Purpose: In some celiac sprue patients, the lack of response to a gluten-free diet (GFD) may be due to associated chronic pancreatitis (CP) or functional exocrine pancreatic insufficiency (FEPI). We evaluated the literature on CP and FEPI in adult celiac sprue (ACS) patients and performed a qualitative meta-analysis (QMA) on these cases.

Methods: A PubMed search using the terms celiac sprue, celiac disease, gluten-sensitive enteropathy, chronic pancreatitis and pancreatic insufficiency was performed without time or language barriers. Only biopsy-proven ACS cases which were evaluated for CP or FEPI were included for analysis. WMA was performed using the well-established methods of qualitative research, e.g. diagramming, theme repetition without serious contradiction, theme saturation, and investigator reflexivity (Eval Rev 1985; 627-643; The Lancet 2001; 385:483-488). Quantitative data can be used to perform QMA.

Results: The search yielded 31,434 cases of ACS which were evaluated for CP or FEPI. 30,385 ACS patients (Group I) were evaluated for CP; 1049 ACS patients were evaluated for FEPI (Group II). In group I, 149/30,386 (0.5%) were found to have CP. There were 57/149 (38%) men and 92/149 (62%) women. The mean age was 60 (range 20-95) years. In Group II 226/1049 (21.5%) were found to have FEPI. In Group II gender information was available in 117/226 (51.7%) patients. There were 41/117 (35%) men and 76/117 (65%) were women. The mean age was 51.8 (range 16-84) years. The possible mechanism of CP in Group I were periampullary inflammation, papillary stenosis, malnutrition by influencing the bile composition may increase the risk of pancreatitis. The possible mechanisms of FEPI in Group II could be low serum secretin levels and failure of hormonal stimulation of exocrine pancreas.

Immunoflourescence staining has shown a reduction in the number of secretin-producing cells in CS small bowel mucosa. EK is needed to convert pancreatic proteolytic pro enzyme to active forms, and to convert pro-colipase to active co-lipase required for fat absorption. The diagnostic methods have included radiologic, endoscopic (ERCP) and evaluation of FEPU by stool trypsin, Lundh test meal, fecal elastase-1, dual label Schilling test, vitamin A absorption test, radioactive triolein breath test, para-aminobenzoic acid (PABA) test, fecal immuno-reactive lipase, pancreolauryl test, and serum immunoreactive trypsin measurement. The therapeutic interventions in CP have included endoscopic & surgical methods and in FEPU pancreatic enzyme replacement therapy.

Conclusion: A small but definite number of ACS patients may not respond to GFD, and need evaluation and management of associated CP or FEPI by the above-listed diagnostic and therapeutic methods.

CURRENT CATEGORY: D. Small Intestine/Unclassified
 CURRENT SUB-CATEGORY: None
 PRESENTATION TYPE: Poster Only
 ACG Research Grant Support: No
 Supported by Industry Grant: No
 Commercial Products or Services: No
 Initiated Research: Investigator
 Financial Relationships: No
 FDA Approval: No
 Designed Study: Investigator
 Abstract Author: Investigator
 AUTH DESIG: ACG Membership Status <font color="red">*<font>:
 Nirmal Mann : ACG Member
 Asha Gupta : ACG Member
 (No Image Selected)
AVERAGE SCORE: 5.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]  Shirley Paski: [No Comments]  Lauren Schwartz: [No Comments]  Carol Semrad: [No Comments]
**Title:** Accuracy of Colon Wall Thickening on CT Confirmed by Colonoscopy: Systematic Evaluation of 1008 Cases with Meta-Analysis

**Presenter:** Nirmal Mann

**Presenter (Institution Only):** University of California, Davis College of Medicine

**Presenter (Country Only):** United States

**Abstract Body:**

**Purpose:** Computerized tomography (CT) is being widely used in the evaluation of abdominal organs. Colon wall thickening (CWT) is often reported on these reports, raising the possibility of colon cancer (CC). However, in many cases, the colonoscopy shows a normal colon. We report on two cases and evaluated the literature on 1,008 cases of CWT who had a subsequent colonoscopy. We performed a qualitative meta-analysis (QMA) on these cases.

**Methods:** The first patient was an 88-year-old man who presented with diarrhea and hematochezia. The CT showed, “focal long-segment mucosal enhancement and narrowing of the proximal sigmoid,” raising the possibility of CC. Flex sig showed a normal sigmoid. The second patient was a 48-year-old man who presented with abdominal distention. CT showed dilation of the cecum and proximal colon and localized narrowing of the proximal rectum. Flexible sig showed normal rectum and a decompression tube was placed in the rectum and a decompression tube was placed in the transverse colon. A PubMed search using the terms CT abdomen, colon wall thickening, colonoscopy was performed without time or language barriers. Additional papers were manually added after evaluating the reference lists of key articles. Only patients showing CWT on CT who had a subsequent colonoscopy were included for analysis. To facilitate QMA, summary sheets of all the papers were created. QMA was performed using the well-established methods of qualitative research, e.g. diagramming theme repetition without serious contradiction, theme saturation and investigator reflexivity (Eval Rev 1985; 9:627-643; The Lancet 2001; 358: 483-488). Quantitative data can be used to perform QMA.

**Results:** The search yielded 1,008 cases of CWT seen on CT who had subsequent colonoscopy. Gender information was available in 664 (65.8%) of the cases. There were 345/664 (51.9%) men and 319/664 (41.8%) women. The mean age was 56.7 (range 19-97) years. Colonoscopy was abnormal in 597/1008 (59.2%) of the cases; it was normal in 411/1008 (40.8%) of the cases. The normal colon wall thickness on CT is 3mm. Generalized CWT can be seen in cirrhosis, hypoalbuminemia, nephrotic syndrome. Benign causes of CWT show symmetric thickening, absence of nodularity, thickening less than 1.5 cm and presence of target sign and accordion sign. There is need to “tighten” the radiologic reports of CWT raising the possibility of cancer. These false positive reports can cause apprehension and create the syndrome of victims of modern imaging technology (VOMIT), as reported in BMJ (2008; 336: 8.1).

**Conclusion:** In this QMA of 1,008 patients, CWT seen on CT, a significant number (40.8%) were found to be normal on colonoscopy. There is need to “tighten” the CT reports of CWT to avoid syndrome of VOMIT.

**Current Category:** D. Small Intestine/Unclassified

**Presentation Type:** Poster Only

**ACG Research Grant Support:** No

**Supported by Industry Grant:** No

**Commercial Products or Services:** No

**Initiated Research:** Investigator

**Financial Relationships:** No

**FDA Approval:** No

**Designed Study:** Investigator

**Abstract Author:** Investigator

**AUTH DESIGN: ACG Membership Status <font color="red">*</font>:**

Nirmal Mann : ACG Member
Jesse Stondell : ACG Member
Cara Torruellas : ACG Member
Asha Gupta : ACG Member
Jaime Wilson-Chiru : ACG Member
AVERAGE SCORE: 5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Purpose: Left ventricular assist devices (LVADs) prolong life for patients with congestive heart failure (CHF). The rate of gastrointestinal (GI) bleeding in non-pulsatile device recipients is higher than other patient populations receiving combination anticoagulation and antiplatelet therapy. Diagnostic yield with endoscopic evaluation, including upper endoscopy, push enteroscopy and colonoscopy is reported to be as high as 71%. In certain instances, the source of GI bleeding may remain elusive. Our aim is to describe our experience in using double balloon enteroscopy (DBE) in LVAD patients presenting with GI bleeding who had non-diagnostic routine endoscopic evaluation.

Methods: Data were retrospectively collected from January, 2008 to January, 2012 in a single US tertiary care center. All included patients received HeartMateII (Thoratec Corporation, Pleasanton CA). All patients were on Aspirin and Coumadin per protocol. Time to GI bleed was defined as time interval between implanting the device to the time of first GI bleed. Routine endoscopic evaluation was defined as upper endoscopy, push enteroscopy and colonoscopy.

Results: Sixty-eight CHF patients received HeartMateII LVADs. The cause of CHF was ischemic cardiomyopathy in 34 patients (50%). Twenty-one (21/68) patients experienced GI bleeding (31%). 18/21 patients had overt GI bleeding, 3/21 had iron deficiency anemia with positive stool guaiacs. The median time to GI bleeding was 90 days. Routine endoscopy was diagnostic and therapeutic in 15/21 patients (71%). Four patients underwent DBE in pursuit of suspected small bowel pathology based on abnormal video capsule endoscopy or radionuclide bleeding scan with negative angiography. DBE was diagnostic and therapeutic in three patients (75%). In all three cases, the bleeding source was identified in the jejunum: Dieulafoy lesion (n=1) ulcers (n=1) and angiectasia with an inflammatory polyp (n=1). Of the three patients where no source of bleeding was identified, only one had a non-diagnostic DBE. In the remaining two patients, bleeding responded to interruption of anticoagulation and adjustment of LVAD pump settings.

Conclusion: DBE, like routine endoscopy, is feasible and safe in CHF patients with LVAD presenting with GI bleeding. It adds to our armamentarium in the evaluation and management of GI bleeding in this patient population.
ABSTRACT BODY:

**Purpose:** To assess the association between mortality and demographic variables, co-morbidities and intervention, among patients with hemorrhagic gastroduodenal angioectasia (GDA).

**Methods:** Using National Inpatient Sample (NIS) data between January 2000 and December 2009, simple and multiple logistic regression analyses were conducted to assess the effect of the various covariates on mortality. Demographic covariates included age, race/ethnicity, income, and gender. Co-morbidities included the presence of hypovolemia, congestive heart failure (CHF), acute renal failure (ARF), chronic kidney disease (CKD), COPD, von Willebrand disease, coronary artery disease and valvular disease. The Charlson-Deyo Index (CDI) was also used in the analysis. Intervention options including packed red cell transfusion (PCT), endoscopic control of gastric hemorrhage (ECGH), hemodialysis (HD), central venous catheterization (CVC) and mechanical ventilation (MV), which were also included in the analysis.

**Results:** We identified 30,239 patients with a primary diagnosis of GDA, out of which 97%, resulted in blood loss and a percentage mortality of 1%. Univariate odds ratio are represented in the graph attached. Multiple logistic regression modeling showed that significant mortality is associated with age greater than 85 Odds Ratio (OR)=2.41, lowest income status OR=1.59, CDI of 3-4 OR=1.58, CDI ≥ 5 or more comorbidities OR=2.41. Significant mortality was seen with patients with ARF OR=2.59, HD OR=2.33, CVC OR=4.58 and MV OR=23.177. Intervening with ECGH OR=0.67 and PCT OR=0.73 significantly reduced mortality.

**Conclusion:** This is the first study to show risk factors for mortality in patients hospitalized with GDA. Factors significantly associated with increased mortality with hemorrhagic GDA include advanced age, lowest income level, ARF, hemodialysis, CVC placement and mechanical ventilation. There was no association with mortality from aortic stenosis and Von Willebrand disease. Protective factors included transfusion and inpatient endoscopic control of gastric hemorrhage.
**REVIEWER COMMENTS:**

Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
The Effect of Chronic PPI Use on Human Gut Microbiota in Gastric Bypass Patients

Purpose: Proton pump inhibitor (PPI) use is high among patients undergoing Roux-en-Y gastric bypass (RYGB), and our data suggest that PPI use reduces post-RYGB weight loss. This pilot study measures the effect of PPI therapy on the percent relative abundance (PRA) of gut microbiota in obese subjects before and 6 months after RYGB.

Methods: Eight severely obese subjects (BMI>40 kg/m2) prospectively volunteered fecal samples before and six months after RYGB. Bacterial profiles were generated by bacterial 16s rRNA genes, multiplex-sequenced on an Illumina MiSeq platform and classified through SILVA/SINA software.

Results: A total of 8 subjects (7 females; mean age 44 years; mean pre-RYGB BMI of 47.1 kg/m2) underwent RYGB. Three subjects were chronic PPI users and 5 subjects were PPI non-users before RYGB. The resulting data set of 5,164,221 bacterial rRNA sequences revealed 13 different phyla, 4 of which were present in high abundance (≥5%) and 14 different genera, 6 of which were present in high abundance (≥5%). Before RYGB, PPI non-users had a lower PRA (52.1%) of Phylum Firmicutes compared to PPI users (71.6%). After RYGB, PPI non-users continued to have a lower PRA (35.6%) compared to PPI users (48.6%) (Figure 1). The PRA of Phylum Bacteroidetes was higher in PPI non-users compared to PPI users both before (15.8% and 5.4%, respectively) and after (22.6% and 5.9%, respectively) RYGB. Specifically, the genus Bacteroides was more relatively abundant in the PPI non-users (pre 10.3% and post 12.7% RYGB) compared to PPI users (pre 3.5% and post 6.3% RYGB). Phylum Proteobacteria had a higher PRA in PPI non-users before (19.5%) RYGB compared to PPI users (6.8%). After RYGB, the PRA of Proteobacteria was 12.4% in PPI non-users and 13.8% in PPI users. Phylum Verrucomicrobia was mainly composed of the genus Akkermansia, which was more relatively abundant in PPI users (12.8%) compared to PPI non-users (7.2%). Post-operatively, Akkermansia in PPI non-users had a higher PRA of 40.7% compared to PPI users 7.2%.

Conclusion: In conclusion, chronic PPI use leads to a 1) higher abundance of Firmicutes and a 2) lower abundance of the genera Bacteroidetes and Akkermansia. The effect of PPI use on the gut microbiota may contribute to a decrease in weight loss after RYGB.
REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Title: Genotypic and Phenotypic Differences Between Celiac Disease and Non-Celiac Gluten Sensitivity: A Systematic Review of Literature

Purpose: Non-celiac gluten sensitivity (NCGS) and celiac disease (CD) are separate entities, but distinguishing between the two represents a challenge to providers and patients. Current consensus definition of NCGS requires the exclusion of CD and wheat allergy, and a double-blind placebo-controlled gluten challenge. This task is impractical in most health clinics. Even though the actual prevalence of NCGS in the United States is unknown, general public awareness of NCGS is higher than that of CD. Self-prescription of gluten-free diet is growing and may have health, social, and economic consequences. The aim of this study is to identify genotypic and phenotypic differences between CD and NCGS.

Methods: A search was performed using PubMed, Cochrane databases, and Google Scholar through November 2012 for articles on CD and NCGS. The search terms used were “gluten sensitivity”, “gluten hypersensitivity”, “food hypersensitivity”, “non-celiac gluten sensitivity”, “celiac disease”, “sprue”, and “gluten.” The reference lists of selected articles were also searched. NCGS must be defined by the exclusion of CD and wheat allergy.

Results: Ten articles met inclusion criteria. There is a lack of consensus on the use of terms related to gluten-induced disorders. CD is associated with increased intestinal permeability as measured by the lactulose-to-mannitol urinary ratio, interleukin (IL)-16, IL-6, IL-21 and interferon-gamma. NCGS is associated with higher expression of Toll-like receptor 2 (TLR2) and reduced expression of T regulatory cell marker, forkhead box P3 (FOXP3). Human leukocyte antigen (HLA)-DQ2 and/or HLA-DQ8 is present in up to 99% of CD patients and up to 50% of NCGS patients. Tissue transglutaminase IgA and endomysial IgA antibodies are negative in patients with NCGS but antigliadin antibodies (AGA IgA and/or AGA IgG) are positive in up to 50% of these patients. Whereas patients with CD have varying degrees of inflammation on duodenal histology from Marsh 0 to 3C, patients with NCGS have limited inflammation from Marsh 0 to 1. The predominant symptom in CD appears to be diarrhea, compared to abdominal pain in NCGS. There is no significant difference between CD and NCGS patients regarding somatization, anxiety, depression, and quality of life.

Conclusion: Literature is sparse on NCGS, despite huge public awareness. Distinguishing between CD and NCGS remains a challenge. A negative HLA DQ2 or DQ8 haplotype almost excludes CD, but a positive test cannot distinguish between CD and NCGS. Tissue transglutaminase IgA antibody and villous blunting are only seen in CD. Currently, no bioassay exists for NCGS. More studies are needed to establish long-term prognosis of NCGS.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Jason Hou: [No Comments] | Shirley Paski: [No Comments] | Lauren Schwartz: [No Comments] | Carol Semrad: [No Comments]
Purpose: In pediatric patients undergoing EGD, it is standard practice to obtain a biopsy in the distal duodenum for testing for malabsorption of carbohydrates. Despite easy commercial availability and non-significant effect on procedure time, this biopsy is not usually obtained at the time of routine diagnostic EGD in adults. Yet, it is well-established that deficiency of the lactase disaccharidase is higher in adults overall than in young children. The purpose of this study was to determine the usefulness of routinely testing for disaccharidase levels (lactase, sucrase, maltase, palatinase) in adults, compared to children, undergoing routine diagnostic EGD with biopsy for any indication.

Methods: A retrospective chart review of all patients who underwent routine, non-emergent, diagnostic EGD with biopsy within the first 5 months of 2013 in a solo private practice treating both adult and pediatric patients was conducted. 85 diagnostic EGD procedures were performed, of which 75 (88%) had also undergone disaccharidase testing and were included for study. 30/75 (40%) were adult, 45/75 were children (60%). Biopsy samples were either sent to Quest Diagnostics, San Juan Capistrano, CA or performed at Women and Children's Hospital, Buffalo, NY. Results of these commercial enzymatic assays were reported as micro Molar per minute per gram of protein. Normal for lactase is greater than or equal to 15.

Results: 37/75 (49%) of all disaccharidase test panels contained at least one abnormal value: 50% for adults, and 49% for children.10/15 (67%) adults and 14/22 (64%) children with an abnormal panel had only lactase deficiency, but overall, 33/37 (89%) of abnormal tests had low lactase as at least one component. Abnormal lactase levels varied from 2-11.4 in adults (average 5.1), and from 0 to 14.6 in children (average 8.1). Low levels of all disaccharidases tested was the second most common abnormality, present in 3/15 (20%) of adults, and 2/22 (9%) of children with abnormal results. The majority of these patients with global reduction in disaccharidases were shown on histology to have active Celiac disease. Findings affected medical management in all cases, as patients received individualized dietary counseling.

Conclusion: Commercial enzymatic determination of disaccharidases as a routine part of diagnostic EGD with biopsy appears to be as useful in adults as it is in children (NNT=2). The most common abnormality found is lactose intolerance, but some patients may have global reductions greatly affecting dietary management. Physicians performing EGD biopsy in adults should consider taking a duodenal biopsy even in normal-appearing mucosa for this purpose on a routine basis.

CURRENT CATEGORY: D. Small Intestine/Unclassified
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Oral or Poster
ACG Research Grant Support: No
Supported by Industry Grant: No
Commercial Products or Services: No
Initiated Research: Investigator
Financial Relationships: No
FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator
AUTH DESIGN: ACG Membership Status <font color="red">*</font>:
Maya Srivastava : ACG Member
(No Image Selected)
(no table selected)
AVERAGE SCORE: 4.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
ABSTRACT BODY:

Purpose: Celiac Disease (CD) detection is increased when separate duodenal bulb and distal duodenal samples are obtained in a high pre-test probability population (i.e., patients with positive serology or established CD). This study examines whether CD detection is increased by sampling the duodenal bulb in a low pre-test probability population.

Methods: Patients who underwent separate sampling of the bulb during endoscopy at 3 Mayo Clinic sites (Rochester, MN; Scottsdale, AZ; Jacksonville, FL) between January 1, 2011 and December 31, 2011 were included. Records were reviewed for age, gender, pathology, serology, biopsy indication, and adherence to a gluten free diet (GFD) for 4 weeks prior to biopsy. Histology consistent with CD included Marsh stages 1, 2, and 3. Statistical analysis was performed using Χ2 test. P values were two-sided and considered significant if < 0.05.

Results: Final analysis included 737 patients – 464 (63%) female, mean age 50 years (range 2-88). The most common biopsy indications were abdominal pain (47%), diarrhea (36%), nausea (23%), weight loss (17%) and anemia (16%). CD or Dermatitis Herpetiformis was known in 33 (4%) and 72 (10%) were on a GFD. Celiac serology was checked in 331 patients; 32 (9%) had at least one positive celiac serology -- 14/330 (4.2%) for TTG IgA, 13/128 (10%) for TTG IgG, 3/98 (3%) for Endomysial Antibody IgA, 10/91 (11%) for Deamidated gliadin peptide (DGP) IgA, and 6/90 (6.7%) for DGP IgG. A total of 15 patients (2%) in this cohort were newly diagnosed with CD. Villous atrophy (VA) consistent with CD was detected in 22 patients (3%) -- 14 (1.8%) new CD diagnosis and 8 (1%) ongoing CD. In 3 of these patients (0.4%), separate bulb sampling detected a new CD diagnosis (n=1) and ongoing CD activity (n=2) which would have been missed if only the distal duodenum was sampled. Most patients (n = 447, 61%) had normal pathology in the duodenum (Tables 1 and 2). Abnormal histology was detected in 290 patients (39%) and was more commonly detected in the bulb – 262 (36% (95%CI 32-39)) vs 119 (16% (95% CI 14-19%)), p < 0.0001. In all patients with abnormal bulb histology (n = 262), the most frequent abnormality was chronic peptic duodenitis (119, 60%). In patients with a normal distal duodenum, 171 (23%) had abnormal histology isolated to the bulb.

Conclusion: Abnormal duodenal histology is not uncommon and is more frequently detected in the bulb; the most common histology being chronic peptic duodenitis. In a low pre-test probability patient population (i.e., <10% with positive serology or known CD), individual analysis of the bulb does not sufficiently increase detection of CD (0.4% diagnostic yield) and would not warrant the cost associated with this additional anatomic site biopsy.
<table>
<thead>
<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td><strong>Histologic Diagnosis</strong></td>
<td>Duodenal Bulb (n = 737)</td>
<td>Distal Duodenum (n=737)</td>
</tr>
<tr>
<td>Normal</td>
<td>475 (64%)</td>
<td>618 (84%)</td>
</tr>
<tr>
<td>Abnormal</td>
<td>262 (36%)</td>
<td>119 (16%)</td>
</tr>
<tr>
<td></td>
<td>Chronic Peptic Duodenitis</td>
<td>119 (16%)</td>
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<tr>
<td></td>
<td>Active Chronic Peptic Duodenitis</td>
<td>28 (4%)</td>
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<tr>
<td></td>
<td>Gastric Heterotopia</td>
<td>27 (4%)</td>
</tr>
<tr>
<td></td>
<td>IEL &gt; 25</td>
<td>20 (3%)</td>
</tr>
<tr>
<td></td>
<td>Villous Atrophy</td>
<td>22 (3%)</td>
</tr>
<tr>
<td></td>
<td>Brunner Gland Hyperplasia</td>
<td>21 (3%)</td>
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<tr>
<td></td>
<td>Acute Peptic Duodenitis</td>
<td>18 (2%)</td>
</tr>
<tr>
<td></td>
<td>Crohns</td>
<td>2 (0.3%)</td>
</tr>
<tr>
<td></td>
<td>Neuroendocrine tumor</td>
<td>2 (0.3%)</td>
</tr>
<tr>
<td></td>
<td>Amyloid</td>
<td>1 (0.1%)</td>
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<tr>
<td></td>
<td>Other</td>
<td>40 (5%)</td>
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<th>Table 2</th>
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<tbody>
<tr>
<td></td>
<td>Normal Distal (n = 618)</td>
<td>IEL &gt; 25 in Distal (n = 11)</td>
<td>Villous Atrophy in Distal (n = 20)</td>
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<tr>
<td>Normal Bulb (n = 475)</td>
<td>447</td>
<td>5</td>
<td>1</td>
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<td>Condition</td>
<td>Score 1</td>
<td>Score 2</td>
<td>Score 3</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
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<td>---------</td>
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</tr>
<tr>
<td>IEL &gt; 25 in Bulb (n=8)</td>
<td>4</td>
<td>4</td>
<td>0</td>
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<tr>
<td>Villous Atrophy in Bulb (n = 22)</td>
<td>5</td>
<td>1</td>
<td>15</td>
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<tr>
<td>Non-Celiac in Bulb (n=232)</td>
<td>162</td>
<td>1</td>
<td>4</td>
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</table>

**TABLE TITLE:** Table 1

**Table 2**

**AVERAGE SCORE:** 1.75

**REVIEWER FLAGS:** Jason Hou - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
Purpose: Advanced oxidation protein products (AOPPs), a new protein marker of oxidative damage, are identified to accumulate in inflammatory bowel diseases (IBD) as well as diabetes and chronic kidney disease. However, the role of AOPPs in intestinal epithelial remains unclear. This study was designed to investigate whether AOPPs have an effect on apoptosis of intestinal epithelial cells (IECs) and intestinal injury.

Methods: Immortalized rat intestinal epithelial cells (IEC-6 cells) and Normal Sprague–Dawley rats were treated with AOPPs, prepared by incubation of rat serum albumin with hypochlorous acid. IECs apoptosis, NADPH oxidase subunits activity, reactive oxygen species (ROS) generation, apoptosis related protein expression and phosphorylation of c-Jun N-terminal kinase (JNK) were detected both in vivo and in vitro. In addition, we measured the deposition of AOPPs in 25 subjects with Crohn’s disease.

Results: Accumulation of extracellular AOPPs induced apoptosis in cultured IEC-6 cells. The triggering effect of AOPPs was mainly mediated by redox-dependent pathway including NADPH oxidase-derived ROS generation, JNK phosphorylation and poly(ADP-Ribose) polymerase-1 (PARP-1) activation. Chronic AOPPs administration in normal rats resulted in AOPPs deposition in the villous epithelial cells and in lymphocytes of lamina propria, which were companied with IECs apoptosis, inflammatory cellular infiltration and intestinal injury. The IECs apoptosis and intestinal injury could be ameliorated by chronic treatment with apocynin. Futhermore, deposition of AOPPs was also observed in IECs of patients with Crohn’s disease.

Conclusion: Our results demonstrated that AOPPs initiated IECs apoptosis and intestinal tissue injury via redox-mediated pathway. These data suggest that AOPPs may represent a novel pathogenic factor contributed to the progression of IBD.
REVIEWER COMMENTS:
Jason Hou: [No Comments]  Shirley Paski: [No Comments]  Lauren Schwartz: [No Comments]  Carol Semrad: [No Comments]
ABSTRACT BODY:

**Purpose:** Autoimmune Enteropathy (AIE) is a rare and challenging diagnosis associated with significant morbidity and mortality. We present a case series featuring the clinical presentation, diagnostic features, treatment regimens and outcomes of patients with AIE.

**Methods:** Patients with AIE were identified through review of nonceliac enteropathy cases seen in the celiac clinic between July, 2006 and June, 2013. AIE was defined as adult-onset diarrhea unresponsive to dietary manipulation, malabsorption, villous atrophy and exclusion of other causes of villous atrophy (celiac disease, intestinal lymphoma, Benicar-associated enteropathy). The presence of anti-enterocyte autoantibodies was supportive, but not required for AIE diagnosis. Medical records were reviewed to ascertain age, symptom duration, presenting symptoms, serology, histology, treatment outcomes and duration of follow-up.

**Results:** Six people with AIE were identified. Patient characteristics are detailed in Table 1. Other autoimmune diseases (autoimmune hepatitis, rheumatoid arthritis, autoimmune interstitial lung disease, autoimmune arthropathy) were present in 50% of these patients. All patients presented with diarrhea and weight loss. Patients lost an average of 33.7 pounds and presented with a median BMI of 20.3 (IQR 16.6 – 23.3). One person required total parental nutrition.

Antienterocyte antibodies were common, as was the absence of goblet cells and paneth cells (Table 2). When sampled, gastric and colonic involvement were common. Cross-sectional imaging was frequently unremarkable or showed nonspecific lymphadenopathy or ileus. When performed, capsule endoscopy demonstrated extent of villous atrophy.

Induction therapy included steroids (Prednisone, Budesonide, or Solu-Medrol). Maintenance therapy included Budesonide, Azathioprine, Mercaptopurine, Infliximab, Adalimumab and Certolizumab. Most patients (5/6) had a sustained clinical response; one patient required escalation to anti-TNF therapy with a relapsing course. All had some histologic improvement; three patients had complete healing of duodenal histology.

**Conclusion:** AIE is a rare cause of enteropathy, and should be considered in middle-aged patients presenting with diarrhea and weight loss. Anti-enterocyte and anti-goblet cell antibodies are common, but are not required for diagnosis. Cross sectional imaging is frequently nonspecific. Capsule endoscopy can aid in diagnosing the extent of small bowel involvement. Immunosuppression is required for induction and maintenance therapy, resulting in both good clinical and histologic responses.
Table 1: Patient Demographics

<table>
<thead>
<tr>
<th>Patient Characteristics</th>
<th>Data (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>4 (66%)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Median age at diagnosis, y (IQR)</td>
<td>49 (22 -77)</td>
</tr>
<tr>
<td>Median duration of symptoms, months (IQR)</td>
<td>11 (8.3 - 18)</td>
</tr>
<tr>
<td>Median follow-up, months (IQR)</td>
<td>38 (14 - 56)</td>
</tr>
<tr>
<td>Presenting symptoms</td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Weight loss</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Anemia</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Anasarca</td>
<td>1 (17%)</td>
</tr>
<tr>
<td>Vomiting</td>
<td>1 (17%)</td>
</tr>
<tr>
<td>Other autoimmune diseases</td>
<td>3 (50%)</td>
</tr>
</tbody>
</table>

Table 2: Clinical Characteristics of 6 Adult Patients with Autoimmune Enteropathy

<table>
<thead>
<tr>
<th>Patient</th>
<th>Antienterocyte Antibody, pattern, titer</th>
<th>Duodenal Histology</th>
<th>Gastric Histology</th>
<th>Colonic Histology</th>
<th>Capsule Endoscopy</th>
<th>Cross sectional imaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AE IgG, linear apical staining, 1:10</td>
<td>TVA, collagenous sprue</td>
<td>Lymphoplasmacytic cells in lamina propria</td>
<td>Collagenous colitis</td>
<td>Villous atrophy from duodenum to distal jejunum</td>
<td>Normal CT</td>
</tr>
<tr>
<td>2</td>
<td>AE IgG; Diffuse staining of</td>
<td>Collagenous sprue with focal</td>
<td>n/a</td>
<td>Melanosis coli</td>
<td>n/a</td>
<td>Normal CTE</td>
</tr>
<tr>
<td>Case</td>
<td>Staining Method</td>
<td>Staining Details</td>
<td>Histopathology Findings</td>
<td>Immunohistochemistry Findings</td>
<td>CT Findings</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------</td>
<td>------------------</td>
<td>-------------------------</td>
<td>-------------------------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>AG IgG 1:500</td>
<td>(biopsy after immunosuppression)</td>
<td>n/a</td>
<td>Focal active colitis, absent goblet cells</td>
<td>n/a</td>
<td>Normal CT</td>
</tr>
<tr>
<td>4</td>
<td>AE IgM, linear apex, 1:200 AE IgG, linear apex, 1:100</td>
<td>TVA, IEL, crypt hyperplasia</td>
<td>Mild chronic gastritis</td>
<td>Focal active colitis, mildly increased apoptotic bodies</td>
<td>n/a</td>
<td>CTE = intrabdominal LAD, mild small bowel dilation</td>
</tr>
<tr>
<td>5</td>
<td>AG IgG, 1:20</td>
<td>PVA, IEL, absent paneth cells, absent goblet cells</td>
<td>n/a</td>
<td>Acute cryptitis, crypt abscesses, architectural distortion</td>
<td>Extensive ulcerations in duodenum and jejunum</td>
<td>CT = ileus</td>
</tr>
<tr>
<td>6</td>
<td>Negative</td>
<td>PVA, IEL, focal crypt apoptosis, absent paneth cells, absent goblet cells</td>
<td>Mild chronic gastritis</td>
<td>Mild active inflammation, crypt apoptosis, absent goblet cells</td>
<td>n/a</td>
<td>Normal CTE</td>
</tr>
</tbody>
</table>

Legend: AE = antienterocyte, AG = antigoblet, TVA = total villous atrophy, PVA = partial villous atrophy, IEL = intraepithelial lymphocytosis, CT = Computed tomography, CTE = Computed tomography enterography, LAD = lymphadenopathy
TABLE TITLE: Table 1: Patient Demographics
Table 2: Clinical Characteristics of 6 Adult Patients with Autoimmune Enteropathy

AVERAGE SCORE: 3.25

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Jason Hou: [No Comments]  Shirley Paski: [No Comments]  Lauren Schwartz: [No Comments]  Carol Semrad: [No Comments]
Purpose: ACG guidelines recommend CD serologic screening in diarrhea predominant IBS. We aim to establish the prevalence of CD in patients diagnosed with IBS utilizing the “Explorys” platform from 1999-2013.

Methods: Patients with a diagnosis of IBS were identified by ICD-9 code. Prevalence of abnormal serologic tests for CD within 3 years of IBS diagnosis was determined, including abnormal values for Tissue Transglutaminase IgA, Gliadin IgG, and Endomysium IgA. We evaluated the number of patients checked for CD with IBS with either iron deficiency anemia (IDA) or osteoporosis. Both are commonly associated with CD. Exclusions: GI hemorrhage, menorrhagia, hematochezia, alcoholism, IBD, premature menopause, male hypogonadism, and pre-existing CD.

Results: 221,740 patients had a diagnosis of IBS. CD screening was performed in 5,470 with 4,440 (81%) having abnormal serology. 16,470 (7.4%) patients had osteoporosis, IDA, or both. 760 were screened for CD, and 600 (79%) had positive CD serology. The majority of patients were white females.

Conclusion: CD prevalence in the general population is ~1%. Prior studies determined CD prevalence in IBS to be 4-fold higher. Our findings suggest CD prevalence in those with IBS is higher than this and CD screening is underutilized. CD can lead to many complications (e.g., anemia, cancer, and impaired quality of life). CD screening needs to be improved in IBS labeled patients, especially those with high risk features such as IDA or osteoporosis. Our data reveal a high likelihood of a positive test in these groups especially in older Caucasian females. Limitations: 1. Accuracy of records depends on accurate coding. 2. Unclear if patients with CD were initially misdiagnosed with IBS, or if both diagnoses are truly separate, as they can present similarly. 3. Explorys detects lab values flagged as “abnormal.” Absolute values were not available. 4. There may have been selection bias, with celiac serologies ordered in patients that had a higher risk for CD (i.e. thyroid disease, difficult to treat IBS, family history etc).
Figure 1: Flow diagram for IBP patients checked. (* As % of patients screened)

Figure 2: Flow diagram of patients checked with osteoporosis and iron deficiency. (* As % of prior entry in diagram)

IMAGE CAPTION:
(no table selected)

AVERAGE SCORE: 4.25

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
ABSTRACT BODY:

**Purpose:** To determine whether PEG-J administration of levodopa-carbidopa intestinal gel (LCIG) is an effective method for the treatment of advanced Parkinson’s disease (PD).

**Methods:** Levodopa is the most effective treatment for PD. With advanced disease, irregular gastric emptying impedes standard oral levodopa effectiveness leading to “On”/“Off” motor fluctuations and dyskinesias. Two phase 3 clinical studies enrolled advanced PD patients with persistent motor fluctuations despite optimized oral therapy. For this novel treatment, involving the collaboration of neurologists and gastroenterologists, all patients underwent a PEG-J procedure for infusion of LCIG (or placebo gel) directly to the proximal jejunum. A 12-week, randomized, double-blind, double-dummy trial compared the effectiveness of LCIG with standard oral levodopa (LC-oral) at reducing motor fluctuations and improving quality of life. A 54-week open-label international trial examined the long-term safety and efficacy of LCIG. “Off” time (when medication is no longer effective and motor symptoms return), the Unified Parkinson’s Disease Rating Scale (UPDRS) and the 39-item Parkinson’s Disease Questionnaire (PDQ-39) were examined. Adverse events (AEs) were recorded.

**Results:** 71 patients were enrolled in the double-blind, double-dummy trial (n=37 LCIG, 34 LC-Oral), with a mean PD duration of 10.9 yrs. The reduction in “Off” time (P<0.01), improvement in UPDRS Part II (activities of daily living) score (P<0.01) and improvement in PDQ-39 Summary Index (P<0.05) was greater in the LCIG group than in the LC-oral group. 354 patients were enrolled in the long-term, open-label study. As with the double-blind trial, “Off” time, UPDRS Part II score and PDQ-39 Summary Index versus baseline were improved at all visits (through Week 54; P <0.01). Most patients (97% in double-blind, 91% in open-label) experienced at least 1 AE; serious AEs occurred in 17% (double-blind) and 31% (open-label). AEs led to discontinuation in 4.2% (double-blind) and 7.6% (open-label). Most AEs were known AEs associated with either levodopa, underlying PD or the procedure and the device.

**Conclusion:** Intrajejunal infusion of LCIG via PEG-J is a novel approach for the long-term delivery of medication in gel form, which improved motor fluctuations and the quality of life in advanced PD patients with limited treatment options. The range of PEG-J complications was within standard ranges reported in the literature and was not increased in this ambulatory patient cohort.

**CURRENT CATEGORY:** D. Small Intestine/Unclassified

**CURRENT SUB-CATEGORY:** None

**PRESENTATION TYPE:** Oral or Poster

**ACG Research Grant Support:** No

**Supported by Industry Grant:** Yes

**Extra Info:** : AbbVie

**Commercial Products or Services:** Yes

**Initiated Research:** Industry

**Financial Relationships:** Yes

**Extra Info:** : Michael Epstein: Dr. Epstein served on the data adjudication panel for this study and has received compensation from AbbVie for serving as a consultant. Dr. Epstein also serves as a lecturer for AbbVie.

David Johnson: Dr. Johnson served on the data adjudication panel for this study and has received compensation from AbbVie for serving as a consultant.

Robert Hawes: Dr. Hawes served on the data adjudication panel for this study and has received compensation from AbbVie for serving as a consultant.

Nathan Schmulewitz: Dr. Schmulewitz serves as a medical advisor and speaker for AbbVie.
Arvydas Vanagunas: Dr. Vanagunas has received compensation from AbbVie and CVS Caremark’s Pharmacy & Therapeutics Committee for serving as a consultant and has been a scientific advisory board member for AbbVie.

Cindy Zadikoff: CZ was a study investigator and has received compensation from AbbVie for serving as a consultant and participating in scientific advisory boards.

Rod Gossen: served as executive secretary for this study and is employed by a consulting agency under contract with AbbVie.

Susan Eaton, Krai Chatamra, Weining Robieson, Jordan Dubow and Janet Benesh are employees of AbbVie and hold AbbVie stock and/or stock options.

AbbVie participated in the study design, research, data collection, analysis and interpretation of data, writing, reviewing, and approving the publication. Michelle M. Koutsantonis, of AbbVie, provided medical writing assistance in the development of this publication.

**FDA Approval:** Yes

**Designed Study:** Industry

**Abstract Author:** Investigator

**AUTH DESIG: ACG Membership Status**

- Michael Epstein: ACG Member
- David Johnson: ACG Member
- Robert Hawes: ACG Member
- Arvydas Vanagunas: ACG Member
- Nathan Schmulewitz: ACG Member
- Cindy Zadikoff: ACG Non-Member
- Rod Gossen: ACG Non-Member
- Weining Robieson: ACG Non-Member
- Susan Eaton: ACG Non-Member
- Jordan Dubow: ACG Non-Member
- Krai Chatamra: ACG Non-Member
- Janet Benesh: ACG Non-Member

(No Image Selected)

(no table selected)

**AVERAGE SCORE:** 3.67

**REVIEWER FLAGS:** Lauren Schwartz - Conflict of Interest: 1

Carol Semrad - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
Purpose: To examine the durability of the percutaneous endoscopic gastrostomy-jejunal tube (PEG-J) system in a cohort of advanced Parkinson’s disease (PD) patients with long-term implantation of PEG-J tubes for administration of levodopa-carbidopa intestinal gel (LCIG).

Methods: Levodopa is the most effective treatment for PD; however, standard oral levodopa therapy often becomes suboptimal as Parkinson’s disease progresses due to irregular gastric emptying and the short half-life of levodopa. Several phase 3 clinical trials have examined the direct infusion of LCIG into the proximal jejunum via PEG-J in advanced PD patients. This novel method of continuously administering the drug reduces motor complications and improves quality of life (Fernandez, HH et al. 2013). A 15 French FREKA PEG tube was placed using the Pull technique, followed by placement of a 9 French J-extension under endoscopic and fluoroscopic guidance. A pump connected to a medication cassette and a short tube was attached to the inner jejunal extension tube and worn outside the body. Study drug was infused for approximately 16 h/d. Adverse events and device events were collected throughout the studies. An independent adjudication committee of 3 expert gastroenterologists (GIs) examined PEG-J longevity in the integrated safety dataset (N=395). Events were individually reviewed, adjudicated and subclassified by the committee.

Results: PEG-J was successfully placed in 394 patients. The median exposure to PEG-J was 480 days; 180 subjects had ≥540 days, 113 had ≥730 days. The PEG tube was replaced 0 times in 339 (85.8%) patients, 1 time in 42 (10.6%) patients and ≥2 times in 13 (3.3%) patients. The J tube was replaced 0 times in 223 (56.5%) patients, 1 time in 80 (20.3%) patients and ≥2 times in 91 (23.0%) patients. At the end of year 1, 91.3% of subjects retained the original PEG tube and 62.9% retained the original J-tube. The most common types of tube repositioning or replacement were repositioning/replacement without endoscopy, with or without fluoroscopy (228 events) and replacement with endoscopy (174 events). Device dislocation was reported in 137 (34.7%) patients, device occlusion in 116 (29.4%) patients, and unintentional device removal by patient in 42 (10.6%).

Conclusion: This is the largest enteral tube dataset reported in the literature with the longest follow-up. Despite the increased mobility of this population compared with the typical PEG/PEG-J subject, the durability and longevity of the tubing and device was favorable considering the published shorter-term reports of feeding G-J tubes.
Arvydas Vanagunas: Dr. Vanagunas has received compensation from AbbVie and CVS Caremark’s Pharmacy & Therapeutics Committee for serving as a consultant and has been a scientific advisory board member for AbbVie.

Rod Gossen: served as executive secretary for this study and is employed by a consulting agency under contract with AbbVie.

Susan Eaton, Krai Chatamra, Weining Robieson, Jordan Dubow and Janet Benesh are employees of AbbVie and hold AbbVie stock and/or stock options.

AbbVie participated in the study design, research, data collection, analysis and interpretation of data, writing, reviewing, and approving the publication. Michelle M. Koutsantonis, of AbbVie, provided

**FDA Approval:** Yes

**Designed Study:** Industry

**Abstract Author:** Investigator

**AUTH DESIG: ACG Membership Status**: *David Johnson : ACG Member
Michael Epstein : ACG Member
Robert Hawes : ACG Member
Arvydas Vanagunas : ACG Member
Nathan Schmulewitz : ACG Member
Rod Gossen : ACG Non-Member
Weining Robieson : ACG Non-Member
Susan Eaton : ACG Non-Member
Jordan Dubow : ACG Non-Member
Krai Chatamra : ACG Non-Member
Janet Benesh : ACG Non-Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 4

**REVIEWER FLAGS:** Lauren Schwartz - Conflict of Interest: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
Purpose: Carcinoids are neuroendocrine tumors that can be found anywhere along the GI tract or pancreas. The preferred technique for endoscopic removal has not been defined, but all have potential for incomplete resection with positive side or deep margins. It is unclear whether the presence of a positive margin requires surgical resection. There is little published data detailing the recurrence rate following the removal of small bowel carcinoids. The purpose of this study is to describe the recurrence rate of early stage carcinoids endoscopically removed from the duodenum.

Methods: The medical records of patients who underwent endoscopic resection of carcinoid tumors located in the duodenal bulb from the year 2000 to 2010 were retrospectively reviewed. Patient demographics, endoscopic ultrasound (EUS) evaluation, specimen size, Paris Classification (as determined by photographs or lesion description), type of resection, histopathology reports, complications, and results from follow-up EGDs were recorded. Endoscopic mucosal resection (EMR) was performed either with ligation-assistance or injection-assistance. Statistical comparisons were performed using Fisher’s Exact Test.

Results: A total of 32 cases were included (Table 1). Patient demographics were similar among both groups. No complications were recorded. Completeness of resection and recurrence on follow-up EGD are reported in Figure 1. Follow-up EGD was performed in 23 cases (19 after EMR and 4 after snare-alone resection). The mean time of EGD follow-up was 13 months (range 1-33 months). Only one local recurrence was found in the EMR group (injection-assisted, positive deep margin) as compared to all with local recurrence in the snare-alone group (p = 0.001), each of which had positive deep margins. Three of the recurrences in the snare-alone group were treated with repeat polypectomy and APC, with no residual tumor found 3 months later.

Conclusion: Local recurrence of duodenal carcinoids is significantly less following EMR as compared to snare-alone resection. The presence of positive histopathologic margins, especially side margins, following EMR did not predict local recurrence. This suggests that surveillance, rather than surgical resection, may be a viable option for carcinoid lesions with histopathologically incomplete resection by EMR.
<table>
<thead>
<tr>
<th></th>
<th>EMR</th>
<th>Snare-Alone Resection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Lesions Removed</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Positive Margins (%)</td>
<td>11 (46%)</td>
<td>6 (75%)</td>
</tr>
<tr>
<td>Specimen Avg. Size (range)</td>
<td>7.5mm (3-13mm)</td>
<td>7.1mm (4-13mm)</td>
</tr>
<tr>
<td>Follow up EGD Performed</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Local Recurrence</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Fisher Exact (p Value)</td>
<td>---</td>
<td>p = 0.001</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Table 1

**AVERAGE SCORE:** 2.5

**REVIEWER FLAGS:** Carol Semrad - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
CONTROL ID: 1742938
TITLE: Lack of Pituitary Adenylate-Cyclase Activating Peptide (PACAP) Receptor Leads to Failure of Active-ghrelin Suppression After Feeding
PRESENTER: Deepinder Goyal
PRESENTER (INSTITUTION ONLY): UCLA
PRESENTER (COUNTRY ONLY): United States
ABSTRACT BODY:
Purpose: PACAP is a pituitary and gastrointestinal neuropeptide, which binds with high affinity to the PAC1 receptor and has physiological effects on endocrine and exocrine pancreatic secretions. We previously reported that PAC1 null mice exhibit an obese phenotype compared to wild type (WT) mice. We also demonstrated that PACAP injected intraperitoneally inhibits appetite in WT mice. This led us to hypothesize that PACAP and PAC1 may regulate the secretion of key gastrointestinal hormones that regulate appetite.

Methods: A total of 32 age and weight matched PAC1 null (n=16) and WT (n=16) male C57BL/6 mice were included in the study. After 16 hours of overnight fast in a controlled environment, 8/16 randomly selected mice from each of the two groups were subjected to fasting blood draw. The other half in both the groups (8/16) were allowed ad-libitum feeding and blood sampling was conducted 30-60 minutes later for a prandial sample. Levels of active-ghrelin (a-ghrelin), glucagon like peptide-1 (GLP-1), glucagon, insulin, amylin, pancreatic polypeptide (PP) and peptide tyrosine tyrosine (PYY) were determined using Luminex x-MAP technology.

Results: The median post-prandial levels of a-ghrelin were significantly different in the two groups; 363 (IQR, 185.5-607.5) in PAC1 null vs. 7.9 (IQR, 1.9-74) pg/mL (p=0.003) in WT mice. There was no difference in median fasting a-ghrelin levels in PAC1 null 552 (IQR, 402-924) as compared to WT mice 381 (IQR, 299-602) pg/mL. As expected, PAC1 null mice had significantly lower median fasting [58.1 (IQR, 26.5-104.5) vs. 288 (IQR, 256-698) pg/mL (p<0.001) and prandial [135.5 (IQR, 93.4-210) vs. 2368.5 (IQR, 2178.5-3665.5) pg/mL (p<0.001) insulin, and lower median fasting [7.2 (IQR, 5.8-12.6) vs. 13.4 (IQR 13.4-35.2) pg/mL (p=0.03) and prandial [12.2 (IQR, 6.1-23.6) vs. 29.9 (IQR, 13.4-57.3) pg/mL (p=0.03) levels of glucagon than WT mice. No difference was seen in median PYY levels among PAC1 null as compared to WT mice in both fasting 76.9 (IQR, 44.4-124.5) vs. 61.3 (13.7-108) pg/mL and feeding state 76.8 (IQR, 49.6-109.7) vs. 94.8 (IQR, 62.5-181) pg/mL. There was no significant difference in the levels of GLP-1, PP, and amylin between PAC1 null and WT mice.

Conclusion: In mice lacking PAC1 receptor, levels of active ghrelin remained elevated in the post-prandial state in contrast to their wild type counterparts which demonstrated a significant fall in their ghrelin levels after feeding. PACAP plays a key role in appetite regulation and energy homeostasis by suppressing the release of major orexigenic hormone ghrelin. PAC-1 receptor agonist may act as potential therapeutic agent for appetite down-regulation in overweight individuals which merits further investigations.

CURRENT CATEGORY: D. Small Intestine/Unclassified
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Oral or Poster
ACG Research Grant Support: No
Supported by Industry Grant: No
Commercial Products or Services: No
Initiated Research: Investigator
Financial Relationships: Not Applicable
FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator
AUTH DESIG: ACG Membership Status <font color="red">*</font>
Deeinder Goyal : ACG Non-Member
John Vu : ACG Non-Member
Joseph Pisegna : ACG Non-Member
Patrizia Germano : ACG Non-Member
(No Image Selected)
AVERAGE SCORE: 1.25
REVIEWER FLAGS: Jason Hou - Newsworthy?: 1
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Purpose: There is considerable overlap in symptoms between individuals with IBS and SIBO. The diagnosis of IBS is made based upon clinical findings and appropriate exclusion criteria for other disorders. SIBO is often suspected on clinical grounds and confirmed with breath testing or a clinical response to therapy. BT for SIBO is indicated by Medicare only if diarrhea is present. Can the distinction be made on clinical grounds or should additional BT be performed?

Methods: A prospectively collected database of patients undergoing breath testing for SIBO has been maintained at our institution since March 2012. Data was evaluated from inception to April 2013. Signs, symptoms, lactulose breath hydrogen (HBT) and methane breath testing (MBT) using a Qubin Breath Tracker 10344 gas chromatograph was evaluated. Logistic regression adjusted for age and gender of the clinical profile characterized by diarrhea, constipation, bloating, nausea, vomiting or pain was applied to distinguish IBS patients from SIBO.

Results: A total of 305 patients were evaluated for SIBO who presented with the symptoms of diarrhea, constipation, bloating, nausea, vomiting or pain alone or in various combinations. 236/305 (77%) met clinical Rome III criteria for IBS. 163/236 (69%) IBS-diarrhea predominant, 32/236 (14%) IBS constipation predominant and 41/236 (17%) IBS-mixed. 136/305 (44.6%) were positive for SIBO undergoing lactulose breath testing. 117/135 (87%) positive HBT and 25/135 (19%) positive MBT. There was a significant increase in constipation in patients diagnosed with SIBO for all patients (OR = 1.7, 95%CI (1.02-2.83), P = 0.04) and IBS patients (OR = 1.78, 95%CI (1.03-3.09), P = 0.04). We observed a non-significant decrease in diarrhea in patients diagnosed with SIBO for all patients (OR = 0.91, 95%CI (0.57-1.45), P = 0.69) and IBS patients (OR = 0.72, 95%CI (0.41-1.27), P = 0.26). We also observed a non-significant association of SIBO diagnosis with nausea, vomiting, bloating, diarrhea and pain.

Conclusion: 1. Among all patients and IBS patients only the clinical symptom of constipation was supportive of SIBO. 2. Using diarrhea as the indication for BT is not supported by our data. 3. BT are important in identifying SIBO patients who meet criteria for IBS.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Purpose: The diagnostic yield of video capsule endoscopy (VCE) improves with increased small bowel transit time (SBTT). With the introduction of capsules with longer recording time, the problem of incomplete studies has become less prevalent, however the number of suboptimal studies due to fast SBTT remains unchanged, hence making it much more frequent cause of a non-diagnostic VCE. Our aim is to assess the characteristics of individuals with non-diagnostic VCE due to fast SBTT.

Methods: All capsule studies performed between June 2004 and October 2012 from our institution were reviewed. Patients who had endoscopically placed capsules, incomplete studies (as defined by VCE not reaching the cecum), or who had bowel surgery of any kind were excluded. Of the 177 remaining studies, 23 patients had a nondiagnostic study due to a fast SBTT (defined as a transit time of less than 120 minutes).

Results: Patients with a suboptimal, fast SBTT (range 38-119 mins, average 83 mins) were not significantly different from those with diagnostic VCEs (range 124-473 mins, average 245) in their gender (48% v 46%, p = 0.877), age (51 v. 53 p = 0.526), inpatient status (17% v 12%,  p = 0.439), or prevalence of diabetes (23.5% v 19.4%,  p=0.165). The most likely indication for VCE in patients with suboptimal SBTT was iron deficiency anemia/obscure gastrointestinal (GI) bleed (43.5%), followed by abdominal pain (30.4%), overt GI bleed (26.1%), chronic diarrhea (21.7%), and nausea and vomiting (21.7%). There was no significant difference between the number of patients who received a VCE for chronic diarrhea compared to those with a diagnostic VCE (10.4%, chi-squared test, p = 0.116). Interestingly, patients with fast SBTT had significantly slower gastric transit time compared to patients with diagnostic VCEs ( 82.0 v 46.5 mins, student's t-test, p = 0.0076). There was no significant difference in the number of diabetics in the fast SBTT group (4/23; 24%) and the normal SBTT group (24/154; 19%, p = 0.69). None of the patients with fast SBTT were on pro-kinetic agents. 9/23 (52.9%) were on motility slowing medication, including narcotics (9/23; i.e., hydrocodone/acetaminophen, morphine, hydromorphone), ferrous sulfate (1/23), or loperamide (1/23).

Conclusion: There was no clinical predictor of which patients had a suboptimal VCE due to fast small bowel transit time. There was a small trend toward patients who complained of chronic diarrhea. It is unclear whether these patients would benefit from motility slowing medication as many with fast SBTT were already on some form of these medications.
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: [No Comments]|Carol Semrad: [No Comments]
Purpose: Chronic abdominal pain (CAP) is the second most common indication for video capsule endoscopy (VCE). Evidence of validity of VCE in patients with CAP is limited. Our aim is to assess diagnostic yield of VCE in patients with CAP. Patients with CAP will also be compared with those who had VCE for all other indications.

Methods: All capsule studies performed between June 2004 and October 2012 from our institution were reviewed. Of the 315 studies, CAP was listed as an indication for 62 patients.

Results: Of the 62 patients who had CAP, 3 also had abnormal imaging (4.8%), 10 complained of nausea/vomiting, bloating, and weight loss (16.1%), 7 had already been diagnosed with GI disease (i.e., Crohn's disease, collagenous colitis, Lynch syndrome, ulcerative colitis, previous small bowel obstructions, 11.3%), 10 also complained of chronic diarrhea (16.1%), and 8 also had anemia (12.9%). There were no significant differences between these groups, hence they were compiled into one general group. Compared to patients who had other indications for VCE, those who had CAP were younger (55 v 43 years, p < 0.00001) and there was a trend toward being female (51% v 63%, p = 0.10). There was no difference between the general population and those with CAP in the number of endoscopically placed capsules (22% v 25%, p = n.s.), completed exams (i.e., capsule is seen entering the cecum; 78% v 80%, p = n.s.), gastric transit time (69 mins v 68 mins, p = n.s.), and small bowel transit time (244 mins v 227 mins, p = n.s.). VCE was abnormal in only 14/62 CAP studies (23%, compared to 42%, p < 0.005). VCE findings in the 14 abnormal CAP studies were 79% (11/14) an inflammatory lesion (e.g., ulcers, erythema, jejunitis, ileitis, stricture), 14%(2/14) a polypoid lesions, and 7% (1) an angiectasia (7%). No patients had a mass or neoplasm.

Conclusion: Patients received VCE for CAP are younger and tend to be more female when compared to those receiving VCE for other indications. The yield of VCE in patients with chronic abdominal pain is low (23%), consisting of mostly inflammatory lesions.
Purpose: MR Enterography (MRE) aids assessment of Crohn’s disease (CD) but may also be indicated in the investigation of other SB pathology. We studied the frequency and clinical impact of incidental findings detected by MRE in patients with suspected or known CD.

Methods: We conducted a retrospective review of 1022 MRE studies performed between June 2009 and February 2013 at our institution. Clinical data (demographics, disease characteristics and therapy) were obtained from electronic patient records. Incidental findings were defined as unexpected lesions in or outside the small intestine, unknown at the time of referral and unrelated to inflammatory bowel disease (IBD).

Results: Of 1,022 MRE studies 500 patients had a diagnosis of IBD, 418 had CD, 61 had ulcerative colitis (UC) and 21 had IBD unclassified (IBDU). Of 418 CD patients, 243 were female, mean age 36. Abnormalities were noted in 306 MRE scans, 170 active non-stricturing, 121 active strictureing and 13-fibrostenotic disease. Within active groups were 35 fistulae and 12 abscesses. Incidental findings included colonic inflammation (10), gallstones (17), ovarian cysts (22), jejunal intussusception (1), sacroileitis (1), renal cysts (11), hepatic cysts (12), splenic haemangioma (1), mesenteric abscess (1), adrenal nodule (2), uterine fibroid (5), chronic pancreatitis (1) and splenomegaly (2). Eighty-two studies were performed in UC or IBDU; 48 were female, mean age 33. Seventeen patients had small bowel thickening with signs of active inflammation in 12/17. Incidental findings included a right ischio-anal fossa collection, pancreatic divisum, gallstones, liver and ovarian cysts, diverticular disease, large bowel abnormalities in 6 patients, colitis (5) and colonic polyps (1). MRE was performed in 522 patients without IBD. Indications included iron deficiency anaemia, abdominal pain, weight loss, diarrhoea, rectal bleeding, vomiting and abnormal colonoscopy. Findings included small bowel thickening (4), sub-acute small bowel obstruction (2), small bowel stricture (1), small bowel malignancies (2) and small bowel intussusception (1). Incidental findings included ovarian, hepatic and renal cysts, adrenal adenoma, splenic and liver haemangioma, PUJ obstruction, AAA, liver metastases, gallstones, pelvic abscess, uterine fibroids, large bowel stricture, diverticular disease, cirrhosis, lymphadenopathy, horseshoe kidney, atrophic pancreas and acute appendicitis.

Conclusion: A small but significant proportion of patients have important incidental findings at MRE. MRE can add meaningfully to the investigation of SB pathology. A careful selection of patients can be achieved through a collaborative multi-disciplinary approach.
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: [No Comments]|Carol Semrad: [No Comments]
Purpose: Duodenal polyps are an uncommon finding. Typically, duodenal polyps are frequently seen in patients with genetic syndromes such as familial adenomatous polyposis syndrome, but also may occur sporadically. Unless large enough to cause symptoms, duodenal polyps are often discovered incidentally on upper endoscopy. Once discovered, therapeutic management depends on patient symptoms, histology, and/or size of the polyp. Management may include observation, endoscopic removal, or surgery. Here, we present a case of an unusually large duodenal pseudopolyp with unique histological features. We describe the management and course of the polyp over a 3 year time period.

A 59-year-old male with a past medical history significant for prior myocardial infarction, diabetes and hyperlipidemia was referred by his gastroenterologist for evaluation of a large 4 cm duodenal polyp (not involving the ampulla) that encompassed one half the circumference of his duodenal lumen. Approximately 2 weeks prior, he underwent an upper endoscopy for an upper gastrointestinal bleed (attributed to a small gastric vessel) at which time this large polyp was incidentally discovered. Review of outside pathology reports were concerning for an adenomatous polyp with low-grade dysplasia. Upon review of the biopsy specimen by a pathologist at our institution, the polyp was found to consist of benign small bowel mucosa with non-specific inflammatory and reactive epithelial atypia with no definitive dysplasia. Due to the concerning size of this duodenal polyp, the patient subsequently underwent an MRI and upper endoscopy. MRI revealed no extra duodenal involvement and once again, biopsy revealed benign duodenal mucosa with chronic inflammation and reactive changes with no dysplasia. Following these investigational tests, general surgery was subsequently consulted for recommendations concerning surgical management. Due to the benign histology of the polyp, conservative measures with close observation were recommended. Thus, a follow up EGD with EUS was performed 8 weeks later. EUS demonstrated slight involvement of the submucosa and histology revealed reactive and regenerative changes with no malignancy. The patient continued to have regular surveillance with 5 upper endoscopies over the past 3 years. His most recent endoscopy has revealed a significant reduction in polyp size with biopsy showing benign mucosa, normal villous architecture and no active inflammation. There has been no progression to dysplasia or malignancy. This case highlights an unusual finding of a giant inflammatory pseudopolyp with unique histological features and the role of conservative management.

Methods: NA

Results: NA

Conclusion: NA
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
Purpose: Previous studies have suggested a high prevalence of vitamin D deficiency in patients on long term Home Parenteral Nutrition (HPN). The aim of this study was to determine the predictors of vitamin D deficiency in such patients.

Methods: We identified 79 consecutive patients who were enrolled in the Cleveland Clinic HPN program for longer than 6 months duration (median=39 months) between 1989 and 2013. Patients were categorized by vitamin D status as follows: sufficient; insufficient; and deficient with respective levels of 25OHD of ≥ 30ng/ml, 30-20ng/ml, and <20ng/ml.

Results: The mean age of the patients studied was 52±13 years and 33% were male. The median HPN duration was 39 months and the most common indication was inflammatory bowel disease (37%). Patients had between 1 and 29 measurements of vitamin D levels done during their HPN therapy with a median of 4 values per patient. Majority (82%) of patients had at least 1 prescription of high dose Vitamin D supplements (50,000 IU) during this time. Mean vitamin D levels were 24.5 ± 12.7 with a mean lowest level of 15.5 ± 9.7. Univariate predictors of vitamin D deficiency were younger age, no history of bisphosphonate use, and history of jejunal resection. For every 5 year increase in the age at time of measurement, the odds of having deficiency decreased by 10% (p=0.043). In addition, patients on bisphosphonates had a 54% lower likelihood of having deficiency (p=0.011). Patients without jejunum had a 6-fold higher likelihood of vitamin D deficiency (p=0.002). In the multivariate model (Table), lack of jejunum was the strongest predictor of deficiency, suggesting that patients without jejunum were 5 times more likely to be deficient (odd’s ratio [OR]= 5.3, 95 % confidence interval [CI]: 1.9, 15.1, p=0.002).

Conclusion: Younger age, no history of bisphosphonate use, and absence of jejunum were predictors of vitamin D deficiency in patients on long term HPN.
<table>
<thead>
<tr>
<th>Factor</th>
<th>OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplement used anytime during the previous 3 months</td>
<td>0.70 (0.52, 0.93)</td>
<td>0.016</td>
</tr>
<tr>
<td>Jejunum removed</td>
<td>5.3 (1.9, 15.1)</td>
<td>0.002</td>
</tr>
<tr>
<td>Age at time of Vitamin D measurement (5 year increase)</td>
<td>0.98 (0.96, 1.00)</td>
<td>0.093</td>
</tr>
<tr>
<td>Ischemia</td>
<td>0.57 (0.32, 1.01)</td>
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</table>

**TABLE TITLE:** Factors associated with Vitamin D Deficiency: Multivariable Analysis  
**AVERAGE SCORE:** 4.25  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Jason Hou: [No Comments]  
Shirley Paski: [No Comments]  
Lauren Schwartz: no comment on sun exposure in this chronically ill population  
Carol Semrad: [No Comments]
Purpose: To determine the prevalence of vitamin D deficiency in patients on long term Home Parenteral Nutrition (HPN) and assess efficacy of oral vitamin D supplementation.

Methods: We performed retrospective chart review of eligible adult HPN patients managed by Cleveland Clinic Home Nutrition Support Services for a minimum of 6 months. Patients were categorized by vitamin D status into sufficient: mean 25OHD≥ 30ng/ml, insufficient: mean 25OHD= 20-30ng/ml and deficient: mean 25OHD < 20ng/ml.

Results: A total of 79 patients were retrospectively assessed for sufficiency of vitamin D levels while on HPN. Seventy nine patients were further categorized into deficient: 64 (81%), insufficient: 9 (11%), and sufficient: 6 (8%) groups based on the degree of vitamin D deficiency. The mean age of patients studied was 52 ± 13 years and 33% were male. Median HPN duration was 39 months and the most common indication was inflammatory bowel disease (37%). Patients had between 1 and 29 measurements of vitamin D levels done during their HPN therapy with a median of 4 labs per patient. The average levels were 24.5 ± 12.7 with an average lowest level of 15.5 ± 9.7. Majority (82%) of patients had at least 1 prescription for Vitamin D supplements during this time. On univariable analysis, lack of high dose vitamin D supplementation (50,000IU) was associated with a higher likelihood of having vitamin D deficiency. Patients who had taken supplements during the previous 3 and 6 months had a 59% (p=0.001) and 45% (0.032) lower likelihood of having deficiency, respectively. In the multivariate model (Table), oral supplementation of vitamin D anytime in the previous 3 months (odd’s ratio [OR]=0.70, 95 % confidence interval [CI]: 0.52,0.93; p=0.016) also showed significance, suggesting 30% lower odds of deficiency with oral supplementation.

Conclusion: Minority (8%) of the HPN patient population had sufficient vitamin D levels. The likelihood of deficiency decreased with high dose vitamin D supplementation (>50,000IU). Further prospective studies are required to define the adequate amount of oral supplementation to attain sufficient vitamin D levels (>30ng/ml) in this complex population. More studies are needed to assess if lower levels of vitamin D in such patients translate into adverse clinical outcomes.
<table>
<thead>
<tr>
<th>Factor</th>
<th>OR (95% CI)</th>
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</table>

TABLE TITLE: Factors associated with Vitamin D Deficiency: Multivariable Analysis
AVERAGE SCORE: 4.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: how do levels compare with non TPN population of IBD patients|Carol Semrad: [No Comments]
Purpose: 58-year-old obese African American woman with metabolic syndrome presents to our hospital with progressively worsening acute on chronic non-radiating periumbilical pain with abdominal distension, nausea and non-bloody emesis, which has progressed over the past six months. Physical exam was notable for an uncomfortable afebrile black woman, normotensive, with tachycardia and tachypnea. She had no peripheral rash or edema, no mucosal edema, and had clear lung fields on auscultation. Her abdomen had no surgical scars, was obese and distended with hypoactive and high pitched bowel sounds, and was diffusely tender with guarding and rebound tenderness. Rectal exam revealed brown guaiac negative stool in an empty rectal vault. Laboratory investigation revealed a normal complete blood count, comprehensive metabolic panel, amylase, lipase, and slightly elevated lactate at 4.2mmol/L. Contrast enhanced CT abdomen was revealed contiguous distal jejunal to ileal small bowel enhancement and thickening with associated small bowel dilation of the affected areas without a transition point of obstruction. In light of her presentation and risk factors for vascular disease, a CT angiogram was performed 6 hours after her initial CT abdomen to evaluate for mesenteric ischemia. Remarkably, this exam revealed complete resolution of bowel wall enhancement, thickening, and dilation, along with patent mesenteric arteries. During this time, patient’s clinical symptoms also completely resolved. Upon reviewing patient’s history, patient started having symptoms after initiation of lisinopril approximately 9 months prior to presentation. C1-esterase, C1q, and C3 complement levels were subsequently found to be normal. Our suspicion for ACE inhibitor induced intestinal angioedema was confirmed after patient remained asymptomatic with discontinuation of lisinopril. ACE inhibitor induced angioedema typically involves the extremities, face, and upper airways. It is caused by quantitative or qualitative deficiency of C1-esterase protein, which inhibits vasodilators such as bradykinin. Concomitant gastrointestinal involvement is common; however, it is rarely the sole manifestation of this disease. This disease carries a high mortality if untreated and may even lead to unnecessary surgical exploration if misdiagnosed. As such, clinical awareness of this entity as a cause of acute abdomen is paramount in providing the best care for these patients.

Methods: N/A

Results: N/A

Conclusion: Isolated intestinal involvement of ACE-inhibitor induced angioedema can also occur without typical features of facial or extremity swelling. Knowledge of such manifestation can improve patient outcomes.

CURRENT CATEGORY: D. Small Intestine/Unclassified
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Poster Only
ACG Research Grant Support: No
Supported by Industry Grant: No
Commercial Products or Services: No
Initiated Research: Investigator
Financial Relationships: No
FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator

AUTH DESC: ACG Membership Status <font color="red">^</font>:
Larry Siu : ACG Member
Ali Ahmed : ACG Member
Evan Grossman : ACG Member
(No Image Selected)
(no table selected)
AVERAGE SCORE: 6.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: [No Comments]|Carol Semrad: [No Comments]
Purpose: To highlight a specific patient population which would benefit from early CE for gastrointestinal bleeding (GIB).

Methods: Retrospective analysis of all LVAD patients undergoing CE for suspected GIB at a single University between November 2009 and August 2012. All patients with a LVAD and GIB requiring evaluation by CE were included. We excluded all incomplete studies. Average follow-up was 46 weeks. Relevant data was obtained through chart review and analyzed with t-test statistics.

Results: 10 LVAD patients with GIB required evaluation by CE. 12 capsule studies were performed on these 10 patients. 3 incomplete CE studies were excluded, leaving 9 studies on 8 patients for analysis. All study participants were male with obscure-overt GIB, 89% were Caucasian, 78% were inpatient, 56% were taking Coumadin, 56% were taking aspirin or Plavix, and 89% presented with melena vs. 11% with hematochezia (Table 1). Prior to swallowing the pill cam, the average number of endoscopic interventions undertaken by this population was 6.4. The diagnostic yield of CE in this population was 100%. 89% of the studies revealed intraluminal blood, 56% had active or fresh blood, and 22% revealed AVMs. The abnormality was localized to the duodenum (22%), jejunum (44%), and ileum (11%). The CE study directly guided further endoscopic intervention in 67% of the cases (repeat EGD/Colon 33%, PE: 44%, DBE: 11%) with identification and cessation of the bleeding source in all 100% of these patients. Finally, after an average follow-up of 46-weeks, both the total number of endoscopic interventions and total units of transfused PRBCs were statistically significantly less after the patient underwent the CE study as compared to before (Table 2).

Conclusion: Patients with LVADs are at increased risk for GIB and require excessive evaluation with invasive endoscopic procedures. As demonstrated in this population, CE is a high-yield study in LVAD patients with obscure-overt GIB. Furthermore, use of CE not only guides successful focused intervention but also significantly decreases the number of subsequent procedures and units of PRBCs required. Earlier implementation of this technology may improve patient outcomes and reduce cost of care.
<table>
<thead>
<tr>
<th>Hematochezia (11%)</th>
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<tbody>
<tr>
<td>Total Prior Endoscopic Procedures (mean and SD)</td>
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<tr>
<td>Diagnostic Yield of CE Study</td>
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<tr>
<td>Findings Visualized on CE (percent)</td>
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<tr>
<td>Location of Abnormality (percent)</td>
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<tr>
<td>Further Workup as a Direct Result of CE (percent)</td>
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<tr>
<td>Type of Post-CE Workup (percent)</td>
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<tr>
<td>Subsequent Identification of Bleeding Source (percent)</td>
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<td>Final Diagnosis of GIB (percent)</td>
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<tr>
<td>Successful Control of Bleeding Source (percent)</td>
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</table>

*EGD: Esophagogastroduodenoscopy; PE: Push Enteroscopy; CE: Capsule Enteroscopy; GIB: Gastrointestinal Bleeding

<table>
<thead>
<tr>
<th>Table 2</th>
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<tbody>
<tr>
<td>.</td>
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<tr>
<td>Units of PRBC (mean and SD)</td>
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<tr>
<td>Total Endoscopic Procedures (mean)</td>
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</table>
| TABLE TITLE | Table 1  
|-------------|---------|

**AVERAGE SCORE**: 3

**REVIEWER FLAGS**: (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION**: None

**REVIEWER COMMENTS**:
Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
ABSTRACT BODY:

**Purpose:** To assess diagnostic testing of gluten sensitive patients seen at UCSD.

**Methods:** We retrospectively evaluated patients seen at UCSD in the past 10 years diagnosed with CD or NCGS according to Olso criteria(1). Demographic factors, lab studies and pathology reports were reviewed. All serological testing analyzed was obtained while patients were consuming gluten.

**Results:** Three major categories were identified; celiac disease (CD) with modified Marsh 3 histology \(n=116, 73\%\text{female (F)}\); non-celiac gluten sensitive (NCGS) with CD-like symptoms without histological CD while consuming gluten \(n=68, 75\%\text{F}\); and undiagnosed, patients with gluten sensitive symptoms, without biopsies obtained prior to avoiding dietary gluten \(n=32, 81\%\text{F}\). Mean ages were similar in the 3 groups. Tissue transglutaminase (TTG) IgA levels were compared to modified Marsh 3 histology. Sensitivity/specificity of TTG IgA IgA>19 AU were 81%/93% respectively. When TTG IgA was three times greater than the upper limit of normal (19 AU), sensitivity/specificity were 74%/100%. PPV and NPV were 100% and 75%, respectively. We determined how often deamidated gliadin peptide (DGP) IgA and IgG correctly predicted CD when TTG IgA levels were not elevated. When TTG IgA was <20AU in CD patients \((n=12)\), 2 had DGP IgA>19, 3 had DGP IgG>19. Combined sensitivity of TTG IgA and DGP IgA or DGP IgG was 84% or 85%, respectively; specificity was 93% or 91%. At UCSD, a TTG IgA order set includes a reflexive measurement of endomysial antibody (EMA). We determined how often this changed management using Cohen’s Kappa to measure the level of agreement between the two tests. This value was 0.908 \((P<0.001)\) indicating high agreement. We examined how often TTG IgA levels were predictive of IgA deficiency. A Spearman’s rank correlation was 0.29 \((P=0.009)\), indicating a statistically significant relationship. The average value of TTG IgA in CD patients with IgA deficiency was 1.33 AU, significantly lower than the average value of TTG IgA in those with normal IgA levels, 54.9 AU \((P<0.001)\).

**Conclusion:** Gender and mean age were similar in the three different categories of gluten sensitive patients at UCSD. Specificity of TTG IgA was comparable to previous reports, while sensitivity was lower. As expected, using TTG IgA levels three times greater than the upper limit of normal decreased sensitivity but specificity was 100%. Adding DGP IgA/G testing to TTG IgA enhanced the detection of CD only slightly. We showed that reflexive EMA testing did not improve detection of CD beyond TTG IgA alone. Very low TTG IgA levels were predictive of IgA deficiency.

REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Title: Prior Capsule Endoscopy Improves the Diagnostic and Therapeutic Yield of Single-balloon Enteroscopy

Presenter: Saurabh Sethi

Presenter (in Institution Only): Beth Israel Deaconess Medical Center

Presenter (in Country Only): United States

Abstract Body:

Purpose: Although there is substantial literature addressing double-balloon enteroscopy, evidence is more limited with regard to the clinical utility of single-balloon enteroscopy (SBE) in evaluating and treating small-bowel disease. Also, the impact of preceding capsule endoscopy (CE) on the diagnostic yield (DY) and therapeutic yield (TY) of single balloon enteroscopy is unknown. The objective of this study was to evaluate the diagnostic and therapeutic yield of SBE in patients with suspected small bowel disorders, as well as the impact of prior CE.

Methods: All patients referred for SBE at our institution between June 2011 and July 2013 were identified by searching a prospectively-collected database. Patients undergoing SBE-assisted ERCP were excluded. SPSS version 17.0 was used for statistical analysis. Chi square test and Mann Whitney U test were used for analysis. A p value < 0.05 was considered statistically significant.

Results: 150 patients (mean age 62.84 years, range 17-92 years, 60% men) underwent 170 SBE procedures. Indications for SBE included anemia (53.5%), overt GI bleeding (33.5%), occult GI bleeding (26.5%), suspected IBD (7.1%), suspected mass (28.2%), chronic abdominal pain (20%), chronic nausea/vomiting (7.6%), chronic diarrhea (4.1%), foreign body (1.8%) and weight loss (3.5%). CE was performed before SBE in 113/170 cases (66.5%). 104/170 cases (61.2%) had definite or probable lesion and 9 cases had normal findings noted on CE. The findings identified during SBE included angioectasia (25.3% cases), ulcers/erosions (12.3%), benign polyps (11.8%), lipoma (5.3%), malignancy (4.7%), diverticulosis (5.9%), foreign body (4.2%), Dieulafoy’s lesion (1.2%) and strictures (0.6%). 30% had normal small bowel exams. Therapeutic interventions included hemostasis (23.5% cases), polypectomy (2.9%), and foreign body removal (2.4%). Total DY and TY of SBE was 60% and 27.6% respectively. The DY of SBE with prior CE had was 68.21% (77/113 cases), vs. 43.8% (25/57 cases) DY without prior CE (P=0.002). The TY of SBE with prior CE was 35.4% (40/113 cases) vs. 12.3% (7/57 cases) without prior CE (p=0.001). One endoscopic complication (perforation) was observed out of 170 procedures (< 0.01%), which was conservatively managed successfully. There were no deaths.

Conclusion: In our patient cohort, SBE demonstrated a higher DY than expected based on prior published reports. This is likely related to the routine use of CE prior to undertaking SBE in our center. SBE appears to be a safe and effective technique for the diagnosis and treatment of small bowel disease. For most patients, we recommend performing a CE prior to SBE to improve the DY and TY of the procedure.

Current Category: D. Small Intestine/Unclassified

Presentation Type: Oral or Poster

ACG Research Grant Support: No

Supported by Industry Grant: No

Commercial Products or Services: No

Initiated Research: Investigator

Financial Relationships: Not Applicable

FDA Approval: No

Designed Study: Investigator

Abstract Author: Investigator

Auth Desig: ACG Membership Status <font color="red">^</font>:

Saurabh Sethi : ACG Member
Adarsh Thaker : ACG Non-Member
Jonah Cohen : ACG Non-Member
Sagar Garud : ACG Non-Member
Mandeep Sawhney : ACG Non-Member
Ram Chuttani : ACG Non-Member
Douglas Pleskow : ACG Non-Member
Kenneth Falchuk : ACG Non-Member
Tyler Berzin : ACG Non-Member
(No Image Selected)
(no table selected)

**AVGAGE SCORE:** 3.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Jason Hou: [No Comments]||Shirley Paski: [No Comments]||Lauren Schwartz: [No Comments]||Carol Semrad: [No Comments]
Long-term Safety and Efficacy of Teduglutide for the Treatment of Intestinal Failure Associated with Short Bowel Syndrome: Final Results of the STEPS-2 Study, a 2-year, Multicenter, Open-Label Clinical Trial

Presenters: Lauren Schwartz

Institution Only: Mount Sinai School of Medicine

Country Only: United States

Abstract Body:

Purpose: Treatment with teduglutide (TED) promotes intestinal adaptation and absorptive capacity in patients (pts) with intestinal failure associated with short bowel syndrome (SBS–IF). In a 24-wk placebo (PBO)-controlled phase III study (STEPS), TED significantly reduced parenteral nutrition and/or intravenous fluid (PN/IV) volume requirements and number of infusion days in pts with SBS–IF. The primary objective of STEPS-2 was to further assess long-term safety and efficacy of TED in pts with SBS–IF.

Methods: This extension study enrolled pts who completed 24 wks of treatment with TED (TED/TED) or PBO (PBO/TED) in STEPS or qualified for STEPS but were not treated because target enrollment numbers were met (NT/TED). For safety analysis, PBO/TED and NT/TED groups were combined (PBO+NT/TED). All pts who completed the study received subcutaneous TED (0.05 mg/kg/d) for ≥24 mo; pts in the TED/TED group received TED for 30 mo. Clinical response was defined as a 20%–100% reduction from baseline in weekly PN/IV volume.

Results: Of 88 adults enrolled (TED/TED, n=37; PBO/TED, n=39; NT/TED, n=12), 65 (74%) pts completed the study. At 24 mo, clinical response was achieved by 28/30 (93%) TED/TED pts, 16/29 (55%) PBO/TED pts, and 4/6 (67%) NT/TED pts. Mean PN/IV volume reduction from baseline was 7.6 (66%) L/wk, 3.1 (28%) L/wk, and 4.0 (39%) L/wk in the TED/TED, PBO/TED, and NT/TED groups, respectively. Overall, TED treatment resulted in additional days off PN/IV, with 25/65 (38%) pts achieving ≥3-d/wk reduction (TED/TED, 18/30 [60%] pts; PBO/TED, 5/29 [17%]; NT/TED, 2/6 [33%]). 13/88 (15%) pts, including 10 in the TED/TED group, achieved independence from PN/IV. These pts achieved independence from PN/IV after 24-114 wks of TED treatment. Treatment-emergent adverse events occurred in 84/88 (95%) pts; the most common were abdominal pain (34%), catheter sepsis (28%), and episodes of decreased weight (25%). 23 pts discontinued treatment [16/51 (31%) in PBO+NT/TED and 7/37 (19%) in TED/TED groups]. 64% of pts experienced serious AEs.

Conclusion: Long-term treatment with TED resulted in additional, clinically meaningful reductions in PN/IV support. Complete independence from PN/IV support was achieved by a heterogeneous group of pts with SBS-IF who received TED. No unexpected safety signals were detected. These data suggest that long-term TED treatment is associated with continued reductions in PN/IV support, and independence from PN/IV for some pts. This research was funded by NPS Pharmaceuticals, Inc., Bedminster, NJ.

Current Category: D. Small Intestine/Unclassified

Current Sub-Category: None

Supported by Industry Grant: No

Commercial Products or Services: Yes

Initiated Research: Industry

Financial Relationships: Yes

Extra Info: Lauren K. Schwartz is a consultant for NPS Pharmaceuticals, Inc.

Stephen J. O’Keefe is a consultant and has received grant/research support from NPS Pharmaceuticals, Inc.

Palle B. Jeppesen has received grant/research support and has been an advisory board member as well as other (site investigator on clinical trials) for NPS Pharmaceuticals, Inc.

Marek Pertkiewicz is a consultant as well as other (site investigator on clinical trials) for NPS Pharmaceuticals, Inc.

Nader N. Youssef is an employee of NPS Pharmaceuticals, Inc.
Ken Fujioka is a consultant for NPS Pharmaceuticals, Inc.

**FDA Approval:** Yes

**Designed Study:** Industry

**Abstract Author:** Investigator

**AUTH DESIG: ACG Membership Status**

- Lauren Schwartz: ACG Member
- Stephen O’Keefe: ACG Member
- Palle Jeppesen: ACG Non-Member
- Marek Pertkiewicz: ACG Non-Member
- Nader Youssef: ACG Member
- Ken Fujioka: ACG Non-Member

(No Image Selected)

(No table selected)

**AVERAGE SCORE:** 2

**REVIEWER FLAGS:**
- Lauren Schwartz - Conflict of Interest: 1
- Carol Semrad - Conflict of Interest: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
- Jason Hou: [No Comments]
- Shirley Paski: [No Comments]
- Lauren Schwartz: [No Comments]
- Carol Semrad: [No Comments]
Purpose: Hereditary hemorrhagic telangiectasia (HHT) is a rare autosomal dominant disorder with variable expression characterized by multiple vascular ectasias in the skin, mucous membranes and visceral organs. Patients with HHT often present with recurrent anemia because of epistaxis and/or GI bleeding in relation to telangiectasias. GI bleeding occurs at the sites of telangiectasias, which can be multiple and distributed throughout the GI tract, in approximately one third of patient with HHT and can cause significant morbidity. The diagnosis and treatment of telangiectasias in small bowel can be challenging. Data concerning the prevalence and management of theses lesions in the small bowel are sparse.

Methods: We used video small bowel capsule endoscopy (VCE) and balloon-assisted enteroscopy (BAE) to investigate small bowel pathology in symptomatic patients with HHT in a U.S. tertiary referral academic medical center. 21 patients with a definite diagnosis of HHT based on Curacao criteria who underwent VCE and/or BAE due to anemia and/or GI bleeding from 2001 to 2012 were recruited for the study. Clinical information, laboratory data including genetic mutation, and enteroscopic findings were analyzed. Telangiectasias were categorized based on the location in the small bowel and number of the lesions (few, <5 lesions; multiple, >5 lesions). Argon plasma coagulation (APC) was used to treat telangiectasias during BAE as appropriate. Its therapeutic efficacy was assessed according to episodes of re-bleeding and transfusion requirement in the subsequent one year follow-up period.

Results: 12 (57%) out of the 21 patients (7 males and 14 females, age: 48.4±12.8 years) were found to have telangiectasias in the small bowel. Most (67%) of the lesions were multiple in the small bowel. The most common location of telangiectasias was jejunum (83%) followed by ileum (50%). The patients with small bowel telangiectasias were older (54.2±11.1 years) compared with those without (40.8±11.3 years) (p=0.01). 6 patients (28.5%) were found to have SMAD4 mutations and overlap HHT-juvenile polyposis syndrome. 5 (83%) of these 6 patients with SMAD4 mutations were without small bowel telangiectasias. Re-bleeding rate and units of blood transfusion were higher in patients with multiple small bowel lesions after APC treatment in the subsequent one year follow-up period.

Conclusion: Older patients with HHT tend to have small bowel telangiectasias. Enteroscopy by VCE and BAE makes possible precise mapping and treatment of small bowel telangiectasias in the symptomatic patient with HHT.
AVERAGE SCORE: 3.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: [No Comments]|Carol Semrad: [No Comments]
ABSTRACT BODY:

Purpose: The annual incidence of neuroendocrine tumors (NETs) diagnosed in the United States has been estimated to be between 1-5/100,000. Even though the diagnosis remains rare, with the slow rise in incidence and an increase in survival, it becomes important to understand the clinical features of NETs. We analyzed cases of appendiceal NETs in order to report our institution’s experience with this entity in an attempt to augment the available literature.

Methods: Thirteen cases of appendiceal NETs were identified from our institutional Neuroendocrine Tumor Registry. A retrospective chart review was performed to analyze data relevant to the epidemiology, presenting symptoms, findings and tumor characteristics.

Results: From March 2006 to December 2011, 116 cases of NETs were added to our institutional Neuroendocrine Tumor Registry (UMass Medical). 13 cases cite the appendix as the primary tumor site (11.2% of total NETs). During this time range, 2567 appendectomies were performed at our institution; 0.5% of appendectomies were found to have an incidental finding of appendiceal NET. All 13 of the patients lived in the central Massachusetts area. Ten were female and three were male. The average age in this series was 36.5 at the time of diagnosis. Eight of the patients identified themselves as White/Caucasian and three as Hispanic (no information on the race/ethnicity of the remaining two patients was available). Ten of the 13 patients presented with acute suppurative, non-perforated appendicitis. The remaining three presented with a small bowel obstruction, volvulus and as an incidental finding. All diagnoses of NET were made based on characteristic histological staining with markers specific for neuroendocrine tissue. There was no metastatic disease diagnosed on initial presentation or during follow-up, although one patient’s pathology showed lympho-vascular invasion. None of the patients required any further treatment; one patient was diagnosed with a small bowel adenocarcinoma shortly after the diagnosis of NET and was treated with systemic chemotherapy. Based on post-op clinic notes, none of the patients have had any NET specific serum markers (i.e., chromogranin A) or imaging (i.e., octreotide scan), and all patients continue to be asymptomatic without disease recurrence.

Conclusion: Small appendiceal neuroendocrine tumors commonly present as incidental findings following appendicitis, with no evidence of metastasis and are managed with an appendectomy and routine clinical follow up. In the setting of an increasing incidence of NETs, especially in a young population, it is important to recognize that further studies may be needed to explore the role of long term monitoring for management and prognostication.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Purpose: Hereditary angioedema (HAE) is a genetic disorder caused by a deficiency in C1 esterase inhibitor (C1INH) characterized by recurrent attacks of edema, frequently affecting the gastrointestinal (GI) tract. Abdominal attack symptoms of disabling pain, nausea, vomiting, and diarrhea are caused by a partial or complete bowel obstruction. Though self-limited, untreated attacks typically worsen over the course of 24 hours before resolving in two to three days. Undiagnosed patients frequently undergo unnecessary surgery. The aim of the current analysis was to evaluate the clinical presentation of abdominal HAE attacks and symptom resolution following treatment with recombinant human C1 esterase inhibitor (rhC1INH).

Methods: HAE patients presenting with acute attacks were treated with rhC1INH (50 IU/kg up to 4200 IU) in an open-label design. Overall attack severity and severity of individual abdominal symptoms (abdominal pain, nausea) were assessed using 100 mm visual analog scales (VAS) as minimal (VAS <20 mm), moderate (VAS ≥20 mm to <50 mm) or severe (VAS ≥50 mm). Onset of symptom relief was defined as a reduction in the overall severity VAS by >20mm. Assessments were performed for abdominal attacks as patient's primary attack location among the first 5 treated attacks for each patient.

Results: A total of 24 patients presented for 51 attacks with abdominal symptoms as their primary attack location. Prior to treatment, abdominal pain was rated as severe for 96% of attacks and the majority of attacks (69%) were associated with severe nausea. The median (25th-75th percentiles) overall attack severity at Baseline was 88 (74-96) mm. The median (95% confidence interval) time to onset of symptom relief for all abdominal attacks was 62 (60, 77) minutes, with median times of 68, 60, 75, 84, and 44 minutes for abdominal attacks occurring as attacks 1, 2, 3, 4, and 5, respectively. By 4 hours following treatment, only 1 attack was associated with severe abdominal pain. The median (25th-75th percentiles) overall attack severity at 4 hours was 5 (1-20) mm. Overall, rhC1INH was well tolerated, with a favorable safety profile.

Conclusion: HAE patients may present to gastroenterologists with abdominal angioedema attacks associated with severe GI symptoms. It is important for gastroenterologists to be aware of acute attacks of HAE for consideration in the differential diagnosis of recurrent severe abdominal pain. Treatment with rhC1INH was effective in improving symptoms of abdominal attacks, with a positive safety profile observed after both single and repeated treatments.
Marc Riedl : ACG Non-Member
Jonathan Bernstein : ACG Non-Member
Yun Hardiman : ACG Non-Member
Anurag Relan : ACG Non-Member
(No Image Selected)
(no table selected)
AVERAGE SCORE: 3
REVIEWER FLAGS: Carol Semrad - Newsworthy?: 1
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments] | Shirley Paski: [No Comments] | Lauren Schwartz: [No Comments] | Carol Semrad: [No Comments]
ABSTRACT BODY:
Purpose: A 55 y/o man presented with intermittent periumbilical pain and diarrhea for 4 days. Pain was described as stabbing, coming on strong then dissipating slowly over 1-2 hours. Patient reported 3-5 episodes of watery diarrhea which were initially non-bloody but had been intermittently bloody for last 2 days. He denied change in appetite, nausea, vomiting, fever or weight loss. No history of recent travel or antibiotic use, sick contacts, or eating raw or undercooked food. Past medical history was unremarkable. Physical examination was significant for periumbilical tenderness without rebound, guarding, or rigidity. Stool studies were negative for infection. CT scan revealed telescoping appearance of right colon, consistent with short segment ileocolic intussusception. Lead point was a 1.8 cm central hyperdense soft tissue lesion in the ascending colon with surrounding enlarged lymph nodes, suggestive of ascending colon cancer, likely an interval cancer within 1 year of colonoscopy. Subsequently, colonoscopy confirmed a 6 cm malignant appearing mass in the ascending colon. Patient reported worsening of abdominal pain and underwent right hemicolectomy with terminal ileal resection. Histopathology showed a 9 cm transmural diffuse large B-cell lymphoma involving the terminal ileum which had invaginated through the ileocecal valve into the normal ascending colon. Discussion: Intussusception is the telescoping of a bowel loop into the lumen of a contiguous portion of bowel. It can involve any part of the GI tract, but most frequently involves the small intestine. Ileocolic intussusception results from invagination of the terminal ileum through a fixed ileocecal valve into the ascending colon. Intussusception can lead to obstruction and compromise of mesenteric blood flow, with potential for bowel ischemia. Adult intussusception is rare, accounting only for less than 5% of all intussusceptions. Clinical presentation is variable with a variety of acute, intermittent and chronic symptoms. Colicky abdominal pain and intermittent partial intestinal obstruction is the most common presentation. CT scan is the diagnostic test of choice and should be considered for all patients with nonspecific abdominal symptoms or suspected bowel obstruction. A “target sign” may be seen on CT on perpendicular view. Given high percentage of associated malignancy, treatment of choice for colonic intussusception in adults is en bloc resection without reduction whenever possible. However, a more selective approach is recommended for enteric lesions which are more likely to be benign in nature.

Methods: N/A
Results: N/A
Conclusion: N/A
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]||Shirley Paski: [No Comments]||Lauren Schwartz: [No Comments]||Carol Semrad: [No Comments]
Purpose: To compare gastric emptying time (GET), small bowel transit time (SBTT), presence of debris, and rates of incomplete exams among defined stratified age brackets.

Methods: 2,023 outpatients (OP) underwent VCE at a single tertiary care center from 11/2001–5/2013, excluding those with prior small bowel surgeries, diabetes, and/or requiring endoscopic VCE placement. GET and SBTT were calculated from gastric, duodenal and cecal entry times. Degree of SB debris was documented by interpreting physician, and failure to detect cecal entry defined exam incompleteness. Measures were related to four age brackets: 18-59, 60-69, 70-79, and ≥80. Comparisons of proportions were performed using a chi square test. Analysis of Variance was calculated to determine differences between GET and SBTT means. P-values < 0.05 were considered statistically significant.

Results: Sample demographics: 848 Males/1,205 Females, 83% Caucasian, mean BMI=21.7. Percentage of OP with VCE for indication of anemia and GI bleed in elderly age brackets (66-77%) were greater compared to younger age bracket 18-59 (43.1%). GET between age brackets: 18-59 and 70-79 were statistically significant (43.8 vs. 33.3, p = 0.017). There were no statistical differences between age brackets related to SBTT or presence of visible SB debris (p = 0.424). Percentage of incomplete VCE was significantly increased in ≥80 yo vs. younger age brackets (p = 0.01).

Conclusion: GET, SBTT and extent of SB debris in this large elderly cohort of patients were not different than their younger counterparts. Incomplete VCE exams were significantly increased among the most elderly patients. These observations warrant further investigation of small bowel motility in the elderly. Recognizing the favorable safety profile of VCE in this advanced age cohort, VCE should be considered a safe method of evaluation for elderly patients with suspected small bowel pathology.
<table>
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<td>185.7</td>
<td>173.6</td>
<td>158.7</td>
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<td>PRESENCE OF SB DEBRIS (%)</td>
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<td>12.6%</td>
<td>10.2%</td>
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<td>0.424</td>
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<td>INCOMPLETE VCE</td>
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<td>18.1%</td>
<td>20.7%</td>
<td>28.0%</td>
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<td>15.0% / 28.1%</td>
<td>25.7% / 51.3%</td>
<td>23.5% / 39.3%</td>
<td>24.0% / 44.0%</td>
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**TABLE TITLE:** Age Brackets vs. VCE Parameters  
**AVERAGE SCORE:** 3.75  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Jason Hou: [No Comments]  
Shirley Paski: [No Comments]  
Lauren Schwartz: [No Comments]  
Carol Semrad: [No Comments]
Purpose: The prevalence of complementary and alternative medicine (CAM) therapies has increased at an exponential rate both in national and international medical communities. Given the widespread use of these modalities, an understanding of CAM therapies is necessary for practicing gastroenterologists. Hypnotherapy, which incorporates metaphorical gut-related imagery, is an evidenced-based approach increasingly utilized in the treatment of functional bowel disease. Recent ACG guidelines have scored this evidenced-based modality as a Grade 1c recommendation in the treatment algorithm for Irritable Bowel Syndrome (IBS). Given this growth, our study was designed to assess the usefulness of hypnotherapy in an outpatient private practice setting in the treatment of functional abdominal pain and bloating predominant IBS.

Methods: Sixteen patients with a known diagnosis of IBS, either pain or bloating predominant were evaluated. After informed consent was obtained, each patient underwent three 40 minute sessions of hypnotherapy with a certified hypnotherapist weekly. A survey was performed to assess demographic information such as gender, ethnicity, education level, history of prior CAM therapy use, as well as response to hypnotherapy sessions on symptom severity. Responses to the survey were collated and statistical comparisons were performed using SPSS 16.0.

Results: 87.5% of the patients were female, and the average age of participants in the study was 47 years old. Statistically significant differences were noted in symptom severity comparing initial severity scores with scores after one session of hypnotherapy (p<0.01). In addition, statistically significant differences were also noted in symptom severity comparing initial severity scores with scores at the completion of hypnotherapy sessions; 4.4 + 0.6 vs. 1.9 + 0.81 (p<0.01). Scoring ranges for symptom severity was 0 to 5, with 5 rated as most symptomatic. Hypnotherapy appeared to have equal effect in ameliorating symptoms of IBS with bloating and pain. No differences were noted between the efficacy of hypnotherapy in terms of patient age, gender, or demographic level. 87% of patients surveyed would prefer hypnotherapy as a first line therapy in the future in the treatment of their symptoms.

Conclusion: CAM therapies continue to be widely implemented by patients with digestive disorders. Hypnotherapy appears to have significant efficacy in the treatment of both pain predominant and bloating predominant IBS. This study demonstrates that this modality is effective and can be successfully implemented for patients with IBS in a community based setting.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Jason Hou: [No Comments] Shirley Paski: [No Comments] Lauren Schwartz: [No Comments] Carol Semrad: [No Comments]
Purpose: Significant advances in endoscopic evaluation of the small bowel (SB) have emerged. Single balloon enteroscopy (SBE) is a newer method of balloon-assisted enteroscopy, and there is currently limited data on institutional experiences with SBE. Our purpose is to determine overall trends, safety and efficacy of single balloon enteroscopy (SBE).

Methods: Medline and Pub Med searches for "single balloon enteroscopy" were performed to identify published institutional studies. Eight single center studies were identified published from 2007 to 2010. Correlation analysis was performed using the 8 single center studies as well as our experience with SBE at the Sacramento Mather VA. Microsoft Excel software was used to determine Pearson's correlation coefficient.

Results: A total of 763 procedures were performed in 615 patients, 561 (74%) antegrade and 202 (26%) retrograde. There were 298 (54%) men and 250 (46%) women. The mean age for patients undergoing SBE was 53 ± 9 years. The most common indication was obscure GI bleeding (51%), followed by evaluation of suspected Crohn's disease (13%), and evaluation for suspected SB tumor (8%). The mean depth of insertion was 226 ± 62 cm among antegrade and 129 ± 47 cm among retrograde procedures. The mean procedure time was 58 ± 13 min for the antegrade route and 69 ± 9.9 min for the retrograde route. Overall diagnostic yield (DY) was 59%. Most common findings were angioectasias (22%), ulcers (15%), and SB tumors (10%). Therapeutic intervention was pursued in 183 (27%) cases. Two perforations were reported (0.3%). Depth of insertion correlated strongly with procedure time ($r = 0.87$, $P = 0.01$). Depth of insertion, year of publication, procedure time, and center volume did not demonstrate significant correlations with DY ($P = 0.58$, 0.08, 0.70, 0.57, respectively).

Conclusion: Single balloon enteroscopy is an effective method of SB evaluation. Diagnostic yield was comparable to other SB imaging modalities. The rate of bowel perforation was low relative to double balloon enteroscopy. Obscure GI bleeding was the most common indication, and angioeactasia the most common finding. The antegrade route appears to allow for greater insertion depth with overall faster procedure times. Significant correlations were not observed between the variables tested and DY. Thus, improvement in DY may be independent of the tested variables. Augmenting DY with pre-procedure VCE to improve localization of SB pathology should be further explored.
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: [No Comments]|Carol Semrad: [No Comments]
TITLE: Duodenal Aspirates for Small Bowel Intestinal Overgrowth (SIBO): Yield, PPIs and Immediate Outcomes after Treatment

PRESENTER: Diana Franco
PRESENTER (INSTITUTION ONLY): Mayo Clinic
PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

**Purpose:** SIBO may cause diarrhea and gas-related symptoms (i.e., bloating). Culture of duodenal aspirates and breath test are two diagnostic tools for its diagnosis. Duodenal aspirates are easy to obtain and do not required the use of sophisticated microbiology labs. Use of PPIs has been suggested as a predisposing factor for development of SIBO but the literature is controversial. Aims: to determine the yield, relationship of positive cultures with PPIs, and the clinical outcomes after treatment.

**Methods:** Methods: This was a quality improvement project. Setting: Gastroenterology Division at a tertiary academic medical center. Study period: January-December 2012. All endoscopic reports with duodenal aspirates were retrieved from our endoscopy data base. Demographic information and indications were extracted. Use of PPIs prior to duodenal aspirates was documented. Culture results were reviewed and considered positive if > 100,000 cfu. Use of antibiotics after culture results and the immediate clinical outcome based on review of follow up visits were documented. For this study we defined the following clinical outcomes in regards to the patient's symptoms: Group 1 = Improved/Resolved; Group 2 = Improved/Resolved but Recurred; Group 3 = Same; Group 4 = Unknown/No information available.

**Results:** A total of 4,204 outpatient EGDs were performed during the study period. Duodenal aspirates were obtained in 1,263 (30%) EGDs from 1,371 men and 892 women. The mean age was 52 years (17-93). Culture-positive (> 100,000) duodenal aspirates (384) represented 30.4% of these samples. PPIs were in use in 202 patients with culture positive aspirates (52.6%) compared to 264 out of 875 (30.2%) culture-negative aspirates (p<0.0001). Antibiotics were prescribed and used by 259 of the 384 culture-positive patients (67.4%) and by 83 of the 879 (9.4%) culture-negative patients. The immediate clinical outcomes are summarized in Table 1. After excluding those with no outcomes data, the rates for complete improvement (Group 1) for SIBO patients receiving antibiotics was 98/185 (53%) and for those SIBO patients not receiving antibiotics was 33/71 (46.5%) (p = n.s.). For those with culture-negative aspirates receiving antibiotics the rate of complete improvement was 29/55 (52.7%) and for those not receiving antibiotics, the rate of complete improvement was 129/588 (21.9%).

**Conclusion:** Duodenal aspirates were performed in 30% of outpatient EGDs and the yield of positive cultures suggesting SIBO was 30%. The use of PPIs was significantly higher (52.6%) in the culture-positive (SIBO) patients compared to culture-negative patients (30.2%) Clinical improvement of patients with SIBO were similar regardless of whether they were treated with antibiotics or not.
<table>
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<th>Clinical Outcomes</th>
<th>Culture Positive Antibiotic Positive</th>
<th>Culture Positive Antibiotic Negative</th>
<th>Culture Negative Antibiotic Positive</th>
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<tr>
<td>Group 1 (n)</td>
<td>98</td>
<td>33</td>
<td>29</td>
<td>129</td>
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<tr>
<td>Group 2 (n)</td>
<td>22</td>
<td>2</td>
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<td>15</td>
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<td>Group 3 (n)</td>
<td>65</td>
<td>36</td>
<td>19</td>
<td>444</td>
</tr>
<tr>
<td>Group 4 (n)</td>
<td>74</td>
<td>41</td>
<td>28</td>
<td>137</td>
</tr>
</tbody>
</table>

Group 1 = Improved/Resolved Symptoms  
Group 2 = Improved/Resolved BUT Recurred  
Group 3 = Same (no improvement at all)  
Group 4 = Unknown/No information available

**TABLE TITLE:** Immediate Clinical Outcomes after Treatment  
**AVERAGE SCORE:** 3.25  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Jason Hou: [No Comments]  
Shirley Paski: [No Comments]  
Lauren Schwartz: [No Comments]  
Carol Semrad: [No Comments]
Does Small Intestinal Bacterial Overgrowth Delay Small Bowel Transit Time?

PRESENTER: Irene Sarosiek

PRESENTER (INSTITUTION ONLY): Texas Tech University Health Sciences Center

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

**Purpose:** Introduction: In patients with chronic idiopathic constipation (CIC) some of the symptoms could potentially be related to alterations and abnormal colonization within the gut microbiota resulting in small intestinal bacterial overgrowth (SIBO). Support for the SIBO theory of CIC comes from the observations that some CIC patients have an abnormal lactulose breath test (LBT), where hydrogen (H2) and/or methane (CH4) are generated from the bacteria in the small bowel interacting with food. The use of the SmartPill ambulatory capsule technology is able to measure the transit times within each regions of GI tract, hence it can help to investigate variations of SBTT in relationship to the bacterial environment of the gut. Aim: To test the hypothesis that SBTT in patients who are diagnosed with SIBO (+) is longer than in SIBO (-) CIC patients.

**Methods:** Twenty-six female patients (12 Caucasian (C) and 14 Hispanic (H) with CIC, mean age 37 (19-64) mean weight 169 lbs (111-305) were tested with LBT. CO2 corrected H2 and CH4 concentrations were measured in the expired breath at baseline and for 3 hours after ingestion of 10g of lactulose. The LBT was positive when: A) 2 peaks were identified: 1st peak was defined if it was >20 parts/million (ppm) from a baseline of <10 ppm, and after a plateau period was followed by a 2nd peak within the 3 hrs when levels exceeded the first peak by >20ppm; B) if patient started with baseline level of >10ppm and there were further increases in H2 and/or CH4 over 3hrs. SmartPill recordings provided data, which recorded the transit times of all GI segments. SBTT was defined as the elapsed time from capsule leaving the stomach until capsule arrived at the cecum defined by a sudden drop of pH>1 unit, for longer than 1 h, which was preceded by a gradual, sustained rise in pH as the capsule passes through the distal small bowel. **Results:** There were 16 (61%) patients with SBTT values, who were diagnosed at baseline with presence of SIBO, (10 were based on H2 results, 2 on CH4 and 4 with both). Their mean value of SBTT was 4h 59 min (±SD 1.1). On the other hand among 10 SIBO (-) patients SBTT was 3h 56 min, a 20% more rapid SBTT than recorded in SIBO (+) patients (p=0.06). Interestingly, after 2 weeks of treating their constipation with lubiprostone 6 out of 16 (37%) LBT (+) CIC patients became SIBO negative and their SBTT was reduced by 21% from mean of 5h 24 min to 4h 20 min. **Conclusion:** 1) In this analysis of CIC patients SBTT was prolonged in SIBO (+) patients; 2) Hydrogen production was more dominant than methane in delayed SBTT; 3) When interpreting SBTT by SmartPill methodology the presence of SIBO should be considered as one explanation for prolonged transit times.
AVERAGE SCORE: 5.5
REVIEWER FLAGS: Jason Hou - Newsworthy?: 1
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: Re conclusion: Would think that prolonged SBTT would lead to SBBO rather than the reverse. Treatment with lubiprostone also could produce motility effects that improve SBTT and colon transit time, thereby reducing SBBO. Not sure of validity of conclusion.]
Carol Semrad: [No Comments]
Purpose: Specific small bowel diseases can mimic or coexist with lactose intolerance (LI). In 2010, the National Institutes of Health (NIH) published a LI consensus development statement recommending lactose hydrogen breath testing (LHBT) for diagnosis and dairy food consumption as the initial treatment for LI to reduce health risks. It is unclear how gastroenterologists diagnose and manage LI, and if the findings of the 2010 NIH statement influence clinical practice.

Methods: The protocol was approved by the Institution Review Board at Cooper Green Mercy Hospital (Birmingham, AL). A waiver of informed consent was obtained. Approximately 6,324 physicians involved in direct patient care at least 25% of their time received an internet-based survey incentivized by a drawing for 10 iPads. A total of 298 completed surveys were received and analyzed.

Results: The respondents were predominantly Caucasian (Cau) (72%) & male (71%) from a single specialty (29%) or an academic practice (27%). The majority of MDs (66%) identified their specialty as General GI with 3,061 patient visits per year; patients were 63% Cau, 19% African Americans (AA), 14% Hispanics (Hisp), & 8% Asian. MDs (97%) reported that about 16% of their patients had food intolerances, with 30% having LI. LI patients were more likely: female (59%), ages 18-49 years (38%), and minority (24% AA, 14% Hisp, 11% Asian). LI was confirmed in 50% by history alone, but 25% with symptoms had no diagnosis. While 64% of patients reportedly sought a solution that included dairy foods, 70% of MDs initially recommended dairy food reduction or avoidance for most patients. Over 75% of MDs never used LHBT to confirm LI despite accessibility, citing reliability concerns. Most practicing gastroenterologists (59%) were unfamiliar with the 2010 NIH guidelines and only 41% of those aware (or 12% of the total) reported a change in practice based on the recommendations.

Conclusion: Colorectal cancer (CRC) development is one of many unintended health consequences associated with low dairy food consumption. Increased total dairy food, milk and high calcium intake lower the risk of CRC. Real or perceived LI is the most common reason for dairy food avoidance. Self-described LI affects 19.9% of AA, 10.1% of Hisp and 7.7% of Cau. Therefore, LI is common among women, minorities, and in GI practices, but most MDs were unaware of the 2010 NIH guidelines. LHBT remains underutilized in GI practices, though supported by sound reliability data. Dairy food avoidance is recommended by MDs despite patient preference to consume dairy foods, the 2010 NIH guideline recommendations and increased CRC risks with low dairy intake. This may negatively impact quality and patient satisfaction scores. Additional studies are recommended.
AUTH DESIG: ACG Membership Status <font color="red">*</font>:
Jeanette Keith : ACG Member
Sandral Hullett : ACG Non-Member
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(no table selected)

**AVERAGE SCORE:** 3.75
**REVIEWER FLAGS:** (none)
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Jason Hou: [No Comments] | Shirley Paski: [No Comments] | Lauren Schwartz: [No Comments] | Carol Semrad: [No Comments]
Purpose: Lenalidomide is a thalidomide analog with anti-angiogenic properties. Anecdotal literature limited to case reports suggests its use for the prevention of gastrointestinal bleeding (GIB) secondary to angiodysplasia and potential reversal of angiodysplasia. We present, to our knowledge, the first case series to explore Lenalidomide as a first-line therapy for this purpose.

Methods: A retrospective chart review from 2010 through 2013 of patients meeting inclusion criteria was undertaken. Patients with recurrent GIB secondary to angiodysplasias and previous failure of single-agent use of anti-fibrinolytic agents were included in this study. Antifibrinolytics were stopped upon initiation of Lenalidomide due to possible potentiation of thrombotic risk. Exclusion criteria were leukopenia, lymphoma, solid tumor disease, prior thromboembolic disease, or any underlying cytopenia not explained by blood loss.

Results: We evaluated 5 patients (3 males; 68.2±4.9 years) who met the inclusion criteria. Sites of angiodysplasia included the stomach, duodenum, jejunum, and colon. All 5 patients had von Willebrand’s disease (3 with type 3 and 1 each with types 1 and 2a). One patient had concurrent Osler-Weber-Rendu disease. The starting dose of Lenalidomide was 5 mg orally per day in all patients. Up-titration to 10 and 15 mg in 1 patient each was necessary due to recurrence of GIB. The mean number of endoscopies performed for control of GIB post Lenalidomide therapy was significantly lower compared to pre-therapy (5.50 vs 0.25; p= 0.001). Bleed-free duration on Lenalidomide therapy was 12.6 ± 4.7 months. Three patients have reported no GIB since the initiation of therapy. Three patients reported fatigue as a side effect, 1 of whom also had constipation. Another patient was initially started on Thalidomide and was switched to Lenalidomide due to constipation and mood swings. The treatment was stopped in 1 patient due to excessive fatigue despite clinical improvement. This patient remained asymptomatic for 11 months before developing a recurrence of GIB. Another patient in whom therapy was discontinued due to side-effects developed upper GIB 1 month later. Lenalidomide was subsequently resumed and the patient has remained asymptomatic since. There was no mortality, rashes, peripheral paraesthesias, cytopenias, bleeding, or thrombotic complications.

Conclusion: This case series demonstrates that in selected patients with von Willebrand’s disease and recurrent GIB from angiodysplasias, Lenalidomide therapy significantly reduced the number of endoscopies and increased the bleed-free duration. Prospective multicenter trials are needed to further define the role of Lenalidomide in the management of GIB from angiodysplasia.
AVERAGE SCORE: 2.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]
ABSTRACT BODY:

Purpose: Patients with unexplained weight loss as their main presenting symptom referred to gastroenterology, with or without other GI symptoms, often undergo multiple investigations to exclude occult malignancy. This study assessed the diagnostic yield of CT scans in identifying occult malignancy as the cause.

Methods: This is a retrospective analysis of consecutive CT scans requested from the gastroenterology clinics for spontaneous unexplained weight loss over a 12-month period. Patients with previously diagnosed malignancy and those undergoing staging CT scans were excluded from the analysis. Relevant information was obtained from CT scan reports, clinic letters, blood reviews, pathology reports and endoscopy reports.

Results: A total of 94 cases were included in the final analysis, 50 males and 44 females. The age range was 42 to 96 years with an average age of 72 years. 16 (17%) patients had malignancy confirmed on the initial CT scan. 8 had suspicious lesions found on the initial scan with further investigations excluding malignancy. 9/16 cancers were gastrointestinal (colorectal cancer 4; pancreatic 3 gastric 1, gallbladder 1). The others were pulmonary cancer (3), ovarian (1), breast (1), lymphoma (1) and renal cell cancer (1). 15/16 patients who had malignancy found had advanced metastatic cancer. The average age of patients with malignancy was 67 years as compared to the patients without a malignant diagnosis (74 years). 9/16 (56%) patients had positive findings on the physical examination such as lymphadenopathy, abdominal mass or organomegaly. Average Hb level in the non-malignant cases was 12.0mg/dl and in malignant cases it was 11.5 mg/dl whilst the average serum albumin level in non-malignant cases was 32 mg/dl compared to 30 mg/dl in malignant cases.

Conclusion: Weight loss is a common problem in gastroenterology clinic. Patients often present with non-specific gastrointestinal symptoms and usually undergo thorough investigations. CT scan is a useful test to identify cases of occult malignancy. The prevalence of underlying malignant diagnosis in these patients is unknown. In this case series we found 17% of the patients to have malignancy, 93% of these had advanced metastatic cancer attributing to the weight loss. Interestingly, the patients with a diagnosis of malignancy were younger than the non-malignant cases (average age 67 versus 74). This may suggest that younger patients with unexplained weight loss are more likely to have underlying malignancy than older patients who may have other co-morbid conditions contributing to their weight loss. Positive signs on physical examination increase the pre-test probability of finding a malignant cause.
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Jason Hou: [No Comments] | Shirley Paski: [No Comments] | Lauren Schwartz: [No Comments] | Carol Semrad: [No Comments]
Purpose: Celiac disease is currently considered a systemic immune-mediated disorder with increasing attention to the pathogenic triggering effect of food, dietary gluten in particular. Celiac disease has also been shown to be associated with enteropathogen infection, including parasitosis. The purpose of this report is to demonstrate the correlation of Cryptosporidium parvum infection and celiac disease before and after successful therapy of the infection with nitazoxanide.

Methods: Review of records from practice between 02 February 2000 and 07 May 2013; reports of analyses (Diagnos-Techs, Inc., Kent, WA) of specimens of stool paired with saliva simultaneously collected by patients who presented with gastrointestinal complaints, found infected with Cryptosporidium parvum, and treated with nitazoxanide. At least 6 weeks after the cessation of therapy, patients were retested for each. Stool was examined for the detection of Cryptosporidium parvum by enzyme-linked immunoabsorbent assay (ELISA). Saliva samples were tested for the presence of anti-gliadin antibodies (Gliadin Ab, SIgA) by ELISA. The respective sensitivities and specificities of these assays are 100%/98.9% and >90%/>95%.

Results: A total of 1,336 unique patient encounters were examined. Of these 142 (10.6%) were positive for Cryptosporidium and 33/142 (23.2%) were positive for Gliadin Ab, SIgA. Symptom resolution and normalization of Gliadin Ab, SIgA was found in 30/33 (90.9%) of patients successfully treated with nitazoxanide. The overall cure rate of cryptosporidiosis in nitazoxanide treated patients was 45/49 (91.8%).

Conclusion: Patients with cryptosporidiosis demonstrate evidence of celiac disease with abnormally elevated (positive) levels of salivary antibody IgA to gliadins, Gliadin Ab, SIgA. In these patients, eradication of Cryptosporidium by nitazoxanide is followed by return of elevated Gliadin Ab, SIgA antibody levels to normal. It is unsure what causes this association, but may be secondary to immune activation in the gastrointestinal tract. The presence and treatment of enteric pathogens should be included as part of the work up suspected celiac disease patients.
Purpose: To determine the most common locations for small bowel (SB) mucosal abnormalities detected by CE in order to better direct route of deep enteroscopic procedures.

Methods: Retrospective analysis of all patients undergoing CE for obscure gastrointestinal bleeding (GIB) at a single University between November 2009 and August 2012. All patients with a clinically significant finding on CE were included for analysis. We excluded all incomplete studies. Relevant data was obtained through retrospective chart review and analyzed with descriptive statistics.

Results: 220 capsule studies were performed for obscure GIB during the specified time period. 187 (85%) revealed some type of mucosal abnormality, but only 128 (58%) showed a clinically significant finding, defined as any mucosal abnormality that could explain or correlate with the patient’s clinical presentation. 18 (8%) studies were excluded for incomplete SB evaluation, leaving 110 capsule studies for analysis. The mean age at time of CE was 64 (±13.1) years. 46% of the participants were male, 75% Caucasian and 40% were inpatients. 51% were undergoing the CE for obscure-occult GIB and 49% had obscure-overt GIB (hematochezia 15%, melena 76%) (Table 1). The average number or PRBC units transfused in the month prior and month after the CE study was 3.2 and 1.0, respectively. Intraluminal blood was found in 32% of the patients. The most common mucosal abnormality was arteriovenous malformations (AVMs), present in 68% of the studies. The diagnostic findings were distributed as follows: stomach (7%), duodenum (15%), jejunum (45%), ileum (24%), and colon (4%). The CE directly led to further diagnostic and therapeutic intervention in 39% of cases.

Conclusion: The diagnostic yield for CE in obscure GIB is highest in the proximal small bowel and therefore amenable to anterograde deep enteroscopy. CE offers a valuable initial diagnostic tool guiding the route of approach for further therapeutic intervention.

Table 1

<table>
<thead>
<tr>
<th>Mean Age (SD)</th>
<th>64 (13.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Gender (%)</td>
<td>46%</td>
</tr>
<tr>
<td><strong>Race (%)</strong></td>
<td>Caucasian (75%)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>Black (21%)</td>
</tr>
<tr>
<td></td>
<td>Other (4%)</td>
</tr>
<tr>
<td><strong>Inpatient (%)</strong></td>
<td>40%</td>
</tr>
<tr>
<td><strong>Indication for CE (%)</strong></td>
<td>Occult Bleed (51%)</td>
</tr>
<tr>
<td><strong>Clinical Presentation of Overt GIB (%)</strong></td>
<td>Hematochezia (15%)</td>
</tr>
<tr>
<td><strong>Intraluminal Blood (%)</strong></td>
<td>32%</td>
</tr>
<tr>
<td><strong>Active Bleed (%)</strong></td>
<td>16%</td>
</tr>
<tr>
<td><strong>Location of Abnormality (%)</strong></td>
<td>Stomach (7%)</td>
</tr>
<tr>
<td><strong>Arteriovenous Malformations (AVMs)</strong></td>
<td>69%</td>
</tr>
<tr>
<td><strong>Post-CE Work-Up</strong></td>
<td>39%</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Table 1
**AVERAGE SCORE:** 4.5
**REVIEWER FLAGS:** Lauren Schwartz - Newsworthy?: 1
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None
**REVIEWER COMMENTS:**
Jason Hou: [No Comments]  
Shirley Paski: [No Comments]  
Lauren Schwartz: [No Comments]  
Carol Semrad: [No Comments]
Purpose: The utilization of vertical sleeve gastrectomy (VSG) for the treatment of medically-complicated obesity is rapidly growing world-wide. About 30% of all world-wide bariatric procedures are now the VSG. Post-operatively after VSG, patients can present with emesis and dysphagia. However there is a paucity of information about the frequency of and management of these obstructive symptoms. The aims of this present study were to examine the characteristics of and response to intervention in patients with emesis and dysphagia after VSG.

Methods: This is a retrospective chart review of 64 patients who underwent VSG from June 1, 2011 to December 31, 2012 in a large, urban community hospital.

Results: Two patients had open VSG while 62 patients had laparoscopic VSG. Post-operatively, 7 patients (11%) including 2 men and 5 women were evaluated for emesis and dysphagia at 3 weeks to 88 weeks (Median: 7 weeks) after VSG. The percentages of females were similar in emesis-dysphagia (71%) and asymptomatic patients (70%). The pre-operative body mass indices were similar in emesis-dysphagia (52.6+/-8.9 kg/m2) and asymptomatic patients (51.7+/- 10). There were similar ages in emesis-dysphagia (47+/-12 years) and asymptomatic patients (46+/-9). A Chi-squared test supported no relationship between diabetes mellitus and emesis-dysphagia (p>.05). At upper endoscopy, 2 patients had esophagitis, while 6 patients had angulation and/or narrowing of the gastric sleeve. All patients had balloon dilation of the gastric sleeve (from 12 mm to 18 mm), followed by treatment with a proton pump inhibitor. With treatment, 5 patients had resolution of symptoms, 1 patient had partial resolution of symptoms, and 1 patient was not improved.

Conclusion: This study suggests that the majority of patients with post-operative emesis and dysphagia after VSG can be symptomatically improved by treatment with a proton pump inhibitor and dilation of the gastric sleeve. The potential role of performance of pre-operative upper endoscopy to identify gastroesophageal reflux prior to VSG should be further evaluated.
REVIEWER COMMENTS:
Jason Hou: [No Comments]|Shirley Paski: [No Comments]|Lauren Schwartz: [No Comments]|Carol Semrad: [No Comments]
Purpose: To determine the prevalence of various disease processes accounting for the common complaint of gas and bloating in the outpatient setting.

Methods: Electronic billing and medical records in an outpatient gastroenterology clinic from 2010-2012 were utilized. Patient visits with a presenting complaint coded as 787.3, "flatulence, eructation and gas pain," were reviewed by three independent physicians. Patients under the age of 18 were excluded, as were patients with an existing diagnosis other than IBS. Only patients who underwent some form of evaluation (i.e., laboratory, biopsy, motility study, or breath testing) were included. Final diagnoses were divided into eight categories: Fructose Intolerance (FI), Lactose Intolerance (LI), Small Intestinal Bacterial Overgrowth (SIBO), Celiac Disease (CD), functional disorders, motility disorders, other and unknown. Diagnoses were not considered mutually exclusive, and presumptive diagnoses (i.e., improved with lifestyle changes alone) were counted as unknown in the absence of objective data. Summary statistics were applied using SPSS software.

Results: 237 patients were included in the study population. 23.6% were male and 76.4% female. The average age was 55.4 ± 19.5. The most common diagnosis was FI (38.8%), followed by SIBO (32.9%). 23.2% of patients had functional disorders, most commonly IBS. 16.0% of patients were positive for LI. 13.9% of patients did not have a definitive diagnosis at the study’s end, but the vast majority of those experienced symptom relief by changing their diet and lifestyle. 7.0% were found to have motility disorders, and 5.3% had celiac disease. Of the 10.4% patients with a diagnosis of "other", the most frequent causes included GERD and microscopic colitis. 54% (n=15/28) of patients presenting with a diagnosis of IBS were found to have a different (or additional) diagnosis to explain their symptoms. Of the patients who underwent all three forms of breath testing (FI, LI, SIBO), 60.6% were positive for at least one test, and 22.3% were positive for all three. Consequently, one third (32.9%) of patients had more than one diagnosis, with some patients having as many as four.

Conclusion: 1. FI and SIBO were the most common causes of gas and bloating in the outpatient setting. 2. Many patients, (33% in this population) have more than one etiology for their complaint, especially if they present with a history of IBS. 3. A definitive diagnosis is attainable for >85% of patients with gas and bloating when proper testing is employed. 4. When used judiciously, breath testing can be an effective diagnostic tool.

AUTH DESIGN: ACG Membership Status <font color="red">*</font>: John Vizuete : ACG Member Gregg Wendorf : ACG Non-Member Balaji Ayyar : ACG Non-Member Carlo Taboada : ACG Member Russell Havranek : ACG Member Christopher Fincke : ACG Member David Stump : ACG Member
Franz Zurita : ACG Member
Bassem Mazloum : ACG Member
Gary Gossen : ACG Member
Charles Randall : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 3.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Jason Hou: [No Comments]
Shirley Paski: [No Comments]
Lauren Schwartz: [No Comments]
Carol Semrad: [No Comments]