infliximab, as defined by a 3-point improvement in the UCDAI. These patients were then stratified by pANCA and ASCA status. Regression analysis was performed to determine the predictive value of the serologies.
Results: We analyzed a total of 11 patients, and 10/11 (91%) were pANCA positive. There were 7 patients who responded to IFX, with a with a mean decrease of UCDAI of 3.83 (range 3-5, $p<0.001$). Of the responders, 42.9% (3/7) were ASCA (IgG and IgA) positive and 85.7% (6/7)

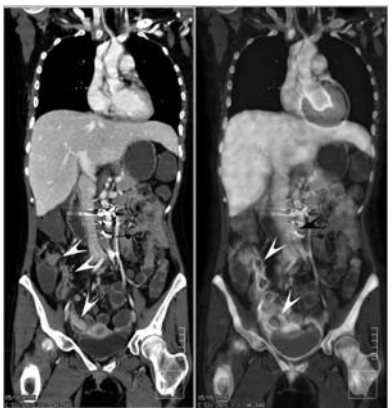
were pANCA positive. Of the 6 patients who were pANCA positive, 33.3% (2/6) were also ASCA positive and 66.7% (4/6) were either ASCA and/or OmpC positive. The 4 patients who were IFX non-responders had no significant change in UCDAI (mean change in UCDAI of 0.5, p=0.182) and all were only positive for pANCA with high titers. The combination of ASCA and OmpC together showed a trend towards infliximab response.
Conclusion: Serologies in colitis patients suggesting a Crohn's phenotype – either ASCA positive alone or pANCA positive in combination with ASCA or OmpC – may identify an immunologically vulnerable subset who are likely to respond to anti-TNF therapy. Further study in a larger group of colitis patients with the addition of other markers, including anti-CBir1, to stratify therapeutic responses, is warranted.
Disclosure - Dr. Scherl - Consultant and served on Advisory Board: Centocor

P1052

LARAZOTIDE ACETATE (AT-1001) INHIBITS EPITHELIAL PERMEABILITY INDUCED BY TNF-α AND IL-4
N. Pandey, PhD, K. M. Kitchens, PhD, N. Poloso, PhD, J. Vere, , , M. Ginski, PhD, B. Paterson, MD, S. Alkan, PhD, A. P. Tamiz, PhD. Alba Therapeutics, Baltimore, MD.
Purpose: Increased levels of tumor necrosis factor (TNF)-α and interleukin (IL)-4 are observed in patients with inflammatory bowel disease (IBD), and elevated cytokine levels are associated with increased intestinal permeability. Therefore, the purpose of this work was to investigate the effect of larazotide acetate (AT-1001) on TNF-α and IL-4 induced permeability of Lucifer yellow in vitro.
Methods: Caco-2 and T84 cells were cultured on 12-well Transwell® plates for 21-28 and 7-14 days, respectively. The cells were treated with TNF-α and IL-4 with and without AT-1001. After cytokine treatment, cells were treated with Lucifer yellow for 60 minutes to monitor paracellular permeability.
Results: After 24 hours, TNF-α induced Lucifer yellow permeability across Caco-2 cells 3-fold, and IL-4 induced Lucifer yellow permeability across T84 cells 2-fold. AT-1001 reduced TNF-α induced permeability across Caco-2 cells by 40%. Additionally, AT-1001 reduced the IL-4 induced permeability across T84 cells by 86%.
Conclusion: This study demonstrates AT-1001 inhibition of increased permeability mediated with TNF-α and IL-4, which suggests the potential of AT-1001 as a therapeutic agent for the treatment of IBD.
Disclosure - Dr. Niranjan Pandey - Employee; Dr. Kelly M. Kitchens - Employee; Dr. Neil Poloso - Emplyee; John Vere - Employee; Dr. Mark Ginski - Employee; Dr. Blake Paterson - Employee; Dr. Sefik S. Alkan - Employee; Dr. Amir P. Tamiz

P1053

THE COEXISTENCE OF CROHN'S DISEASE AND TAKAYASU ARTERITIS: DIAGNOSIS AND TREATMENT OF COMBINED DISEASE WITH INFLIXIMAB IN THREE PATIENTS
J. Judah, MD, A. Ahmadi, MD, C. Hammond, BS, S. Polyak, MD, J. Valentine, MD. Division of Gastroenterology, Univ. of Florida, Gainesville, FL.
Purpose: Crohn's disease is an inflammatory bowel disease classically causing granulomatous, transmural inflammation of the bowel wall, producing abdominal pain, obstruction, and fistula formation. Takayasu arteritis is a chronic granulomatous vasculitis that causes inflammation and stenosis of large and medium-sized arteries including the aorta and its primary branches. The purpose of this case series is to describe three cases of coexisting Crohn's disease and Takayasu arteritis and the response to anti-tumor necrosis factor therapy at a tertiary care medical center.
Methods: A case series design was used.
Results: We report on three patients with coexisting Crohn's disease and Takayasu arteritis. The diagnosis of Crohn's disease was made by combining patient symptoms, laboratory data, radiographic imaging, endoscopic evaluation and pathological evaluation of luminal mucosal biopsy. All of these patients also met classification criteria for Takayasu arteritis as defined by the American College of Rheumatology. Unique to this case report is the treatment of these patients with infliximab for their combined disease. All three patients experienced successful control of symptoms related to Crohn's disease and Takayasu arteritis after treatment with infliximab.
Conclusion: Evidence is building in the medical literature for a subgroup of patients with coexisting Crohn's disease and Takayasu arteritis. A common autoimmune etiology has been hypothesized. The three patients in this report received infliximab therapy, which has previously not been described in the literature as treatment for patients with these combined diseases. The similarities in pathophysiology of these diseases allow exploration into the role of biologic agents as therapy for patients who have coexisting Crohn's disease and Takayasu arteritis.



Coronal CT enterography (left) with fused FDG PET-CT image (right): White arrowheads show areas of active Crohn's disease, with intense FDG uptake, wall thickening and mucosal enhancement on CT. Black arrowhead shows abnormal FDG uptake (yellow area) in the distal aorta related to Takayasu arteritis.
Disclosure - Dr. Judah-No conflict; Dr. Ahmadi-No conflict; Mr. Hammond-No conflict; Dr. Polyak-No conflict; Dr. Valentine-Speakers Bureau: Centocor, Inc.

P1054

BUDESONIDE AS SECOND-LINE THERAPY FOR MICROSCOPIC COLITIS
C. W. Randall, MD,[1] C. M. Taboada, MD,[1] G. S. Gossen, MD,[1] R. D. Havranek, MD,[2] C. Fincke, MD,[2] R. Adame, MD,[3] A. Villarreal, MD,[3] L. Rendon, MD[3]. 1. Research, Gastroenterology Research of San Antonio, San Antonio, TX; 2. Research, Gastroenterology Clinic of San Antonio, San Antonio, TX; 3. Medicine, University of Texas Health Science Center at San Antonio, San Antonio, TX.
Purpose: Microscopic colitis (MC) whether collagenous colitis (CC) or lymphocytic colitis (LC) is a well recognized cause of chronic diarrhea. Traditional treatment has been with 5-ASA compounds. We previously published data showing not only clinical remission but also histological remission in the majority of patients. This paper is a pilot study demonstrating efficacy of budesonide in mesalamine failures.
Methods: 20 patients treated with mesalamine at a starting dose of 2.4gr presented to clinic at 1 month for a follow-up visit with persistent diarrhea. All were given instructions to increase the dose to 4.8gr/day. At the second month clinic visit, patients still experiencing diarrhea were given 9mg/day of budesonide.
Results: At the second month follow-up 10 patients had persistent diarrhea despite the increase in mesalamine. 10 patients were in remission (9 female; 1 male) and 10 had continued diarrhea (all females). These 10 patients received budesonide. All were in remission by the 8 week clinic visit. Rates of remission were as follows: 3 at 2 weeks; 5 at 4 weeks; and 2 at 6 weeks. At the 8 week visit the budesonide was discontinued without recurrence of diarrhea. Mean post-budesonide follow-up was 12 months.
Conclusion: 1. Budesonide is effective therapy for mesalamine failures in MC. 2. Benefits are seen within 8 weeks. 3. Long-term remission can be expected.

P1055

SULFASALAZINE FOR ARTHROPATHY IN CROHN'S DISEASE
J. So, MD,[1] J. Gregor, MD[2]. 1. Dept. of Medicine, Schulich School of Medicine and Dentistry, University Of Western Ontario, London, ON, Canada; 2. Dept. of Medicine, Division of Gastroenterology, Schulich School of Medicine and Dentistry, University Of Western Ontario, London, ON, Canada.
Purpose: Chart review of consecutive Crohn`s patients previously treated with sulfasalazine for joint symptoms.
Methods: Charts of all patients actively followed for Crohn's disease in the Inflammatory Bowel Disease Clinic at London Health Sciences Center, South Street Hospital were reviewed for previous or current use of sulfasalazine for joint symptoms. Patients already on sulfasalazine for their bowel disease were excluded. Information from follow-up visits were examined to assess the change in symptoms and signs (global assessment) after beginning sulfasalazine. Data was statistically analyzed by comparing patients based on age, gender, duration of bowel diease, location of bowel disease, clinical activity of bowel disease, and type of arthropathy.
Results: Of the patients whose charts were reviewed, 22 had received sulfasalazine for the treatment of Crohn's arthropathy. Full follow-up was available on 21 patients. Eight (38%) reported improvement in their joint symptoms after beginning sulfasalazine; however, four of them were already on other anti-inflammatory or immunosuppressive agents for their Crohn's Disease, and continued them after sulfasalazine was added. Three patients had well controlled symptoms, while five continued to have persistent joint symptoms despite some improvement. 13 patients (62%) reported no benefits to their symptoms despite sulfasalazine therapy. All patients with a positive response had colonic involvement of their Crohn's disease. There was no difference in improvement of joint symptoms with sulfasalazine based on age, gender, clinical activity of Crohn's Disease, time since diagnosis of Crohn's Disease, or pattern of arthropathy.
Conclusion: Improvement of joint symptoms in patients with Crohn's Disease after starting sulfasalazine was mild, with reduced response rates compared to previous studies of spondyloarthropathy. Possible contributors include small sample size, lack of efficacy in certain groups of patients, and insufficient dose or duration of therapy. Larger prospective studies involving both objective measures as well as specific patient reported outcomes would be useful.

P1056

5-AMINOSALICYLIC ACID RELEASE FROM PH-DEPENDENT, DELAYED-RELEASE FORMULATIONS: THE IMPORTANCE OF CONSISTENT AND STEADY RELEASE PROFILES

S. Tenjarla, PhD, V. Romasanta, PhD, A. Abinusawa, PhD. Shire Pharmaceuticals Inc., Wayne, PA.

Purpose: Many delayed-release formulations of 5 aminosalicylic acid (5-ASA) utilise pH-dependent coatings to resist gastric breakdown, and release active drug at intestinal pH values. However, in patients with ulcerative colitis, the pH of ileo-caecal region of the gastrointestinal tract can vary between 6.8-7.2. Here, we analyse coating thickness and release characteristics of MMX™ mesalamine 1.2g tablets (Lialda® [USA], Shire Pharmaceuticals Inc., Wayne, PA, USA) in different pH conditions and put the results into context using published literature for another pH-dependent delayed-release mesalamine formulation.

Methods: Three batches of MMX mesalamine tablets were analyzed using non-destructive three-dimensional terahertz pulse imaging to determine film coat thickness and morphology. Dissolution testing using USP II apparatus (50rpm) was subsequently performed at pH 6.8 and 7.2. Findings were put into context using previous data for pH-dependent, delayed-release mesalamine tablets (400mg) that were obtained using a similar methodology (Spencer et al, J Pharm Sci, 2007).

Results: The mean (± standard deviation) coating thicknesses of MMX mesalamine tablets from each of the three batches were 109.2 (±16.8), 113.1 (±19.5) and 113.8µm (±19.8), with a maximum variance of 17.2% of the total coating thickness. MMX mesalamine tablets demonstrated steady release of 5-ASA at both pH values, with complete release achieved over >8 hours at pH 6.8 and over >12 hours at pH 7.2. Spencer et al (2007) reported coating thicknesses of 76.8 (±18.2), 78.0 (±14.0) and 80.5µm (±12.5), with a maximum variance in total coating thickness of 23.7% for three test batches. 5-ASA release from these batches was consistent over the initial 2 hours at pH 7.2, but at pH 6.8 5-ASA release was variable. Complete release of 5-ASA was variable, with 80-100% tablet disintegration occurring within 2 hours.

Conclusion: The release profile of 5-ASA from pH-dependent formulations is of utmost importance since it determines the concentration of active drug delivered to the site(s) of inflammation. MMX mesalamine tablets appear to have consistent coating thickness which, with MMX drug-release technology, may contribute to the consistent and steady release of 5-ASA at both pH 6.8 and 7.2 reported here. These characteristics do not appear to be common to all pH-dependent formulations, as evidenced by previously published data.

Disclosure - All authors - Employees of Shire Pharmaceuticals Inc.

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P1057

UNDERSTANDING 5-AMINOSALICYLIC ACID (5-ASA) RELEASE PROFILES FROM PH-DEPENDENT DELAYED-RELEASE FORMULATIONS: A MULTIDISCIPLINARY APPROACH

S. Tenjarla, PhD, R. Karlstadt, MD, R. Joseph, MD. Shire Pharmaceuticals Inc., Wayne, PA.

Purpose: To investigate factors that may affect the release of 5-ASA from MMX™ mesalamine (Lialda®; Shire Pharmaceuticals Inc., Wayne, PA, USA) and other pH-dependent delayed-release 5-ASA formulations for the treatment of ulcerative colitis (UC). Published literature was evaluated and considered in light of data from in vitro and in vivo studies.

Methods: Study 1 (scintigraphic): eight healthy subjects were randomized to MMX mesalamine or a pH-dependent, delayed-release mesalamine formulation (Asacol® [Giuliani SpA, Italy]) in an open-label, two-way cross-over study. Study 2 (dissolution): three batches of MMX mesalamine tablets were analyzed using non-destructive three-dimensional terahertz pulse imaging to determine film coat thickness and morphology. Dissolution testing using USP II apparatus (50rpm) was subsequently performed at pH 6.8 and 7.2 (found in the GI tract of UC patients) using the technique reported by Spencer et al (J Pharm Sci, 2007) for Asacol® delayed-release tablets (P&G, Cincinnati OH, USA).

Results: Study 1: initial disintegration of both tablets generally occurred between the distal small bowel and the ascending colon. Initial tablet disintegration (mean hours ± standard deviation [SD]) occurred earlier in the GI tract for MMX mesalamine (4.75±1.31) than for the comparator formulation (6.16±1.80). Complete disintegration occurred later in the GI tract for MMX mesalamine compared with the comparator formulation (17.37±8.63 vs 7.27±2.13). Study 2: the mean coating thickness (µm±SD) of MMX mesalamine tablets ranged from 109.2 (±16.8) in batch 1 to 113.8 (±19.8) in batch 3. MMX mesalamine tablets demonstrated steady release of 5-ASA at both pH values, with complete release achieved over >8 hours at pH 6.8 and over >12 hours at pH 7.2. Spencer et al. (2007) reported Asacol coating thicknesses ranging from 76.8 (±18.2) in batch 1 to 80.5 (±12.5) in batch 3. 5-ASA release was consistent over the initial 2 hours at pH 7.2, but was highly variable at pH 6.8. Between 80–100% tablet disintegration occurred within 2 hours.

Conclusion: MMX mesalamine demonstrated steady 5-ASA release at pH 6.8 and 7.2 in vitro and in vivo using scintigraphic analysis. This was not reported for Asacol (Spencer et al. 2007). Together, these data suggest a consistent, steady release of 5-ASA from MMX mesalamine in the colon, while the comparator formulation appears to release the majority of its 5-ASA load in the ascending colon.

Disclosure - All authors - Employees of Shire Pharmaceuticals Inc.

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EFFICACY, SAFETY AND DURABILITY OF ANTI-TNF THERAPY IN THE TREATMENT OF INFLAMMATORY BOWEL DISEASE

C. Trivedi, DO, J. Kao, MD, M. Saxena, MD, E. Shen, MD, K. Das, MD, PhD, E. Ebert, MD. Crohn's & Colitis Center of New Jersey, Department of Medicine, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ.

Purpose: The purpose of this study was to evaluate the efficacy and safety of anti-TNF therapy as well as the durability of response to therapy in patients with inflammatory bowel disease (IBD) from a single tertiary center.

Methods: We retrospectively reviewed 75 charts of patients who had been treated with anti-TNF drugs during 2006 - 2008. Efficacy was determined using standard definitions of remission i.e. Crohn's disease activity index score (CDAI) <= 150 or Ulcerative colitis activity index score (DAI) <= 2. Response was defined as at least 75 points decrease in CDAI score or 2 points decrease in DAI score. Hypotension, cardiopulmonary compromise and serious infections were graded as major complications of therapy, whereas serum sickness like reactions, nausea, headache and abdominal pain were graded as minor complications.

Results: Of the 75 patients, 52 (36 CD and 16 UC) were treated with infliximab and 23 (20 CD and 3 UC) were treated with adalimumab. Twenty four patients (32%) required a dose greater than 5 mg/kg every 8 weeks for infliximab or 40 mg sq every other week for adalimumab. <tab> Overall, response rates for CD and UC patients treated with anti-TNF therapy were 63.86% and 68.42% respectively. There was no significant difference among response rates in CD patients treated with infliximab or adalimumab. 16/23 patients on adalimumab had been previously exposed to infliximab. Nine of these patients had refractory disease on infliximab and 5 had developed serious hypersensitivity reactions. The remission and response rates in this subgroup were 43.75% (7/16) and 12.5% (2/16) respectively. The majority of our patients (81.33%) tolerated anti-TNF therapy without any side effects.

Conclusion: This study provides a single center's experience in the long-term efficacy, safety and durability of anti-TNF therapy in the treatment of IBD. Our results are comparable to previously published data from randomized control trials. Fifty six percent of patients who developed resistance or hypersensitivity to infliximab responded to therapy with adalimumab. Although the number of patients is limited, our study suggests that the value of treatment with an alternate anti-TNF medication following development of resistance or intolerance to the first one may be underestimated.

Efficacy, safety and durability of remission/response to anti-TNF therapy

	Infliximab	Adalimumab	Total
Crohn's disease	36(69.23)	20 (86.97)	56 (74.67)
Mean duration of Anti-TNF therapy	28 months	6.3 months	
Anti-TNF Dosage			
Standard	24 (66.67)	14 (70)	38 (67.86)
> Standard	12 (33.33)	6 (30)	18 (32.14)
Efficacy of therapy			
Remission	17 (47.22)	9 (45)	26 (46.43)
Response	9 (25)	3 (15)	12 (21.43)
No response	10 (27.78)	8 (40)	18 (32.14)
Side effects			
Major	3 (8.33)	0	3 (5.36)
Minor	2 (5.56)	4 (20)	6 (10.71)
None	31 (86.11)	16 (80)	47 (83.93)
Ulcerative colitis	16 (30.77)	3 (13.03)	19 (26.39)
Mean duration of Anti-TNF therapy	11 months	6.33 months	
Anti-TNF Dosage			
Standard	11 (68.75)	2 (66.67)	13 (68.42)
>Standard	5 (31.25)	1 (33.33)	6 (31.58)
Efficacy of therapy			
Remission	7 (43.75)	0	7 (36.84)
Response	4 (25)	2 (66.67)	6 (31.58)
No response	5 (31.25)	1 (33.33)	6 (31.58)
Side effects			
Major	2 (12.5)	0	2 (10.53)
Minor	3 (18.75)	0	3 (15.79)
None	11 (68.75)	3 (100)	14 (73.68)
Total	52 (69.33)	23 (30.67)	75

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COMPARISON OF CLINICAL FINDINGS IN INTESTINAL BEHçET DISEASE AND SIMPLE ULCER

S. Yamamoto, MD,[1] Y. Tahara, MD,[1] H. Iwakiri, MD,[2] H. Abe, MD,[1] T. Yamaji, MD,[1] T. Harada, MD,[1] S. Hasuike, MD,[1] K. Nagata, MD,[1] K. Shimoda, MD[1]. 1. Department of Gastroenterology and Hematology, University of Miyazaki, Miyazaki, Japan; 2. Internal Medicine, Miyazaki Prefectural Nobeoka Hospital, Nobeoka, Japan.

Purpose: Intestinal Behçet disease (BD) and simple ulcer (SU) are refractory diseases of unknown etiologies that often develop in the ileocecal region. Although they are usually considered as distinct diseases with regard to both prognosis and treatment, there are no universally accepted grounds by which they are clinically distinguished. The aim of this study is to clarify the diagnosis of both diseases by their clinical presentations, endoscopic findings, and respective status as clinical entities.

Methods: Sixty –six patients with BD, either in our hospital or related facilities were reviewed. Of the sixty-six patients, nineteen patients with BD and six patients with SU in the ileocecal region were observed. The diagnosis was based on international criteria. The follow-up period of both diseases spanned from 1999 till 2008.

Results: 1) There was no significant difference in the age of onset of the two diseases. 2) The percentage of men experienced incidence of SU was higher than the percentage of men experienced incidence of BD. 3) Abdominal pain and melena were frequently observed in patients with both diseases. 4) SU patients tended to exhibit single ulcers, whereas multiple ulcers were frequently observed in BD. The gross appearance of ulcers was similar, with punched-out lesions and similar shapes observed in both diseases. 5) In BD, lesion in upper gastrointestinal tract was observed in three cases, whereas no such cases were observed for SD. Lesions appeared in the large intestine in six cases and one case of BD and SU, respectively. Among the six cases with BD, small ulcer was scattered in five of the cases, while one case showed deep and large ulcer. 6) Only one surgery was performed in a case of SU with a previously described legion of the large intestine. 7) Long manifestation periods for both diseases were more likely to be severe.
Conclusion: There results show that there were differences between BD and SU, regarding patient gender as well as the number and distribution of ulcers. However, since the number of reported cases is small, it is difficult to specify the precise difference between BD and SU. Therefore, further investigations and development of effective treatment for both diseases will be necessary in the future.

P1060

INCREASING USE OF NARCOTICS AND FUNCTIONAL BOWEL DISORDERS IN THE UNITED STATES

R. Choung, MD,[1] N. Shah, PhD,[2] P. D. Meek, MS,[3] G. Locke, MD,[1] N. J. Talley, MD, PhD[1].
1. Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2. Pharmacy Practice Pharmacoeconomics & Health Policy, Albany College of Pharmacy, Albany, NY; 3. Division of Health Care Policy & Research, Mayo Clinic, Rochester, MN.

Purpose: Opiates slow gastrointestinal motility. Increases in opioid prescribing for patients making a pain-related visit to the emergency department after national quality improvement initiatives in the late 1990s were reported, but it is unknown whether opioid prescribing in the community based outpatients has increased, and further whether this increase in opioid prescribing has negatively impacted bowel dysfunction or functional GI disorders in ambulatory patients. Aim: To determine whether opioid prescribing in ambulatory patients has increased between 1994-2005 and whether bowel dysfunction or functional GI disorders have also increased in patients prescribed opioids.
Methods: Data were derived from the National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Care Survey (NHAMCS) for 1994-2005. GI symptom related visits (diarrhea, constipation, nausea, vomiting, dyspepsia, bloating or abdominal pain) were identified by using the reason for visit codes, while opioid use was identified using the Drug Codes for medications in the Opioid Analgesics drug class. Functional GI disorders (irritable bowel syndrome, dyspepsia, and constipation) and GERD were identified using ICD-9 diagnosis codes. The associations between any narcotic use and GI symptom related visits were assessed using logistic regression analysis, adjusted for the complex survey design of both the surveys.
Results: Any visits with opioid prescription accounted for 99,530 of 1,134,048 (8.8%) outpatient visits during this time period. Opioid use increased from 4.2 % (95% CI: 3.8, 4.9) of all outpatient visits in 1994 to 6.8 % (95% CI: 6.2, 7.3) in 2005 ($p < .05$ for trend). Although the proportion with GI symptoms remained relatively stable (p value for trend = 0.44), a significantly higher proportion of GI symptoms were detected in any subjects on opioids versus no opioid prescriptions during the 12-year period. Multivariate logistic regression analysis showed that nausea, vomiting, and abdominal pain were significantly associated with narcotic prescription (Table). However, there was no association between opioid prescribing and functional GI disorders.
Conclusion: The use of opioids increased significantly over 12 years, and opioid prescribing was associated with increased GI symptoms; however, we did not observe an increase in GI symptom-related ambulatory visits over this time period.

Proportion of reporting GI symptoms in visits with narcotic vs. without narcotics

	Visits on narcotics	Visits, no narcotics	Odds Ratio
	(n = 99,532)	(n = 1,034,616)	(95% CI)
GI Symptoms	5.1	3.1	1.7 (1.6-1.8)
Nausea	2.5	0.9	2.8 (2.5-3.0)
Vomiting	2.2	1.3	2.2 (2.0-2.4)
Bloating	0.07	0.06	1.1 (0.5-2.3)
Constipation	0.4	0.4	1.0 (0.8-1.22)
Abdominal pain	0.8	0.6	1.4 (1.2-1.6)
Dyspepsia	2.4	3.1	0.6 (0.4-0.9)
Diarrhea	0.3	0.5	0.7 (0.5-0.9)

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IBS AND MEDICATIONS: WHAT RISKS WILL PATIENTS TAKE?

B. E. Lacy, PhD, MD, FACG,[1] K. K. Everhart, BA,[1] K. Weiser, MD,[1] R. De Lee, MD,[1] S. Strobel, MD,[1] C. A. Siegel, MD,[1] M. Crowell, PhD, FACG[2]. 1. Division of Gastroenterology, Dartmouth-Hitchcock Medical Center, Lebanon, NH; 2. Medicine, Division of Gastroenterology, Mayo Clinic College of Medicine, Scottsdale, AZ.

Purpose: No IBS medication is universally effective and many are associated with significant side effects. This study was designed to evaluate IBS patients' knowledge of medication risks, determine their willingness to accept risks, and explore possible drivers of risk taking behavior.
Methods: A questionnaire was developed from literature review and expert consensus. All patients met Rome III criteria for IBS. The questionnaire assessed demographics, prior IBS medication use, and previous medication adverse events. Validated scales measured IBS severity, quality of life, anxiety, depression, impulsiveness, and risk taking behavior. A standard gamble (SG) evaluated willingness to take risks associated with real and theoretical IBS medications. Data were analyzed using scales and means.
Results: 60 survey responses were received. The mean age of respondents was 43.8; 81.7% were women, 95.0% were white. The mean duration of symptoms was 14.3 years (range 2- 49). 43.1% of respondents rated their IBS symptoms as moderate, 34.5% as mild, and 17.2% as severe. 15% met criteria for IBS-C, 51.7% for IBS-D, and 33.3 % for IBS-M. 50% were concerned that IBS increased their risk of developing colorectal cancer. 32.8% of respondents described themselves as taking risks occasionally and 41.4% as rarely taking risks. 66.7% had life insurance and 95.0% had health insurance. The mean anxiety and depression subscores using the HAD questionnaire was 10.12 (SD 4.96) and 12.08 (SD 3.99), respectively. The mean number of different medications ever used to treat IBS was 4.0 (range 0-22). 1.8% (SD 1.02) reported developing a side effect from an over-the-counter medication taken for IBS, while 1.5% (SD 1.3) reported developing a side effect from a prescription IBS medication. Patients previously on alosetron (n=15), were willing to accept a 1% chance of sudden death (median; mean 7.0%, range 0-35%) due to this medication in return for a 99% chance of cure. Patients previously on tegaserod (n=15) were willing to accept a 5% risk of dying (median; mean 10.7%; range 0-40%) for a 95% chance of cure. When asked about a hypothetical medication for IBS, respondents reported they would accept a 3% risk of sudden death (median; mean 7.8%, range 0-60%) for a 97% chance of cure.
Conclusion: Preliminary data from this novel study suggests that patients with IBS are generally risk adverse when self rated; this is confirmed by high rates of life and health insurance. However, these respondents showed significant variability in risk taking behavior with regard to medication use. Appropriate counseling on the risks of medications and understanding patients' risk adversity are key aspects of providing informed consent and allowing patients to make preference-based decisions.

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NAUSEA REPORTS AS AN INDICATOR OF MORBIDITY

R. L. Levy, MSW, PhD, MPH,[1] D. L. Christie, MD,[4] S. L. Langer, PhD,[1] W. E. Whitehead, PhD,[3] A. D. Feld, MD,[2] M. M. Dupen, BS[1]. 1. School of Social Work, University of Washington, Seattle, WA; 2. Central Specialty Clinic, Group Health, Seattle, WA; 3. Center for Functional and Motility Disorders, University of North Carolina, Chapel Hill, Chapel Hill, NC; 4. Gastroenterology, Children's Hospital & Regional Medical Center, Seattle, WA.

Purpose: Pediatric patients with functional disorders often report nausea, but little has been reported about the significance of this symptom to overall pathology. Therefore, this study sought to determine whether children with chronic abdominal pain and nausea have more psychological and medical morbidity than children with chronic abdominal pain in the absence of nausea.
Methods: As part of data collection for an intervention study, 132 parents and their children age 7-17, who reported at least three episodes of abdominal pain over a 3-month period interfering with the child's activities, and a medical diagnosis of functional abdominal pain, were administered a battery of questionnaires. These included the MASC (Multidimensional Anxiety Scale for Children), the CDI (Child Depression Inventory), the FDI (Functional Disability Inventory), and the PRI (Pain Response Inventory-catastrophizing subscale). Parents also provided data on school absences in the past three months, and children rated the extent to which they had experienced nausea in the past week.
Results: 53 children reported experiencing no or a little nausea (categorized as low nausea). 77 children reported experiencing some, a lot or a whole lot of nausea (categorized as high nausea). Unpaired t-tests were used to compare groups as a function of nausea category. Children who experienced higher versus lower levels of nausea evidenced greater disability (as seen in functional disability scores M =.93 vs. .48, $p<.000$ and school days missed: M = 4.18 vs. 2.87, $p<.034$). They also reported greater anxiety (M =13.73 vs.12.27, $p<.048$), depression (M= 10.43 vs. 7.63, $p<.011$), and maladaptive coping (M=1.67 vs. 1.35, $p<.028$). These analyses were repeated using gender- and age-based subgroups. Results were stronger for all children aged 7-11, especially younger girls.
Conclusion: Children with chronic abdominal pain who report higher nausea are at risk for disability, negative affect and maladaptive coping. This information should be incorporated into the clinical evaluation and medical treatment of these patients. [Supported by NIH Grant R01HD36069 awarded to Dr. Levy.]

P1063

THE EFFECT OF SHIFT WORK ON THE PREVALENCE AND CLINICAL IMPACT OF FUNCTIONAL BOWEL DISORDERS IN NURSES

B. Nojkov, MD, J. Rubenstein, MD, S. Hoogerwerf, MD, W. D. Chey, MD. University of Michigan Medical Center, Ann Arbor, MI.

Purpose: The gastrointestinal (GI) tract undergoes circadian fluctuations in a variety of physiologic parameters. There is evidence that disruption of the sleep cycle can impact upon normal gastrointestinal functions. The aim of this study was to determine the effect of shift work on the prevalence and clinical impact of functional gastrointestinal disorders (IBS, functional constipation and diarrhea) in nurses.

Methods: Nurses engaged in direct patient care who were employed at a large University Health System within the US were invited to anonymously complete a set of online validated surveys (Rome 3, IBS-QOL, modified sleep 50 questionnaire). Based upon their work schedules, respondents were classified as: permanent day-shift workers, permanent night-shift workers and those rotating between day and night shifts. Participants with self-reported organic GI diseases, previous major GI surgery, or who were pregnant were excluded.

Results: Complete data were available for 399 nurses (214 day shift, 110 night shift, and 75 rotating shifts). The main study results can be found in the table. More than 85% of respondents were female. Night shift and rotating nurses were younger than day shift nurses (p<0.0001). There were no significant differences in BMI between groups. Rotating shift nurses had a significantly higher prevalence of IBS compared to day shift nurses (p=0.009). Multivariable logistic regression correcting for age & gender (OR=2.0, 1.12-3.45) as well as sleep quality (OR=2.14, 1.14-4.03)proved this association to be robust. The prevalence of IBS subtypes (IBS-C, IBS-D, IBS-M) was similar between groups with the exception of IBS-D which was more common in night vs. day shifts nurses (11.3% vs. 5.2%, p=0.03). There were no significant between group differences in the mean total IBS-QOL scores. The prevalence of functional constipation and diarrhea was similar between the groups.

Conclusion: When evaluating patients with IBS, it may be important to consider work schedule. These results support the hypothesis that circadian rhythm and sleep disturbances may play a role in GI symptoms & IBS.

	Day-shift workers (n=214)	Night shift workers (n=110)	Rotating shift workers (n=75)	p-value
Mean Age	45.6 +/- 9.2	41.5 +/- 11.0	37.3 +/- 10.8	between each group was <0.05 (ANOVA)
Male/Female	20/194	11 / 98	10 /65	NS
BMI	27.6 +/- 6.7	28.9 +/- 7.2	27.5 +/- 6.6	NS
# with IBS (%) >2 days/month	67 (31%)	44 (40%)	36 (48%)	0.118 for day vs. night; 0.0094 for rotating vs. day)
# with functional constipation (%)	39 (14.5%)	15 (13%)	11 (13.7%)	NS
# with functional diarrhea (%)	9 (3.3%)	6 (5.2%)	3 (3.7%)	NS - 0.060 day vs. night

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OPTIMIZING MATHEMATICAL ANALYSIS OF GASTRIC EMPTYING BREATH TESTS

S. Odunsi, MD,[1] M. Camilleri, MD,[1] L. A. Szarka, MD,[1] A. R. Zinsmeister, PhD[2]. 1. Clinical Enteric Neuroscience Translational and Epidemiological Research, Mayo Clinic, Rochester, MN; 2. Department of Health Sciences Research, Division of Biostatistics, Mayo Clinic, Rochester, MN.

Purpose: Scintigraphy is the accepted gold standard for measurement of gastric emptying. Breath tests using ^{13}C-substrates have been proposed for the measurement of gastric emptying. However, the optimal mathematical analysis for the interpretation of these breath test metrics is still unclear. **Aim**: To compare 4 mathematical methods to estimate gastric emptying results and compare with those obtained with simultaneous scintigraphy.

Methods: Scintigraphic and breath test data using a dual-labeled solid-liquid meal containing ^{99m}Tc sulfur colloid and ^{13}C-*Spirulina platensis* from 57 healthy volunteers (whose data were previously published in Neurogastroenterol Motil 2001;13:567-74) were used to compare 5 mathematical methods reported in the literature: a. gamma model method (Ghoos et al. Gastroenterology 1993;104:1640-7); b. generalized linear regression method (Viramontes et al. Neurogastroenterol Motil 2001;13:567-74); c. linear regression method (Szarka et al. Clin Gastroenterol Hepatol 2008, in press) d. Wagner-Nelson method (Sanaka et al. Clin Exper Pharmacol Physiol 2006;33:1239-43) and e. total cumulative breath $^{13}CO_2$ excretion (which used at least 12 breath samples collected over at least 4 h). The concordance correlation coefficient (CCC) for the $T_{1/2}$ results obtained with each method using breath test data was compared with the $T_{1/2}$ results obtained with scintigraphy.

Results: Table shows $T_{1/2}$ results obtained by each method (Szarka and Viramontes methods used just 5 breath samples at 45, 90, 120, 150 and 180 minutes), as well as the difference in estimated $T_{1/2}$ relative to the gold standard scintigraphy. All methods, except for the Wagner-Nelson method, resulted in mean gastric emptying $T_{1/2}$ values that approximated the data obtained with scintigraphy. The highest concordance correlation coefficient was observed with the Szarka method (Cum=cumulative; Δ=delta). Simple cumulative excretion of breath $^{13}CO_2$ provides a better CCC than the Ghoos method.

Conclusion: Since the Szarka and Viramontes methods require relatively few (e.g. 5) breath samples and the analysis provides the closest agreement with $T_{1/2}$ results based on scintigraphy, these data suggest that the Szarka and Viramontes methods provide the best analyses of breath $^{13}CO_2$ excretion in stable isotope gastric emptying breath tests.

Method	Scintigraphy	Ghoos	Wagner-Nelson	Viramontes	Szarka	Cum. $^{13}CO_2$ excretion
Mean ± SD, min (range)	114 ± 55 (16 to 240)*	117 ± 31 (24 to 179)	225 ± 38 (175 to 301)	118 ± 60 (51 to 282)	115 ± 53 (29 to 229)	113 ± 46 (45 to 225)
Δ vs. scintigraphy mean ± SD (range)	----	-4 ± 47 (-106 to 126)	-112 ± 65 (-187 to 39)	-4 ± 22 (-71 to 34)	-1 ± 15 (-55 to 26)	1 ± 35 (-78 to 62)
CCC	----	0.43	0.01	0.93	0.96	0.77

*** 3 subjects had censored $T_{1/2}$ values (i.e. $T_{1/2}$ >240 min.)**

P1065

SEVERITY OF IRRITABLE BOWEL SYNDROME–RELATED SYMPTOMS PREDICTS CLINICAL RESPONSE TO THE NONSYSTEMIC ANTIBIOTIC RIFAXIMIN

M. Pimentel, MD,[1] Y. Ringel, MD,[2] C. Brooks, MD,[3] E. Bortey, PhD,[4] W. Forbes, PharmD[4]. 1. Cedars-Sinai Medical Center, Los Angeles, CA; 2. University of North Carolina at Chapel Hill, Chapel Hill, NC; 3. National Naval Medical Center, Bethesda, MD; 4. Salix Pharmaceuticals, Morrisville, NC.

Purpose: Symptom-based criteria are used for enrolling patients with irritable bowel syndrome (IBS) in clinical trials. These criteria are broad and often lead to enrollment of individuals with symptoms ranging from mild to severe, despite the possibility that patients with severe IBS symptoms may respond differently to therapeutic intervention compared with individuals with moderate complaints. In a recent study of rifaximin vs placebo in patients with diarrhea-predominant IBS (IBS-D), a supplemental analysis examined the association between severity of baseline IBS symptoms and clinical response to rifaximin.

Methods: The primary comparison involved 2 groups of adult patients with IBS-D (Rome II) who received rifaximin 550 mg twice daily or placebo for 14 days, followed by an additional 14 days of placebo in both groups. The coprimary endpoints assessed weekly yes/no responses to questions regarding adequate relief of global IBS symptoms and IBS-associated bloating. Clinical response was defined as adequate relief for ≥2 of the final 3 treatment weeks (wk 2, 3, or 4). Severity of baseline IBS symptoms was evaluated as a potential confounder of clinical response and was categorized as mild/moderate or severe based on a mean score of ≤4 versus >4 (on a 7-point scale [0=not bothersome; 6=very bothersome]) for bloating and abdominal pain.

Results: A significantly larger percentage of patients who received rifaximin vs placebo reported adequate relief of global IBS symptoms (52% vs 44%, respectively; P=0.03) and bloating (46% vs 40%, respectively; P=0.04). In patients with mild/moderate abdominal pain, rifaximin produced a greater degree of improvement vs placebo in symptoms of IBS (50% vs 39%, respectively; P=0.04) and bloating (44% vs 35%, respectively; P=0.09). In patients with mild/moderate bloating, rifaximin also achieved greater improvement vs placebo in global symptoms of IBS (56% vs 41%, respectively; P=0.006) and bloating (47% vs 36%, respectively; P=0.03). However, rifaximin did not significantly improve global IBS symptoms or bloating versus placebo in patients who had severe baseline abdominal pain or bloating.

Conclusion: Severity of baseline symptoms of abdominal pain and bloating influenced the response to rifaximin 1100 mg/d for 14 days. Patients with mild/moderate IBS symptoms had a greater likelihood of relief of global IBS–related symptoms with rifaximin treatment vs individuals with severe IBS symptoms. Clinical trials evaluating the efficacy of IBS therapies should account for baseline symptom severity because of the potential impact of these symptoms on therapeutic efficacy. Extension of severity assessments to clinical practice may improve treatment success in patients with IBS.

Disclosure - Pimentel (Salix Pharmaceuticals) Consultant, speakers bureau Ringel (Salix Pharmaceuticals)Consultant, speakers bureau Cash (Salix Pharmaceuticals)Consultant, speakers bureau Bortey (Salix Pharmaceuticals) Employee Forbes (Salix Pharmaceuticals) Employee

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INCREASED PREVALENCE OF METHANOGENIC FLORA IN SMALL INTESTINAL BACTERIAL OVERGROWTH

A. Attaluri, MD, J. Paulson, BS, M. Jackson, MA, S. Rao, MD, PhD, FRCP. Internal Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA.

Purpose: About 35% of the US population has enteric bacteria that produce methane. In animal models, methane infusion has been shown to decrease small intestinal transit and increase small intestinal contractile activity (Am J Physiol 2006, 290(6):G1089-95). Methane may play a role in the pathogenesis of functional gastrointestinal disorders (FGID), but there is limited data on the prevalence of methanogenic flora in small intestinal bacterial overgrowth (SIBO) and in fructose (FM) and lactose malabsorption (LM). Aims: To evaluate the prevalence of methanogenic flora in SIBO, FM, and LM and to quantify methane production.

Methods: We reviewed charts of consecutive patients who had glucose, fructose or lactose breath tests performed as part of their clinical evaluation for gastrointestinal symptoms over 12 months. SIBO was diagnosed if H2 and/or CH4 increased by 20 ppm over baseline during the glucose breath test. Similar criteria were used to diagnose FM and LM. Presence of methanogenic flora was defined as a baseline CH4 value ≥ 3 ppm. ANOVA and t test were performed to compare data between groups.

Results: There were 51 pts with SIBO (M/F=20/31, mean age 51 ± 11 yrs), 33 with FM (M/F = 13/20, mean age 42 ± 14 yrs) and 43 with LM (M/F = 17/26, mean age 39 ± 15 yrs). There were no significant age or sex differences (p > 0.05). Breath testing identified methanogenic flora in 24 subjects with SIBO (45%), 10 with FM (30%) and 15 with LM (34%). The prevalence of methanogenic flora was significantly higher (p< 0.05) in SIBO when compared to FM or LM. The baseline, peak and area under the curve (AUC) of methane production were significantly higher in SIBO when compared to FM and LM (p < 0.05, table)

Conclusion: The prevalence of methanogenic flora and amount of CH4 produced in response to carbohydrate challenge were higher in subjects with SIBO. The prevalence in FM and LM subjects were similar to healthy subjects. It is unclear if methanogenic flora through its effects

on small bowel and colonic transit and motility predisposes individuals to develop SIBO. While there is an association between methanogenesis and SIBO, whether there is a cause-effect relationship merits further study.

	SIBO (n=51)	SIBO (n=51)	LM (n=43)
Prevalence of methanogenic flora	45%*	30%	34%
Mean baseline CH4 value (ppm ± SEM)	16.7 ± 6.1*	6.4 ± 2.9	9.2 ± 5.9
Mean peak CH4 value (ppm ± SEM)	99.5 ± 42.6*	49.7 ± 29.9	59.5 ± 21.8
Mean AUC of CH4 production (ppm ± SEM)	255.3 ± 129.8*	129.7 ± 66.5	139.9 ± 89.2

*** p < 0.05, when compared to FM and LM**

P1067

A MULTI-STRAIN PROBIOTIC REDUCES THE FREQUENCY OF DIARRHEA IN IBS-D PATIENTS: A MULTI-CENTER, RANDOMIZED,DOUBLE-BLIND PLACEBO CONTROLLED STUDY

G. Friedman, MD, PhD. Medicine (GI), The Mount Sinai School of Medicine, Scarsdale, NY.

Purpose: The primary objective was the reduction in the frequency of diarrheal episodes in patients with IBS-D using a multi-strain probiotic compared to placebo.

Methods: This was amulticenter randomized, double-blind, placebo controlled 28 day study of a multi-strain probiotic (containing at least 2 billion CFU each of lactobacillius acidophilus LA-5, bifidobacterium BB-12, lactobacillus paracasei CRL-431 and streptococcus thermophilus STY-31) of 84 patients. Individuals who qualified for study participation according to Rome II criteria were randomized into treatment groups of either the multi-strain probiotic or matched placebo. The ten center study included 62 females and 22 males 18 years and older meeting the inclusion criteria. An IRB approved the study protocol and related study materials prior to patient screening and enrollment. The longitudinal growth model was used for data analysis.

Results: The average number of daily diarrheal episodes in the probiotic group significantly decreased from day 1 to day 28, from 3.91 to 2.18 (P=0.003). The daily average decreased faster during the period from day 1 to day 16 (3.91 to 2.56). By comparison, the average number of diarrheal episodes in the placebo group decreased only slightly during the same period (3.56 to 2.94), then decreased to 2.38 by day 28. Using GEE random effect longitudinal regression, we found that the rate of decrease in the probiotic group was more than double that in the placebo group (P=0.005). The probiotic was well tolerated and without significant side effects.

Conclusion: The multi-strain probiotic administered daily for 28 days significantly decreased diarrheal episodes in IBS-D patients compared to placebo. The probiotic preparation was well tolerated and without side effects. The multi-strain probiotic evaluated in this study may be useful for treatment of patients with IBS-D.

Disclosure - Dr. Friedman-Consultant, Kenwood Therapeutics, a subsidiary of Bradley Phamaceuticals, Inc. Mr. Biancone-Company employee.

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PROSPECTIVE EVALUATION OF PUDENDAL NERVE TERMINAL MOTOR LATENCY

M. A. Titi, MD,[1] I. Jenkins, MD,[2] A. Urie, RN,[2] R. G. Molloy, MD[2]. 1. Internal Medicine, Unity Hospital, Rochester, NY; 2. Surgical gastroenterology Unit, Gartnavel General Hospital, Glasgow, United Kingdom.

Purpose: Pudendal nerve terminal motor latency (PNTML) is a standard part of ano-rectal physiology studies. However, interpreting its results remains uncertain. Although PNTML prolongation indicates pathology of pudendal nerve, nerve conduction velocity may have little bearing on its functional integrity. In this study we evaluated the efficacy of using PNTML in investigating females with faecal incontinence (FI).

Methods: All consecutive females with FI were prospectively assessed. All underwent manometry, PNTML, endo anal ultrasound and completed a Wexner symptom score. A nerve latency of more than 2.2 ms has been used to indicate neuropathy. Results are expressed as medians (IQR). Maximum resting (MRP) and squeeze pressure (MSP) are expressed as mmHg.

Results: Total of 102 females with FI were investigated. In 33 patients [32.4%] determination of PNTML was not performed, provoked too much pain or failed to yield measurable response on either left or right. Another one third of patients had normal PNTML bilaterally [32.4%], 28 had unilateral neuropathy [27.4%] and 8 had bilateral neuropathy [7.8%]. Patients with bilateral neuropathy were older than other groups but not statistically significant [bilateral neuropathy 68yrs (46-76) vs. unilateral neuropathy 55yrs (44-62) vs. normal 55yrs (40-67)] (p= 0.251).No significant difference in MSP of intact sphincters with normal or unilateral neuropathy [MSP normal 140.7 (89.0-181.2) vs. unilateral 111.2 (89.5-199.2)] (p=0.732). two patients with bilateral neuropathy had intact sphincters and both had normal MSP. No significant difference in MRP between groups [MRP normal 72.5 (34.1-114.4) vs. unilateral neuropathy 75.5 (29.4-80.5) vs. bilateral neuropathy 69.9 (57-82.8)] (p=0.623).

Conclusion: PNTML is of limited role in investigating FI patients and doesn't significantly alter patients' management.

P1069

A VERY LOW CARBOHYDRATE DIET PROVIDES ADEQUATE RELIEF OF SYMPTOMS AND IMPROVES QUALITY OF LIFE IN OVERWEIGHT AND OBESE INDIVIDUALS WITH DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME (IBS-D)

G. L. Austin, MD, MPH,[1] C. B. Dalton, MS,[2] E. C. Westman, MD,[3] W. S. Yancy, MD,[3] Y. Hu, MS,[2] D. A. Drossman, MD[2]. 1. Division of Gastroenterology and Hepatology, University of Colorado Denver, Aurora, CO; 2. UNC Center for Functional GI and Motility Disorders, Division of Gastroenterology and Hepatology, University of North Carolina, Chapel Hill, NC; 3. Division of General Internal Medicine, Duke University, Durham, NC.

Purpose: Patients with irritable bowel syndrome (IBS) frequently identify worsening of symptoms after meals, citing certain foods including increased carbohydrates as triggers of their symptoms, particularly among those with diarrhea-predominant IBS (IBS-D). Patients with IBS-D anecdotally report improvement in symptoms after initiating a very low carbohydrate diet (VLCD), but no study has investigated the effect of a VLCD in IBS-D. The purpose of this study is to determine the effect of a VLCD in overweight and obese individuals with IBS-D.

Methods: Eligible participants were those with a body mass index >25kg/m^2 who met Rome II criteria for IBS-D and had at least moderately severe IBS, as defined by a score of > 36 on the Functional Bowel Disorder Severity Index. Participants were provided a standard diet for 2 weeks, followed by a VLCD (20 grams of carbohydrates/day) for 4 weeks. The primary outcome was adequate relief (AR), as assessed by a weekly one-item questionnaire during the 4 weeks of the VLCD. A responder was a participant who reported AR of all GI symptoms in at least 2 of the 4 weeks during the VLCD. Using daily diary cards for all 6 weeks, participants recorded daily stool frequency, stool consistency using the Bristol Stool Scale (BSS) that ranges from 1 (hard/lumpy) to 7 (watery), and abdominal pain using a visual analog scale (VAS, scale of 0-100). Participants also recorded AR daily during the VLCD. The IBS Quality of Life (IBS-QOL) and Sickness Impact Profile (SIP) questionnaires were administered before and after the 4-week VLCD trial.

Results: A total of 17 individuals were enrolled: 1 dropped out during Week 1 of the study (intolerance of standard diet), 3 dropped out during Week 3 of the study (2 due to intolerance of the VLCD and 1 due to emotional symptoms), and 13 completed all 6 weeks. During the VLCD, all 13 participants met the responder definition and also had AR at week 4 of the VLCD. Furthermore, 10/13 participants reported AR for all 4 weeks of the VLCD, and AR for at least 90% of the days during the VLCD. Stool frequency decreased from a mean (±SD) of 2.6±0.8/day to 1.4±0.6/day (p<0.001) and stool consistency improved on BSS from 5.3±0.7 to 3.8±1.2 (p<0.001). Pain scores (VAS) decreased from 26±18 to 10±10 (p=0.007). Both the IBS-QOL (71±22 to 81±13; p=0.02) and the SIP (5.5±6.4 to 2.3±3.6; p=0.001) showed clinically meaningful improvement. Finally, although participants lost an average of 3.1±1.7 kg (p<0.0001), clinical improvement was independent of weight loss.

Conclusion: In this open label study, initiation of a VLCD in overweight and obese individuals with IBS-D for 4 weeks provides adequate relief, decreases abdominal pain, improves stool frequency and consistency, and improves quality of life.

P1070

CLINICAL IMPACT OF IDENTIFYING LACTOSE MALDIGESTION OR FRUCTOSE MALABSORPTION IN IRRITABLE BOWEL SYNDROME AND OTHER CONDITIONS

M. A. Corlew, MD, J. A. Di Palma, MD. Gastroenterology, University of South Alabama, Mobile, AL.

Purpose: The role of carbohydrate maldigestion or malabsorption remains unclear in patients with irritable bowel syndrome (IBS). The purpose of this study was to examine the impact of identifying lactose maldigestion (LM) and fructose malabsorption (FM) on patients with and without IBS.

Methods: Patients who received lactose and fructose challenge testing formed the study group. Carbohydrate challenge testing was performed with 50g lactose and 25g fructose. Breath samples were collected and analyzed for hydrogen, methane and CO2 (for correction) samples using a Quintron Microlyzer model SC. Questionnaires were used to assess Rome III IBS criteria, compliance with carbohydrate dietary modifications, and changes in symptoms.

Results: 121 of the 181 (67%) study subjects were able to be contacted 8 months to 4 years after carbohydrate testing. LM (21) and FM (2) were present in 35% of the 66 IBS subjects. LM (12) and FM (9) were seen in 38% of the 55 subjects without IBS. 77% of IBS and 72% of those without IBS reported compliance with dietary advice. Of the subjects who reported compliance, 47% of IBS and 77% of those without IBS reported that after identifying LM or FM their symptoms resolved or improved.

Conclusion: Carbohydrate maldigestion has a similar incidence in patients with and without IBS and both populations have similar compliance with therapeutic dietary recommendations. However, patients without IBS are more likely to report improvement in symptoms when dietary changes are instituted when compared to IBS patients.

P1071

EPX16006 – A HIGHLY SELECTIVE P2Y2 AGONIST REDUCES GASTROINTESTINAL TRANSIT TIME

V. Jacques, PhD,[1] M. Melisi, MSc, CHP,[1] L. Shen, MD,[1] D. McCauley, PhD,[3] S. Shacham, PhD,[2] S. Jones, PhD[1]. 1. Preclinical Pharmacology, EPIX Pharmaceuticals, Inc., Lexington, MA; 2. Drug Development, EPIX Pharmaceuticals, Inc, Lexington, MA; 3. Product Leadership, EPIX Pharmaceuticals, Inc, Lexington, MA.

Purpose: To demonstrate that EPX-16006, a highly selective non-absorbed P2Y2 agonist, leads to fluid secretion in gut lumen and consequent reduction in gastrointestinal (GI) transit time. EPX-16006 is a novel drug candidate being developed for the treatment of chronic constipation and IBS-c.

Methods: Total GI transit time of a non-absorbable meal was assessed in wild-type male Balb/c mice. Small intestinal and colonic transit was measured as the geometric center of a radioactive meal after oral gavage in mouse with EPX-16006 or vehicle. Fluid secretion was also evaluated in vivo in isolated colonic loops.

Results: EPX-16006 dose-dependently reduced total GI transit time (Figure 1) and increased the production of feces and its water content (Figure 2, * $P < 0.05$, ** $P < 0.01$), with no effect on small intestinal transit or on gastric emptying. EPX-16006 dose-dependently increased both colonic transit and colonic fluid secretion in mice.

Conclusion: These results support the continued development of EPX-16006 as a novel drug candidate for patients suffering from chronic constipation. Because its site of action is restricted to the colon and it is not absorbed, EPX-16006 may have an improved safety and tolerability profile, including a reduced incidence of nausea and negligible systemic liabilities.

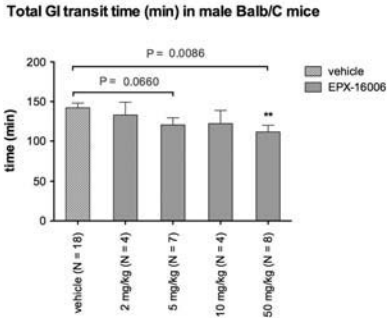

Figure 1

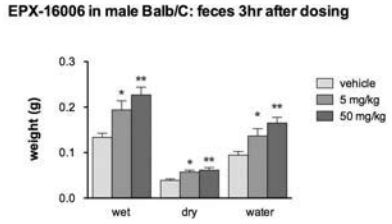

Figure 2

This research was supported by an industry grant from EPIX Pharmaceuticals, Inc

P1072

IS ERADICATION OF *HELICOBACTER PYLORI* RELATED TO ITS GENOTYPES AND DENSITY IN DYSPEPTICS?

J. Yakoob, MBBS, PhD,[1] W. Jafri, FRCP, FACP, FACG,[1] Z. Abbas, FCPS, FACP, FACG,[1] S. Abid, FCPS,[1] N. Jafri, MBBS,[1] A. Khalid, MBBS,[1] Z. Ahmad, FCPS[2]. 1. Medicine, The Aga Khan University, Karachi, Pakistan; 2. Pathology, The Aga Khan University, Karachi, Pakistan.

Purpose: Triple therapy is commonly prescribed for patients with *Helicobacter pylori* (*H. pylori*) infection. The aim of this study was to determine whether eradication of *H. pylori* infection was related to the density and genotype of the infecting *H. pylori* strain.

Methods: The patients who were diagnosed to have *H. pylori* infection by C14 Urea Breath Test (C14 UBT) and histology during October 2006- December 2007 were included. They were given triple therapy comprising of esomeprazole 40 mg BD, amoxicillin 1gram BD and clarithromycin 500mg BD for 10-14 days. C14UBT was repeated 4 weeks after the completion of triple therapy to document eradication. The symptoms of the patients were recorded and biopsies (antrum and body) were evaluated histologically according to the Sydney system. The cagA and vacA allelic status was determined by polymerase chain reaction (PCR).

Results: These are the preliminary results of an on going study. There were 84 patients, with mean age 40±13 (range 18-84 years) and males were 60 (71%). After triple therapy, 74 (88%) patients had a negative C14UBT. All patients with positive C14UBT were males with a mean age of 33± 12 years range 23-53. CagA was positive in 34(46%), vacAs1a 50(68%), vacAs1b 20(27%), vacAm1 30(40%) and vacA m2 in 47(63%) who eradicated *H. pylori* infection compared to 4(40%), 6(60%), 3(30%), 3(30%) and 6(60%), respectively who did not eradicate *H. pylori* infection. The density of H.pylori was low (1-2 small clusters) in 58(78%) of those who eradicated the H.pylori compared to 5(50%) who did not, p=0.02.There was mild and moderate inflammatory activity in 29(39%) and 35(47%) respectively in those eradicating their H.pylori infection as compared to 6(60%) and 2(20%) of those who did not p= 0.22. Lymphoid aggregates were present in 40(54%) who eradicated *H. pylori* infection compared to 4(40%) in those who did not (p=0.43).

Conclusion: The patients experiencing treatment failure were of younger mean age group. The treatment failure was associated with low density of *H. pylori* and mild inflammatory changes. There appears to be no association with genotypes but these are preliminary results.

P1073

SPINAL INJECTIONS FOR FUNCTIONAL GASTROINTESTINAL DISORDERS

P. C. Kramm, MD. Paul C. Kramm M.D. LLC, Baton Rouge, LA.

Purpose: Several functional GI disorders have been successfully treated by injections into posterior spinal ligamentous structures. Cases of GERD, IBS, recurrent daily vomiting and esophageal spasm have all been resolved with injections of hypertonic solutions that induce an inflammatory repair of these ligaments. This stops somatic nociception which is known to sensitize spinal cord neurons to colonic distention.

Methods: Interspinous ligaments and bilateral facet joint capsules of various thoracic and/or lumbar spinal segments were injected with 1-2 ccs of a 25% dextrose and 0.5% lidocaine solution using fluoroscopic guidance.

Results: Case 1 GERD Hx Pt is a 54 y.o. female with a multi-year Hx of daily epigastric pain associated with reflux. Daily esomeprazole would mostly control these symptoms except when exacerbated by spicy foods or tomato based sauces. Severe epigastric pain ensued hours after missing a dose of esomeprazole. Upper and lower endoscopy revealed only mild esophagitis and gastritis. Tx Injected from T2 through T6 and between T10 and S1. Results Complete resolution of all symptoms for over three years. Case 2 IBS Hx Pt is a 43 y.o. female with a several year Hx of constipation predominant IBS. Several days after the previous bowel movement she would develop nausea, occasional vomiting, anorexia, cramping, bloating and abdominal pain relieved by passing hard stools followed by diarrhea. Tx Injected at L5-S1, both sacroiliac joints and between T4 and T10. Results Complete resolution of all symptoms for last three years. Case 3 Recurrent daily vomiting Hx Pt is a 55 y.o. male who would have bouts of vomiting two or three times per day with little warning for years. Extensive work-up including blood chemistry, upper and lower GI endoscopy were negative. Tx Twice injected at T1-T12 and all rib joints. Results Complete resolution of his symptoms for last 11 months. Case 4 Esophageal spasm Hx Pt is a 45 y.o. female who has a multi-year history of dysphagia associated with the sensation of food sticking substernally. After an initial swallow, she would sometimes regurgitate triggering coughing spells. Complaints of substernal pressure led to a negative cardiac, pulmonary and upper GI endoscopic work-up. Tx Injected between C2 and L1 all rib joints. Results Complete resolution of all symptoms for last 10 months.

Conclusion: These case studies demonstrate a safe and effective treatment for various functional GI disorders. Additionally, these cases imply that the visceral symptom generation and adverse GI motility seen in the functional GI disorders may be induced by abnormal somatic posterior spinal afferentation. This may occur via viscerosomatic convergence that occurs normally in the spinal cord.

P1074

A COMBINATION OF RIFAXIMIN AND NEOMYCIN IS MOST EFFECTIVE IN TREATING PATIENTS WITH METHANE ON LACTULOSE BREATH TEST

K. Low, BA, L. Hwang, BS, J. Hua, MD, A. Zhu, MD, W. Morales, BS, M. Pimentel, MD, FRCP(C). Cedars-Sinai Medical Center, Los Angeles, CA.

Purpose: During lactulose breath testing in patients, methane has become important in the evaluation of constipation and constipation predominant irritable bowel syndrome (IBS). While rifaximin has been a very effective antibiotic in the treatment of hydrogen producing IBS subjects, its benefit has not been evaluated in methane producers. In this retrospective study, we evaluate three antibiotic treatments for subjects who produce methane.

Methods: A retrospective chart review was conducted to identify subjects who were historically noted to have a breath test that was positive for methane. Subjects were excluded if they had no evaluable follow up or if their antibiotic treatment preceded the first consultation at the medical center. Three methods for treating subjects who were positive for methane on their lactulose breath test were identified and evaluated. These were: neomycin alone at 500mg bid for 10 days, rifaximin alone at 400mg tid for 10 days and the combination of rifaximin and neomycin for 10 days. The charts were further reviewed to determine if subjects were deemed to be a responder to the therapy and whether or not methane was eliminated on a follow up breath test.

Results: During the review, 119 charts made mention of methane in the clinical history. After exclusion criteria were applied, 69 subject charts remained (among these some subjects had received more than one type of therapy). Out of 8 subjects that received neomycin alone, 5 (63%) were deemed to have a clinical response to therapy. Among the 39 subjects with clinical follow up data who received rifaximin alone, 22 (56%) responded clinically (P>0.05 compared to neomycin). However, 23 out of 27 (85%) subjects who received the combination of rifaximin and neomycin had a response (P=0.01 compared to rifaximin alone). Methane on breath test was also most likely to be eliminated with the combination of rifaximin and neomycin (87%) compared to rifaximin alone (28%) and neomycin alone (33%) (P=0.001). Of the patients who failed to eliminate methane with rifaximin alone, 66% eliminated methane with a combination of rifaximin and neomycin.

Conclusion: In the treatment of bacterial overgrowth, therapy needs to be tailored to optimize therapy based on the type of gas seen on breath test. While rifaximin alone has been shown to be highly effective for hydrogen only patients, a combination of rifaximin and neomycin is more effective in the eradication of methane.

Disclosure - Dr. Mark Pimentel-Consultant and Advisory Board: Salix Pharmaceuticals; Cedars-Sinai Medical Center-licensing agreement: Salix Pharmaceuticals

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P1075

THE MULTINATIONAL TRANSLATION & VALIDATION OF THE SPANISH ROME III ADULT DIAGNOSTIC QUESTIONNAIRE

D. Morgan, MD, MPH,[1] M. Schmulson, MD,[2] L. Cortes, MD, MS,[3] F. Squella, MD,[5] R. Dominguez, MD,[4] E. Rey, MD,[6] F. Mearin, MD[6]. 1. Gastroenterology, University of North Caroina, Chapel Hill, Chapel Hill, NC; 2. Medicina, Universidad Nacional Autonoma de Mexico (UNAM), Mexico, Mexico; 3. Epidemiologia, Universidad Nacional Autonoma de Nicaragua (UNAN, Leon), Leon, Nicaragua; 4. Medicina, Hospital del Occidente, Santa Rosa de Copan, Honduras; 5. Medicina, Universidad de Chile, Santiago, Chile; 6. Medicina, Hospital Clinico San Carlos, Madrid, Spain.

Purpose: The translation and validation of the Rome III Adult Diagnostic Questionnaire (R3DQ) into Spanish is needed for the investigation of the Functional Gastrointestinal Disorders (FGIDs) in Hispanic-Latino populations, as studies are limited. Country-specific Spanish translations, locally validated, preclude multicenter studies and comparisons. The unified translation for diverse Spanish-speaking populations facilitates investigations into the epidemiology, pathophysiology, and therapy of the FGIDs.

Methods: The multinational working group includes Spain, Mexico, Chile, Nicaragua, Honduras and the U.S. The Rome Committee translation standard is followed: two independent forward (english to spanish) translations, reverse translation, reconciliation, and independent pilots and validation.

Results: A unified Spanish Rome III instrument was developed. Eight independent spanish to english translations were completed, two each from each region (Mexico, Spain, Chile, Central America). The translations demonstrated 70% homogeneity, and were consolidated into a unified instrument by consensus. The pilot (both clinic-based & population-based) is complete in each region (n=124), with mean age 41 (range 18-78). The instrument was administered by trained interviewers, with study team observation. The majority (95%) of the Spanish Rome III questions (77/81 of FGID questions) were well understood. The concepts of retching and rumination (Q33-38) and anal relaxation (Q58) were problematic. Also, 75% of health questions (Q82-Q93) were understood. Limitations included: 'celiac disease'(Q89.3) which is uncommon, 'black stools'(Q83) which is frequent with regional foods, and 'anemia'(Q85) a synonym for 'fatigue'. Synonyms were needed as single word substitutions in 24% of questions (22/93) given differences in literacy and socioeconomic status within each region. Time-frequency concepts were confusing to half of subjects, particularly 'rarely', 'sometimes', 'often' - wherein a visual analog scale was helpful.

Conclusion: The unified Spanish Rome III Adult Diagnostic Questionnaire was developed to facilitate coordinated investigations in Spain and Latin America. A single core translation of each question is feasible. The use of validated synonyms, as single word substitutions in a subset of questions, provides clarity for regional, literacy and socioeconomic differences. This approach lends itself to a software platform for each region for the instrument, either with an interviewer or self-administered. Funding: Rome Foundation.

P1076

PATIENTS' EXPRESSIVE WRITING ABOUT THEIR IRRITABLE BOWEL SYNDROME IS INFORMATIVE BUT DIFFICULT TO READ RELIABLY

A. Halpert, MD,[1] A. Verma, BA,[1] L. Cline, MS, NP,[1] J. Clark, PhD[2]. 1. Gastroenterology, Boston University Medical Center, Boston, MA; 2. Health Policy & Management, Boston University School of Public Health, Boston, MA.

Purpose: Expressive writing promises valid assessment of patients' understandings of IBS in both research and clinical practice, but the reliable reading of such data poses challenges. The aim of the study was to test the reliability of a coding method used for classifying expressive writings of patients with IBS.

Methods: Previously, AH & AV developed coding rules for expressive writings of IBS patients that assessed complexity of writing (simple vs. complex), symptom description (physical vs. emotional), and coping style (adaptive vs. maladaptive) with high intercoder agreement. As a formal test of reliability, 12 healthcare providers (6 GI Doctors, 4 GI Fellows, 1 N.P., and 1 P.A.) at BMC independently coded 26 IBS patient written narratives and provided their impressions on the narratives. Reliability was assessed via comparison with values achieved by the originators of the coding rules.

Results: The average time to complete the coding was 5 min for one writing (range 3-15 min). 9/12 providers asked to participate, completed the study. The agreement between the original coding done by AH & AV and the study participants in ‰ was as follows: 15/26 (59‰) in the symptom description category, 15/26 (59‰) in complexity of writing, and 17/26 (67‰) in coping style category. The overall agreement with the previously developed coding was 62‰. Providers found the coding user–friendly, and simple, but demanding given the number of writings. When noting their observations regarding the writing, universally, all GI healthcare providers were surprised by the significant impact of IBS on patients' QOL.

Conclusion: We have demonstrated moderate reliability of a simple coding system in evaluating expressive writings of IBS patients. We plan to refine the coding through: 1) giving examples for the coding criteria; 2) reducing the number of writings to code; 3) providing more detailed directions; 4) eliminating the undetermined category; and 5) obtaining participants' feedback on coding difficulties. Ultimately, our goal is to develop instructions for physicians on how to better interpret and analyze their patients' expressive writings, which will allow for future studies on the clinical implications of this novel modality.

P1077

THE UTILITY AND SAFETY OF ENDOSCOPIC RESECTION FOR NODULAR LESIONS DETECTED AFTER ENDOSCOPIC ABLATION OF ESOPHAGEAL DYSPLASIA AND CARCINOMA

2008 ACG Presidential Poster Award Recipient

C. Panjala, MD, S. A. Gross, MD, M. Raimondo, MD, M. B. Wallace, MD, T. Woodward, MD, H. Wolfsen, MD. Gastroenterology, Mayo Clinic Jacksonville, Jacksonville, FL.

Purpose: Introduction: Nodular lesions in Barrett's esophagus [BE] are suspicious for harboring invasive carcinoma. Endoscopic resection [ER] is of diagnostic and therapeutic importance for the removal and histologic staging of these lesions. There is little data available, however, regarding the safety and utility of ER for nodular lesions detected at surveillance endoscopy after ablation therapy.

Methods: Methods: After IRB approval, patients were identified who have undergone ER after ablation therapy. Identified patient's medical records were abstracted for demographics, BE histology, pre ablation endoscopic ultrasound [EUS] findings, ablation and EMR procedure details including complications, and disease recurrence.

Results: Results: Between 2001-08, eight patients underwent attempted ER after previous endoscopic ablation using porfimer sodium photodynamic therapy (PsPDT) (7 were men; mean age 73 years [range: 62-80]). PsPDT was performed for Barrett's high grade dysplasia (6 pts); esophageal adenocarcinoma (1 pt) and squamous cell carcinoma (1 pt), both T1N0MX by EUS staging. At follow up endoscopy, [mean 651 days after PsPDT] nodular mucosa suspicious for disease recurrence was detected. EUS findings were T1sm1 in each case. ER after submucosal injection was successful in 7/8 patients using either Wilson Cook Duette or Olympus cap technique with no complications (attempted ER unsuccessful in one patient due to lack of lift sign). ER specimen histopathology found BE-HGD (3 pts), T1m adenocarcinoma (2 pt) and benign, hypertrophic glandular mucosa (2 pts). ER findings prompted further therapy (repeat endoscopic ablation in 3 pts, esophageal resection surgery in 1 pt, and failed esophageal resection in 1 pt due to adhesions from a previous surgery). Mean follow up after successful ER and negative adenocarcinoma in need of surgical resection was 253 days (27-636 days) with no further complications or disease recurrence. The patient who had an attempted but unsuccessful ER due to lack of lift sign was later found to have adenocarcinoma and underwent repeat PsPDT and liquid nitrogen cryotherapy.

Conclusion: Conclusions: In our series of patients with nodular lesions detected at surveillance endoscopy after endoscopic therapy for esophageal dysplasia or carcinoma, ER was safely performed in most patients and yielded important results leading to further ablation therapy and surgery.

P1078

IS THERAPEUTIC ENDOSCOPY FOR UPPER GI CANCER SAFE IN THE ELDERLY?

S. Siddique, MBBS, MRCP, J. Deacon, RN, I. R. Sargeant, MD, FRCP, D. L. Morris, MD, FRCP. Gastroenterology, Queen Elizabeth II & Lister Hospitals, Welwyn Garden City & Stevenage, United Kingdom.

Purpose: Maintenance of nutrition and hydration plays an important role in symptom palliation and improving quality of life in patients with inoperable upper GI malignancies. Nearly two thirds of these patients will need intervention to relieve dysphagia or stop upper GI bleeding. Therapeutic endoscopy often forms the mainstay in symptom palliation. We assessed the safety of therapeutic endoscopy in the geriatric age group in 2 community hospitals.

Methods: All patients aged 70 (age limit for geriatric services in our hospitals) and above diagnosed or treated with oesophageal or gastric cancer between 1st January 2004 and 31st December 2006 were included. Data was collected from two Community hospitals serving a population of 500,000. Palliation techniques included argon plasma coagulation, bougie and balloon dilatation, expandable metal stent or Celestin tube insertion, nasojejunal tube(NJ) or percutaneous endoscopic gastrostomy insertion(PEG) and YAG-laser. All endoscopists were Consultant gastroenterologists.

Results: Over the 3 year period,232 patients were diagnosed to have Upper GI Cancer.Of these, 161 fell into the study group.(Oesophageal-86,Gastric-75). 29 patients were found to be suitable for surgery with curative intent (Oesophageal-17,Gastric-12). The rest were treated palliatively. 267 therapeutic Upper GI Endoscopies were done on 132 patients. 9 patients required a combination of different modalities. Different modalities used are shown in table 1. There were 4 perforations following dilatation (2 each with balloon and bougie). Of these, 3 could be managed with stents while one required Celestin tube insertion. There were 3 significant GI bleeds requiring hospital admission (1 following laser & radiotherapy and 2 following bougie dilatation).

Conclusion: 69.4% of our patients with upper GI cancers were in the geriatric age group. 83.2% required therapeutic endoscopy over a 3 year period. Our unit has a low perforation rate of 3.5% for dilatations compared to other published data.(1,2,3). Severe complication (major bleed,death) rate was low at 1.1%. Our results support the safety and efficacy of therapeutic endoscopy in the palliation of symptoms for Upper GI cancers in the elderly. References: 1."Scoping our Practice"- 2004 Report of the National Confidential Enquiry into Patient Outcome and Death (NCEPOD). 2."Complications of Upper Gastrointestinal Endoscopy", BSG guidelines, November 2006. 3.Quine MA, Bell GD, McCloy RF, et al. Prospective audit of perforation rates following upper gastrointestinal endoscopy in two regions of England. Br J Surg 1995;82:530–3 (III).

Endoscopic modality used by frequency

Modality	Number of procedures	% of procedures
Dilatation(balloon/bougie)	124	46.4
YAG-laser	97	36.3
Expandable metal stent inserion	26	9.7
Argon Plasma/unblocking/NJ or PEG	20	7.6

P1079

MAGNESIUM CITRATE (MAGC) PREPARATION FOR COLONOSCOPY: ONSET AND DURATION OF BOWEL ACTIVITY

E. O. Taylor, MD,[1] J. D. Waye, MD,[2] R. Palmon, MD[2]. 1. Division of Medicine, New York University School of Medicine, New York, NY; 2. Division of Gastroenterology, Mount Sinai School of Medicine, New York, NY.

Purpose: Background: Sodium phosphate has been the standard low volume preparation for colonoscopy bowel cleansing. The risk of renal toxicity has caused many to switch to magnesium citrate. Patients need information about onset and duration of activity of this cathartic. This study was designed to develop practical prescribing information.

Methods: Methods: Two hundred and forty-one patients who completed a questionnaire took a liquid diet the day before colonoscopy and 300 mL of MagC the evening before and again on the morning of the procedure.

Results: Results: Bowel activity began 2.0 hours (range 0.25 to 15) after the first dose and continued for 4.0 hours (0.25 to 13.25). For the second dose the time to onset was 0.75 hours (0.25 to 8), and bowel activity continued for 2.0 hours (0.25 to 10). Bowel activity was completed four hours after ingestion of the second dose in 82% of patients and within five hours in 92%. Ten of the 241 patients reported the need for bowel evacuation during transit.

Conclusion: Conclusion: The activity from the second dose of MagC starts and ends sooner than the first dose. Patients should take the first dose of MagC as close to 5 PM as possible, and the second dose 4 hours prior to the procedure or 5 hours for those with long commutes. This schedule should provide adequate time for almost all patients to avoid bowel activity during travel.

P1080

RETAINED ENDOCLIPS:A POTENTIAL DANGER

A. Volfson, MD,[2] J. Makaryus, MD,[2] P. S. Berg, MD,[1] J. Rochester, MD,[1] G. S. Weissman, MD,[1] M. J. McKinley, MD[1]. 1. Gastroenterology, ProHEALTHcare associates, LLP, Lake Success, NY; 2. Internal Medicine, North Shore University Hospital, Manhasset, NY.

Purpose: Endoscopic hemoclipping is a potentially lifesaving procedure for gastrointestinal (GI) bleeding. Retention of these metallic hemoclips (HC) longer than the expected two-week period, however, may interfere with magnetic resonance imaging (MRI). In our experience with patients who underwent this therapy, we found a significant number of patients with retained HC beyond two weeks. In some cases, this limited diagnostic evaluation.

Methods: In this retrospective chart review study we collected data from 23 patients who had HC placed, between 4/07 and 4/08. We recorded patient age, gender, bleeding site, indication for procedure, and HC type used. We reviewed follow up records, looking specifically at HC retention time and any documented interference with medical management due to prolonged HC attachment.

Results: Data was collected on a total of 23 patients treated endoscopically with HC, of which 15 were males and 8 females. The average age was 61.2(SD 12.7) years old. Indications included GI bleed(9), colon polyps(6), screening(4), family history of colon cancer(3), and FAP(1). Resolution® HC were used in 21 patients, while Olympus® HC were used in the other 2. Clip site was as follows: proximal colon(9), cecum(7), descending colon(3), sigmoid colon(2), rectum(2), and duodenum(1). One patient had HC in both the cecum and proximal colon. On review of records, 5 patients had imaging or repeat endoscopy after endoclipping. Of these, 3 showed no HC at 2 weeks, 3 months, and 6 months after the procedure; 1 had HC that were attached 4 weeks later, and passed at 5 weeks; and 1 had HC in place at over 8 weeks after therapy. In the latter 2 patients, prolonged HC retention interfered with diagnostic MRI, postponing it until it was confirmed that HC had passed. A 6th patient had ileocolectomy 3 months after hemoclipping, with HC still attached on review of the specimen. Therefore, at least 3 out of 23 patients (13%) had retained HC much longer than expected. Since the other 17 patients have not had a follow up to date, this could be an underestimation.

Conclusion: To our knowledge, there are currently no prospective studies available that look at HC retention time in human subjects. It has been widely accepted that endoscopic HC detach within a two-week period. Although HC manufacturers stipulate that MRI should be avoided, most clinicians rarely advise their patients to abstain from diagnostic procedures otherwise contraindicated with a stainless steel HC in place, given its presumed short retention time. Our study shows 3 cases during the past year in which HC were retained well over the two-week period, twice interfering with a much needed MRI. Realizing that a larger study is needed, we aim to raise awareness of this potential problem.

P1081

SUBMUCOSAL ISOLATION OF A CONGENITAL TRACHEOESOPHAGEAL FISTULA IN AN ADULT USING CONCEPTS OF THE SELF-APPROXIMATING TRANSLUMENAL ACCESS TECHNIQUE (STAT)

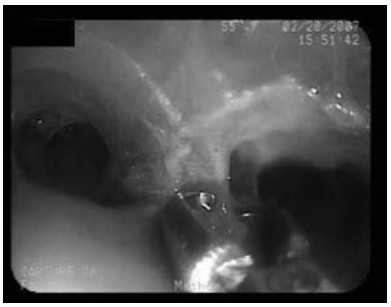
N. J. Yeasted, MD,[1] M. T. Moyer, MD,[2] A. Mathew, MD[2]. 1. Internal Medicine, The Penn State University Milton S. Hershey Medical Center, Hershey, PA; 2. Gastroenterology and Hepatology, The Penn State University Milton S. Hershey Medical Center, Hershey, PA.

Purpose: The self-approximating translumenal access technique (STAT) is a procedure in which an endoscopic submucosal tunnel is created in Z tract fashion for translumenal access during natural orifice translumenal endoscopic surgery (NOTES) procedures. Traditionally, correction of a congenital H-type tracheoesophageal fistula (TEF) in an adult includes major surgery using thoracotomy or transcervical approaches. Techniques using traditional endoscopic devices for closure of respiratory-esophageal fistulas have shown inconsistent results. Our purpose is to describe a technically feasible endoscopic approach to isolating and repairing a TEF in an adult using concepts of STAT.

Methods: A 56 year-old female with a congenital H-type TEF who refused traditional surgical intervention underwent unsuccessful endoscopic repair using endoclips after abrading the mucosa surrounding the esophageal portion of the TEF. A novel endoscopic approach using concepts of STAT was then proposed. Under general anesthesia, a 9mm gastroduodenoscope was retroflexed in the esophagus allowing clear visualization and India ink marking of the fistula for future identification using a submucosal injection needle. STAT technique was then begun. Again using an injection needle, epinephrine diluted with saline was injected at a site 2cm proximal to the fistula. A 4mm triple-lumen needle knife was used to incise the mucosal bleb and careful dissection along the submucosal plane was performed using rotatable rat-tooth forceps to create tunnels on either side of the fistula for isolation.

Results: The fistula was successfully isolated within the plane between the esophageal mucosa and submucosa (Fig.) and permanent occlusion was planned using endoscopic clipping. However, difficulty with ventilation was encountered and continuing the procedure with the intent of closing the fistula could not be safely undertaken.

Conclusion: STAT may offer a method for isolating not only a TEF whereby an occlusive device may then be applied to achieve durable closure, but also other submucosal esophageal lesions using a traditional endoscope. Further refinements including the use of CO2 for insufflation and perhaps the development of effective endoscopic devices offering suturing capability will be required for this to be done safely and effectively.



P1082

ENDOSCOPIC REDUCTION OF DILATED GASTROJEJUNAL ANASTOMOSIS AFTER ROUX-EN-Y GASTRIC BYPASS USING A NOVEL APPROACH

N. J. Yeasted, MD,[1] M. T. Moyer, MD,[2] A. Mathew, MD[2]. 1. Internal Medicine, The Penn State University Milton S. Hershey Medical Center, Hershey, PA; 2. Gastroenterology and Hepatology, The Penn State University Milton S. Hershey Medical Center, Hershey, PA.

Purpose: As the obesity epidemic in the United States continues to worsen, the number of bariatric procedures performed continues to grow with over 150,000 performed in 2004. Gastric bypass using Roux-en-Y gastrojejunostomy is currently the most commonly performed bariatric procedure. Unfortunately, many patients experience weight gain post-operatively due to a variety of reasons, some technical including dilation of the gastrojejunal anastomosis. Here we examine a novel approach to endoscopically reducing the G-J anastomosis aperture using readily available endoscopic devices.

Methods: Two patients with significant weight gain five and one year after initially successful Roux-en-Y procedures were included in this proof-of-concept study. A triple lumen needle knife was used to create the appropriate debridement of one-half the circumference of the aperture, with endoclips then placed at 1cm increments using the Endoloop device (Olympus, Inc.) to connect each pair of contiguous clips. Loop cinching then closed the anastomosis diameter well (Fig).

Results: The first patient did not report any meaning full weight loss and follow-up endoscopy indicated breakdown of the repair. The second patient experienced decreased appetite for several weeks following the procedure; however the anastomosis did not appear not to be clearly reduced on follow-up endoscopy.

Conclusion: Endoscopic therapy to tighten a dilated gastrojejunal anastomosis using the clip and endoloop method is technically feasible, safe, and illustrates the potential of this approach. However, we feel that the availability of an endoscopic suturing device allowing a full-thickness, traditional plication will be required for a durable approximation and long term benefit.

P1083

CAN *HELICOBACTER PYLORI* INFECTION WITHOUT EROSIONS OR ULCER CAUSE ANEMIA?

T. M. Biagini, MD, S. Komanduri, MD, MS. Medicine, Rush University Medical Center, Chicago, IL.

Purpose: *H. pylori* infection has been associated with anemia, however, it is not well understood whether *H. pylori* can cause anemia without evidence of gastric erosion/ulcer. We set out to determine whether *H. pylori* infection without endoscopic mucosal lesions can cause microcytic anemia.

Methods: Pathology database was queried and all consecutive patients who had *H. pylori* infection on their gastric biopsies between Jan. 2007 and April 2008 were identified. Laboratory database was queried for CBC result and then medical charts of those patients who had CBC result within 120 days of their EGD were reviewed to look for anemia and potential causes of anemia.

Results: We identified a total of 306 consecutive patients who had *H. pylori* infection in their gastric biopsies. One hundred thirty-seven patients were excluded (no recent CBC, n = 124; hematological causes for anemia, n = 13). Eighty one of the remaining 169 patients with *H. pylori* (48%) had anemia - 30/51 (59%) males and 51/118 (43%) females. There was no cause of anemia in 21 of the 81 anemic subjects. Thus, 21/169 (12.4 %) of anemic patients with *H. pylori* infection [ages 33 to 78] had anemia of unknown etiology.

Conclusion: Our data suggests that *H. pylori* infection without endoscopic mucosal breakdown can be associated with anemia. Thus, routine gastric biopsy may be warranted when EGD is done as part of the investigation of anemia. Further prospective studies are needed to validate our retrospective study and determine the cost-effectiveness of routine gastric biopsy in patients with anemia of unknown cause.

P1084

ENDOSCOPIC MANAGEMENT OF COMPLETE COLONIC ANASTOMOTIC STRICTURES USING ANTEGRADE-RETROGRADE RENDEZVOUS TECHNIQUE. A REPORT OF TWO CASES

D. S. BouHaidar, MD, M. B. Reid, MD, B. S. Sandhu, MD, A. Zfass, MD. Division of Gastroenterology, Virginia Commonwealth University, Richmond, VA.

Purpose: Describe two cases of complete colo-colonic anastomotic stricture that were managed endoscopically using the antegrade-retrograde rendezvous technique.

Methods: A 30 year old male with a loop ileostomy and colo-colonic anastomosis in the rectum. Routine BE 4 months later revealed a complete anastomotic stricture at 12 cm from the anal verge. This was confirmed endoscopically. A colonoscope was inserted through the ileostomy site and advanced to the colonic anastomotic obstruction. A second colonoscope was then inserted through the anus and advanced to the distal aspect of the stricture. Under fluoroscopic and endoscopic guidance a 0.021 wire was placed using a 19G Wilson Cook EUS needle, placed through the channel of the retrograde colonoscope, connecting the proximal and distal segment of the anastomosis. Over the wire, dilation of the tract was performed using graduated dilatation using a 4mm to 15 mm TTS balloon. Two further sessions were required to enable loop ileostomy closure (surgery). An additional patient, a 57 year old female underwent low anterior resection and chemotherapy for a T3N1 rectal cancer. She subsequently developed a complete benign obstruction (stricture) at the anastomosis resulting in a transverse loop colostomy. This stricture was not able to be traversed and as described above the same rendezvous procedure using two colonoscopes under fluoroscopic guidance was successfully performed. Three subsequent endoscopic dilation were required prior to surgical closure of the colostomy.

Results: The two patients described above had successful endoscopic management of complete colonic obstruction with recanalization of the anastomosis without the need for an extensive surgery. Both patients had an 18 months follow up with no recurrence of the stricture.

Conclusion: This endoscopic rendezvous technique obviates the need for surgical management in benign complete anastomotic strictures in the rectum when an ileostomy or colostomy access is present.

P1085

ENDOSCOPIC ULTRASOUND-GUIDED FINE NEEDLE ASPIRATION FOR ABNORMAL MEDIASTINAL ADENOPATHY, CLINICAL AND RADIOLOGICAL FOLLOW UP ON NEGATIVE BIOPSIES, "A COMMUNITY HOSPITAL EXPERIENCE"

G. Elias, MD, N. Toubia, MD. Medicine / Gastroenterology, Roger William Medical Center, Boston University / School of Medicine, Providence, RI.

Purpose: Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) is a safe and effective technique for the diagnosis of focal pancreatic lesions and enlarged abdominal lymph nodes. The aims of this study were to assess the usefulness EUS-FNA and to follow up on the patients with negative pathology of EUS-FNA of mediastinal lesions.

Methods: PATIENTS AND METHODS: A retrospective review was performed on patients' charts in whom EUS-FNA was used for the diagnosis of a mediastinal lesion, between November 2004 and March 2008

Results: RESULTS: EUS-FNA was performed in nineteen patients, six females and thirteen males, age range 28- 80 with average 50.5-22 +30. The diagnosis was non-small cell carcinoma in two patients, sarcoidosis in three patients, lymphoma in four patients, metastatic cancer in three patients, and six patients were negative for malignancy. Clinical and radiological follow up ranging between 15 - 30 months and/or surgical resection on the negative biopsies did not show development of malignancy. The sensitivity, specificity, positive and negative predictive values of EUS-FNA were 93%, 100%, 100%, and 86%, respectively. There was no complication reported

Conclusion: CONCLUSIONS: EUS-FNA is an effective technique for the diagnosis of mediastinal lesions. When the pathology for EUS-FNA is negative for malignancy, it is mostly true negative, although larger number of patients and longer follow up are required to support this conclusion

P1086

ENDOSCOPIC ULTRASOUND FINE NEEDLE ASPIRATION OF SOLID PANCREATIC LESIONS: EXPERIENCE AT A COMMUNITY HOSPITAL

G. Elias, MD, N. Toubia, MD. Medicine / Gastroenterology, Roger William Medical Center, Boston University / School of Medicine, North Providence, RI.

Purpose: The addition of fine needle aspiration (FNA) to endoscopic ultrasound (EUS) has significantly improved the accuracy in diagnosing pancreatic malignancy with a sensitivity ranging from 60% to 90% in specialized centers. The purpose of this study is to review our experience with EUS-FNA for solid pancreatic masses in community hospital setting.

Methods: We retrospectively reviewed the charts of patients referred to our institution for further evaluation of solid pancreatic masses found on abdominal imaging studies. A total of thirty four patients were identified between June 2004 and March 2008. Nineteen male and fifteen female, average age was 72 year (range, 44 to 93 years). All thirty four patients underwent EUS-FNA of pancreatic lesions using a linear array echoendoscope. FNA was performed using a single needle type. Number of passes ranged from 1 to 4 with a mean of 3 passes. Procedures were performed by an experienced endosonographer. A cytopathologist on site was available for all the procedures. Final diagnosis was confirmed by surgical pathology or clinical and radiological follow up.

Results: EUS-FNA established a diagnosis of cancer in twenty three out of the thirty four patients. Six patients out of the thirty four had highly atypical cells on cytology and were confirmed to have pancreatic adenocarcinoma at surgery. If one considers the atypical cytology positive, since atypical cytology patients will undergo surgery or further work up, this translates to a sensitivity of 94% and specificity of 100%. There were no complications to report in this group.

Conclusion: Our results are similar to reported rates found at specialized centers with larger volume EUS-FNA for pancreatic masses. EUS-FNA is safe, effective and accurate in diagnosing pancreatic malignancy in a community hospital setting.

P1087

ENDOSCOPIC ULTRASOUND-GUIDED FINE NEEDLE ASPIRATION BY USING 22- AND 25-GAUGE NEEDLES ALTERNATIVELY: AN OBSERVATIONAL STUDY

S. Iqbal, MD,[2] W. Eldarway, MD,[1] R. N. Mir, MD,[3] M. A. Cerulli, MD, FACG,[1] W. Sohn, MD[1]. 1. Gastroenterology, New York Methodist Hospital, Brooklyn, NY; 2. Gastroenterology, Interfaith Medical center, Brooklyn, NY; 3. Pathology, New York Methodist Hospital, Brooklyn, NY.

Purpose: The standard EUS-FNA needle used is 22 gauge. The purpose of this study was to compare the adequacy of tissue acquisition and diagnostic yield of 22 and 25 (smaller) gauge needles.

Methods: It was a retrospective review of all EUS-FNA procedures performed using 22 and 25 gauge needles alternatively in the same patient, over last 15 months period (between 12/01/2006 to 02/29/2008) at a community hospital.

Results: Out of total 132 EUS cases, only 16 met the inclusion criteria. Mean age 65.1 years; Gender: 8 males, and 8 females. Out of 16 lesions, 5 were luminal (gastric 4, duodenum 1); and 11 extra-luminal (pancreatic 8, biliary 1, left adrenal 1, and celiac 1). Average size of lesions (mm)was: length 29.5 (range 13.2-40.3) and width 28.8 (range 9.2-53.2). Average number of needle passes was 3.75 (range 2-6). The cytotechnician was present in 12 (75%) cases. The needle pass was considered difficult by the endoscopist in 6 vs. 4 cases with 22 and 25 gauge needles respectively (p-value 0.7). The tissue yield was successful in 16 vs. 15 patients with 22 and 25 gauge needles respectively (p-value 1.0). The specimen adequacy rates were: cytologic 11 vs. 9 (p-value 0.7), and histologic 14 vs. 12 (p-value 0.6); with 22 and 25 gauge needles respectively. Two patients lost follow-up. Out of remaining 14 patients, definitive diagnosis was obtained in 12 and 7 patients with 22 and 25 gauge needles respectively (p-value 0.1). When 22 and 25 gauge needles were combined, the cytologic and histologic adequacy as well as definitive diagnosis was higher but not statistically significant (table). There was no procedure-related complication.

Conclusion: We did not find any statistically significant difference despite relatively easier pass with 25 gauge needle and higher specimen adequacy and definitive diagnosis with 22 gauge needle. Although we found 22 and 25 gauge needles to complement each other when used alternatively in the same patient, the differences did not reach statistical significance due to the small number of cases. We recommend large prospective trials.

Comparison of 25 and 22 Gauge Needles with Combined Technique

No. of Patients (total 16)	25 Gauge Needle	22 Gauge Needle	Combined	p-value
Tissue Yield	15 (93.75%)	16 (100%)	16 (100%)	NS*
Cytological Adequacy	9 (56.4%)	11 (68.75%)	13 (81.25%)	NS
Histological Adequacy	12 (75%)	14 (87.5%)	15 (93.75%)	NS
Definitive Diagnosis (total 14 patients)	7 (50%)	12 (84.7%)	13 (92.85%)	NS

NS: not significant

P1088

ASSESSING THE LEARNING CURVE FOR THE ACQUISITION OF COLONOSCOPY SKILLS ON A COMPUTER-BASED ENDOSCOPY SIMULATOR

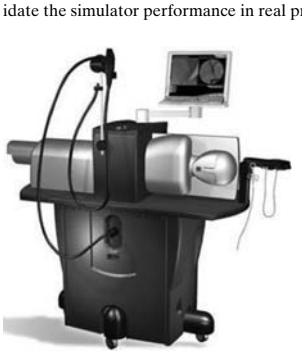
P. R. Kumar, MD,[1] F. Tse, MD, FRCPC[2]. 1. Internal Medicine, McMaster University, Hamilton, ON, Canada; 2. Gastroenterology, McMaster University, Hamilton, ON, Canada.

Purpose: To assess the learning curve for the acquisition of colonoscopy skills on a computer-based endoscopy simulator.

Methods: A novice group (n=17) was formed by a cohort of internal medicine residents and medical students, who had never performed an endoscopic procedure. After receiving identical pretest instruction, the novices were asked to undertake 10 trials of colonoscopy within a 1-month period on the GI Mentor II VR simulator. Two experienced gastroenterologists (> 1000 colonoscopies each) performed 2 trials each to define benchmark levels. Assessment of skills was based on parameters measured by the simulator. Efficiency, total procedure time, time to cecum and mucosal visualization were felt to be the most relevant outcomes a priori. Data on learning curves was analyzed by the Friedman test. Multiple comparisons were made to identify when plateau of skills had occurred. Comparison of performance between expert and novice groups was undertaken using the Mann-Whitney U-test. A level of $p < 0.05$ was considered statistically significant.

Results: Over the 10 sessions, the novices made significant improvements in their efficiency, total procedure time, time to cecum and percentage in clear view, but not in mucosal visualization, loop formation, or time patient in pain. A plateau in the learning curve was reached after the eighth repetition for efficiency and total procedure time, and after the fifth repetition for time to cecum. By the end of the training program, there were no significant differences between experts and novices for all parameters except for time to cecum (321.24s vs 155.50s, $p = 0.023$).

Conclusion: Novices with no endoscopic experience can improve their colonoscopy skills during short phase training on a computer based endoscopy simulator. Simulator-based training may be used early in the learning curve for colonoscopy. Further studies should be done to validate the simulator performance in real procedure.



GI Mentor II VR simulator

P1089

CAN THE LIKELIHOOD OF GI ADVERSE EVENTS ASSOCIATED WITH 4L POLYETHYLENE GLYCOL + ELECTROLYTES (PEG) BE PREDICTED?

R. Matro, MD,[1] S. Herrine, MD,[2] T. Hyslop, PhD,[3] A. Infantolino, MD,[2] L. C. Katz, MD,[2] D. Loren, MD,[2] C. L. Miller, RN,[2] D. Moretti, RN,[2] D. Kastenberg, MD[2]. 1. Jefferson Medical College, Philadelphia, PA; 2. Gastroenterology and Hepatology, Thomas Jefferson University, Philadelphia, PA; 3. Biostatistics, Thomas Jefferson University, Philadelphia, PA.

Purpose: To evaluate the effect of patient (pt) characteristics on PEG-related GI adverse events (AEs).

Methods: A single center, prospective, double-blind, randomized, placebo control study evaluating the effect of a proton pump inhibitor (PPI) (40 mg esomeprazole, daily) on PEG-related GI AEs. Eligible pts were scheduled for elective outpatient colonoscopy and were not taking acid suppression therapy. Pts received placebo or PPI for 7 consecutive days ending on the day of colonoscopy. Cherry flavored PEG (NuLYTELY®) was taken the evening prior to colonoscopy. Symptom (abdominal pain, bloating, nausea, vomiting) incidence and severity, using a 10 point Likert scale, were measured at baseline and immediately prior to colonoscopy. A validated quality of life (QOL) scale (QOLRAD) was administered at baseline and before colonoscopy. Logistic regression models for post-treatment symptoms (adjusted odds ratio), and linear models for symptom severity (difference in least squares means) controlled for treatment assignment and pre-treatment symptoms. Multivariate modeling considered QOL scale, age, gender, BMI, and personal history of colonoscopy. This study was approved by the TJU IRB.

Results: 539 pts were enrolled between 3/04-12/06, and 339 (PPI=166, placebo=173) were included in this analysis. The two groups were well matched for age (mean=54 yrs), gender (~50% female), BMI (28), and baseline GI symptoms (both incidence and severity). Female gender was independently associated with an increased risk for both incidence and severity of PEG-related symptoms. Women were significantly more likely to experience any GI symptom or an individual symptom - abdominal pain, bloating, nausea, or vomiting (table). Similarly, women reported greater severity of abdominal pain, nausea, and vomiting with PEG. Both the mean (OR 0.65, p=<0.001) and maximum (OR 1.15, p=<0.001) severity of GI symptoms were greater in females. Furthermore, PEG-related abdominal pain, nausea, and vomiting occurred significantly more often when the respective symptom was present at baseline (table). Pre-existing symptoms were also associated with greater symptom severity – mean (OR 0.59, p=<0.001) and maximum (OR 0.33, p=<0.001). Advanced age was associated with an increased likelihood of experiencing any GI symptom (OR 0.97, p=0.008) or an individual symptom – abdominal pain (OR 0.97, p=0.005), nausea (OR 0.97, p=0.003), vomiting (OR 0.96, p=0.001). Finally, pre-existing sleep disturbance predicted a greater incidence of any GI symptom (OR 2.52, p=0.01).

Conclusion: The likelihood of GI symptoms complicating a PEG purgative is greater in women, in pts who are older, and in those who have GI symptoms or sleep disturbance at baseline.

The effect of patient characteristics on PEG-related symptom incidence and severity.

		INCIDENCE		SEVERITY	
Symptoms: Prep associated	Baseline Characteristics	Adjusted Odds Ratio (95% CI)	p	Difference in Least Squares Means (95% CI)	p
Abdominal Pain	Pre-Tx* Abdominal Pain	1.89 (1.03, 3.39)	0.04	0.34 (0.23, 0.45)	<0.001
	Female	1.89 (1.16, 3.04)	0.01	0.64 (0.16, 1.11)	0.009
Bloating	Pre-Tx* Bloating	1.33 (0.74, 2.41)	0.35	0.39 (0.27, 0.52)	<0.001
	Female	1.58 (1.00, 2.50)	0.05		NS**
Nausea	Pre-Tx* Nausea	3.30 (1.49, 7.33)	0.003	0.57 (0.36, 0.78)	<0.001
	Female	1.64 (1.05, 2.55)	0.03	0.95 (0.35, 1.54)	0.002
Vomiting	Pre-Tx* Vomiting	3.59 (0.95, 13.01)	0.05	0.83 (0.45, 1.21)	<0.001
	Female	2.43 (1.32, 4.59)	0.005	0.66 (0.19, 1.14)	0.006
Any Symptom	Any symptom Pre-Tx*	1.72 (0.89, 3.32)	0.86	Not Applicable	
	Female	1.95 (1.14, 3.32)	0.02		

***Tx: Treatment, refers to placebo or esomeprazole (40 mg daily) for seven days**

****NS: Not Significant**

This research was supported by an industry grant from AstraZeneca

P1090

PROPHYLACTIC USE OF COVERED METAL STENT TO PREVENT STRICTURE FORMATION AFTER LONG SEGMENT CIRCUMFERENTIAL EMR

S. Moole, MD, A. Mathew, MD. Division of Gastroenterology, HO45 Hershey Medical Center, Hershey, PA.

Purpose: Endoscopic mucosal resection(EMR) and ablation are alternatives to surgery for Barrett's esophagus(BE) with high grade dysplasia (HGD) and intramucosal carcinoma. Endoscopic therapies may have an advantage over esophagectomy given the associated mortality and morbidity. But circumferential EMR of the esophagus for long segment BE with HGD has been shown to be complicated by stricture formation. We describe a case of circumferential EMR with prophylactic covered stent placement.

Methods: A 57y/o with coronary artery disease was diagnosed with long segment Barrett's (8cm) with HGD. EUS showed no invasion into the muscularis mucosa or lymph adenopathy. The patient declined surgery and elected EMR. He underwent circumferential EMR of the BE from 42cm to 34cm. The BE mucosa was suctioned up into a band ligator to create pseudoplyps. These pseudopolyps were resected with a hot snare. A Roth net was then used to retrieve the tissue and bands. 40cc of saline mixed with 10cc of epinephrine was flushed into the lumen to decrease oozing. A 22x120mm alveolus stent was placed over a guide wire positioned parallel to the scope, under direct endoscopic visualization. The patient complained of severe heart burn in the post procedural period and hence the stent was pulled proximally to have distal tip lay above the GE junction with the proximal tip at 23cm. He later complained of chest pain. In spite of narcotic treatment, he continued to experience moderate pain requiring removal of the stent on Day# 5.

Results: The patient recovered well after the stent removal and had no further pain. On follow up at 5 weeks, he had no significant strictures despite extensive EMR. Some residual BE mucosa was again resected to achieve what appeared to be a complete removal of BE mucosa. Patient remains asymptomatic after 3 months on a regular diet.

Conclusion: Prophylactic stent placement after circumferential EMR has not been reported to our knowledge. Most common complications of EMR include bleeding, perforation and stricture formation. Strictures when they occur are usually treated with bouginage. Complete loss of lumen will be more difficult to treat. A case of complete esophageal stenosis which eventually required esophagectomy is described (ref). Prophylactic temporary stent placement, even short term, may be an effective way to prevent stricture formation. It should be noted that our patient experienced significant pain requiring stent removal after 5 days. Further experience on a larger patient population is needed to prove efficacy of this strategy.

P1091

ENDOSCOPIC TREATMENT OF AN UNUSUAL CAUSE OF BILIARY DUCTAL DILATION: REPORT OF A CASE OF ADENOMYOMATOSIS HYPERPLASIA OF THE PAPILLA

S. Moole, MD, A. Mathew, MD. Division of Gastroenterology, HO45 Hershey Medical Center, Hershey, PA.

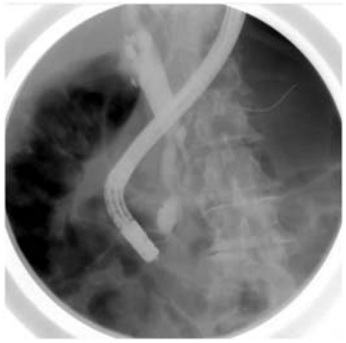
Purpose: Benign tumors of the bile duct are rare and occasionally mimic malignancy. We report a case of ampullary adenomyomatous hyperplasia presenting with abdominal pain, abnormal liver tests along with a cystic mass in the duodenum.

Methods: A 81 year old lady presented with abdominal discomfort, abnormal liver tests and biliary ductal dilation on imaging. Malignant biliary disease was suspected, given the age and EUS performed. There was a submucosal bulge involving the papilla raising concern for a choledochocele. On tracing the CBD, a stricture was noted leading into a dilated, thick walled chamber involving the papilla, seen as a bulge. Biopsy and FNA revealed no diagnosis. Choledocoscopy was performed and direct biopsy of the stricture obtained. This revealed benign tissue. On a separate occasion, complete endoscopic resection of the bulging tissue was performed, effectively accomplishing an extended ampullectomy. Brushings and biopsies from the distal ducts were also obtained. Final pathology showed adenomyomatous hyperplasia. Duodenal and ampullary mucosa with focally dilated cystic mucosal glands with a prominently thickened muscularis mucosa was seen. There was no dysplasia.

Results: Patient symptoms and abnormalities of liver tests resolved completely. Follow up ERCP at 6 months showed wide open CBD/PD and normal ampullary tissue.

Conclusion: Adnomyomatous hyperplasia can present as a benign stricture and mimic a neoplasm. Endoscopic resection is feasible and can be curative.

Endoscopic View of the Ampulla



Cystic Dilation with Proximal Short Stricture

P1092

DEMOGRAPHICS OF MAJOR UPPER GASTROINTESTINAL DISORDERS OF A COHORT OF ADULT SRI LANKAN POPULATION BASED ON ENDOSCOPY EXPERIENCE IN A MEDICAL UNIT OF A SUBURBAN SECONDARY REFERRAL CENTER – A 4 YEAR STUDY

R. L. Satarasinghe, MD, MACG, R. Fernando, MD. Department of Medicine, Ward 6, Sri Jayewardenepura General Hospital & Post Graduate Training Center, Nugegoda, Sri Lanka.

Purpose: To study the demographics and related matters of major upper gastrointestinal disorders of adult Sri Lankans based on endoscopy as in Sri Lanka endoscopic facilities are restricted to a handful of institutions and in a vast majority the significant upper GI symptoms are treated blindly due to lack of resources and trained personnel.

Methods: Case notes of 1200 patients who had undergone gastroscopy for various reasons in the medical unit District General Hospital – Panadura, Sri Lanka, from 7.3.1997 to 7.3.2001 were reviewed retrospectively.

Results: Hiatus herniae (70%), oesophagitis (29%), non ulcer dyspepsia (NUD) (16%), histological antral gastritis (13%), peptic ulcer disease (PUD) (2%), oesophageal malignancies (2%), oesophageal varices (1.5%), gastric malignancies (0.8%) were found in the descending order. A mild male dominance was noted in oesophagitis, oesophageal carcinoma, NUD while a striking difference was seen in varices, gastric malignancies, PUD and antral gastritis. Hiatus herniae showed a slight female dominance. The most prominent peak incidence (25%) of antral gastritis was noted in the 51-60yr group while a smaller peak (21%) was observed in the 31-40yr age group. *H. pylori* was detected only in 46% with parallel peaks in the same age groups (11% & 13%) respectively). Oesophagitis showed peaks in 51-60yrs and 61-70yrs age groups (21% respectively) with a mean age of 61.7±SD8.9. Five patients had histological Barret's oesophagitis. Oesophageal malignancies showed an age distribution of 41-90yrs. 89% in 51-70yr age group with a mean age of 60yrs±8yrs SD. Squamous carcinomas dominated over adenocarcinomas (5:1). 9 gastric carcinomas showed an age distribution of 41-80yrs with a mean age of 58.0±11.0 SD yrs. 88% had gastric type adenocarcinoma . NUD had an age range of 20-80yrs with a peak incidence of 26% in 41-50yr age group, and a mean age of 52.5 ±17.3 SD yrs. PUD was found only in 2% while non steroidal anti-inflammatory drugs (NSAIDs) caused 1%. *H. pylori* was detected only in 9% of (NSAID) ulcers. 91% were in the 55-80 yr age group with an age distribution of 31-80yrs. Varices were noted in 1.5% of the total endoscopies and were exclusively in alcoholic males, 83% being in the 41-70 age group.

Conclusion: Hiatus herniae, oesophagitis, NUD and antral gastritis constituted 87% of endoscopically evaluated upper GI disorders of adult Sri Lankans. 51-70 age group had the peak incidence of above, with strikingly different demographics related to PUD & *H. pylori* compared to west and neighbours. The cohort effect could have influenced certain demographics of the study population.

P1093

THE DIAGNOSTIC YIELD OF PILLCAM ESO IN PATIENTS WITH CHRONIC GERD IN A COMMUNITY BASED PRIVATE GASTROENTEROLOGY PRACTICE

I. J. Schmelkin, MD, S. Samii, MD. Division of Gastroenterology, Berkshire Medical Center, Pittsfield, MA.

Purpose: Chronic GERD is a common disorder affecting millions of Americans. 30% of patients with chronic reflux have erosive esophagitis on traditional endoscopy, while approximately 10% of chronic GERD patients have Barrett's esophagus on EGD. Chronic reflux is a know risk factor for adenocarcinoma of the esophagus, and there has been a rise in the rate of esophageal cancer, primarily in middle aged Caucasian men, over the past 20 years. Given Imaging's Pillcam ESO has been shown in previous studies to have extremely high positive and negative predictive values when compared to traditional endoscopy. This study demonstrates comparable diagnostic yields of Pillcam ESO with traditional endoscopy in the outpatient, community based setting.

Methods: 50 patients with chronic GERD symptoms referred to an outpatient private gastroenterology office underwent Pillcam ESO studies. These patients had GERD for over 5 years, and were originally referred for traditional endoscopy, all of whom refused EGD for various reasons (fear of procedure, anesthesia or complications). Pillcam ESO was performed, using the standard protocol. Images were then downloaded, studies read and findings recorded. Patients with capsule findings consistent with Barrett's esophagus underwent EGD and biopsy at a later date.

Results: Barrett's esophagus was seen in 5 cases (10%) and confirmed on follow up EGD with biopsy. All were short segment Barrett's. Erosive esophagitis was noted in 12 cases (24%), LA classification Grades A and B. There were no cases of Grade C or D esophagitis. 2 cases (4%) had non obstructive Schatzki's rings; one patient (2%) had an inlet patch. One patient was noted to have esophageal varices.

Conclusion: This study demonstrates that the diagnostic yield of Pillcam ESO mirrors that of traditional endoscopy, when performed in chronic GERD patients who have refused EGD, in the community setting. The yield of 10% with Barrett's esophagus and 24% with erosive esophagitis are identical to the rates seen in traditional endoscopic studies. Many patients with chronic reflux who require endoscopy are not being seen by gastroenterologists due to their fears and apprehensions of having an invasive procedure. Pillcam ESO gives physicians a valuable, accurate diagnostic tool to utilize in this group of patients, hopefully leading to an earlier diagnosis, improved treatment plan, and a better outcome.

Disclosure - Dr. Schmelkin - Consultant: Given Imaging

P1094

LUBIPROSTONE IS ASSOCIATED WITH GASTRIC RETENTION, PROLONGED GASTRIC EMPTYING TIME AND INCOMPLETE STUDIES IN PATIENTS UNDERGOING SMALL BOWEL CAPSULE ENDOSCOPY

I. J. Schmelkin, MD, S. Samii, MD. Division of Gastroenterology, Berkshire Medical Center, Pittsfield, MA.

Purpose: Various preps and prokinetics have been studied in small bowel capsule endoscopy, without proving a definite benefit. Opaque fluid and debris in the small bowel often causes inadequate visualization of the mucosa, and therefore suboptimal studies. We studied the effect of Lubiprostone in patients undergoing CE, as it enhances intestinal clear fluid secretion by the activation of chloride channels and may possibly improve small bowel motility.

Methods: 33 consecutive patients undergoing CE were given a 24mcg dose of Lubiprostone one hour prior to capsule ingestion. (Peak plasma levels have been shown to occur at 1.1 hours). Patients with gastroparesis, diabetes, or patients receiving anticholinergics/narcotics were excluded. CE was performed in usual manner, recording Gastric Transit Time (GTT), Small Bowel Transit Time (SBTT), findings, as well as subjectively grading the quality of visualization of small bowel mucosa- inadequate, poor, good and excellent.

Results: In 5 of 33 patients (15.2%), the capsule was retained in the stomach for the duration of the examination. An additional 3 patients had a prolonged GTT, and the capsule did not reach the colon (total of 24.2% of all patients had an incomplete exam). Average GTT was 90.5 minutes (range 6 to 422 minutes). Average Small Bowel Transit Time was 176 minutes (range 16 to 389 min.). SB visualization was deemed good or excellent in all patients.

Conclusion: In our study, Lubiprostone was shown to be associated with an extremely high rate of gastric retention (15%), whereas previous studies reported this rate to be less than 1% when no prep or prokinetic was used. In patients where gastric emptying was achieved, Lubiprostone caused prolonged GTT (90.5 minutes), twice as long as previous reported studies. These effects resulted in incomplete CE studies in 24% of all patients. Interestingly, Lubiprostone may have a positive prokinetic effect on SBTT, with a shortened SBTT of 176, compared with previously reported average times of 240 minutes, when no prokinetic was utilized. Furthermore, Lubiprostone seemed to have a beneficial effect on the quality of SB visualization, with all studies being judged to be of good or excellent quality. Therefore, at this point, Lubiprostone should not routinely be used in patients undergoing small bowel capsule endoscopy. Further studies using Lubiprostone along with known gastric prokinetics may be interesting.

Disclosure - Dr. Schmelkin- Consultant: Given Imaging

P1095

ENDOSCOPIC ULTRASOUND IMAGES OF THORACIC LYMPHANGIOMYOMATOSIS

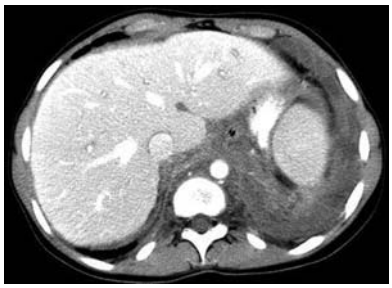
A. Srivatsa, MD, T. Mayes, MD, A. Ullah, MD. University of Rochester, Rochester, NY.

Purpose: We report the first endoscopic ultrasound (EUS) images of Thoracic Lymphangiomyomatosis.

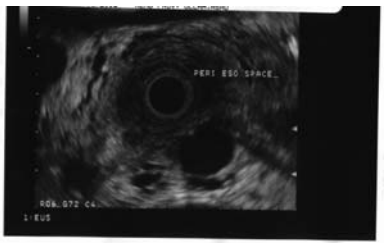
Methods: Lymphangiomyomatosis is a rare hereditary disease characterized by smooth muscle proliferation in the lymphatic tissues and organs leading to formation of multiple cysts. It usually involves the lungs. Diagnosis is usually based on histopathology consisting of large cystic spaces lined by lymphangiomyomatous walls. We describe a 22-year-old woman with a prior diagnosis of Pulmonary Lymphangiomyomatosis who presented with hemoptysis & a new large mediastinal mass on CT. We used endoscopic ultrasound to localize the mass and biopsy it. Histopathology was consistent with progression of Lymphangiomyomatosis with extension from the lungs into the posterior mediastinum. She was treated with pulse IV Interferon-alpha & is currently doing well with no recurrence of hemoptysis.

Results: These are the first endoscopic ultrasound (EUS) images of Lymphangiomyomatosis. Notable features on EUS are multiple thin walled cystic spaces within the soft tissue mass.

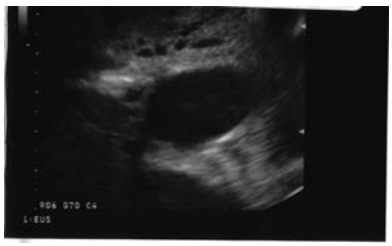
Conclusion: Till now, the diagnosis of Lymphangiomyomatosis was based on histopathology. We believe that with improving fidelity & expanding indications for EUS, providers need to be aware of the sonographic morphology of different pathologic conditions in the thorax. EUS may offer a presumptive diagnosis of Lymphangiomyomatosis even prior to histopathology because of the peculiar sonographic appearance.



Soft tissue density encasing distal esophagus on CT



Multiple Cystic spaces in periesophageal space on EUS



Close up view of cystic spaces - seen at top of screen

P1096

ACUTE UPPER GASTROINTESTINAL BLEEDING IN ELDERLY POPULATION

S. M. Abubakr, MD,[1] A. Lam, Pharm D,[2] A. A. Alkhatib, MD[2]. 1. Research, University of Illinois at Chicago, Chicago, IL; 2. Pharmacotherapy, Washington State University, Spokane, WA.

Purpose: The purpose of this study is to evaluate the incidence of UGIB within the elderly population and assess whether there is a significant difference in patients older than 75 years of age compared with those ages 60-75.

Methods: The study was conducted at a 272-bed community hospital over a 20 month period with approval by the hospital and city IRB. Retrospective chart reviews of all patients admitted sequentially to the hospital or the emergency room with an ICD-9 (578 is GI hemorrhage, 578.0 is Hematemesis, 589.1 is Blood in stool, 578.9 is Hemorrhage of GI tract, unspecified) code indicative for an UGIB were analyzed. Data was collected from each patient in regards to patient characteristics, signs and symptoms, laboratory results, endoscopic findings, medications, length of stay and complications.

Results: Patient Characteristics With a few exceptions, there were no significant differences in patient characteristics and clinical presentation among the two groups (Table 1). The incidence of altered mental status was significantly higher in Group B (5 vs. 13 patients; p<0.036). Dizziness was more common in Group A. Patients in Group A tended to have lower initial systolic blood pressure among patients who presented with hypotension (average 79.8mmgHg vs. 89.9mmgHg; p<0.008). Hypotension was defined as systolic pressure less than 100 mmHg. Medications There were no statistical differences between the two groups in regard to use of aspirin, clopidogrel, warfarin, proton pump inhibitors, and steroids. Use of NSAIDs was significantly more common among Group A (Table 1). Laboratory Results Patients in Group A presented with a lower hemoglobin level when compared to Group B. (9.33 vs. 10.51 gm/dl: p<0.022). All other labs results did not differ significantly. Endoscopic Findings Group A patients had more gastric ulcers (28 vs 14:p< 0.019) and duodenal ulcer (16 vs. 5: p <0.017) diagnoses than Group B patients (Table 2). Complications There were no significant differences in both groups in regard to major complications from UGIB (Table 3).

Conclusion: The diagnosis and treatment of UGIB is a serious medical problem with a considerable impact on health and financial systems. There are minor differences between the elderly in regard to clinical presentation, endoscopic findings and outcomes. Our study indicates that patients who are between ages 60-75 years tend to present with more dizziness, less altered mental status, to use more NSAIDs, to have lower hemoglobin levels, and more gastric and duodenal ulcers in comparison to patients who are ≥ 76 years old. The clinical application of these parameters warrants further investigation.

P1097

INCIDENCE AND CLINICAL PREDICTORS OF GASTRIC RETENTION IN VIDEO CAPSULE ENDOSCOPY (VCE)

S. R. Gurudu, MD, S. Umar, MD, A. Das, MD, J. A. Leighton, MD, R. I. Heigh, MD. Mayo Clinic Arizona, Scottsdale, AZ.

Purpose: VCE is an established technique for examination of the small bowel and has become an important diagnostic tool. The approximate incidence of incomplete small bowel studies due to transit delay is 25%, however, the incidence of gastric retention is not known. Many patients with incomplete studies require a second VCE which often is placed into the small bowel under endoscopic assistance. In this study we sought to assess the incidence of gastric capsule retention in patients undergoing VCE and elucidate specific clinical factors predicting gastric retention in those patients who have had incomplete capsule studies.

Methods: We performed a retrospective chart review of 1200 patients undergoing VCE between 2002-2007. Cases had gastric retention of the capsule and controls were patients who had had completed VCE studies. Controls were matched in a 1:1 fashion for age, gender and indication for VCE.

Results: There was gastric retention of VCE in 16 patients out of 1200 patients who underwent an initial VCE (1.3%). There was no difference in demographic features between group I and II including race and BMI. There was no difference in gastrointestinal symptoms such as bloating, GERD symptoms, epigastric pain, or nausea/ vomiting. Patients with retained VCE did not have increased prevalence of DM or hypothyroidism. There was no difference between the two groups with respects to use of anti-inflammatory, narcotic, prokinetic, antispasmodic, anticholinergic and/or anti-secretory medications. A significant proportion of patients in group I had a history of prior gastric or bowel surgery compared to none in group II [56% vs. 0%; p < 0.001]. In 5 of 16 patients a gastric emptying study (GES) was performed and all studies were positive for delayed gastric emptying. After initial gastric retention of VCE, a second VCE was performed in 11/16 patients, 7 of whom underwent EGD-assisted placement of the capsule. In 2/4 cases where EGD assistance was not used there was recurrent gastric retention of capsule.

Conclusion: 1. Gastric retention of VCE occurs in approximately 1% of patients undergoing VCE. 2. While there was no significant difference in clinical features nor prescription drug use in cases compared to controls, patients with a history of gastric or bowel surgery and/or delayed gastric emptying on GES are more likely to have gastric retention of VCE. 3. In a patient with prior gastric retention of the video capsule or evidence of delayed gastric emptying on GES, repeat VCE should be done with EGD assistance because of high frequency of recurrence of gastric capsule retention.

P1098

COMPLICATIONS OF PERCUTANEOUS ENDOSCOPIC GASTROSTOMY IN CRITICAL CARE PATIENTS

I. Iqbal, MD,[1] P. Sharma, MD,[2] O. Ajah, MD, FACG,[1] M. Mansour, MD, FACG,[1] M. A. Cerulli, MD, FACG,[1] G. Posner, MD, FACG[2]. 1. Gastroenterology, New York Methodist Hospital, Brooklyn, NY; 2. Gastroenterology, Interfaith Medical Center, Brooklyn, NY.

Purpose: Percutaneous Endoscopic Gastrostomy (PEG) is a procedure of choice for enteral nutrition in patients with functional gastrointestinal tract. Review of literature shows that there are very few published studies analyzing the complications of PEG placement in critical care patients. The aim of our study was to compare complications of PEG placement in critical care patients with patients in non critical care settings and to find any possible difference in morbidity or mortality between the two groups.

Methods: We retrospectively reviewed medical records of all patients who underwent PEG in ICU/telemetry and floor at the tertiary care inner city hospital from January 2005 to March 2007. All patients who had PEG placement as ambulatory patients were excluded from this study. Indications for PEG in non ICU included various neurologic impairment like Alzheimer's dementia 23(38.3%), Cerebrovascular accident 26(43.3%), chronic ventilator dependent 5 (8.3%) Indications for PEG in ICU patients were CVA 21 (47.7%), Alzheimer's dementia 18 (40.9 %), and Vent dependent 12 (27.3%) Bed side PEG placement was performed in 14 ICU patients (31.8%). All non ICU PEG placements were performed in endoscopy suite. Patients received preoperative antibiotics as short-term prophylaxis.

Results: There were total 104 patients out of whom 91 were women and 13 men. Group 1 (ICU patients) consist of 44 patients, (M=6, F= 38). Group 2 (Floor patients) consists of 60 patients, (M=7, F=53). All PEG complications were compared between ICU and non ICU patients. Group 2 compared with group 1 showed more PEG dislodgement (20 vs. 6, p= 0.02), Mortality unrelated to PEG was lower 14 vs. 8(p 0.02), wound infection 5 vs. 2(p= 0.446), peristomal leakage 2 vs. 1(p= 0.386). Bleeding, necrotizing fasciitis, esophageal /gastric perforation, colocutaneous fistula, buried bumper syndrome, peritonitis, pneumoperitoneum, ileus, gastric outlet obstruction and death secondary to PEG placement were not reported in either group. Length of stay on average was 20 days in group 1 and 6 days for group 2 (p= 0.03) and was unrelated to PEG placement.

Conclusion: In this study PEG dislodgement was higher in non ICU patients which could be explained due to increased survival as compared to ICU patients. The length of hospital stay and overall mortality unrelated to PEG placement was higher in the ICU patients due to their co morbid conditions. There were no statistically significant increased complications or morbidities in ICU patients which strengthens the view that PEG in acute care setting does not lead to increased morbidity and is a safe procedure.

P1099

CORRELATION OF ENDOSCOPIC AND HISTOLOGICAL GRADING IN ACUTE GRAFT-VERSUS-HOST DISEASE (GVHD) AFTER BONE MARROW TRANSPLANTATION

M. Q. Khan, MRCP(UK), H. I. Al-Ashgar, MD, K. M. Al-Kahtani, MRCP(UK), M. Abdullah, MRCP(UK), M. N. Al-Quaiz, MRCP(UK), M. Al-Fadda, MD. Medicine, KFSH&RC, Riyadh, Saudi Arabia.

Purpose: Graft-versus-host disease (GVHD) of the gastrointestinal tract is a major cause of morbidity and mortality after allogeneic bone marrow or stem cell transplantation. Whether macroscopic endoscopic grading predicts the histological staging of GVHD remains controversial. We reviewed the grading of endoscopic images in patients who were reported to have definite histological diagnosis of GVHD. This early endoscopic diagnosis could direct us to start specific therapy earlier and avoid the complication of endoscopic biopsies in severely thrombocytopenic patients.

Methods: 41 patients, who had clinical and definite histological diagnosis of acute GVHD, had undergone endoscopic biopsies from gastric (34), duodenum (7) and Sigmoid (32). Endoscopic images of these patients were reviewed retrospectively since 2003 by 2 expert endoscopists. The endoscopic appearances of stomach, duodenum and Sigmoid were staged in four grades, according to the severity of macroscopic pictures. Correlations of four endoscopic grading (Brand RE et al, 1998) with four histological grading (McDonald and Sale, 1984) were compared, to determine the diagnostic accuracy in assessing the severity of GVHD. Statistical analysis of relationship was measured by Cohen's Kappa measure of agreement.

Results: As the measure of agreement, grading between two techniques, endoscopic and histological, the Gastric measure was 0.579, moderate agreement (p <0.0001) and sigmoid was 0.219, fair agreement (p<0.010). Duodenal biopsies numbers were too small to get a significant relationship.

Conclusion: Quite accurate early diagnosis and grading of acute GVHD could be obtained by the endoscopic images especially from the gastric and sigmoid, but histological evaluation is mandatory to exclude other causes of inflammation which give similar endoscopic images before committing for the final diagnosis of GVHD.

P1100

RETRAINING OF ATTENDING GASTROENTEROLOGISTS IN UPPER GI HEMOSTASIS TECHNIQUES USING AN EX VIVO TISSUE MODEL IMPROVES PERFORMANCE

M. S. Smith, MD, MBA, J. T. Chang, MD, S. Gonzalez, MD, R. J. Garcia-Carrasquillo, MD, P. D. Stevens, MD. Division of Digestive and Liver Diseases, Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, NY.

Purpose: Conduct a pilot study to evaluate the utility of retraining attending gastroenterologists in upper GI hemostasis techniques using ex vivo pig models.

Methods: Four attending gastroenterologists with an average of 25.5 years of post-fellowship experience and a minimum of 1,000 upper endoscopies underwent a 4 hour "refresher course" on upper GI hemostasis techniques, modeled after a course given to new fellows by Hochberger et al. (GIE, 2005). The EASIE-R endoscopic simulator (EndoSim, LLC, Nahant, MA), which utilizes porcine GI tracts with plastic tubing sewn in to simulate bleeding lesions, was used throughout the course. All endoscopies were performed with a GIF-1TQ160 or GIF-2T160 therapeutic upper endoscope (Olympus America, Inc., Center Valley, PA). Trainees were paired into teams, then took a pre-test which evaluated their ability to perform 4 key tasks using the following equipment (Boston Scientific, Natick, MA): ulcer injection with Interject needle, bipolar electrocautery with Gold Probe, Resolution (hemostatic) Clip placement, and variceal banding with Speedband Super 7. Expert trainers with significant hemostasis experience then taught the correct techniques for use and supervised hands-on practice sessions. Each trainee was tested again on all 4 skills at the program's conclusion. Using 10 point scales, self-assessment surveys were given after each test, and trainers evaluated each student during both the pre and post-test.

Results: Pre-test scores demonstrated clear knowledge deficiencies, particularly in the loading of both clips and banding devices. Average self-assessment scores were at least 2 points higher than the scores recorded by the trainers, suggesting that the trainees had an overly positive view of their skill level. In fact, trainers graded pre-test performance at no more than 5.33/10 for any skill. However, post-test scores showed marked improvement in both self-assessment and expert grading. Self-assessment scores increased by at least 26%, with average scores of at least 8/10 for all techniques. Similarly, trainers' average scores improved at least 68%, but this time differed from trainee averages by no more than 8%. Post-test expert marks were no lower than 7.75/10. Trainees uniformly believed the course was successful in helping them progress in techniques (scored 9.75/10) and that the simulator was relatively realistic compared to real cases (8.75/10).

Conclusion: Ex vivo simulator training for upper GI hemostasis appears to be both a necessary and effective means of improving attending familiarity with essential equipment and techniques. Prospective studies are needed to determine whether regular "refresher courses" would be a cost-effective way to improve patient outcomes in upper GI bleeding cases.

Hemostasis Technique	Average Expert / Trainee Pre-Test Score (1-10)		Average Expert / Trainee Post-Test Score (1-10)		Improvement in Average Expert / Trainee Score		Average Expert / Trainee Improvement in Percent	
Injection and Cautery	5.32	7.35	9.04	9.47	+3.72	+2.12	+69.9	+28.8
Hemostatic Clip: Loading	2.00	6.50	8.75	9.50	+6.75	+3.00	+337.5	+46.2
Hemostatic Clip: Placement	5.33	7.54	8.96	9.54	+3.63	+2.00	+68.1	+26.5
Variceal Banding: Loading	1.00	3.00	7.75	8.13	+6.75	+5.13	+675.0	+171.0
Variceal Banding: Deployment	*	*	9.17	9.17	-	-	-	-

***Trainees were unable to progress to the deployment phase of banding during pre-test**

Disclosure - Dr. Smith - none Dr. Chang - none Dr. Stevens - Consultant: Boston Scientific, Inc.

P1101

RESULTS OF A NATIONAL SURVEY OF ENDOSCOPIC SEDATION PRACTICE FOR PATIENTS WITH OBSTRUCTIVE SLEEP APNEA

S. Vemana, MD, J. Cuschieri, MD, G. Cooper, MD, A. Chak, MD. Gastroenterology, Case Medical Center, Cleveland, OH.

Purpose: Conscious sedation used during endoscopic procedures is thought to be associated with an increased risk for cardiopulmonary complications in patients with obstructive sleep apnea. We performed a national survey of gastrointestinal endoscopists to determine sedation practices in OSA patients.

Methods: A two page survey was initially mailed to members of the regional endoscopy society. The survey was then revised to eliminate ambiguous questions and mailed to a random subset of ASGE members. Most questions were multiple choice and included items on physician demographics, training, and reported practice for sedation during endoscopic procedures in patients with diagnosed or suspected OSA.

Results: A total of 187 (39%) of 580 mailed surveys were returned. Most endoscopists (66.8%) reported no difference in their anesthetic approach for EGD versus colonoscopies in OSA patients. Thirty-six percent felt that lighter conscious sedation was adequate for all OSA patients, whereas 18% of endoscopists used anesthesia services for all procedures. Sedation practices for patients known to use CPAP or home oxygen varied with the largest proportion of endoscopists reporting lighter sedation as the only special precaution (28% and 25% respectively). Twenty-three and 33.8% percent felt that either a hospital endoscopy unit or anesthesia assistance was required for OSA patients and patients on home oxygen, respectively. Forty-six percent of respondents referred patients for OSA evaluation if they had apneic episodes during endoscopy.

Conclusion: There is a wide variation in conscious sedation practices for OSA patients among gastrointestinal endoscopists. Lighter sedation rather than anesthesiologist administered sedation appears to be the preferred management approach for gastrointestinal endoscopy in these patients.

P1102

FINDINGS OF ENDOMETRIOSIS BY CAPSULE ENDOSCOPY

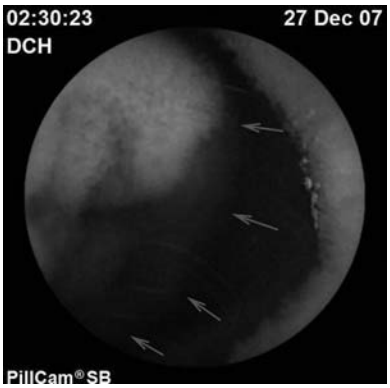
Z. Afzal, MD, A. Bajaj, MD, FACG. Advocate Christ Medical Center, Oak Lawn, IL.

Purpose: A 17 year old female was seen in consultation for multiple episodes of intermittent small bowel obstruction.

Methods: Each time the patient improved with conservative management. Upper and lower endoscopies were non diagnostic. A small bowel follow through x-ray was reported as normal. There was no evidence of inflammatory bowel disease. The patient then underwent a capsule endoscopy. The capsule study revealed a mass lesion in the distal ileum. The overlying mucosa appeard normal. Some of the images suggest a central depression. There was no ulceration or bleeding. The capsule was retained at the site for approximately 45 minutes and then spontaneously passed. The patient was subsequently referred for exploratory laparotomy. She underwent a partial ileal resection to remove the mass. Histopathology revealed small bowel endometriosis.

Results: Endometriosis is a relatively common condition characterized by implantation and proliferation of endometrial glands outside the uterus affecting 8% to 15% of women. Intestinal involvement is relatively common. It is reported in 12% to 37% of individuals with the disease. Of these cases, only 7% involve the small bowel. Most small bowel cases involve the distal ileum.

Conclusion: To our knowledge there are no reports of finding of endometriosis by capsule endoscopy. Search was made on PubMed and the capsuleendoscopy.org atlas websites. Our case represents an advance case where the lesion appeared as a mass leading to intermittent small bowel obstruction. Since small bowel endometriosis is relatively rare, more subtle findings will be documented as more cases are diagnosed. We suspect that many cases of ileal endometriosis may not yield any luminal findings by capsule endoscopy. One must have a high index of suspicion in the subgroup of patients that this disorder afflicts. A normal small bowel capsule endoscopy does not rule out endometriosis of the small bowel. We don't belive that possible small bowel endometriosis is an indication to perform capsule endoscopy. History of small bowel obstruction should not preculde capsule endoscopy. Many times it may lead to a definitive diagnosis.



Ileal mass-endometriosis

P1103

ACUTE MYOCARDIAL INFARCTION AND GASTROINTESTINAL BLEEDING IN AN AFRICAN AMERICAN INNER CITY POPULATION

M. Butnariu, MD,[1] A. Goodman, MD,[3] M. Rein, MD,[1] D. O'Brien, MD,[1] S. Abotaga, MD,[2] F. G. Gress, MD[3]. 1. Medicine, SUNY Downstate Medical Center,, Brooklyn, NY; 2. Medicine, Staten Island University Hospital, Staten Island, NY; 3. Gastroenterology, SUNY Downstate Medical Center, Brooklyn, NY.

Purpose: Patients with concomitant gastrointestinal bleeding (GIB) and acute myocardial infarction (AMI) have been well described in literature; however the majority of these studies were performed in non-minority populations. The aim of our study was to characterize patients with GIB and AMI in a predominantly underserved, minority, African American inner city population.

Methods: A retrospective chart review was conducted at two large teaching hospitals of a major university medical center in Brooklyn, NY. Patients were identified by using ICD-9 codes for GIB (occult and overt) and AMI, admitted 2001 through 2007. A total of 115 patients were identified, of which 102 (88.7%) were African American. This subset of patients was analyzed for patient characteristics, co-morbidities, endoscopy results as well as clinical outcomes.

Results: The median age was 71.4 years, 59.8% were women. The co-morbidities most frequently identified were: arterial hypertension (73.5%), diabetes mellitus (35.3%), congestive heart failure (21.6%), history of CVA (16.7%), history of coronary artery disease (36.3%), and chronic kidney disease (22.5%). 36.3% of patients were taking aspirin, 22.6% plavix, and 4.9% coumadin. 74.5% of patients presented with overt GIB. Median peak troponin was 54.1 and the median of the lowest hemoglobin was 7.6g/dl. 62 patients had endoscopic procedures (52 upper endoscopies and 18 colonoscopies).Endoscopy revealed 16.7% gastric ulcers, 6.7% duodenal ulcers, 3.3% Mallory Weiss tears, 16.7 % esophagitis, 40% gastritis, 11.7% duodentitis, 1.7% gastric cancer, 1.7% variceal bleed and 1.7% Dieulafoy lesion were found. Ulcers were described as: clean base (62.5%), adherent clot (25.0%), visible vessel (6.3%), active bleeding (6.2%). 7 repeat endoscopies and 2 surgeries were required for rebleeding. The majority lesions found at colonoscopy included internal hemorrhoids, rectal ulcers, vascular malformations, diverticulosis. There were 19 cardiac catheterizations performed. Occult GIB was associated with significantly less mortality than overt GIB (3.8% versus 19.7%, $p<0.05$). Although our patient population had a significant amount of chronic kidney disease, this did not affect the mortality rate (p-0.28).

Conclusion: Inner city, African Americans presenting with acute MI and GIB have a significant amount of arterial hypertension and chronic kidney disease, but a surprising low rate of variceal bleeding. The type of GIB, rather than comorbid conditions significantly affected patient mortality. The endoscopic findings were consistent with the trend recorded in the literature showing a decrease in the prevalence of peptic ulcer disease.

P1104

MELANOPHAGES IN THE RECTUM, NOT MELANOMA!

F. E. Rahhal, MD, S. Sridhar, MBBS, MPH, FACG, J. R. Lee, MD, F. Cuartas-Hoyos, MD, FACG. Gastroenterology, Medical College of Georgia, Augusta, GA.

Purpose: Melanocytes are known to populate the anal squamous mucosa and infrequently the mucosa above the dentate line. These cells represent the precursor lesions of anal melanoma. Melanocytes are more abundant in the African American population, however, anal melanomas are more frequent in Caucasions. Of interest, only one case of benign melanocytic lesion has been reported in this area (a nevus within an external hemorrhoid) (Am J Gastro 102:2608). Herein we describe a flat pigmented lesion of the rectum composed of nests of melanophages.

Methods: A 48 year old African American female underwent colonoscopy for abdominal pain. The colonic mucosa appeared normal and in particular there was no evidence of melanosis coli. Upon retroflexion in the rectum, a 10 x 4 mm flat area of dark pigmentation was noted just proximal to the dentate line. The lesion was removed by cold excisional biopsy.

Results: Histological examination revealed numerous melanin filled macrophages (melanophages) with no evidence of melanoma. Further staining of the specimen did not demonstrate iron or lispfusin deposition which further excludes melanosis coli.

Conclusion: Melanomas have been reported to involve the anorectal area. They are usually pigmented and can masquerade as thrombosed hemorrhoids. These tumors grow insidiously and are clinically aggressive with early metastases. Unfortunately, precursor melanocytic lesions are rare. In this case, a dark pigmented maccule was removed. Although this was proved to be benign, any suspicious pigmented lesion in the rectum must be biopsied to exclude more sinister melanoma.

P1105

RECTAL ENDOSCOPIC ULTRASOUND TO GUIDE THE COMBINED MEDICAL AND SURGICAL MANAGEMENT OF PEDIATRIC PERIANAL CROHN'S DISEASE: A SINGLE-CENTER FIVE-YEAR EXPERIENCE

M. J. Rosen, MD,[1] D. E. Moulton, MD,[1] T. Koyama, PhD,[2] W. M. Morgan, MD,[3] S. E. Morrow, MD,[3] A. J. Herline, MD,[4] R. L. Muldoon, MD,[4] P. E. Wise, MD,[4] D. Polk, MD,[1] D. A. Schwartz, MD[4]. 1. Division of Pediatric Gastroenterology, Hepatology and Nutrition, Department of Pediatrics, Vanderbilt Children's Hospital, Nashville, TN; 2. Department of Biostatistics, Vanderbilt University Medical Center, Nashville, TN; 3. Department of Pediatric Surgery, Vanderbilt Children's Hospital, Nashville, TN; 4. Inflammatory Bowel Disease Center, Vanderbilt University Medical Center, Nashville, TN.

Purpose: Perianal fistulas are a debilitating manifestation of Crohn's disease (CD) in the pediatric population. In adults, endoscopic ultrasound (EUS) accurately defines perianal lesions and improves outcomes when used to guide management. It is not known whether EUS can be used effectively in pediatric patients with perianal CD (PCD). The aims of this study were 1) to describe our pediatric experience using EUS to evaluate and guide management of PCD, and 2) to determine whether using EUS to guide surgical therapy improves outcomes.

Methods: We conducted a retrospective study of two cohorts: pediatric subjects with CD who had a rectal EUS between 2002 and 2007 (Aim 1) and pediatric subjects who had a seton placed between 2002 and 2007 (Aim 2).

Results: For Aim 1, we identified 25 children (mean age 14 ± 2.4; 84% male) who underwent 42 EUS procedures (60% had 1 EUS). 28 EUSs were performed on subjects with suspected PCD, identifying fistulas or abscesses in 19. Setons were placed in 59% (10/17) of those with complex fistulizing disease versus 9% (1/11) of those with simple fistulas or no lesions (p=.016). 14 EUSs were performed to monitor healing after seton placement, and 7 (50%) demonstrated persistent peri-seton inflammation or undrained tracts. The seton was more likely to be left in place if EUS revealed persistent inflammation (86% vs 0%, p=0.001), and the patient was more likely to have a biologic initiated or changed (57% versus 0%, p=0.07). For Aim 2, we identified 14 subjects who underwent seton placement. 10 subjects had at least one follow-up EUS while the seton was in place (EUS-directed care) and 4 received standard care. Time from seton removal to recurrence was longer in the EUS-directed care group (Figure 1); however, we were not powered to test for significance. 5 subjects (50%) in the EUS-directed care group initiated or changed biologics versus zero in the standard care group (p=0.2).

Conclusion: At our institution, EUS helped determine which children were referred for seton placement and may have influenced the decision to start biologic therapy. While there is a suggestion of benefit in our cohort, larger prospective studies are needed to determine if EUS-directed management of combination medical and surgical therapy improves outcomes in pediatric patients with PCD.

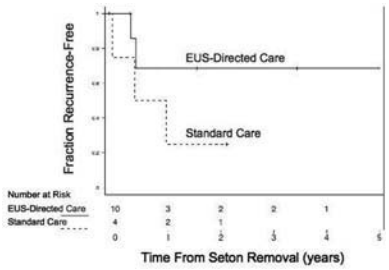


Figure 1. Kaplan-Meier plot of time from seton removal without recurrence.

P1106

COMPARISON OF RADIOLOGIC STUDIES IN PEDIATRIC PATIENTS WITH CROHN DISEASE AND ULCERATIVE COLITIS

D. R. Flomenhoft, MD,[1] J. W. Auer, MD,[1] H. S. Mardini, MD, MPH,[2] H. Shashidhar, MD,[3] W. De Villiers, MD, PhD, MBA[2]. 1. Internal Medicine and Pediatrics, University of Kentucky, Lexington, KY; 2. Internal Medicine, University of Kentucky, Lexington, KY; 3. Pediatrics, University of Kentucky, Lexington, KY.

Purpose: To analyze the patterns of use of radiologic studies in children with Inflammatory Bowel Disease and to assess if diagnosis, location of disease, therapeutic intervention or surgery are associated with increased use of higher radiation modalities.

Methods: Using our IBD database we identified pediatric IBD patients and reviewed the electronic records of those who had been diagnosed for at least 24 months. All included patients were diagnosed before the age of 19. 45 patients were identified, 9 of whom had not been seen in any practice at the university within the past 24 months, but were included in an intention to treat analysis. Charts were reviewed for pathology, endoscopy descriptions, radiologic procedures (CT, SBFT, KUB, CXR, US, and MRI), location of disease, therapy, and surgical intervention. Non –parametric tests and logistic regression models were used to assess differences and associations and to calculate the odd ratio (OR) and 95% confidence intervals (CI) of estimates.

Results: Forty five patients were identified: 29 were identified as CD and 16 as UC. The mean age at diagnosis was 15.3 yo (range 0.1-18 yr).The mean duration of disease was 3.9 yr. Factors associated with significant CT scan and SBFT utilization among CD pts include: Ileal disease (OR: 6.2; 2.3-12.5) and infliximab or immunomodulators use (3.9; 1.8-7.7).

Conclusion: Imaging studies are important tools in the diagnosis and management of patients with inflammatory bowel disease (IBD): radiologic studies enable providers to associate symptoms with disease and can help guide therapy. However, imaging studies expose patients to varying levels of radiation and theoretically increase long term risk for malignancy. This is of particular concern in pediatrics: children will both have a longer course and may require more imaging studies. The cumulative risks of radiation exposure have import throughout their adult lives. Our results suggest that children with Crohn's disease undergo more higher dose radiation studies than chidren with UC, and those with ileal disease or on immunologic therapy have highest exposure.

	CD (n=29)	UC (n=16)	P	CI
Any radiologic Evaluation (n=78)	54	24	NS	
CT scans	14	0	0.01	9.4(3.1-20.7)
SBFT	11	2	0.06	3.7(0.9-6.8)
X-Ray	24	10	NS	1.4(0.6-2.5)
US	5	2	NS	1.3 (0.2-1.9)
CT or SBFT	25	2	0.01	6.2 (2.8-14.6)

P1107

PROBIOTIC PRODUCTS IN THE PEDIATRIC POPULATION – AVAILABLE PRODUCTS VS. CLINICAL EVIDENCE.

T. Ringel-Kulka, MD, MPH, R. L. Dayton, BS. Maternal & Child Health, School of Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Purpose: The number of probiotic products in the food and nutraceutical market has grown dramatically in the past few years. Despite a parallel increase in publications related to probiotics in the medical literature, the data regarding their use in the pediatric population is limited and there are no clear guidelines regarding the use of probiotic products in children. **Aim:** To investigate the relationship between probiotic products marketed for the pediatric population in the US and the published medical literature on their clinical outcome.

Methods: Probiotic products marketed in the US were identified using 'ProductScan'- an online database search engine for marketed products. Using the keyword "probiotic*" we searched industries of "Foods," "Beverages," and "Health and Beauty Aids" for products launched between 1980 and 2008. The term "kids" was used in the "Select Product Tags or Claims" category to identify products marketed specifically for children. A PubMed search was conducted using the keyword "probiotic*" with the limits of: full text, humans, English, clinical trial, and child: 0-18 years. Articles in which study population was not predominantly children or did not have a defined clinical outcome were excluded. Brand names of probiotic products were identified if mentioned in the manuscripts.

Results: I. Out of the 253 probiotic products identified through ProductScan only 26 had specific claims for use in children: 4 food products, 8 beverages, and 14 health products. II. Medical search using PubMed generated 176 articles of which 89 met the inclusion criteria following further reading to confirm eligibility. Most (n=35) published manuscripts were related to GI conditions including diarrhea prevention (n=11); diarrhea treatment (n=17); necrotizing enterocolitis (n=3); nutritional and weight (n=3); and intestinal colic (n=1). III. None of the 26 children-related probiotic products identified by ProductScan had a reported study identified by PubMed search. Two products found in the medical literature are available in the US. However, these products are not marketed directly to children and therefore were not identified in the ProductScan search.

Conclusion: Only a minority of products available in the US are marketed specifically for children. Most of the investigation of probiotics in children was in relation to GI conditions. The clinical outcome research showing positive results of the use of certain probiotics in the pediatric population was conducted using bacteria that are not currently marketed in the tested final product. The available probiotic products for children are not supported by evidence-based outcome research. Clinical outcome studies using available products are needed in the pediatric population.

Disclosure - Dr. Ringel-Kulka- Research Support: General Mills, Inc. and Danisco

P1108

LANGERHANS CELL HISTIOCYTOSIS PRESENTING AS PROTEIN LOSING ENTEROPATHY AND MASQUERADING AS CROHN'S DISEASE

N. Mohan, Diplomate National Board Pediatrics, Fellowship in Pediatric Gastroenterology and Hepatology, Birmigham children's Hospital UK, H. Gupta, MD, S. Yadav, DNB, A. Sachdeva, MD. Department of Pediatrics, Sir Ganga Ram Hospital, Delhi, India.

Purpose: Langerhans Cell Histiocytosis (LCH) is a rare disease with annual paediatric incidence of 2-5 cases per million per year. We report a case of LCH with gastrointestinal involvement.

Methods: Retrospective analysis was done of a case presenting with bloody diarrhoea, vomiting and failure to thrive, diagnosed to be LCH and successfully treated.

Results: 1 year 10 months old female child, product of non consanguineous marriage presented with relapsing course of loose motions (bloody in later course), vomiting (non bilious) and failure to thrive for 3 months, and fever with pedal edema for 1 month. There was no history of rash, jaundice, dermatitis, ear infection joint swelling or contact with Koch's. On physical examination child was malnourished (weight 8 Kg i.e.<5 th percentile, height 83 cm i.e.25th percentile), had pallor, pedal edema and hepatosplenomegaly (liver 6 cm and spleen 2 cm below costal margin). Investigations revealed anaemia (Hb-8.7 gm/dl), deranged LFT (SGOT 57 IU/dl, SGPT 48 IU/dl, S.protein/albumin 3.1/1.5, triglycerides 909 mg/dl).Stool microscopy showed 25-30 pus cells, with mucus and RBCs. Mantoux test, Elisa for tuberculosis, immunoglobulin profile, HIV status, ANA, p-ANCA, were negative. Bone scan, chest x ray and skeletal survey were also negative. CT scan abdomen had hepatomegaly with small bowel edema. Liver biopsy showed marked steatosis. Repeated endoscopy showed duodenal ulcers and oedematous, friable colonic mucosa. Biopsy was suggestive of duodenal ulcers, chronic cryptitis with non-specific inflammation infiltrate, no inclusions granuloma /AFB. Barium meal follow through showed duodenal ulcer and segmental jejunal dilatations. Antisachromysis antibodies (ASCA) (IgA and IgG were positive).Thus in view of clinical symptoms, ASCA positivity (98% specificity) and endoscopic findings a diagnosis of CD was made. Patient showed improvement after onset of mesalamine and I/v methylprednisolone therapy. However persistent hepatosplenomegaly was unexplainable and suspicious and third biopsy of duodenal ulcer and colonic mucosa unveiled the mystery. Presence of cryptitis, inflammatory exudates and histiocytes (positive staining for S100 protein, CV 68 negative) was diagnostic of LCH. A bone marrow biopsy done thereafter showed infiltration by histiocytes. Patient responded to chemother-

apy (LCH –II protocol for 1 year) and repeat endoscopy and bone marrow after chemotherapy was unremarkable. She's doing well presently on a follow up of 12 months post chemotherapy.
Conclusion: Thus though the child was diagnosed as CD and even responded to treatment, a high index of suspicion due to persistent hepatosplenomegaly was the key factor leading to diagnosis of LCH with rare presentation with GIT symptoms.

P1109

A SINGLE CENTRE EXPERIENCE OF 23 PEDIATRIC LIVING DONOR LIVER TRANSPLANTATIONS FROM INDIA

N. Mohan, Diplomate National Boards Pediatrics, Fellowship in Pediatric Gastroenterology and Hepatology Birmingham Children's Hospital, UK,[1] N. Bhat, MD,[1] A. Soin, MS, FRCS,[2] R. Kakodkar, MS,[2] V. Kumaran, MS[2]. 1. Department of Pediatric Gastroentrology and Hepatology, Sir Ganga Ram Hospital, Delhi, India; 2. Gyan Burm Liver Surgery Unit, Sir Ganga Ram Hospital, Delhi, India.

Purpose: Living donor liver transplantation (LDLT) has become an established procedure for children with acute liver failure, some metabolic diseases and end stage liver disease. The aim of this study is to present our experience of pediatric LDLT.
Methods: Twenty three children; 15 males, 8 females with a median age of 8 years (range 11 months to 16 years) underwent LDLT between September 2004 to June 2008. The indications for LDLT were acute liver failure 5 (Wilson's disease 2, Hepatitis –A 2, Idiopathic 1), chronic liver disease 16, (Wilson's disease 2, progressive familial intrahepatic cholestasis 2, biliary atresia 6, cryptogenic cirrhosis 2, auto immune hepatitis-2) and haemangioendothelioma 1. 2 patients had primary hyperoxaluria type-1 with end stage renal disease and under went a combined liver and kidney transplant. The donor were mother 9, father 4, grand mother 4, uncle 2, cousin 2, grand father 1 and aunt 1. Twelve received left lobe, 7 received left lateral lobe and 3 received right lobe. Biliary reconstruction was done using duct to duct anastomosis in 13 and Roux-en-y hepaticojejunostomy in 10. All the patients were managed in a dedicated liver intensive care unit by pediatric hepatologists, pediatric intensivists and transplant surgeons. Post transplant immunosuppression was with a triple drug regimen of tacrolimus, mycophenolate mofetil and steroids.
Results: There was no donor or recipient mortality at a median follow up of 14 months (range 1-46 months) . Complications in immediate post transplant period were lung collapse / effusion 9, gram negative septicaemia 6, acute rejection 7, transient hypertension 13, hyperglycemia 8, bile leak 3, prolonged ventilations 1, oxygen dependence 1, gastrointestinal bleeding 1, cytomegalo virus infection 2 and chylous ascites 1, all of which were managed successfully. The 3 patients with bile leak were reexplored on day 3 in 2 day19 in 1.Duct-duct anastomosis was converted to Roux-en-Y, though the leak was from cut surface in 2 and caudate lobe duct in 1. Most of the recipients are doing fine at a median follow up of 14 months (range 1-46 months). Complications on long term follow up include hepatitis C virus infection with cirrhosis 1, chronic suppurative otitis media with mastoiditis necessiating modified radical mastoidectomy 1, functional cholestasis 1 and ductopenic rejection 1. Complications in donor included reexploration for reactionary hemorrhage 1,incisional hernia 1 and cut surface bile leak 1.
Conclusion: With meticulous operative techniques and dedicated pre and post transplant care a successful pediatric LDLT programme has been established in India with 100% survival to date.

P1110

WIRELESS CAPSULE ENDOSCOPY (CE): A PEDIATRIC EXPERIENCE

B. Abdulllah, MD, T. M. Ruzyla, RN. Pediatric Gastroenterology, Mary Bridge Children Hospital and Health Center, Tacoma, WA.

Purpose: Compare the diagnostic yield of CE in children with small bowel series, EGD and colonoscopy with biopsies.
Methods: Retrospectively reviewed the records of all children who underwent CE at our institution between March 2007 and May 2008. Results of CE were compared with those of small bowel radiographic studies, EGD with biopsies and colonoscopy with biopsies.
Results: Total 24 patients had CE, EGD, colonoscopy with biopsies and small bowel series. Nine males (37.5%) and 15 females (62.5%) were part of study. Age ranging from 10 to 18 years with a mean age of 15 years. The indications for CE included unexplained abdominal pain, diarrhea, hematochezia and/or weight loss. In the selected patients, findings were suggestive of small bowel disease on colonoscopy to the terminal ileum with biopsies in 4.2% (table B) and small bowel series in 16.7% (table C), however CE revealed small bowel disease in 54.8% of patients, included 33.3% were suggestive of Crhon's disease (table E). CE diagnosed gastric disease in 20.9% of patients compared to 33.4% on EGD and biopsies (table A). Furthermore 2/4 (50%) of patient with abnormal small bowel series had normal CE and 24/24 (100%) of patient had normal passage of CE
Conclusion: Capsule Endoscopy provides a valuable and safe tool in the evaluation of pediatric patients for diagnosis of small bowel diseases such as IBD, when compared to traditional diagnostic methods. However, more experience and larger studies are needed in the pediatric population to further evaluate the effectiveness of CE in the diagnosis of small bowel disease.

Table of Results

Table A Endoscopy (EGD) with Biopsy (24)		Table B Colonoscopy with Biopsy to terminal ileum (24)		Table C Small Bowel Series (24)		Table D Labs (24)		Table E Capsule Endoscopy (CE) (24)	
Normal	16/24 (66.6%)	Normal	20/24 (83.3%)	Normal	20/24 (83.3%)	Normal	21/24 (87.5%)	Normal	7/24 (29.1%)
Gastritis	6/24 (25%)	Colitis	2/24 (8.3%)	Sugges-tive of IBD	4/24 (16.7%)	High CRP	2/24 (8.3%)	Gastric Disease	4/24 (16.7%) Nodula-rity 2/24 Gastric Erosion 1/24 Gastric Polyps 1/24
Celiac	1/24 (4.2%)	Non-specific entero-colitis	1/24 (4.2%)			Anemia	1/24 (4.2%)	Erosion in Duodenal Bulb	1/24 (4.2%)
Gastric Polyps	1/24 (4.2%)	Tubular Adenoma	1/24 (4.2%)					Aphthous or Deep Ulcera-tions Suggestive of Crohn's Disease	8/24 (33.3%)
								Small Bowel Angio-ectasias	3/24 (12.5%)Hemato-chezia 100%
								Small Heman-gioma	1/24 (4.2%)

P1111

PREVALENCE OF CELIAC DISEASE AMONG SIBLINGS OF CELIAC PATIENTS

B. Chomeili, Associate Professor,[1] A. Hardani, MD,[2] M. Aminzadeh, Assistant professor,[3] P. Fathizadeh, Associate professor,[4] P. Chomeili, MD[5]. 1. Pediatrics, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran; 2. Pediatrics,, Ahvaz, Iran; 3. Pediatrics,, Ahvaz, Iran; 4. Pathology, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran; 5. Pediatrics,, Ahvaz, Iran.

Purpose: : Celiac disease (CD) is a problem which leads to malabsorption of nutrients, many subsequent complications and malnutrition. There is clear evidence of family tendency toward CD, and 5-10% of the first-degree relatives (parents, children, and siblings) of diagnosed patients may develop CD. The aim of this study was to determine the prevalence of CD among siblings of previously diagnosed patients.
Methods: : We reviewed all the files of confirmed celiac patients which are kept in the Pediatric Gastroenterology ward of Abuzar Children's Hospital, Ahvaz University of Medical Sciences in South-western of IRAN and then identified their siblings. We measured anti-tissue transglutaminase antibodies (IgA, IgG) in siblings, and took a duodenal biopsy of them for pathologic changes of CD. Serum samples were tested for IgA & IgG, anti-tTG by enzyme-linked immunoabsorbent assay (ELISA), and the biopsy results were reviewed using the Marsh classification system . The confirmation of CD was made by biopsy results.
Results: : During 7 years (1999 -2006) we had 42 confirmed CD-patients. We could found 39 siblings of these patients and anti-tTG test performed in all of them. Small-bowel biopsy obtained in 30 siblings.16 siblings had clinical findings of CD such as abdominal pain, fatigue, growth retardation and chronic diarrhea. The results of celiac screening in siblings of the patients were as follows: two of the siblings were found to have positive serology and biopsy results, 5 had high tTG levels without positive biopsy findings. The results showed that 6.6% of the studied group had celiac disease, which is the same as previous studies
Conclusion: : Celiac is a disease which it's early diagnosis could prevent serious complications such as growth retardation, short stature, chronic diarrhea and malignancy. Because of the high prevalence of the disease among the siblings, it is needed to find CD in them as soon as possible

P1112

ASSESSING VARIABILITY IN SURVEILLANCE RECOMMENDATIONS FOR FAIR ADEQUATE BOWEL PREPARATIONS

S. R. Kaptik, MD, F. Harris, MD, T. Lyles, MD, C. R. Tombazzi, MD. Gastroenterology and Hepatology, University of Tennessee, Memphis, TN.

Purpose: The Clinical Outcomes Research Initiative (CORI) system defines a fair adequate bowel preparation (prep) as one having "enough feces or liquid to prevent a completely reliable exam". Prior studies have defined an acceptable prep quality as one that is considered excellent, good, or fair adequate. In addition, firm guidelines do not exist regarding appropriate surveillance intervals after fair adequate preps. The aim of this study is to determine if fair adequate preps are truly acceptable and if there is a consensus among endoscopists regarding recommended surveillance intervals for these preps.

Methods: All colonoscopies performed at the Memphis Veterans Affairs Medical Center from January 1, 2006 through April 30, 2008 were retrospectively evaluated. Only outpatient screening colonoscopies were included in the review. Exclusion criteria included prior colonoscopy, inpatient status, nursing home residence, incomplete endoscopy report, and any colonoscopy performed for indications other than routine colorectal cancer screening (acute intestinal bleeding, iron deficiency, abdominal pain, constipation, diarrhea, and abnormal imaging findings). Bowel preparation adequacy was subjectively defined by the endoscopist at the time of the procedure as excellent, good, fair adequate, fair exam compromised, or poor. All patient data were obtained from the CORI and the Computerized Patient Record System (CPRS) databases. Chi-squared tests were performed to determine statistical significance.

Results: A total of 623 patients met all selection criteria and were included in the study. Of these, 29% had a fair adequate prep. No significant difference was seen in the percentage of patients having fair adequate preps with adenoma (30%) as compared to patients with good (25%) and excellent (30%) preps. Interestingly, no clear consensus was seen in terms of recommended follow for fair adequate preps with or without adenomas (see Table).

Conclusion: A significant number of patients undergoing colonoscopy have fair adequate preps. These preps can potentially be considered acceptable since there is no difference in the percentage of patients having fair adequate preps that detect adenomas as compared to patients with good and excellent preps. However, a consensus does not exist regarding recommended surveillance intervals for fair preps. This lack of consensus may be due to the fact that a fair adequate prep is defined as not being "a completely reliable exam". Therefore, formal guidelines need to be developed for surveillance intervals in patients with fair adequate bowel preparations.

Recommended Follow Up Intervals for Fair Adequate Bowel Preparations

#adenomas(#patients)	≤1year (%)	3 years (%)	5 years (%)	10 years (%)	Not specified
0 (127)	10 (8%)	17 (13%)	43 (35%)	35 (28%)	20 (16%)
1-2 (30)	1 (3%)	9 (30%)	16 (53%)	2 (7%)	2 (7%)
>2 or ≥1cm (24)	10 (42%)	11 (46%)	3 (12%)	0 (0%)	0 (0%)

P1113

LOW EFFECTIVENESS OF CT COLONOSCOPY FOR DETECTION OF COLON POLYPS AFTER FAILED COLONOSCOPY

B. Borg, MD, MHS, N. Gupta, MD, G. R. Zuckerman, DO, B. Banerjee, MD. Gastroenterology, Washington University School of Medicine, Saint Louis, MO.

Purpose: CT colonoscopy is approved as an alternative method of screening for colon polyps and is used frequently as a salvage method after an incomplete colonoscopy. The effectiveness of this approach has not been well investigated. We evaluated the utility of CT colonoscopy (CTC) as a salvage screening method after failed colonoscopy at a tertiary care center with easy access to radiology.

Methods: Data from all imaging studies ordered following colonoscopy was collected from June to October 2007. Median follow up period was 310 days. Results of the imaging studies, outcome, effect on clinical care and alternative findings were retrieved and followed by data analysis.

Results: From a total of 1628 colonoscopy reports, 50 patients had imaging studies requested after the cecum was not reached (3% of total); 46 after their first and 4 after their second colonoscopy. Technical difficulty in reaching the cecum (79%) was the most common reason for requesting an imaging study. Proximal colon was reached in 82.3% of failed colonoscopies that led to a request for CT colonoscopy (CTC). CTC was ordered in 29 pts; in 21 a combination of abdominal CT, barium enema and MR enterography comprised the remaining requests. Of the total procedures (50) requested, 14 (28%) were not performed, including 41% of requested CTC. Imaging studies in 36 patients revealed a total of 37 luminal and 42 non-luminal findings. No polyps were reported by CTC. Only one colon polyp was identified by MRI that on repeat colonoscopy was removed and found to be inflammatory. In multivariate logistic regression analysis, while controlling for other variables, female gender (OR=3.04, p=0.0064), and indication for colonoscopy (bleeding vs. screening) (OR=2.73, p=0.025) were independently predictive of request for an imaging study after failed colonoscopy.

Conclusion: When CTC was requested following an incomplete colonoscopy, it was often not performed. Following a failed colonoscopy, the yield of CTC or other imaging studies in detecting neoplasia was poor. Large population based studies would be necessary to evaluate the effectiveness of this approach in the general population. The high rate of unperformed CTC and its poor yield questions the value of this procedure in the setting of an incomplete colonoscopy.

P1114

PREDICTORS OF COLONOSCOPY USE AMONG FEMALE MEDICARE BENEFICIARIES

D. Koya, MD, MSCR,[1] W. P. Moran, MD, MS[2]. 1. Division of Digestive diseases & nutrition, University of South Florida, Tampa, FL; 2. Internal Medicine, Medical University of South Carolina, Charleston, SC.

Purpose: Despite the fact that effective screening tests for colorectal cancer exist, when compared with breast and cervical cancer test screening rates colorectal cancer test screening rates are much lower among women. Especially, colonoscopy rates for colon cancer screening are lower in women compared to men. Examining the predictors of lower endoscopy use for cancer screening among female Medicare beneficiaries yield information useful to assess and improve colon cancer preventive care among women.

Methods: We used Medicare Current Beneficiary Survey 2003(MCBS) data to identify demographic, socioeconomic, health and behavioral factors that predict use of colonoscopy in the last 5 yrs among female Medicare beneficiaries 65 years and older. The MCBS is a survey of a nationally representative sample of Medicare beneficiaries, which provides comprehensive information of their demographics, socioeconomic status, behavioral characteristics, health status & physical function and health services. Potential predictor variables known to predict colonoscopy use, identified from literature review were fitted to the multivariable logistic regression model.

Results: The predictors positively associated with colonoscopy use were higher frequency of office visits in the current year, receipt of other preventive care which include influenza vaccine in the last year, pneumococcal vaccine ever, receipt of mammogram in the last year. The factors which were significantly negatively associated with colonoscopy use were age 85 years or more, Other race, low education, low income and and current tobacco use. Race, Marital status, self reported health status, HMO enrollment, receipt of Pap were not associated with use of colonoscopy.

Conclusion: Interventions tailored to target the subgroups with lowest screening rates are needed to improve the colon cancer screening rates in Medicare female beneficiaries

Significant predictors of use of colonoscopy in female Medicare beneficiaries

Predictor	OR (CI)	p-value
Age 65-69 yrs 70-74 yrs 75-79 yrs 80-84 yrs ≥ 85yrs	1.00 0.9(0.77 -1.07) 1.03(0.85 - 1.24) 0.83 (0.69 - 1.01) 0.54(0.44 -0.67)*	<0.001
Race White Black Other	1.00 0.97 (0.79 - 1.19) 0.66 (0.47 - 0.93)*	0.05
Education < high school	0.83 (0.73 - 0.94)	0.001
Annual income < $20,000	0.78 (0.68 - 0.89)	<0.001
# of office visits (continuous variable)	1.03 (1.02 -1.04)	<0.001
Flu vaccine received last yr	1.23 (1.05-1.43)	0.001
pneumococcal vaccine ever received	1.49 (1.29-1.73)	<0.001
Mammogram received last yr	1.78 (1.55 - 2.05)	<0.001
Current tobacco use	0.75 (0.60-0.94)	0.01

P1115

COLONIC MICROBIOTA FOLATE PRODUCTION: ANOTHER PIECE OF THE FOLATE-COLON CANCER PUZZLE?

S. J. O'Keefe, MD, MSc,[1] S. Sharma, MD,[1] S. Aufreiter, BSc,[2] D. O'Connor, PhD, RD,[2] J. Sepulveda, MD, PhD[3]. 1. Gastroenterology, University of Pittsburgh, Pittsburgh, PA; 2. Nutritional Science, University of Toronto, Toronto, ON, Canada; 3. Clinical Pathology, University of Pittsburgh, Pittsburgh, PA.

Purpose: There is substantial experimental evidence that folate plays a pivotal role in the prevention and propagation of the neoplastic process through its effects on gene methylation and DNA synthesis and replication. It is therefore difficult to understand why studies have observed that a moderately low dietary folate intake is associated with low colon cancer risk in some populations. A possible explanation may involve the ability of the microbiota to synthesize folate as mucosal folate transporter mechanisms have recently been identified in the colon. To investigate this, we compared the colonic folate contents of high and low risk populations in our investigations of why African Americans (AAs) have excessively high rates of colon cancer (65:100,000 population) while native Africans (As) have minimal rates (<1:100,000).

Methods: 16 healthy 50-65 yo AAs and 16 As were given 2L Golytely solution to drink within 30 minutes at 8am the morning following a fast from midnight. For 3h, all stool was collected, weighed, homogenized, and sampled. Stored samples were thawed and centrifuged at 5,000rpm for 30 minutes and then the supernatant was decanted. Folates in the supernatant were converted to their microbiologically assayable form using rat serum folate conjugase and measured by microbiological assay as described by Molloy and Scott (1997) using the test organism Lactbacillus rhamnoses (ATCC 7469, American Type Tissue Culture Collection, Manasas, VA). Fasting blood samples were taken for red blood cell folate measurement and dietary history was obtained by 3-day recall method.

Results: Table shows that dietary folate and red cell folate levels were significantly lower in Africans, but there was no difference in colonic folate content. Furthermore colonic folate was x3 higher than dietary intake indicating net synthesis by the microbiota. Hemoglobin concentrations and MCVs were similar (As 13.1(1) vs. AAs 13.8(0.3) g/dl, and 85(4) vs. 90(2) fl, respectively).

Conclusion: The apparent paradox of low colon cancer risk in dietary folate deficient populations may be explained by the rich source of topical folate synthesized by the microbiota.

	Africans	African Americans
Dietary folate(ug)	201(23)	481(47)**
Colonic folate(ug)	632(95)	699(131)
RBC folate (ng/ml)	181(20)	334(26)***

Group means (SE). Statistics: ** p<0.001, *** p<0.001 vs. Native Africans unpaired Student's t test

P1116

RISK FOR COLONIC ADENOMA OR DYSPLASIA IS NOT INCREASED IN PATIENTS WITH MICROSCOPIC COLITIS

E. F. Rood, M4, W. Liu, M, D, J. Hammel, MS, C. Burke, M, D, B. Shen, M, D. Digestive Disease Institute, Cleveland Clinic, Cleveland, OH.

Purpose: Microscopic colitis is considered as a form of inflammatory bowel disease. Surveillance colonoscopy is indicated in patients with ulcerative colitis and Crohn's colitis which are associated with an increased risk for colonic neoplasm. The risk for colonic adenoma or dysplasia in patients with microscopic colitis has not been investigated. Whether the patients should have routine screening colonoscopy or surveillance colonoscopy is not known. The aims of the study were to compare the prevalence of colonic adenoma or dysplasia between the patients with microscopic colitis and those with an average risk and to assess risk factors assciated with colonic adenoma.

Methods: Patients' charts with a histopathological diagnosis of lymphocytic or collagenous colitis from the pathology database between 1993 and 2004 (N = 317) were reviewed. Consecutive patients with an average risk for colon cancer who underwent screening colonoscopy (N = 983) from 1999 to 2004 served as controls, with a 1:3 ratio. Patients with ulcerative colitis or Crohn's disease or patients with an increased risk for colon cancer or adenoma (such as personal or familty history of colon adenoma or colon cancer, the presence of personal and family history of HNPCC-associated cancer)were excluded. Medical records including endoscopy and pathology reports were reviewed and a total of 23 demographic, clinical, endoscopic, and histopathological variables were collected. Outcome measurements were any colonicadenoma or dysplasia or advanced adenoma. Univariable and multivariable analyses were performed.

Results: In both univariable and multivariable (adjusted for age, gender, and use of aspirin, NSAIDs, and mesalamines) analyses, the presence of microscopic colitis was not found to be associated with an increased risk for colon adenoma/dysplasia or advanced adenoma (Table). In multivariable analyses, older age was shown to be associated with an increased risk for colon adenoma/dysplasia, while female gender had a lower risk for colon adenoma.

Conclusion: Conclusion: Patients with microscopic colitis have no more than average risk for adenoma or dysplasia of colon. Routine screening colonoscopy may suffice for this patient population. Age and gender were independent factors associated with colon adenoma.

Association between Microscopic Colitis or Other Factors and Colon Adenoma/Dysplasia

	Any Adenoma/Dysplasia		Advanced Adenoma	
Variable	Odds Ratio (95% CI)	P-value	Odds Ratio (95% CI)	P-value
Microscopic Colitis Group*	1.25 (0.83 - 1.87)	0.28	0.62 (0.24 - 1.57)	0.31
Age**	1.17 (1.10 - 1.25)	<0.001	1.29 (1.14 - 1.47)	<0.001
Female	0.65 (0.48 - 0.88)	0.005	0.43 (0.24 - 0.78)	0.005
Aspirin Use	1.27 (0.95 - 1.71)	0.11	0.97 (0.56 - 1.67)	0.90
NSAID Use	0.80 (0.52 - 1.22)	0.30	1.34 (0.66 - 2.76)	0.42
Mesalamine Use	0.95 (0.44 - 2.08)	0.90	2.40 (0.57 - 10.1)	0.23

*** Parameter estimate and odds ratio relative to control group.**
**** Parameter estimate and odds ratio relative to a 5 year difference.**

P1117

POOR BOWEL PREPARATION IN COLONOSCOPY IS A COSTLY PROBLEM: PROSPECTIVE RANDOMIZED STUDY OF URBAN INPATIENT POPULATION

S. Donthu, MD,[2] S. Chirla, MD,[1] D. Anjelly, -,[1] R. Clark, MD,[1] K. Kashef, MD,[1] T. Danilewitz, MD,[1] I. K. Ho, MD,[2] A. S. Ahmad, MD,[1] J. C. Reynolds, MD[1].
1. Gastroenterology, Drexel University College of Medicine, Philadelphia, PA;
2. Gastroenterology, Crozer Chester Medical Center, Upland, PA.

Purpose: Poor colonic preparation (prep) is a major limitation on the quality of colonoscopy (colon). Inpatient (IP) status has previously been shown to be a significant predictor of poor prep. No prospective trials evaluated the effect of education (edu) on IP prep outcomes. The aims of the study are: 1. To prospectively identify predictors of poor prep in IP's. 2. To determine if enhanced patient (pt) edu can significantly improve the quality of prep in IP's undergoing colon.

Methods: The study was done as a single-blinded, prospective, randomized, concealed allocation, multicenter study. IP's scheduled for colon in 2 urban hospitals were included. Factors previously shown to influence prep outcome in outpts and other potential risk factors (RF) were documented. Pt compliance with prep ingestion was obtained from nursing staff blinded to the pt allocation. Endoscopists blinded to the randomization rated the prep using a visual analog scale ranging from 0-4 (0=poor, 4=excellent). Pts were randomized to one of two groups. The edu group received a 15 min verbal session by a health care worker and a pictorial brochure in addition to the standard instructions by the registered nurse (RN). Standard of care (SOC) group received instructions from the RN alone.

Results: Of the 73 pt's enrolled, 68 were included in the study, 5 were excluded as the procedure was not done the next day as planned. Of the 68 included, n=38 in the edu group and n=30 in the SOC group. The mean age of all pt's was 60.2 years, 45.6% were women, 54.4% were nonwhite and 22% had less than high school edu. Poor prep was seen in 23.5%. In 47.1% the prep was inadequate for screening purposes. Due to poor prep, 11.8% of the pt's had repeat colon, extending hospital stay. Consuming >75% of the prep (p=0.009) and prep given before 3:00 pm (p=0.01) were the only significant predictors of adequate bowel prep. Other RF including demographics, edu level, concurrent illness, ability to ambulate, presence/absence of GI symptoms on admission, family history of colon cancer/polyps and prep type were similar in good and poor prep pts. Poor prep was seen in 23.7% of pts in the edu group (<2 score) compared to 23.3% in the SOC group (p=ns). Poor preps increased the average cost of a colon by $400 due to need for repeat procedure and by $863 due to the prolonged IP stay leading to a total increase by $1263/case.

Conclusion: 1. Poor bowel prep in IP's remains a costly problem in US hospitals. 2. Inadequate prep resulted in a prolonged hospital stay in 11.8% of pts. 3. Pre-procedural edu alone does not appear to impact the quality of the bowel prep in IP's. 4. Newer strategies need to be developed that place emphasis on increasing compliance and early administration of the bowel prep in IP's.

P1118

COMPLIANCE OF FOLLOW-UP COLONOSCOPY IN OLDER ADULTS

A. Stephenson-McInnis, DO, MBA, J. Lin, DO, MS, A. Chopra, MD, S. Pomerantz, PhD. Geriatrics, University of Medicine and Dentistry of New Jersey - School of Osteopathic Medicine, Stratford, NJ.

Purpose: Much emphasis has been placed on initial screening colonoscopy at the age of 50.Since the risk of colon cancer continues to increase after the age of 50,it is important for people to return for follow-up colonoscopies,particularly those who have had a normal finding on an initial screening colonoscopy.The objective of this study is to identify whether individuals, aged 60 or older, who have had normal initial screening colonoscopies, are returning for follow-up colonoscopies, and if they are not returning, what barriers and concerns limit their return for a follow-up colonoscopy.Also,the relationship between compliance with other health-related screenings,such as mammograms and baseline PSA levels,is explored

Methods: Subjects were people 60 and older who attended community-based gatherings for seniors at churches,senior clubs/meetings and senior centers.A 25-item survey was constructed to focus on compliance and awareness of, and behavior related to colonoscopies for colon cancer screening and follow-up,as well as other health screening tests such as mammograms,PSA,dental, and eye exams

Results: 174 people participated in the study.Their mean age was 74 (SD 7.5);80% were female and 20% were male.Of the 174, 51% were White,39% were Black,and 10% were "other" ethnicity.Out of the sample, 75.1% had an initial screening colonoscopy.Of those subjects that had an initial screening colonoscopy and answered the question (N=123),63.4% reported having normal results.Of the 75 subjects with normal initial screening colonoscopy and answered the question,44% reported having a follow-up colonoscopy,56% reported not having a follow-up colonoscopy,and of these.Those who did not have a follow-up colonoscopy and answered the question (N=34), the three most common reasons were: time to return had not yet passed (41.1%),they just haven't gone back (11.8%),or no doctor told them to return for a follow-up colonoscopy (11.8%).In terms of compliance with other health screening tests, 88.3% of females who had a colonoscopy in the past reported having a mammogram within the last two years and 100% of male subjects who had a colonoscopy in the past (N= 21),reported having a PSA level done within the last 2 years.

Conclusion: Many older adults are getting initial screening colonoscopies.Of those with normal findings on the initial screening colonoscopy,a significant minority are not going back for follow-up colonoscopy,which places them at a risk for developing colon cancer.For those who have not had an initial screening colonoscopy or are not returning for follow-up colonoscopy,further education and/or encouragement by physicians may have an important role. People who are getting colonoscopies appear to be compliant with other health screening tests.

P1119

RISK OF COLORECTAL CANCER (CRC) IN PERSONS WITH A FAMILY HISTORY (FHX) OF ADENOMATOUS POLYPS: A SYSTEMATIC REVIEW

T. F. Imperiale, MD,[1] D. F. Ransohoff, MD[2]. 1. Medicine, Indiana University, Indianapolis, IN; 2. Medicine, University of North Carolina, Chapel Hill, NC.

Purpose: The risk of colorectal cancer (CRC) in first-degree relatives (FDRs) of persons with adenomatous polyps (APs) is not clearly defined.

Methods: We performed a systematic review of the published literature by identifying all studies that purported to examine the risk of CRC in persons with a FHx of APs. We searched MEDLINE and the Cochrane database for studies on this topic, and cross-referenced retrieved reports. We abstracted descriptive and quantitative information from each study and compared each with the ideal study on this topic.

Results: From an initial group of 13 relevant studies, we identified two types of case-control studies. Ten studies identified cases with APs, controls without APs and compared the frequency of CRC in FDRs between the two groups; one study used spouses of the cases as a control group. We excluded these 11 studies because they addressed a different study question: "Does having a FDR with CRC increase the risk for APs?" The remaining 2 studies (Table) defined cases as persons having a FDR with APs, controls as persons either having no FDRs with APs or with minor symptoms, and compared the subsequent presence of CRC in cases and controls themselves, a study design more consistent with the ideal study. These two studies suggest that the risk of CRC in persons having a FDR with any AP is greater than in persons having no FDR with APs (2.31% vs. 0.53%; RR=4.36; CI, 1.60-10.2), and that persons who have a FDR with a large (>= 1 cm) AP are at greater risk for the combined outcome of CRC and APs >= 1 cm than persons with minor symptoms (8.4% vs. 4.2%; OR=2.27; CI, 1.01-5.09). However, both studies have limitations that affect validity and/or generalizability of the results.

Conclusion: Most of the studies on FHx of AP and risk of CRC use a study design that does not directly address the risk of CRC in persons who have a FDR with APs. The current, relevant literature is sparse but suggests an increased risk, though the studies have methodological limitations. Subsequent research is required that is both properly designed and considers subgroups of APs as well as factors that may modify risk, such as age, sex, and polyp location.

1st Author, yr	Design	Cases	Controls	Exposure	Results	Limitations
Nakama, 2000	6139 subjects completed a questionnaire about FHx before having screening colonoscopy (CY)	648 subjects with a FDR having APs	5491 subjects with no FDRs with APs	CRC	CRC present in 15 (2.3%) cases, 29 (0.51%) controls	-self-completed, non-verified responses; -Japanese subjects
Cottet, 2007	CY findings compared in FDRs of patients with a large AP and controls with minor symptoms	168 FDRs	307 subjects with minor symptoms	CRC and APs	CRC + large APs present 14 (8.4%) cases, 13 (4.2%) controls	-some FDRs had a FHx of CRC -neither CRC nor APs alone was greater among cases

P1120

COLORECTAL CANCER SCREENING PROGRAM IN AN URBAN UNIVERSITY HOSPITAL

H. M. Licht, MD, R. Fisher, MD, J. Richter, MD. Medicine, Temple University Hospital, Philadelphia, PA.

Purpose: Colorectal cancer is a leading cause of cancer. Yet, screening colonoscopy is underutilized, especially in minority and lower socio-economic populations. This report describes the experience of an open access screening colonoscopy program in an urban university hospital serving primarily an African American and Hispanic population.

Methods: Data were collected for the first 15 months of the program beginning December 2006. Patients were referred from the family medicine and internal medicine practices at the university hospital, the residents' medical clinic and from outside medical practices affiliated with the medical center. Referrals were sent to the GI section. A bilingual nurse facilitator initiated contact with the patient by phone. If necessary, three attempts were made to contact the patient and messages were left. A screening questionnaire was administered by phone and the purpose and benefits of colonoscopy and the prep were discussed with the patient. A reminder phone call two days prior to the procedure was made.

Results: 450 patients were referred for screening colonoscopy. 176 patients (39%) came for the colonoscopy. 77 patients (44%) undergoing colonoscopy had polyps and 56 patients (32%) had advanced polyps, ie. adenomatous polyps greater than 1cm, tubular adenomas with high grade dysplasia or villous adenomas. Of the 274 patients who did not have colonoscopy, 262 could not be contacted, 10 were contacted but refused the procedure and 2 were scheduled but did not come. There was a statistically significant difference between the university based internal medicine practice and all other referral sources. 56% of patients referred from this practice had the exam compared to 42% referred from practices outside the institution (p=.014), 29% from the university family medicine practice (p=.009) and 21% from the residents' medical clinic (p<.001). There was no statistical difference in age or gender in those who came for the exam. Data regarding patient satisfaction are limited and were positive in a small sample of the screened patients.

Conclusion: A high prevalence of significant lesions was detected by screening colonoscopy in our lower socio-economic population. The large number of referred patients not undergoing colonoscopy is indicative of the many barriers to colorectal cancer screening in an inner city population. It is notable that patients from different referral sources accepted screening colonoscopy at variable rates. Barriers to successful colon cancer screening may be physician-related or patient-related. Future studies should identify these barriers and develop methods to improve use of open access screening programs.

P1121

PERCEPTION AND PREFERENCE OF COLONOSCOPY FOR COLON CANCER SCREENING IN MEDICALLY UNDERSERVED WEST TEXAS AREA

A. Rakvit, MD,[1] S. Phisitkul, MD,[2] L. McMurry, MSN, RN,[3] D. Hodges, MD[1]. 1. Internal Medicine / Gastroenterology, Texas Tech University Health Science Center, Lubbock, TX; 2. Internal Medicine, Texas Tech University Health Science Center, Lubbock, TX; 3. School of Nursing, Texas Tech University Health Science Center, Lubbock, TX.

Purpose: To determine factors that possibly prevent patients from undergoing screening colonoscopy in medically underserved area of West Texas.

Methods: A written questionnaire concerning colon cancer and screening colonoscopy was distributed to adult patients at Larry Combest Wellness Center, an outpatient clinic located in a medically underserved area of Lubbock, Texas.

Results: A total of 432 subjects completed the questionnaire from April to May 2008. Patient characteristics included age ≥ 50 in 45%, female gender 67%, Hispanic 47%, Caucasian 38%, African-American 10%, household income < $10,000/year in 52%, unemployed 59%, lack of medical insurance in 44%, and level of education high school or equivalent in 50%. Of the 192 patients ≥ 50 years old, 38% had undergone screening colonoscopy. Of the unscreened subjects ≥ 50 years old, 23% had never heard of colonoscopy as a screening test. Of the 118 patients age ≥ 50 without previous screening, 25% did not plan to undergo screening for colon cancer screening, and 46% were uncertain about having screening colonoscopy. The main factors cited as preventing subjects from undergoing screening colonoscopy were financial issues in 33%, lack of information about colonoscopy in 20%, concern about possible discomfort during colonoscopy in 17%, and lack of knowledge about colon cancer risk in 13%. The majority of patients, 58%, listed no gender preference for the endoscopist. Only 29% of the female subjects preferred to have a female perform their colonoscopy. Using score range of 0 to 10, patients rated the importance of colon cancer screening for their overall health as 8.3 (mean, SD 2.9), their knowledge about colonoscopy as 3.5 (mean, SD 3.7), and their satisfaction with previous colonoscopy as 8.7 (mean, SD 2.6).

Conclusion: In this population of patients in an underserved urban area of West Texas, 38% of patients over age fifty had undergone colonoscopy screening. Over two-thirds of respondents were not certain or do not plan to undergo screening colonoscopy. The main factors preventing decisions about undergoing screening colonoscopy were financial issues, concerns about possible discomfort during colonoscopy, and lack of understanding about colonoscopy and colon cancer risk. Knowledge about colon cancer risk and colonoscopy in this population appears low, indicating the need for better education in this area.

P1122

EFFECT OF FEMALE GENDER AND HYSTERECTOMY ON COLONOSCOPY PROCEDURE TIME: A PROSPECTIVE STUDY

2008 ACG Presidential Poster Award Recipient

R. Yen, MD, A. Mreyoud, MD, A. Rani, MD. Internal Medicine/Gastroenterology, University at Buffalo, Buffalo, NY.

Purpose: Some feel that female anatomy and post-surgical changes with hysterectomy affect colonoscopy by increasing cecal intubation time. However, there are no studies directly comparing females to males. We sought to prospectively determine the effect of female gender and hysterectomy on colonoscopy procedure time.

Methods: We enrolled and compared the 1st consecutive 60 males (Grp 1), 40 females w/o hysterectomy (Grp 2), and 20 females w/ hysterectomy (Grp 3) undergoing screening colonoscopy, starting from October 1, 2007. We collected data on patient characteristics (age, BMI, ethnicity, previous colonoscopy, co-morbid medical conditions) and endoscopy characteristics (level of experience of endoscopist, # biopsies/polypectomies performed, dose of versed/fentanyl used). We collected data on total procedure, cecal intubation, scope withdrawal, and recovery times.

Results: In our study, pts were comparable for age, BMI, prev colonoscopy, % co-morbid medical conditions, % 1st yr GI fellow performing procedure, and total dose of versed/fentanyl given. There was a significantly higher proportion of Caucasian pts in the male group compared to female groups. There was no significant difference between the 3 groups for cecal intubation time. On univariate analysis, women w/o hysterectomy had significantly shorter total procedure times; however, this group had significantly fewer polypectomies and biopsies performed during their procedure. Recovery time was significantly shorter in male pts. Total procedure time was predicted by formula: total colonoscopy procedure time (min) = 22.9 + 4.8(if 1st yr GI fellow as endoscopist) + 7.2(# polypectomies) + 2.3(# biopsies). Female gender and history of hysterectomy were not found to be independent predictors of total procedure time.

Conclusion: In our study, there was no difference between the 3 groups for cecal intubation time. We found that the level of experience of the endoscopist, # polypectomies performed, and # biopsies performed were independent predictors of total colonoscopy procedure time. Female gender and history of hysterectomy were not independent predictors of total colonoscopy procedure time. Larger studies are needed.

Results

	Grp 1	Grp 2	Grp 3	p
Cecal Intubation Time (min)	13.1	13.7	14.9	NS
Total Procedure Time (min)	29.2	25.1	29.9	.02
% Polypectomy/Bx Performed	44.1%	10%	35%	<.01
Recovery Time (min)	33.3	38.3	39.9	.05

Late Breaking Abstract
Oral Paper 29

SONIC: A RANDOMIZED, DOUBLE-BLIND, CONTROLLED TRIAL COMPARING INFLIXIMAB AND INFLIXIMAB PLUS AZATHIOPRINE TO AZATHIOPRINE IN PATIENTS WITH CROHN'S DISEASE NAIVE TO IMMUNOMODULATORS AND BIOLOGIC THERAPY

W.J. Sandborn, MD, P. Rutgeerts, MD, W. Reinisch, MD, G.J. Mantzaris, MD, A. Kornbluth, MD, D. Rachmilewitz, MD, S. Lichtiger, MD, G. D'Haens, MD, C.J. van der Woude, MD, R.H. Diamond, MD, D. Broussard, MD, R. Hegedus, MD, J.F. Colombel, MD, Mayo Clinic, Rochester, MN, U. Hospital, Gasthuisberg, Leuven, Belgium, U. Hospital Vienna, Vienna, Austria, Evangelismos Hospital, Athens, Greece, Mt. Sinai Medical Center, New York, NY, Shaare Zedek Medical Center, Jerusalem, Israel, Imelda Ziekenhuis, Bonheiden, Belgium, Erasmus MC, Rotterdam, Netherlands, Centocor, Inc., Horsham, PA, Centre Hospitalier Universitaire de Lille, France

Purpose: To assess the induction of steroid-free remission and the safety of infliximab (IFX) monotherapy and IFX+azathioprine (AZA) combination therapy, with AZA monotherapy in moderate-to-severe CD pts.
Methods:508 pts who were naïve to immunomodulators were randomized to: 1) AZA 2.5mg/kg capsules + placebo (PBO) infusions, 2)IFX 5mg/kg infusions + PBO capsules, or 3)IFX 5mg/kg infusions + AZA 2.5mg/kg capsules through wk30. The infusions were administered at wks 0, 2, and 6 followed by q8wk infusions. Final efficacy assessments were collected at wk26, including endoscopy for pts with mucosal ulcerations at baseline. RESULTS: 52% of pts were male and 93% were Caucasian. The median age was 34yrs (range, 18-80yrs). The median CD duration was 2.3yrs (range, 0 to 43 yrs). The median CDAI score was 275 (25th-75th percentile, 244-323) and the median baseline CRP was 1.1mg/dL (range, 0.3-19.0). 41% of pts were on steroids at baseline. The proportion of pts in steroid-free remission (CDAI<150) at wk26 (primary endpoint) was 56.8% with IFX+AZA, 44.4% with IFX, 30.6% with AZA ($p<0.001$ IFX+AZA vs. AZA; $p=0.009$ IFX monotherapy vs AZA monotherapy; $p=0.022$ IFX+AZA vs. IFX monotherapy). The proportion of pts with mucosal healing at wk26 was 43.9% with IFX+AZA, 30.1% with IFX, and 16.5% with AZA ($p<0.001$ IFX+AZA vs. AZA; $p=0.023$ IFX vs AZA; $p=0.055$ IFX+AZA vs. IFX). The proportion of pts with serious infections was similar in all treatment groups. One pt, treated with IFX+AZA, developed tuberculosis. Colon cancer developed in 2 pts, both treated with AZA monotherapy. One death occurred following colectomy in a pt treated with AZA alone.
Conclusions: Moderate-severe CD pts treated with IFX monotherapy or IFX+AZA (when initiated together) are more likely to achieve steroid-free clinical remission and complete mucosal healing than those receiving AZA alone. IFX+AZA was more effective than IFX monotherapy for steroid-free remission. Safety among the treatment groups was similar.

Late Breaking Abstract
Oral Paper 56

A RANDOMIZED CONTROLLED COMPARISON OF WARM WATER
INFUSION IN LIEU OF AIR INSUFFLATION VS. AIR INSUFFLATION FOR AIDING COLONOSCOPY INSERTION IN SEDATED PATIENTS UNDERGOING COLORECTAL CANCER (CRC) SCREENING AND SURVEILLANCE

J. Leung, MD, FACG, S. Mann, MD, FACG, R. Siao-Salera, RN, K. Ransibrahmanakul, MD, B. Lim, MD, H. Cabrera, RN, P. Barredo, LVN, R. Gutierrez, RN, F. Leung, MD, FACG, Section of Gastroenterology, Sacramento VA Medical Center, VA Northern California Health Care System, Mather and Sepulveda ACC, VAGLA Health Care System, LA, California

Background: 52% of patients for CRC screening and surveillance completed colonoscopy without sedation when water infusion in lieu of air insufflation was used to aid insertion.
Purpose: To perform a randomized controlled trial comparing air insufflation (conventional method) vs. water infusion in lieu of air (study method) in sedated colonoscopy.
Hypothesis: Compared with conventional method, study method achieves lower requirement for medications, but similar cecal intubation rate, assessment of current experience and willingness to repeat future colonoscopy.
Method: Patients were informed during open access colonoscopy class. The usual bowel prep was done. Screening or surveillance patients who signed informed consent were randomized. Pre-medications were administered as 0.5 increment of Fentanyl (25 µg) and 0.5 increment of Versed (1 mg) plus 50 mg Diphenhydramine. Colonoscopy was performed by two experienced endoscopists who are skilled with both methods based on the randomization code. With the conventional method, air was used during scope insertion and water was used for irrigation if poor prep was encountered. With the study method, the air pump was turned off on scope insertion. Water (at 37oC) was infused using a peristaltic pump to distend and cleanse the colon; and facilitate scope insertion until the cecum was reached (observing the appendix opening under water or touching cecal floor). If the patients reported a pain score >2 (0=none, 10=most severe), while maneuvers to minimize pain were implemented by the colonoscopist, patients were asked by the nurse if they wanted additional medications. If the answer was affirmative, 0.5 increments (Fentanyl 25 µg or Versed 1 mg) would be administered. During withdrawal, air was insufflated to facilitate inspection, biopsy and polypectomy. Primary outcome: medications measured as increments. Sample size calculation based on retrospective data indicated a total of 56 patients were required to show a difference. Data analysis was performed using t or $\chi 2$ test; $p<0.05$ is significant.
Results: (Table). Medications used before reaching the cecum and total medications used were significantly lower with the water method. Cecal intubation rate (100%) and willingness to repeat (96%) were similar for both methods. Pain scores at the ascending colon and cecum were significantly lower and less abdominal compression/position change was required for the study method. There were no differences in the immediate and 24 hour satisfaction scores (0=dissatisfied, 10=satisfied).
Conclusion: In a prospective randomized controlled trial, water infusion in lieu of air insufflation is superior to air insufflation for CRC screening and surveillance in the sedated patients.

	Water (n=28)	Air (n=28)	p
Meds to cecum (increments)	1.6±0.2	2.4±0.2	0.0027
Meds during withdrawal (increments)	0.2±0.1	0.1±0.1	NS
Total meds (increments)	1.8±0.2	2.5±0.2	0.014
Pain score (ascending colon)	1.3±0.3	4.1±0.6	0.0002
Pain score (cecum)	0.5±0.3	2.2±0.6	0.01
Abdominal compression/position change	No 24, yes 4	No 17, yes 11	0.03, χ^2
Satisfaction immediate after colonoscopy	9.3±0.2	9.1±0.2	NS
Satisfaction 1 day later	9.1±0.3	8.9±0.3	NS

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Open to all ACG 2008 attendees, industry-sponsored satellite symposia provide additional educational opportunities for attendees. These programs are independent of the ACG Annual Scientific Meeting and Postgraduate Course programs. ACG is not the continuing medical education provider of these programs. For more information, see the company sponsor.

Saturday, October 4th

Severe *Clostridium difficile* Infection: Clinical Clues and Therapeutic Strategies
6:30 am-7:45 am • Sun D Ballroom
Provided by Robert Michael Education Institute, LLC through a grant from ViroPharma.

Clinical Case Conversations: Current Issues in the Management of Inflammatory Bowel Disease for the Community Gastroenterologist
5:30 pm-8:00 pm • Sun D Ballroom
Provided by Executive Meeting Management through a grant from Centocor.

Optimizing the Use of Biologics in the Treatment of Crohn's Disease
8:30 pm-10:00 pm • Sun A Ballroom
Provided by MedLogix Communications through a grant from Elan Pharmaceuticals.

Sunday, October 5th

Pulling the Trigger on Biologic Therapy in Crohn's Disease: A Case-based Discussion
5:30 pm-7:00 pm • Sun D Ballroom
Provided by Westway House through a grant from Abbott.

Collective Clinical Forum: Educational Initiative on Constipation
7:00 pm-8:30 pm • Orange Blossom Ballroom
Provided by Gullapalli & Associates through a grant from Takeda Pharmaceuticals North America, Inc.

Managing Crohn's Disease in the Long-Term: Ask the Expert!
8:30 pm-12:00 midnight • Osceola C Ballroom
Provided by Strategic Consultants International through a grant from UCB, Inc.

Monday, October 6

Exploring Controversial Themes in IBD
5:30 pm-7:00 pm • Osceola B Ballroom
Jointly provided by Curatio CME Institute and the University of Chicago Pritzker School of Medicine through a grant from Procter & Gamble.

Emerging Concerns of Kidney Damage Following Bowel Preparations
9:00 pm-11:00 pm • Orange Blossom Ballroom
Provided by Advanced Medical Resources through a grant from Braintree Laboratories.

Tuesday, October 7

Improving Management in Challenging GERD: Setting Expectations for the Future
6:30 pm-8:00 pm • Osceola D Ballroom
Provided by Strategic Consultants International through a grant from Takeda Pharmaceuticals North America, Inc.

PPIs – Should We Be Concerned About Their Use?
8:00 pm-12:00 midnight • Orange Blossom Ballroom
Provided by Meeting Management Associates through a grant from GlaxoSmithKline.

Exhbitors at ACG 2008

Abbott Laboratories • Booth #1130
Abbott Laboratories • Booth #1123
Abbott Vascular • Booth #1136
Acupath Laboratories, Inc. • Booth #416
Alaven Pharmaceutical • Booth #323
Alpha-1 Foundation • Booth #308
Alpine Biomed • Booth #419
Alveolus, Inc. • Booth #1924
American Association of Nurse Anesthetists • Booth #414
American College of Gastroenterology • Booth #611
American Express • Booth #1723
American Gastroenterological Association • Booth #628
American Neurogastroenterology & Motility Society • Booth #312
AmeriPath, Inc. • Booth #501
AmSurg Corp • Booth #1401
Astra Zeneca, LP • Booth #1709
Avantis Medical Systems, Inc. • Booth #1135
Axcan Pharma US, Inc. • Booth #1115
Banner Health • Booth #1824
Bard Access Systems • Booth #406
BARRx, Inc. • Booth #1822
Biocodex Pharmaceuticals • Booth #623
Bio-K+ International, Inc. • Booth #1037
Boston Scientific • Booth #1523
Bovie Medical • Booth #432
Bracco Diagnostics, Inc. (formerly E-Z-EM) • Booth #1712
Braintree Laboratories, Inc. • Booth #716
Breathe E-Z Systems, Inc. • Booth #333
Bristol-Myers Squibb • Booth #2307
C Tronics • Booth #2404
Calmoseptine, Inc. • Booth #607
Capellon Pharmaceuticals, Ltd. • Booth #1138
Caris Diagnostics • Booth #401
Celiac Disease Foundation • Booth #304
Centocor • Booth #1001
ChiRhoClin, Inc. • Booth #528
Chronic Liver Disease Foundation • Booth #428
Colon Health Centers of America • Booth #322
Conmed Endoscopic Technologies • Booth #723
Cook Medical • Booth #1623
Crohn's & Colitis Foundation of America, Inc. • Booth #300
CSA Medical • Booth #410
Dannon Company • Booth #704
Dianon Systems, Inc. • Booth #1904
Digestive Care, Inc. • Booth #619
Diplomat Specialty Pharmacy • Booth #1140
Elan Pharmaceuticals • Booth #2105
Elan Pharmaceuticals • Booth #1901
Elsevier • Booth #1500

EXHIBIT HOURS

Sunday • 3:30 pm – 7:00 pm
Monday • 9:30 am – 4:00 pm
Tuesday • 9:30 am – 4:00 pm
Wednesday • 9:30 am – 12:00 noon

Endo Choice • Booth #530
EndoSoft • Booth #717
ERBE USA, Inc. • Booth #1513
Ethicon Endo-Surgery • Booth #901
Eurand • Booth #324
Fleet Laboratories • Booth #701
Focus Medical Communications • Booth #1828
Fujinon, Inc. • Booth #1323
Ganeden Biotech, Inc. • Booth #531
Gastrocor • Booth #301
Gastroenterology & Endoscopy News • Booth #1419
Gastroenterology & Hepatology • Booth #1031
Geisinger Health System • Booth #307
GI Pathology Partners, P.C. • Booth #2206
Given Imaging, Inc. • Booth #1235
GlaxoSmithKline Consumer Healthcare • Booth #807
gMed • Booth #507
Gundersen Lutheran Health System • Booth #1141
Hemosure, Inc. • Booth #430
HRA Research • Booth #1727
IFFGD • Booth #302
Immersion Medical • Booth #1132
INOVA Diagnostics • Booth #1502
Joli Diagnostic, Inc. • Booth #1826
L3 Healthcare Design, Inc. • Booth #605
Louisiana State University Agricultural Center - Extension Service • Booth #306
Market Access Partners • Booth #801
Max Endoscopy • Booth #1516
MD-Reports/ Infinite Software Solutions, Inc. • Booth #631
Medenet • Booth #329
Medical Futures, Inc. • Booth #311
Medtronic • Booth #702
Mercedes Medical • Booth #309
Meretek Diagnostics Group of Otsuka America Pharmaceutical, Inc. • Booth #601
National Digestive Diseases Information Clearinghouse • Booth #2403
Natren, Inc. • Booth #2204
Nature Publishing Group • Booth #1922
Neuisys • Booth #728
Nueterra Healthcare • Booth #317
Olympus America Inc. • Booth #1501
Omega Medical Imaging, Inc. • Booth #423
Optimer Pharmaceuticals • Booth #2101
Organization of Teratology Information Specialists • Booth #331
Osiris Therapeutics, Inc. • Booth #1033
Pathology Solutions, LLC. • Booth #213
Pentax • Booth #1517
Physician Capital Group • Booth #1134
Physicians Endoscopy • Booth #1716
PLUS Diagnostics • Booth #902
Practical Gastroenterology • Booth #1801
PracticeLink • Booth #529
PracticeOne • Booth #1729
Pri-Cara, Division of Ortho-McNeil-Janssen Pharmaceuticals, Inc. • Booth #1201
Prime Clinical Systems, Inc. • Booth #732
Procter & Gamble Pharmaceuticals • Booth #1211
Prometheus • Booth #823
ProVation Medical, Inc. • Booth #904
QDX Pathology Services • Booth #431
QOL Medical, LLC • Booth #2400
Quintron Instrument Company • Booth #1823
RDL Reference Laboratory, Inc. • Booth #2309
Redfield Corporation • Booth #1613
RedPath Integrated Pathology • Booth #2201
Reliance Pathology Partners • Booth #1928
Roche Laboratories, Inc. • Booth #1407
RocheExchange.com • Booth #900
Romark Pharmaceutical • Booth #1109
Safe Sedation • Booth #630
Salix Pharmaceuticals, Inc. • Booth #1431
Sandhill Scientific • Booth #1619
Santarus, Inc. • Booth #513
Schering-Plough • Booth #2107
Shire U.S., Inc. • Booth #811
Sierra Scientific Instruments • Booth #500
SLACK, Inc. • Booth #502
SmartPill Corporation • Booth #523
Solvay Pharmaceuticals, Inc. • Booth #1701
Spirus Medical, Inc. • Booth #1329
Stanly Regional Medical Center • Booth #326
Stryker-GI • Booth #516
Takeda Pharmaceuticals North America • Booth #1733
Takeda Pharmaceuticals North America (formerly TAP) • Booth #1023
TeleVox • Booth #1035
The Delta Companies • Booth #315
The Oley Foundation • Booth #310
UCB, Inc. • Booth #731
University of Pittsburgh • Booth #514
US Endoscopy Group • Booth #1900
Vertex Pharmaceuticals Incorporated • Booth #803
ViroPharma • Booth #319
Vision-Sciences, Inc. • Booth #407
Vista Staffing Solutions • Booth #633
VueSpan • Booth #1240
Wako Diagnostics • Booth #632
Wiley - Blackwell • Booth #700