The Utility of Repeat Esophageal Manometry

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Purpose: Esophageal manometry (EM) is routinely performed in the evaluation of dysphagia, chest pain and gastroesophageal reflux (GER). The clinical utility of EM has been previously described; however, the utility of repeating EM has not been studied. The aim of this study was to evaluate the clinical utility of repeating EM by determining whether repeat EM provides new information or changes diagnosis.

Methods: We conducted a retrospective review of consecutive patients who underwent at least two EM studies at a tertiary medical center between 2002 and 2012. All EM studies were performed with solid-state catheters and read by one of two experienced gastroenterologists.

Results: From 2002 to 2012, 132 patients underwent at least two EM studies. The mean age of patients was 52.7; 73% were female. There was an average of 20.8 months between EM studies. EM was repeated to evaluate symptoms of dysphagia (48.5%), chest pain (11.4%) and GER (37.9%), and to rule out chronic intestinal pseudo-obstruction (2.3%). Overall, 76 (57.6%) had a change in diagnosis between the first and second EM. Four patients (3.0%) were identified as having achalasia on the second EM; the average time between EM in these patients was 7.5 months. Other new diagnoses included diffuse esophageal spasm (n=3; 2.3%), nutcracker esophagus (n=5; 3.8%), ineffective esophageal motility (n=21; 15.9%), motor failure in the body of the esophagus (n=6; 4.5%) and hypotensive LES (n=8; 6.1%). Additionally, 29 patients (22.0%) with a previously abnormal EM were found to have a normal EM when restudied. Of the patients with a change of indication between EM1 and EM2, 67% had a new diagnosis on EM2.

Conclusion: In this retrospective review, the diagnosis changed in 57.6% of patients in whom EM was repeated. Patients with a change of indication between EM1 and EM2 had the highest rate of a new diagnosis on EM2. Repeating EM is reasonable if symptoms of dysphagia or chest pain persist or if symptoms change over time.

AVERAGE SCORE: 5.5

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: nothing new but worthy of poster
Marcelo Vela: [No Comments]
Purpose: The primary objective was to evaluate the difference in the onset of action between two PPIs in fasting subjects on the 7th day of treatment. The secondary objectives included evaluations such as the difference in the onset of action in fasting subjects on the 1st day of treatment, the median time to an intragastric pH >4.0 for 10 consecutive min after drug administration on day one and day 7 of treatment, etc.

Methods: Subjects were healthy male or female non-Asian adults within the age range of 18 to 65 years. Subjects were randomized to a 3-way crossover to either Zegerid Capsules (20 mg omeprazole/1100 mg sodium bicarbonate), Prevacid Capsules (15 mg lansoprazole), or no-treatment. The treatment or no-treatment periods were 7 days. There was a minimum two-week washout period between treatments. Subjects underwent a 24-hour intragastric pH study on the 1st and 7th days of each period. A total of 63 subjects were randomized, and 59 completed per protocol. The primary efficacy endpoint was the earliest time for which a statistically significant difference between the median intragastric pH scores for three consecutive five-minute intervals at steady-state on day seven. Secondary efficacy endpoints included evaluation of primary efficacy endpoint on day one, determination of the time to sustained difference in inhibition of intragastric acidity between the two active study treatments on Day 1 and Day 7, etc. A total of 14 subjects experienced 21 treatment-emergent adverse events.

Results: Zegerid achieved significant difference over Prevacid on Day 7 for all of the five-minutes post-dose intervals beginning at the 10-15 minute interval (p = 0.0242) and sustaining through the 115-120 minute interval (p = 0.0170). On Day 7, over the 24-hour period, Zegerid maintained pH > 3.5 and 4 significantly longer than Prevacid (p=0.0075), and held the pH > 3.5 and four more than 50% of the time (at least 12 hours; p=0.0209). Zegerid maintained the pH >4 significantly longer than Prevacid during the first four hours after dosing, with the first dose on Day 1 (p= 0.0021), and the last dose on Day 7 (p <0.0001).

Conclusion: Zegerid capsules provide a significantly stronger acid suppressing pharmacodynamic effect, both in onset and duration of effect, than Prevacid capsules. The results also confirmed significant pH control over placebo in both active treatments. Both Zegerid and Prevacid were safe and well-tolerated.
AVERAGE SCORE: 5.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: nothing exciting and not timely
Marcelo Vela: [No Comments]
Purpose: Cryotherapy is an established therapy for the ablation of Barrett’s esophagus with dysplasia or intramucosal carcinoma. Our center has also performed cryotherapy for the purpose of palliation of malignant dysphagia in patients who were not candidates for esophagectomy; however, little literature exists for the use of cryotherapy for this purpose. Our aim was to report a single center experience with cryotherapy for palliation of malignant dysphagia without curative intent.

Methods: We conducted a retrospective chart review of all patients who underwent cryospray ablation at DHMC for the indication of dysphagia palliation without curative intent. Patients were treated endoscopically with liquid nitrogen spray cryotherapy (CryoSpray Ablation System, CSA Medical, Baltimore, MD). After application of spray cryotherapy, tumor was either debulked with the assistance of a cap or the ablated area was dilated with a TTS balloon.

Results: Eight patients underwent a total of 18 cryotherapy procedures for the purpose of palliation of dysphagia secondary to distal esophageal adenocarcinoma. Patients had stage T1 (n=1), uT3 (n=4), T4 (n=2), and unknown stage (n=1). Tumor debulking was unsuccessful in one patient secondary to inability to advance the Cryospray catheter alongside the decompression tubing. Three patients then went on to receive palliative chemoradiation after cryoablation. Of the seven patients in whom Cryospray therapy was completed, 5 (71%) had documented improvement in dysphagia symptoms after cryotherapy. Three patients underwent serial cryotherapy procedures for malignant dysphagia; the average interval between procedures was 9 weeks. Two patients had no improvement in dysphagia; one patient was able to undergo successful esophageal stent placement three weeks after cryotherapy.

Conclusion: Spray cryotherapy for the palliation of malignant dysphagia through tumor debulking is technically feasible, provided that the tumor is not completely obstructing the esophageal lumen. However, the efficacy of cryotherapy compared to other palliative measures such as stenting remains unknown. Cryotherapy for palliation of malignant dysphagia should be further studied in a prospective manner.
Purpose: The introduction of high resolution esophageal manometry (HRM) has allowed the ability to assess the upper esophageal sphincter (UES). However, UES abnormalities are often interpreted as incidental findings with no defined significance. We hypothesized that UES abnormalities have clinical significance and may predict treatment response in patients with achalasia.

Methods: We performed a retrospective study of 41 consecutive patients referred for HRM with a final manometric diagnosis of achalasia. Patients were sub-divided by presence or absence of UES abnormality, and clinical & manometric profiles were compared. Correlation between UES abnormality and sub-type (i.e. hypertensive, hypotensive or impaired relaxation) and a number of variables, including qualitative treatment response, achalasia sub-type, co-morbid medical illness, psychiatric illness, surgical history, dominant presenting symptom, treatment type, age and gender were also evaluated.

Results: Among all 41 patients, 24 (58.54%) had a UES abnormality present. There were no significant differences between the groups in terms of age, gender or any other clinical or demographic profiles. Among those with UES abnormalities, the majority were either hypertensive (41.67%) or had impaired relaxation (37.5%) as compared to hypotensive (20.83%), although this did not reach statistical significance (p = 0.42). There was no specific association between treatment response and treatment type received; however, there was a significant association between UES abnormalities and treatment response. In patients with achalasia and concomitant UES abnormalities, 87.5% had poor treatment response, while only 12.5% had favorable response. In contrast, in patients with achalasia and no UES abnormalities, the majority (78.57%) had good treatment response, as compared to 21.43% with poor treatment response (p = 0.0001). After controlling for achalasia sub-type, those with UES abnormality had 26 times greater odds of poor treatment response than those with no UES abnormality (p = 0.009). Similarly, after controlling for treatment type, those with UES abnormality had 13.9 times greater odds of poor treatment response compared to those with no UES abnormality (p = 0.017).

Conclusion: The presence of UES abnormalities in patients with achalasia significantly predicted poorer treatment response as compared to those with normal UES function, irrespective of the type of treatment received or achalasia sub-type. Future prospective studies are needed to determine whether specific UES abnormalities have additional prognostic value and to further delineate the underlying mechanism between UES dysfunction with achalasia in order to optimize therapeutic treatment modalities.
Ellen Stein : ACG Member
Bani Chander Roland : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 4.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: interesting finding but I am not sure why this would be???
Marcelo Vela: [No Comments]
Obesity is Positively Associated with Erosive Esophagitis: A Multiethnic Study

PRESENTER: Albin Abraham

PRESENTER (INSTITUTION ONLY): Nassau University Medical Center

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Studies on the association between obesity and erosive esophagitis have been inconsistent, with none examining findings in the emerging Hispanic and Black population. The aim of this study is to show the impact of obesity on endoscopically-proven erosive esophagitis among patients of different ethnic backgrounds in a culturally diverse community.

Methods: Patients who underwent upper endoscopy during the period from January, 2011 to March, 2013 at Nassau University Medical Center, a community hospital in East Meadow, NY were identified and categorized based on body mass index (BMI) into five classes. Multivariate logistic regression analysis was performed with esophagitis graded as per the Los Angeles classification system as dependent variables and BMI categories as independent variables.

Results: Among 2,795 patients, 2,469 met criteria for inclusion. Esophagitis (LA grade A-D) was diagnosed in 661 patients (26.77%) with an additional 218 patients diagnosed with esophageal ulcers/ strictures, Barrett’s esophagus and esophageal adenocarcinoma (p<0.0001). Table 1 shows patient demographics. Odds ratio (OR) of esophagitis was higher in males and Caucasians as compared to Blacks and Hispanics. Overall, overweight and obese individuals were significantly more likely to have erosive esophagitis than individuals of normal weight, with the highest risk seen in morbidly obese (OR 6.26, p<0.0001). Similar trends were seen in both men and women (p<0.0001). Table 2 shows the effect of obesity on erosive esophagitis in different races. Overall, though Caucasians were at a higher risk of developing esophagitis, morbidly obese Hispanics and Blacks were at a significantly higher risk than whites of similar BMI. Additionally, among patients who were diagnosed with erosive esophagitis, Caucasians were found to have more severe findings as compared to patients of other ethnic backgrounds.

Conclusion: The results of our study show a statistically significant association between elevated BMI and erosive esophagitis in both men and women. Among different races, Hispanics and Blacks were at lower risk of developing esophagitis than Whites. Also, our data shows higher degrees of acid reflux-related esophageal injury in Caucasians as compared to patients of other racial backgrounds. Given the current prevalence of the obesity epidemic, our study has important implications. It is, however, not clear if weight reduction would have beneficial effects once esophageal erosions are already present; and more research is needed to address this issue.

CURRENT CATEGORY: A. Esophagus

CURRENT SUB-CATEGORY: None

PRESENTATION TYPE: Oral or Poster

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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>:

Albin Abraham : ACG Non-Member
Ravi Paul Singh Virdi : ACG Non-Member
Huafeng Shen : ACG Non-Member
Seth Lipka : ACG Non-Member
Bobby Jacob : ACG Non-Member
Javed Iqbal : ACG Non-Member
Jennifer Madeo : ACG Non-Member
Jaspreet Singh : ACG Non-Member
<table>
<thead>
<tr>
<th></th>
<th>NORMAL ESOPHAGUS</th>
<th>EROSIVE ESOPHAGITIS</th>
<th>OR (95% CI)*</th>
<th>p value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex: Females</td>
<td>1012 (44.96)</td>
<td>355 (15.77)</td>
<td>1</td>
<td>.</td>
</tr>
<tr>
<td>Males</td>
<td>578 (25.68)</td>
<td>306 (13.59)</td>
<td>1.509 (1.256-1.814)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Age (mean ± SD)</td>
<td>52.64 ±15.49**</td>
<td>52.97 ±14.37**</td>
<td>.</td>
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</tr>
<tr>
<td>Race: Whites</td>
<td>277 (12.42)</td>
<td>186 (8.34)</td>
<td>1</td>
<td>.</td>
</tr>
<tr>
<td>Blacks</td>
<td>445 (19.96)</td>
<td>148 (6.64)</td>
<td>0.493 (0.381-0.644)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Hispanics</td>
<td>770 (34.53)</td>
<td>281 (12.60)</td>
<td>0.544 (0.432-0.684)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Others</td>
<td>86 (3.86)</td>
<td>37 (1.66)</td>
<td>0.641 (0.418-0.9828)</td>
<td>0.0405</td>
</tr>
<tr>
<td>Alcohol: Never use</td>
<td>1186 (54.63)</td>
<td>421 (19.39)</td>
<td>1</td>
<td>.</td>
</tr>
<tr>
<td>use</td>
<td>86 (3.96)</td>
<td>49 (2.26)</td>
<td>1.605 (1.111-2.319)</td>
<td>0.0111</td>
</tr>
<tr>
<td>Former use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current use</td>
<td>239 (12.39)</td>
<td>160 (7.37)</td>
<td>1.676 (1.338-2.099)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Smoking: Never smoker</td>
<td>1196 (53.97)</td>
<td>440 (19.86)</td>
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</tr>
<tr>
<td>Former smoker</td>
<td>140 (6.32)</td>
<td>70 (3.16)</td>
<td>1.359 (0.999-1.848)</td>
<td>0.0495</td>
</tr>
<tr>
<td>Current smoker</td>
<td>233 (10.51)</td>
<td>137 (6.18)</td>
<td>1.598 (1.260-2.027)</td>
<td>0.0001</td>
</tr>
<tr>
<td>Hiatal Hernia</td>
<td>374 (16.62)</td>
<td>189 (8.40)</td>
<td>1.301 (1.060-1.596)</td>
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<td>NSAID use</td>
<td>377 (16.76)</td>
<td>167 (7.42)</td>
<td>1.087 (0.881-1.341)</td>
<td>0.4373</td>
</tr>
<tr>
<td></td>
<td>Acid suppression therapy</td>
<td>Diabetes Mellitus</td>
<td>H. Pylori infection</td>
<td>Peptic ulcer</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------</td>
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<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>716 (31.84)</td>
<td>273 (12.13)</td>
<td>436 (21.18)</td>
<td>274 (12.17)</td>
</tr>
<tr>
<td></td>
<td>244 (10.85)</td>
<td>110 (4.89)</td>
<td>126 (6.12)</td>
<td>128 (5.69)</td>
</tr>
<tr>
<td></td>
<td>0.713 (0.592-0.859)</td>
<td>0.962 (0.755-1.227)</td>
<td>0.643 (0.513-0.807)</td>
<td>1.153 (0.914-1.456)</td>
</tr>
<tr>
<td></td>
<td>0.0004</td>
<td>0.7566</td>
<td>0.0001</td>
<td>0.2291</td>
</tr>
</tbody>
</table>

Table 1: Univariate analysis of patient characteristics. (*Used chi-square test for categorical variables, and **t-test for continuous variables)

<table>
<thead>
<tr>
<th>BODY MASS INDEX</th>
<th>NORMAL ESOPHAGUS</th>
<th>EROSIVE ESOPHAGITIS</th>
<th>OR (95% CI)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITES:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal weight</td>
<td>129 (27.86)</td>
<td>46 (9.94)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Overweight</td>
<td>79 (17.06)</td>
<td>66 (14.25)</td>
<td>2.742 (1.504-4.997)</td>
<td>0.0010</td>
</tr>
<tr>
<td>Class I Obesity</td>
<td>37 (7.99)</td>
<td>46 (9.94)</td>
<td>4.326 (2.178-8.594)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Class II Obesity</td>
<td>20 (4.32)</td>
<td>13 (2.81)</td>
<td>2.455 (0.977-6.172)</td>
<td>0.0561</td>
</tr>
<tr>
<td>Class III Obesity</td>
<td>12 (2.59)</td>
<td>15 (3.24)</td>
<td>4.086 (1.414-11.807)</td>
<td>0.0093</td>
</tr>
<tr>
<td>BLACKS:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal weight</td>
<td>178 (30.02)</td>
<td>27 (4.55)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Overweight</td>
<td>125 (21.08)</td>
<td>52 (8.77)</td>
<td>3.264 (1.807-5.896)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Class I Obesity</td>
<td>87 (14.67)</td>
<td>33 (5.56)</td>
<td>3.918 (1.983-7.742)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Class II Obesity</td>
<td>31 (5.23)</td>
<td>16 (2.70)</td>
<td>6.128 (2.707-13.868)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>
### Table 2: Effect of obesity on erosive esophagitis in different races.
(Used logistic regression model controlling for age, race, sex, alcohol use, smoking, NSAID use, acid suppression therapy, presence of peptic ulcer, Helicobacter pylori positivity and presence of hiatal hernia)

<table>
<thead>
<tr>
<th>Class Type</th>
<th>Count (Weight)</th>
<th>Count (Weight)</th>
<th>Odds Ratio (95% CI)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class III Obesity</td>
<td>24 (4.05)</td>
<td>20 (3.37)</td>
<td>9.715 (4.048-23.315)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>HISPANICS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal weight</td>
<td>222 (21.12)</td>
<td>37 (3.52)</td>
<td>1</td>
<td>.</td>
</tr>
<tr>
<td>Overweight</td>
<td>318 (30.26)</td>
<td>131 (12.46)</td>
<td>2.625 (1.708-4.035)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Class I Obesity</td>
<td>162 (15.41)</td>
<td>80 (7.61)</td>
<td>3.372 (2.108-5.394)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Class II Obesity</td>
<td>52 (4.95)</td>
<td>16 (1.52)</td>
<td>2.157 (1.083-4.295)</td>
<td>0.0287</td>
</tr>
<tr>
<td>Class III Obesity</td>
<td>16 (1.52)</td>
<td>17 (1.62)</td>
<td>7.633 (3.387-17.205)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

**TABLE TITLE:**
**AVERAGE SCORE:** 5.25
**REVIEWER FLAGS:** (none)
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: good study but the information is the same as what has previously been published
I like it as a poster
Marcelo Vela: [No Comments]
Aortic esophageal fistula: An unusual clinical presentation of acute upper gastrointestinal bleed

Purpose: We present an unusual cause of acute upper gastrointestinal bleeding in an 82 year old Chinese lady who presented with symptoms of left sided chest pain of 2 days duration.

Methods: Her medical problems include dementia, Sjogren’s syndrome and ischemic heart disease (IHD). Significant surgical history include a total colectomy and end ileostomy which she underwent for ischemic colitis. She was taking plavix for IHD and prednisolone for Sjogren’s with omeprazole. However, on day fourteen of her admission, she was noted to have fresh melena in her stoma bag and blood tests revealed a drop in Hemoglobin from 9.2 to 7.4.

Results: An urgent esophagogastroduodenoscopy (OGD) was done which revealed the presence of 2 large esophageal hematomas in the lower and mid esophagus with a red spot on the mid esophageal hematoma. There was an area of ulceration in the lower esophagus. No active bleeding was noted at the time of endoscopy. Subsequently, the patient developed acute fresh hematemesis with systolic hypotension and tachycardia. An urgent CT angiogram was arranged which showed the presence of active haemorrhage from the mid descending aorta dissecting into the adjacent oesophageal wall forming a haematoma. High density material within the true lumen was also seen suspicious for fistulous communication. The patient subsequently underwent an emergency endovascular repair with an insertion of a covered stent across the aortic defect. An NG tube has been since inserted for feeding and she has developed salmonella bacteremia. Otherwise she remains well to date.

Conclusion: We chose to highlight this unusual and rare cause of acute upper gastrointestinal bleed to alert endoscopists to rare and sometimes potentially lifethreatening extraluminal causes of bleeding. As endoscopists, we should maintain a high level of vigilance and awareness of possible extra luminal pathology, especially if endoscopic findings do not commiserate with clinical findings, so that potentially life threatening etiology can be identified and prompt therapeutics initiated. In our case, early CT angiogram proved crucial in averting mortality in our patient as early lifesaving endovascular repair could be undertaken. In highlighting this case, we also aim to educate endoscopists about possible endoscopic findings that may be encountered in similar clinical situations.
CT angiogram slice showing the presence of contrast extravasating from the aorta at the level of T8/9 vertebrae and fistulating anteriorly with the esophagus.

**IMAGE CAPTION:** CT angiogram slice showing the presence of contrast extravasating from the aorta at the level of T8/9 vertebrae and fistulating anteriorly with the esophagus.

(no table selected)

**AVERAGE SCORE:** 7

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]  
John Pandolfino: [No Comments]  
Michael Vaezi: case report not good  
Marcelo Vela: [No Comments]
Purpose: We examined the esophagogastric junction using novel and high-resolution probes in healthy subjects with and without obesity, and the effects of elevating intra-abdominal pressure with a waist belt.

Methods: We recruited 24 subjects with 12 normal and 12 with increased waist circumference, matched for age and gender. A magnet (2x1 mm) was endoscopically clipped to the SCJ. Assembly of 3-D Hall-Effect probe, 12-channel pH catheter and 36-channel 2.7-mm manometer was then passed nasally. A waist belt was applied on a separate study day. All results were in mean.

Results: The SCJ (P < 0.001) and pH transition-point (P = 0.04) were displaced proximally in obese vs. non-obese subjects, but not diaphragm (pLES and PIP). With belt on vs. off, there was proximal displacement of SCJ (P < 0.001), pH transition-point (P < 0.001) and also of diaphragm (P < 0.001) and LES (upper and lower border, P < 0.001 and P = 0.002 respectively). The SCJ relative to the diaphragm (pLES and PIP) was more markedly displaced by obesity than by the belt (3.9 vs. 1.9 cm and 3.4 vs. 1.5 cm respectively). The magnitude of proximal migration of SCJ during TLESRs was less in obese vs. non-obese subjects (4.2 vs. 6.8 cm, P = 0.04) and belt on vs. off (3.9 vs. 5.5 cm, P = 0.01), consistent with its resting position being already proximally displaced. At five cm above LES and 1-2 cm above upper border LES, the mean % time pH < 4 was minimal (< 4%) in all studied groups; however, it was increased (4 – 30%) in belt on vs. off at 1.3 cm above the SCJ (P = 0.02) and in obese subjects with belt on vs. off at 0.5 cm above the SCJ (P = 0.02). In obese subjects with belt on vs. off, there was a greater frequency of TLESRs (7.3 vs. 5.0/hour, P = 0.001), % TLESRs with reflux (56.4% vs. 32.8%, P = 0.01) and a longer acid clearance time (72.3s vs. 23.4s, P = 0.01).

Conclusion: Our findings indicate that obesity and waist belt cause partial hiatus herniation and intrasphincteric short segment acid reflux in asymptomatic volunteers.
AVERAGE SCORE: 3.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: nice study
Marcelo Vela: [No Comments]
Purpose: To evaluate clinical outcomes and predictors of recurrence of T1b esophageal cancer following endoscopic mucosal resection (EMR).

Methods: We retrospectively identified all patients from 2001 to 2012 with pathologically (p) confirmed T1b esophageal cancer after EMR with ≥6 month follow-up. EMR was performed either by cap or band method by 5 endoscopists. All pathology specimens were re-reviewed by a single GI pathologist for depth of submucosal invasion (SM1 vs SM2/3), tumor differentiation (well to moderate (WD-MD) vs. poorly (PD) differentiated), lymphatic or perineural invasion (LPI) and status of deep/lateral margins for malignancy. Treatment following EMR was at the discretion of the endoscopist and referring physicians based on pathology results, patient wishes and comorbidities. Post-EMR treatment was classified as: endoscopy alone (Group A), endoscopy with either chemotherapy (CT), radiation (RT) or both (Group B), surgery alone (Group C), or no further treatment/lost to follow up (Group D). Group A underwent additional EMR +/- ablation as necessary, at least biannual surveillance endoscopies and cross-sectional imaging every two years. Factors predicting cancer recurrence for groups A-C were investigated.

Results: During the study period, 45/494 (9.1%) patients (34 male, mean age: 73 ± 10 yrs) who underwent EMR of the esophagus had a pT1b cancer (see Table). 42 patients underwent EUS staging; uT1 staging accuracy of pT1SM1 and pT1SM2/3 cancers was 89% and 94%, respectively. For the 37 (82%) with available follow up (median 25 months, range 6-85), recurrent cancer developed in 11 (30%): Group A (6 synchronous, 1 metastatic), Group B (3 synchronous) and Group C (one metastatic). Univariate analysis showed no predictor of recurrence. In Group C, pathology after esophagectomy showed no residual cancer in 5, intramural cancer but negative nodes in 1 and HGD in 2 (one with malignant lymph node).

Conclusion: In the current single center series, EMR of pT1b esophageal cancer alone or with subsequent CRT or surgery is a potentially effective treatment for T1b esophageal cancer but is associated with recurrence in 30% of patients during follow up.

CURRENT CATEGORY: A. Esophagus
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>:
Darren Ballard : ACG Member
Jingmei Lin : ACG Non-Member
Thomas Imperiale : ACG Member
Douglas Rex : ACG Member
Hala Fatima : ACG Member
William Kessler : ACG Member
John DeWitt : ACG Member
(No Image Selected)
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<tr>
<th>.</th>
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<th>Group B (n=9)</th>
<th>Group C (n=8)</th>
<th>Group D (n=8)</th>
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<td>Median follow up after EMR (in months) (range)</td>
<td>31 (6-85)</td>
<td>25 (9-43)</td>
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<tr>
<td>No</td>
<td>13</td>
<td>6</td>
<td>7</td>
<td>N/A</td>
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<tr>
<td>Median time (months) to recurrence (range)</td>
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**TABLE TITLE:**

**AVERAGE SCORE:** 4.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Purpose: Pivotal studies showed that PA32540 once daily is associated with fewer gastric ulcers (GUs) and fewer upper gastrointestinal (GI) symptoms compared with EC aspirin (ASA) 325 mg alone among secondary cardiovascular (CV) patients at risk for GI events. Here we report a 1-year open-label study that evaluated the long-term safety of PA32540.

Methods: Eligible patients included adults who were H.pylori(-), taking daily ASA 325 mg for ≥3 months for secondary prevention of CV or cerebrovascular events, and at risk for GU (age >55 years or a history of GU or duodenal ulcers). Safety assessments were performed at baseline and at 1, 6, and 12 mos, including treatment emergent adverse events (TEAEs), pre-specified GI adverse events, serious adverse events (SAEs), and lab assessments and vital signs. Potential Major Gastrointestinal Adverse Events (MAGIE) (bleeding: overt or presumed UGI origin, GU/DU origin, or occult; symptomatic GU/DU; persistent upper GI pain, erosive disease, obstruction, perforation) were also adjudicated by a GI committee blinded to treatment.

Results: Population characteristics are shown in Table 1. The majority of patients were male (70%), and most patients were Caucasian (92%). Two thirds were ≥65 years and 16% ≥75 years. Median exposure was 358 days. Treatment-emergent adverse events (TEAEs) occurred in 76% overall. GI TEAEs occurred in 24% overall and in 20% of those treated for 12 months, with most frequent including diarrhea (5%), dyspepsia and nausea (each at 4%), constipation (3%), and abdominal pain upper (2%). Discontinuation due to AEs was 13.5%, and to GI AEs was 4%, with gastroesophageal reflux (n=4) the most common reason. Of 8 adjudicated major GI events, 1 event was considered a MAGIE. The subject reported had melena although no site of bleeding was identified. Cardiac disorders occurred in 12% overall and in 11% of those completing the study. None of 55 SAEs reported were considered treatment-related, including CV events of non-fatal ischemic stroke (n=2), non-fatal MI (n=3), and CV death (1 event). One patient had a GU observed during a for-cause endoscopy. NSAIDs were used in 18% of subjects and concomitant NSAID use increased TEAE incidence (94% users vs 71% non-users, p<0.001).

Conclusion: Adequate long-term exposure with PA32540 was achieved, with approximately 75% of patients receiving at least 12 months of treatment. PA32540 was found to be a well-tolerated treatment option in a population representative of a broad range of elevated CV risk subjects requiring ASA therapy and at risk for ASA-associated ulcers.
Table 1: Population Characteristics

<table>
<thead>
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<th>Overall Safety Population (N=379)</th>
<th>Treated for 12-Months (N=290)</th>
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<tbody>
<tr>
<td>Male, n (%)</td>
<td>266 (70.2%)</td>
<td>204 (70.3%)</td>
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<tr>
<td>White, n (%)</td>
<td>347 (91.6%)</td>
<td>265 (91.4%)</td>
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<tr>
<td>Age (yrs), mean (SD)</td>
<td>67.3 (7.8)</td>
<td>67.6 (7.7)</td>
</tr>
<tr>
<td>&gt;=65 yr, &gt;=75 yr</td>
<td>249 (65.7%), 62 (16.4%)</td>
<td>197 (67.9%), 46 (15.9%)</td>
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<tr>
<td>History of gastric or duodenal ulcer</td>
<td>39 (10.3%)</td>
<td>27 (9.3%)</td>
</tr>
<tr>
<td>History of diabetes</td>
<td>136 (35.9%)</td>
<td>101 (34.8%)</td>
</tr>
<tr>
<td>History of myocardial infarction</td>
<td>141 (37.2%)</td>
<td>105 (36.2%)</td>
</tr>
<tr>
<td>History of stroke</td>
<td>26 (6.9%)</td>
<td>21 (7.2%)</td>
</tr>
<tr>
<td>NSAID use (7 days+)</td>
<td>68 (17.9%)</td>
<td>55 (19.0%)</td>
</tr>
<tr>
<td>Clopidogrel use during the study</td>
<td>71 (18.7%)</td>
<td>48 (16.6%)</td>
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**TABLE TITLE:** Table 1: Population Characteristics

**AVERAGE SCORE:** 4.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Purpose: Endoscopic eradication therapy with radiofrequency ablation (RFA) is an effective method to achieve reversion of metaplastic epithelium to normal-appearing squamous epithelium in patients with Barrett’s esophagus (BE). The HALO 90 focal ablation device is attached to the distal end of an endoscope, and is generally used in follow-up treatments for focal residual Barrett’s after prior treatment with the circumferential ablation balloon device (HALO 360). However, outcomes of patients with BE who were treated solely with the focal ablation device have rarely been reported.

Methods: We analyzed the data from a cohort of patients with BE who were treated with RFA from June, 2004 to April, 2011 at a single referral center. 58 patients (46 men, 12 women; mean age 64.6±9.9 years) who had their RFA treatments using only HALO 90 were enrolled in the study. Complete response (CR) was defined as complete eradication of all dysplasia and intestinal metaplasia. Recurrence was defined as any biopsy from the esophagus showing intestinal metaplasia.

Results: Baseline histology prior to RFA: non-dysplastic BE, n=24 (41.4%), low grade dysplasia, n=14 (24.1%), high grade dysplasia and intramucosal carcinoma, n=20 (34.5%). Mean length of Barrett’s mucosa was 2.5±2.0 cm. Mean size of hiatal hernia was 1.9±1.3 cm. Endoscopic mucosal resection (EMR) was performed in 11 cases (19.0%) prior to RFA. Fundoplication was performed in 3 cases (5.2%) prior to RFA. Mean ablations per session was 48.7±18.2. CR was achieved in 56 cases (96.6%). Median number of RFA sessions to CR was two (range 1-5). CR within 3 RFA sessions (CR3) was achieved in 53 cases (91.4%): CR3 was 97.2% in BE ≤ 2 cm, 89.5% in BE > 2 cm and ≤ 4 cm, and 33.3% in BE > 4 cm. Patients were followed up for mean 25±15 mo. One case (1.7%) recurred as low grade dysplasia and was successfully treated with EMR. Symptomatic stricture requiring dilation occurred in two cases (3.4%). There were no buried glands detected.

Conclusion: RFA therapy in patients with BE using only the HALO 90 focal device is effective and safe, even in longer segments. CR within three RFA sessions was achieved in 94.5% (52/55) of patient with BE ≤ 4 cm.
Kenneth Chang : ACG Member
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(no table selected)
**AVERAGE SCORE:** 5.25
**REVIEWER FLAGS:** (none)
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None
**REVIEWER COMMENTS:**
ABSTRACT BODY:

**Purpose:** Data on the prevalence of Barrett's esophagus (BE) in Saudi Arabia is scarce. Such knowledge is essential since it is believed that BE is a premalignant condition and can predispose to adenocarcinoma of the esophagus.

**Methods:** Retrospective analysis using electronic endoscopy records to identify all cases diagnosed with BE which is defined by the presence of both endoscopic features and histologic confirmation of intestinal metaplasia in the distal esophagus. Data on all identified patients was collected in regard to age, sex and indications that led to performing endoscopy.

**Results:** Between May 2009 and Oct 2012 there was 5,089 EGD’s done on 4,373 patients (55% of them were males and 46% were above age of 50). Barrett's was suspected in 77 patients based on endoscopic appearance including 3 patients presenting with malignant complication (high grade dysplasia and/or adenocarcinoma). Biopsies were taken in 70 patients (18 females and 52 males). On histologist examination uncomplicated Barrett's (i.e. BE without dysplasia) was confirmed in 20 patients with overall prevalence of 0.46%. The average age of patients was 56.3 with odds ratio for having BE in patients 50 years old or more was 2.79 (95% CI 1.07-7.29). Male sex entailed a much higher risk of BE with odd ratio of 7.6 (95 % CI 1.76 - 32.91). About 1/2 of patients with BE had the EGD for the work up of anemia or abdominal pain and not for symptoms of GERD.

**Conclusion:** The prevalence of BE in the region of Saudi Arabia seems to be less than what is published on Caucasians in the western hemisphere. BE locally is still most common in males and above age of 50. More studies are needed locally to assess the risk of BE in chronic GERD patients and to determine whether it is cost-effective to screen for this seemingly less common entity.
Purpose: The occurrence of reflux disease appears to be rising in the US. The aim of the present study was to follow the time trends of hospitalization for gastro-esophageal reflux disease (GERD) and other esophageal disease during the past four decades.

Methods: U.S. hospital utilization data were available for individual years from 1970-2010 through the National Hospital Discharge Survey. Esophageal diagnoses were stratified by their ICD-9CM codes and whether they were listed as first (primary) or secondary diagnosis. Annual hospitalizations were expressed as rates per 100,000 living U.S. population. Two rates with their respective standard errors were compared using a z-statistic.

Results: During the most recent five-year time period, 2006-2010, GERD was by far the most common esophageal disorder, resulting in 1,062 annual hospitalizations per 100,000 US population. However, in only 5% of these instances did GERD-related diagnoses constitute the primary cause of hospitalization. Between 1970 and 2010, the annual rate of all-listed GERD-related hospitalizations increased in an exponential fashion from 196 to 1,510 hospitalizations per 100,000 (p<0.0001). This rise affected both gender and all age groups alike. A significant rise from 0.3 to 5.8 hospitalizations per 100,000 (p<0.001) was also noted for all-listed esophageal adenocarcinoma. Compared with GERD, other esophageal diagnoses were far less common, such as all-listed achalasia (4 hospitalizations per 100,000), esophageal ulcer (11), stricture (18), dyskinesia (8), diverticulum (3) and Mallory-Weiss tear (10). For the other esophageal disorders, first-listed diagnoses comprised on average 27% of all-listed diagnoses, ranging from 0% (stricture) to 50% (esophageal adenocarcinoma) and 56% (Mallory-Weiss tear). These other esophageal disorders were characterized by falling or stable time trends.

Conclusion: US hospitalization data show a continued rise in the occurrence of GERD without any signs of leveling off. These trends are likely to represent ongoing changes in the underlying incidence and prevalence of the disease.
Purpose: Treatment options for Airway-esophageal fistula (AEF) include esophageal stent placement, surgery, medical therapy, and endoscopic closure techniques. The purpose of this study was to analyze the outcomes associated with these different treatment strategies.

Methods: Subjects diagnosed with AEF at our institution between 9/1/2001 and 1/1/2012 were identified from endoscopic, bronchoscopic, radiologic, and surgical databases. The first intervention utilized for treatment of the fistula was categorized as medical, surgical, esophageal stent placement, or other. The etiology of the fistula was classified as malignant, post-operative (PO), or other. Technical success, overall survival, number of interventions per patient-year after initial treatment, and median time to second intervention or death were recorded. Technical success was defined as complete closure of the fistula by a contrast swallow study.

Results: 58/123 (47.2%) identified patients underwent esophageal stent placement as the first intervention, 35/123 (28.46%) surgery, 11/123 (8.9%) medical therapy, and 19/123 (15.4%) other treatments. The other treatment group included tracheal stent placement (10/19), tracheal and esophageal combination stent placement (3/19), advanced endoscopic techniques (5/19) (clipping, gluing, suturing, or laser coagulation), and clipping plus esophageal stent placement (1/19). Number of re-interventions per patient-year, time to second intervention for each treatment group, technical success data, and overall survival can be seen in Table 1. Esophageal stent placement was utilized in 39/63 (61.9%) patients with malignant etiologies, 11/35 (31.4%) with post-operative etiologies, and 7/24 (29.2%) with other etiologies (p-value <0.001). Surgery was more frequently utilized in those with PO etiologies (16/35, 45.7%) and other etiologies (12/24, 50%) than in those with malignant etiologies (7/63, 11.2%) (p <0.001).

Conclusion: In our study, the treatment strategy utilized for AEF differed significantly with the etiology of the fistula and thus formal comparisons should not be made between treatment groups. Among patients treated with esophageal stents survival was short, and frequent re-interventions were required.
## Table 1: Outcome for Treatment Groups

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<th>Medical Therapy</th>
<th>Esophageal Stent</th>
<th>Surgical Intervention</th>
<th>Other Endoscopic Closure Techniques</th>
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</thead>
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<tr>
<td><strong>N (%)</strong></td>
<td>11/123 (8.9%)</td>
<td>58/123 (47.2%)</td>
<td>35/123 (28.46%)</td>
<td>19/123 (15.4%)</td>
</tr>
<tr>
<td><strong>Technical success/total assessed (%)</strong></td>
<td>0/1 (0%)</td>
<td>22/33 (66.7%)</td>
<td>14/16 (87.5%)</td>
<td>5/8 (62.5%)</td>
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<tr>
<td><strong>Median survival from first intervention in months</strong></td>
<td>4.9</td>
<td>3.8</td>
<td>100.1</td>
<td>20.6</td>
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<tr>
<td><strong>Median time to second intervention or death in months</strong></td>
<td>3.65</td>
<td>1.44</td>
<td>5.49</td>
<td>1.38</td>
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<tr>
<td><strong>Number of re-interventions per patient-year</strong></td>
<td>0.06</td>
<td>4.15</td>
<td>1.38</td>
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**TABLE TITLE:** Table 1: Outcome for Treatment Groups  
**AVERAGE SCORE:** 5.25  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Evan Dellon: [No Comments]  
John Pandolfino: [No Comments]  
Michael Vaezi: good study  
Marcelo Vela: [No Comments]
Purpose: We have previously reported an inverse relationship between eosinophilic esophagitis (EoE) and *H. pylori* infection. The present study tests the hypothesis that other gastric conditions likely related to *H. pylori* infection might also be less common in EoE patients, and that conditions unrelated to *H. pylori* infection would be independent of esophageal eosinophilia.

Methods: We used the Miraca Life Sciences database to extract histopathologic, demographic, and clinical information from all patients with esophageal and gastric biopsies obtained between 1.2008 and 6.2012; those with upper GI cancer or esophageal surgery were excluded. Patients were stratified in 5 groups based on the numbers of eosinophils per high-power field (eos/HPF) in their esophageal squamous mucosa (<15, the controls; 15 to 45; 46 to 60; 61 to 75; and > 75). The prevalence of common gastric histopathologic diagnoses was determined according to the updated Sydney System: normal mucosa, *H. pylori* gastritis, chronic inactive gastritis (CIG), reactive gastropathy (RG), intestinal metaplasia (IM), and atrophic gastritis (AIG).

Results: Of the 212,982 unique patients with both esophageal and gastric biopsies, 204,525 had <15 eos/HPF in the esophageal epithelium (median age 57 y; 68.5% F), and 8,457 had ≥15 eos/HPF (median age 45 y; 37.8% F). A normal gastric mucosa was significantly more common in patients with EoE than in patients with <15 eos/HPF (23% vs 18%; OR 1.35 95%CI 1.28 – 1.42; p<.0001; see Figure 1). *H. pylori* gastritis and, as expected, its associated conditions (CIG and IM) were inversely related to EoE. Reactive gastropathy, damage likely caused by NSAIDs or bile reflux, had an inverse relationship with EoE (12% vs 16%; OR 0.70 95%CI 0.66 – 0.75; p<.0001). AIG, an autoimmune condition whose etiologic relationship with *H. pylori* is uncertain, had the strongest inverse association with EoE (0.4% versus 0.1%; OR 0.36 95%CI 0.20 – 0.65; p<.001).

Conclusion: This study confirms the inverse relationship between EoE and *H. pylori* and its sequelae. Conditions that are clearly unrelated (RG) or uncertainly linked to *H. pylori* (AIG) were also less likely in patients with EoE. While selection bias and age may play a role in these findings, the possibility that the reduced acid reflux (due to hypo- or achlorhydria) in patients with AIG may limit eosinophilic infiltration in the esophageal mucosa may warrant further investigation.
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: too many confounders but good as a poster
Marcelo Vela: [No Comments]
A Comparison of the Three Objective Measures of Gastroesophageal Reflux Disease: Johnson-DeMeester Score, DeMeester Score, and Percent Time pH<4

Ryan Kwok
Walter Reed National Military Medical Center, United States

Purpose: The Johnson-DeMeester (JD) and DeMeester (D) scoring systems, as well as, percent total time pH < 4, have been used to determine the presence of abnormal gastroesophageal reflux (GERD) in clinical and research settings. While all methods are commonly used in practice, no prior study has compared them. The goal of this study was to compare these three objective measures of GERD in a large cohort of adult patients undergoing ambulatory 24-hour pH monitoring.

Methods: A retrospective study was performed on 160 patients who underwent 24-hour pH testing off proton-pump inhibitors for at least one week for the evaluation of GERD. For each 24-hour pH study, both JD and D composite scores were calculated using the following parameters: percent total time pH < 4, percent upright time pH < 4, percent supine time pH < 4, total number of reflux episodes, number of reflux episodes > 5 minutes, and time of longest reflux episode. An abnormal JD score was defined as a score > 22.0 and an abnormal D score defined as a score > 14.7. The JD and D scores were compared to each other and in their ability to detect the presence of acid reflux expressed as the percent total time pH < 4, using a normal threshold of 4.5 percent.

Results: The study cohort consisted of 52% (83/160) males and 66% (106/160) Caucasians, with a mean (SD) age of 46 (12) years. There was significant correlation between the JD and D composite scores (R2 = 0.961, p< 0.001). The JD and D scores agreed in classifying normal versus abnormal results in 96% of the studies (153/160), in which 102 study results were normal and 51 studies were abnormal by both scoring systems (kappa 0.903, p=0.000). Disagreement occurred in 7 of 160 studies, primarily (4/7) due to differences in upright reflux, where the JD score was normal (range 16.9 to 20.5) and the D score was abnormal (range 14.9 to 18.5). The JD and D scores significantly correlated with percent total reflux (R2=0.793 and R2=0.919, respectively). Furthermore, the JD and D scores significantly correlated to percent upright reflux (R2 = 0.380 and R2= 0.564, respectively) and percent supine reflux (R2=0.789 and R2= 0.628, respectively). When using a value of 4.5 percent for the normal threshold of total percent time acid reflux, the JD score misclassified 12% (19/16) of patients and the D score misclassified 8% (12/160) of patients, p=0.257.

Conclusion: There was a strong agreement (kappa 0.903) between the JD score and D score in classifying a 24-hour pH test as normal or abnormal, with a significant correlation of each scoring system to percent total time pH < 4. Physicians can reliably utilize either the JD score, D score, or total percent time < pH 4 to determine if a patient has a normal or abnormal degree of acid reflux.
Lavern Belle: ACG Non-Member
Fouad Moawad: ACG Member
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(no table selected)

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: good study
Marcelo Vela: [No Comments]
CONTROL ID: 1733129
TITLE: Use of Fully-Covered Esophageal Stents (FCES) to Treat Benign Refractory Esophageal Strictures (BRS): A Single Center’s Experience
PRESENTER: Brian Brauer
PRESENTER (INSTITUTION ONLY): Univ of Colorado
PRESENTER (COUNTRY ONLY): United States
ABSTRACT BODY:
Purpose: Benign esophageal strictures may be refractory to endoscopic dilation and require frequent dilations. Fully-covered esophageal stents have been available for over 10 years and are frequently used for managing difficult benign esophageal strictures. We aimed to determine the technical success, duration of clinical response, migration rate and removability of FCES for benign refractory esophageal strictures.
Methods: Patients undergoing FCES placement with either fully-covered self-expanding plastic stents (SEPS) or fully-covered self-expanding metal stents (SEMS) were retrospectively identified using the endoscopic database and electronic medical record. Demographics, indication, etiology of stricture, location and prior endoscopic therapy were recorded. All patients undergoing SEMS placement were specifically counseled regarding off-label use. Stricture resolution was determined by endoscopic appearance. Proportions were compared using Fisher’s Exact Test.
Results: Between September, 2005 and November, 2012,12 patients underwent 24 FCES placements. See Table 1 for demographics, etiology and location of stricture. SEPS were placed in three procedures (13%), SEMS were placed in 21 (87%). (See Table 2 for complete results.) A median of 3 (range 1-21) endoscopic dilations were performed prior to FES placement. Stents remained in place a median of 43.5 days (range 4-252). Two patients still had stents in place at the time of analysis. At removal, nine stents remained in position (41%), distal migration occurred in 8 (36%), proximal migration occurred in 5 (23%). At stent removal, strictures had resolved in 11/22 (50%), and persisted in 11 (Table 2). Stricture resolution was seen 8/11 (72%) procedures when the stent remained in place, while only three (28%) with stent migration had resolution (p=.038). Despite stricture resolution in eight patients with follow-up, recurrence was noted in 100%) at a median 31.5 days (range 6-252). Three patients who initially did not respond to stenting underwent subsequent stenting with stricture resolution. Two patients, one with caustic ingestion and one with reflux, eventually went for surgical esophagectomy. No complications other than migration occurred. All stents were successfully removed without difficulty.
Conclusion: 1.) In our single center experience, fully-coated esophageal SEMS or plastic stents do not prevent the recurrence of benign esophageal refractory strictures.
2.) Given the lack of sustained resolution of benign strictures in all patients, fully-coated esophageal SEMS should be used selectively
3.) Overall migration rate of FES is high, >50%, and despite common perception, does not predict sufficient resolution of benign esophageal strictures.
CURRENT CATEGORY: A. Esophagus
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Oral or Poster
ACG Research Grant Support: No
Supported by Industry Grant: No
Commercial Products or Services: Yes
Initiated Research: Investigator
Financial Relationships: Yes
Extra Info: : Dr. Shah: Consultant, Cook Medical, Unrestricted Educational Grant Boston Scientific

FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator

AUTH DESIG: ACG Membership Status <font color="red">*</font> : Bryan Brauer : ACG Member
Sachin Wani : ACG Member
### Table 1. Baseline Demographics and Stricture Characteristics

<table>
<thead>
<tr>
<th>Patients</th>
<th>12</th>
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<tr>
<td>Procedures</td>
<td>24</td>
</tr>
<tr>
<td>Etiology</td>
<td>n (%)</td>
</tr>
<tr>
<td>Reflux</td>
<td>6 (50)</td>
</tr>
<tr>
<td>Caustic</td>
<td>2 (17)</td>
</tr>
<tr>
<td>Radiation</td>
<td>2 (17)</td>
</tr>
<tr>
<td>Idiopathic</td>
<td>1 (8)</td>
</tr>
<tr>
<td>EoE</td>
<td>1 (8)</td>
</tr>
<tr>
<td>Stricture location</td>
<td></td>
</tr>
<tr>
<td>Proximal</td>
<td>1 (8)</td>
</tr>
<tr>
<td>Mid</td>
<td>2 (17)</td>
</tr>
<tr>
<td>Distal</td>
<td>4 (33)</td>
</tr>
<tr>
<td>Diffuse</td>
<td>5 (42)</td>
</tr>
<tr>
<td>Prior dilations</td>
<td>Median (range)</td>
</tr>
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<td>3 (1-27)</td>
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EoE=Eosinophilic Esophagitis

### Table 2. Outcomes of Stenting

<table>
<thead>
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<th>Number of stents placed</th>
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<td>1</td>
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<td>2</td>
<td>6</td>
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<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Type of stent</td>
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<tr>
<td>Alimaxx™ (Merit Medical)</td>
<td>13</td>
</tr>
<tr>
<td>Wallflex® (Boston Scientific)</td>
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<tr>
<td>Evolution® (Cook Medical)</td>
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<tr>
<td>Polyflex® (Boston Scientific)</td>
<td>3</td>
</tr>
<tr>
<td>Endomax™ (Merit Medical)</td>
<td>2</td>
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<tr>
<td>--------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Stent Diameter</td>
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<td>14</td>
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<td>16</td>
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<td>20</td>
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<td>22</td>
<td>3</td>
</tr>
<tr>
<td>23</td>
<td>2</td>
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<tr>
<td>Migration</td>
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<td>(22 patients with follow-up)</td>
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<tr>
<td>None</td>
<td>9(41)</td>
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<tr>
<td>Distal</td>
<td>8(36)</td>
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<tr>
<td>Proximal</td>
<td>5(23)</td>
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<tr>
<td>Stricture resolution</td>
<td>n (%)</td>
</tr>
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<td>Yes</td>
<td>11 (50)</td>
</tr>
<tr>
<td>No</td>
<td>11 (50)</td>
</tr>
<tr>
<td>Resolution with migration</td>
<td>n (%)</td>
</tr>
<tr>
<td>Stent in place</td>
<td>8 (72)</td>
</tr>
<tr>
<td>Stent migrated</td>
<td>3(28)</td>
</tr>
<tr>
<td>p=.038</td>
<td></td>
</tr>
<tr>
<td>Stricture Recurrence</td>
<td>100%</td>
</tr>
<tr>
<td>Resolution by Etiology</td>
<td>n(%)</td>
</tr>
<tr>
<td>(n=11)</td>
<td></td>
</tr>
<tr>
<td>Reflux</td>
<td>6 (55)</td>
</tr>
<tr>
<td>Radiation</td>
<td>3 (27)</td>
</tr>
<tr>
<td>EoE</td>
<td>1 (9)</td>
</tr>
<tr>
<td>Idiopathic</td>
<td>1 (9)</td>
</tr>
<tr>
<td>Time to Recurrence</td>
<td>Median (Range)</td>
</tr>
<tr>
<td>(days)</td>
<td>31.5 (6-252)</td>
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**TABLE TITLE:** Table 1. Baseline Demographics and Stricture Characteristics

**Table 2. Outcomes of Stenting**

**AVERAGE SCORE:** 4.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
- Evan Dellon: [No Comments]
- John Pandolfino: [No Comments]
- Michael Vaezi: I agree good study
- Marcelo Vela: [No Comments]
Purpose: Candida esophagitis is usually characterized endoscopically by diffuse raised plaques, erosions, and more rarely ulcers. This study was designed to: 1) determine the prevalence of fungal esophagitis in patients with an endoscopically normal esophagus, and 2) to compare the demographic and clinical characteristics of such patients to those of patients with endoscopic esophageal abnormalities.

Methods: From the Miraca Life Sciences database we extracted pathologic, demographic and clinical information from all patients with esophageal biopsies and a diagnosis of fungal esophagitis (1.2008-6.2012). We then assigned them to two groups: those whose endoscopic report described the esophagus as normal, and those with any endoscopic abnormality. Patients whose endoscopic report did not mention the esophageal findings were excluded. Histologic slides from all cases were reviewed. The demographic and clinical characteristics of the two groups were then compared using the t-test and odds ratios.

Results: There were 399,878 patients with esophageal biopsies; 7,637 patients had a histopathologic diagnosis of Candida esophagitis (median age 62 years; 57% female). The esophagus was not mentioned in the report of 225 patients, who were excluded. Abnormalities were reported in the esophagus of 7,286 patients (median age 62 years, range 1 to 98; 58% female); a normal esophagus was reported in 126 patients (median age 52 years, 2 to 87; 73% female). Thus, patients with candidiasis and no reported endoscopic esophageal lesions were 10 years younger ($p<0.0001$) and more likely to be female (OR 1.95 95%CI 1.31-2.90; $p<0.001$). Compared to those with esophageal abnormalities, patients with a normal esophagus were significantly less likely to present with dysphagia or odynophagia (21% vs. 33%; OR 0.56 95%CI 0.36-0.85), but more likely to have dyspepsia (15% versus 10%; OR 1.57 95%CI 1.02-2.68) and abdominal pain (37% versus 26%; OR 1.67 95%CI 1.16-2.40), and slightly more likely to have GERD (33% versus 28%). Approximately half of the cases showed invasive fungal hyphae with associated neutrophilic inflammation, while the remaining cases showed invasive hyphae with occasional eosinophils or no active inflammation.

Conclusion: Almost 2% percent of patients with histologically documented fungal esophagitis had a normal esophagoscopy. Compared to those with esophageal lesions, these patients, none of whom was known to be immunocompromised, were younger, more often women, and more likely to present with dyspepsia and abdominal pain than dysphagia; thus, the clinical suspicion for candidiasis was likely very low. In summary, fungal esophagitis can be expected in a small proportion of immunocompetent patients with an endoscopically unremarkable esophagus.
AVERAGE SCORE: 4.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: I don't know what to make of this finding
good study though
Marcelo Vela: [No Comments]
Purpose: Central adiposity is associated with esophageal inflammation, metaplasia and neoplasia independent of gastroesophageal reflux and BMI. Mechanisms by which central adiposity may potentiate esophageal inflammation and neoplasia remain incompletely understood. Our aim was to determine the esophageal squamous epithelium intercellular space diameter in patients with increased central adiposity, independent of esophageal reflux.

Methods: Subjects who underwent clinically indicated ambulatory 24 hour pH impedance studies and endoscopy within 48 hours were prospectively recruited. Anthropometric measurements (height, weight, waist circumference, hip circumference) were obtained using standard methods. Biopsies were taken from the squamous mucosa 5 cm above the gastroesophageal junction (GEJ). The patients were divided into the four groups outlined in Table 1. 10 sections were then prepared from the squamous mucosal biopsies. Using a transmission electron microscopy, 4 images at were obtained randomly at the basal and spinous layers. Then, using a computerized image analyzer, 10 transects were randomly drawn across perpendicular cell membranes with each transect no closer than 1 µm apart. The intercellular space (ICS) was calculated at these transecting lines using the software.

Results: 13 subjects were prospectively recruited. 4 (33%) were males. Mean age (SD) was 43.4 (16.9). Group 2, (centrally obese without reflux), had a statistically significant larger ICS diameter than the control group (no central obesity, no reflux) (0.503 µm). The difference between the reflux group and control was 0.223 µm. There was no statistically significant difference between the ICS diameters of groups 2, 3 and 4. Our ICS difference between reflux and non-reflux patients was consistent with the data in the literature.

Conclusion: In this study, we found that subjects with increased BMI and central obesity but no evidence of pathologic reflux on ambulatory pH monitoring, had dilated ICS. The ICS in obese subjects was almost twice the size of the control group (normal BMI and no reflux). Moreover, this was similar to that of subjects with pathologic reflux in the absence of obesity (normal BMI and WHR). This change may potentially increase susceptibility of centrally obese subjects to epithelial injury, inflammation and neoplasia.
<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age (SD) years</td>
<td>49 (28.5)</td>
<td>49.8 (19)</td>
<td>39 (11)</td>
<td>45.7 (24.6)</td>
</tr>
<tr>
<td>Male Gender (%)</td>
<td>66</td>
<td>25</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>Mean BMI (SD)</td>
<td>19 (6.8)</td>
<td>35.4 (2.9)</td>
<td>22.5 (1.6)</td>
<td>35.9 (1.9)</td>
</tr>
<tr>
<td>PPI or H2 Antagonist Use (%)</td>
<td>33</td>
<td>50</td>
<td>66</td>
<td>100</td>
</tr>
<tr>
<td>Mean % Time pH &lt;4 in Distal Esophagus (SD)</td>
<td>1.7 (2.2)</td>
<td>1.2 (1.4)</td>
<td>5.9 (2.4)</td>
<td>7.6 (2.7)</td>
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<tr>
<td>NSAID or ASA Use (%)</td>
<td>33</td>
<td>50</td>
<td>0</td>
<td>66</td>
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<tr>
<td>Symtomatic Reflux as Indication of EGD (%)</td>
<td>66</td>
<td>50</td>
<td>66</td>
<td>100</td>
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</tbody>
</table>

Group 1: Normal BMI [19-25] and waist-to-hip ratio and negative pH study (no pathologic reflux) (n=3)
Group 2: Increased BMI [>30] and waist-to-hip ratio [Women > 0.85 and Men > 0.90] with a negative pH study (n=4)
Group 3: Normal BMI and waist-to-hip ratio with a positive pH study (evidence of pathologic reflux) (n=3)
Group 4: Increased BMI and waist-to-hip ratio with a positive pH study (n=3)

**TABLE TITLE:** Table 1. Demographic Data

**AVERAGE SCORE:** 3.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
ABSTRACT BODY:

Purpose: Barrett’s esophagus (BE) is a complication of gastroesophageal reflux disease (GERD) that is a precursor to esophageal adenocarcinoma. There is limited information suggesting that calcium and some vitamins can be protective against certain malignancies. However, the relationship between calcium, multivitamins, and their effects on the risk of developing BE has not been defined. We analyzed medical records at a large veterans hospital to determine the effects of these substances on the risk of developing BE.

Methods: In this retrospective case-control study, 250 patients with biopsy confirmed Barrett’s esophagus were compared with 250 controls with acid-peptic symptoms but no endoscopic BE. All patients were identified from medical records at the Phoenix Veterans Affairs (VA) Hospital. Medication histories were reviewed to determine which patients were taking calcium or multivitamins prior to their endoscopic evaluation. Logistic and linear regression were used to determine predictors of the outcomes.

Results: A total of 38 women (8 cases and 30 controls) were initially included in the data, but then dropped to improve the homogeneity of the sample. Mean age at diagnosis was significantly older in the Barrett’s population compared with controls (61 vs. 57 years, P<0.001), with no difference in mean BMI (28.7 vs. 28.9, respectively). On multivariate analysis, independently significant factors for risk of BE were found with use of calcium (odds ratio 0.467, P=0.036), multivitamins (OR 0.349, P<0.001) and age at diagnosis (OR 1.041/year, P<0.001). Age at diagnosis was associated with increased BE length (0.06 cm/year, P=0.006).

Conclusion: The usage of both calcium and multivitamins appear to be associated with diminished risk of developing BE. The benefit of multivitamins would presumably lie within their antioxidant effect. Calcium may bind bile acids and fatty acids, reducing their proliferative effect on epithelial cells. Prospective studies of this topic are indicated.

CURRENT CATEGORY: A. Esophagus
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>:
Aaron Goldberg : ACG Non-Member
Richard Gerkin : ACG Non-Member
Michele Young : ACG Member
(No Image Selected)

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<tr>
<th>Variable</th>
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<th>P Value</th>
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<tr>
<td>Calcium</td>
<td>0.467</td>
<td>0.036</td>
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<tr>
<td>Multivitamins</td>
<td>0.349</td>
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<tr>
<td>Age at Diagnosis</td>
<td>1.041/year</td>
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**TABLE TITLE:**

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: interesting study but prone to serious confounding and recall bias
Marcelo Vela: [No Comments]
Purpose: Eosinophilic esophagitis (EoE) is an increasingly prevalent chronic disease and is thought to arise from an allergy/immune-mediated process. The relationship between population density, EoE, and esophageal eosinophilia is unknown. Our aim was to estimate the association between EoE and esophageal eosinophilia with population density.

Methods: We conducted a cross-sectional study of patients with esophageal biopsies in a U.S. national pathology database between January, 2009 and June, 2012. Using Geographic Information Systems (GIS), the population density (number of individuals per square mile) was determined for each patient zip code. The odds of esophageal eosinophilia and EoE were estimated for each quintile of population density after controlling for age, sex, race and distance traveled for endoscopy. Sensitivity analyses were performed with varying case definitions of EoE.

Results: Of 292,621 unique patients in the source population, 91,929 had normal esophageal biopsies and 14,739 had esophageal eosinophilia with ≥15 eosinophils per high-power field (eos/hpf). Those with esophageal eosinophilia were generally younger (45 vs 54 years), more likely to be male (64% vs 35%) and had more dysphagia (54% vs 26%) than those with normal biopsies (p<0.05 for all). After multivariate analysis, the odds of esophageal eosinophilia decreased with increasing population density (p for trend < 0.001) (Figure). Compared to those in the lowest quintile of population density, odds of esophageal eosinophilia were significantly reduced amongst those in the highest quintile of population density (OR 0.79; 0.73-0.85). A similar dose-response trend was observed across case definitions of EoE (Figure).

Conclusion: Population density is strongly and inversely associated with both esophageal eosinophilia and EoE, with these conditions being more common in rural areas. This association persists in sensitivity analyses. Environmental exposures in rural areas may be key in the pathogenesis of EoE.
REVIEWER FLAGS: Evan Dellon - Conflict of Interest: 1

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Physical Activity is Associated with Reduced Risk of Esophageal Cancer, Particularly Esophageal Adenocarcinoma: A Systematic Review and Meta-Analysis

ABSTRACT BODY:

Purpose: Esophageal cancer (EC) is the 6th most common cancer in men worldwide with a dismal 5-year survival rate. While the incidence of esophageal squamous cell cancer (ESCC) is declining worldwide, the incidence of esophageal adenocarcinoma (EAC) has been rapidly rising. This increase may be partly attributable to the obesity epidemic. Physical activity has been associated with a reduced incidence and mortality from certain cancers. We performed a systematic review and meta-analysis to evaluate the association between physical activity and risk of EC, EAC and ESCC.

Methods: We conducted a systematic search of multiple bibliographic databases and conference proceedings from inception through February 2013 for observational studies that examined associations between recreational and/or occupational physical activity and EC risk. Summary adjusted odds ratio (OR) estimates with 95% confidence intervals (CI) were estimated using the random-effects model.

Results: The analysis included 8 studies (4 studies in all EC combined, 1 study with data on EAC and ESCC separately, 3 studies restricted only to EAC, 1 study restricted only to ESCC). Meta-analysis demonstrated that the risk of EC was 19% lower among the most physically active people as compared with the least physically active people (5 studies, 1217 cases of EC; OR, 0.81; 95% CI, 0.67-0.99) with low heterogeneity among studies (I²=33%). Physical activity was associated with a reduced risk of EAC (4 studies, 506 cases of EAC; OR, 0.68; 95% CI, 0.55-0.85), but not ESCC (2 studies, 674 cases of ESCC; OR, 0.46; 95% CI, 0.08-2.73). Recreational physical activity, as compared to occupational physical activity, was associated with a reduced risk of EC (3 studies; OR, 0.83; 95% CI, 0.69-1.00). The results were consistent across study design and geographic location (Table). There was concern for reporting bias since some studies with negative results did not report a summary estimate.

Conclusion: Meta-analysis of published observational studies indicates that physical activity may be associated with reduced risk of EC, in particular EAC. Additional research between the association of physical activity and EAC risk are warranted. Lifestyle interventions focusing on increasing physical activity may decrease the global burden of EAC.

Table. Overall and sub-group analysis of studies reporting association between physical activity and risk of esophageal cancer
<table>
<thead>
<tr>
<th>Groups</th>
<th>Categories</th>
<th>No. of Studies</th>
<th>Adjusted OR</th>
<th>95% CI</th>
<th>Pinteraction</th>
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<tbody>
<tr>
<td>Site-specific</td>
<td>EAC</td>
<td>4</td>
<td>0.68</td>
<td>0.55-0.85</td>
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<tr>
<td></td>
<td>ESCC</td>
<td>2</td>
<td>0.46</td>
<td>0.08-2.73</td>
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<tr>
<td>Study Design</td>
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<td>1.43</td>
<td>0.61-3.34</td>
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<td></td>
<td>Cohort</td>
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<td>0.87-0.95</td>
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<td>Study Location</td>
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<td>0.84</td>
<td>0.66-1.06</td>
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<td></td>
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<tr>
<td></td>
<td>USA</td>
<td>3</td>
<td>0.80</td>
<td>0.53-1.22</td>
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<td>Control population</td>
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<tr>
<td></td>
<td>esophageal</td>
<td>cancer</td>
<td></td>
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<td>1.43</td>
<td>0.61-3.34</td>
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<td></td>
<td>Both</td>
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<td>0.54</td>
<td>0.31-0.94</td>
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**TABLE TITLE:** Table. Overall and sub-group analysis of studies reporting association between physical activity and risk of esophageal cancer

**AVERAGE SCORE:** 5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Eosinophilic Esophagitis is Associated with an Increased Prevalence of Inflammatory Bowel Disease

Maria McIntire
Miraca Life Sciences Research Institute
United States

Purpose: Eosinophilic esophagitis (EoE) is an increasingly prevalent chronic disease thought to arise from an allergy/immune-mediated process. Rare cases of patients with EoE and concurrent inflammatory bowel disease (IBD) have been reported, but the possibility of a coincidental occurrence cannot be excluded without examining large populations of patients with these conditions. Our aim was to study a large cohort of patients with well-characterized esophageal eosinophilia to determine whether increased levels of eosinophils were associated with an increased prevalence of IBD.

Methods: We used the Miraca Life Sciences database to extract histopathologic, demographic, and clinical information from all patients who had simultaneous esophageal and ileocolonic biopsies between 1.2008 and 6.2012. After excluding those with a history or diagnosis of GI cancer or surgery, patients were stratified in 3 groups according to the numbers of eosinophils per high-power field (eos/HPF) in their esophageal squamous mucosa (<15; 15-60; > 60). Then, the relative prevalence of ulcerative colitis (UC) and Crohn disease (CRO) was calculated for each group of esophageal eosinophilia.

Results: There were 48,947 unique patients with both esophageal and ileocolonic biopsies; 47,150 (median age 58 years; 64% M) had <15 eos/HPF in the esophageal squamous epithelium, and 1,797 had >15 eos/HPF (median age 51 years; 64% M). Figure 1 depicts the prevalence of UC and CRO patients with < 15 eos/HPF, and in the two groups with increasing numbers of eos/HPF. UC was progressively more frequent as the numbers of eos/HPF increased, with an odds ratio of 1.93 (95%CI 1.38 – 2.69; p<.0001) when all patients with elevated eosinophils were compared to those with <15 eos/HPF. In patients with CRO the increase only occurred in patients with >60 eos/HPF, and the overall difference was not significant.

Conclusion: This study indicates that patients with increased esophageal eosinophilic, and particularly those with >60 eos/HPF (who have a greater likelihood of having EoE) are almost twice as likely to have concurrent IBD; the increase is almost entirely driven by UC. While a section bias for patients who undergo same-day bidirectional endoscopy cannot be excluded, the possibility that EoE and IBD share some common immunopathogenetic mechanisms is intriguing and deserves further investigation.

CURRENT CATEGORY: A. Esophagus
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 DESIG: ACG Membership Status
Maria McIntire : ACG Non-Member
Hossein Saboorian : ACG Non-Member
Robert Genta : ACG Member

IMAGE CAPTION: (no table selected)
AVERAGE SCORE: 5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: interesting but selection bias is key here
poster would be good
Marcelo Vela: [No Comments]
TITLE: How Common are Eosinophilic GI Disorders? First Prevalence Estimates from a National Database

PRESENTER: Evan Dellon

PRESENTER (INSTITUTION ONLY): University of North Carolina School of Medicine, Department of Medicine, Division of Gastroenterology and Hepatology

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Eosinophilic esophagitis (EoE) is becoming increasingly prevalent in the U.S. The prevalence of other eosinophilic gastrointestinal disorders (EGIDs), however, is unknown. Our aim was to describe the characteristics of patients with EGIDs and estimate the prevalence of eosinophilic gastritis (EG), eosinophilic gastroenteritis (EGE) and eosinophilic colitis (EC) in the U.S.

Methods: We performed a retrospective analysis of the IMS LifeLink® PharMetrics Health Plan Claims Database. This database is representative of a U.S. national commercially insured population and contains medical and pharmaceutical claims for >69 million individuals. We analyzed data from patients aged 0-64 with ≥24 months of continuous enrollment between July 1, 2009 through June 30, 2011. EG, EGE and EC were defined as having ≥1 instance of the ICD-9 codes 535.70, 558.41 and 558.42, respectively. For this analysis, we compiled the number of patients with each of these codes over the study timeframe, calculated the prevalence of the codes in the database, and then standardized the estimates to the U.S. population by age and sex using 2010 census data. Because EGIDs may be associated with atopy, we further assessed for the presence of one or more co-existing allergic conditions for each of the non-EoE EGID disorders.

Results: Of the 11,569,217 patients in this database continuously enrolled during the study period, 749 (0.007%) were found to have ≥1 diagnostic code for EG, 956 (0.008%) had ≥1 diagnostic code for EGE and just 406 (0.004%) had ≥1 code for EC. There were 104 patients with >1 non-EoE EGID. In contrast to EoE, which affects males more predominantly, EC, EG and EGE were all more common in females (7.9 vs. 5.5/100,000, p<0.01 for EG, 8.8 vs 7.7/100,000, p=0.03 for EGE, 3.8 vs 3.2/100,000, p=0.05 for EC). Co-existing allergic conditions were uncommon in patients with EG, EGE, or EC, at 5.2%, 8.9%, and 7.6% respectively. When standardized to the U.S. population, the estimated prevalence of EG was 6.4/100,000, the prevalence of EGE was 8.3/100,000 and the prevalence of EC was 3.5/100,000. The total number estimated to be affected during the study period in the U.S. for any one of these disorders was 48,723 individuals.

Conclusion: In contrast to EoE, EG, EGE and EC are exceedingly rare, with prevalences less than 10/100,000. Additionally, the non-EoE EGIDs do not share the same co-existing atopic conditions as EoE, suggesting that the pathogenesis for these other EGIDs may be distinct from that of EoE.
AVERAGE SCORE: 4.33
REVIEWER FLAGS: Evan Dellon - Conflict of Interest: 1
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: good study
Marcelo Vela: [No Comments]
Purpose: GERD is traditionally considered a disease of older, often middle aged patients. We sought to determine if it is becoming increasingly prevalent in younger populations.

Methods: Retrospective analysis using anonymized data from an electronic clinical data base at the Case Western Reserve University MetroHealth Medical Center was performed. Prevalence of GERD and additional variables including age, gender, race, BMI and treatment with PPI were analyzed from 2001 to 2012. Patients had an ICD code diagnosis of GERD (530.81), and had to have had an office visit at the MetroHealth System. Patients younger than age 19 were excluded.

Descriptive statistics were calculated. Difference between means was examined using t-tests and difference in proportions using z-tests. The study was exempt and did not require IRB approval.

Results: Point prevalence of GERD increased each year in the period from 2001 to 2012. In 2001, 4.0% (N= 4,360 of 108,600 cases) of patients had a diagnosis of GERD and this increased to 9.6% (12,170 out of 126,930) in 2012 (Z=-52.78, p<.001). A sharp increase in the proportion of young adults aged 20-24 was observed (table 1): from .4% in 2001 to 3.0% in 2012 (Z=-13.626, p<.001). Persons with GERD had higher average BMI (31.2 in 2012) than those without GERD (29.5, t = 4.4860 df = 16528, p<.0001). PPI use was consistently high among those with a GERD diagnosis (81.2% in 2001 and 82.5% in 2012). The majority of patients were female (69% in 2001 to 66% in 2012).

Conclusion: GERD remains predominantly a disease of female middle aged and older adults in our cohort, but rates among younger adults in this sample seem to have increased dramatically over the past decade (seven fold) as compared to other groups.

This descriptive study is the first to point to a worrying increase in GERD in young adults. Further large scale epidemiological studies are needed to confirm our findings.

AUTH DESIG: ACG Membership Status <font color="red">^</font>:

Tuyyab Hassan : ACG Non-Member
Adam Perzynski : ACG Non-Member
Kiran Anna : ACG Member
Carla Maradey : ACG Non-Member
Ronnie Fass : ACG Member
The table below shows the performance by year for a specific group.

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<th>Performance</th>
<th>Comments</th>
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<td>2001</td>
<td>23.45</td>
<td>John Pandolfino: [No Comments]</td>
</tr>
<tr>
<td>2002</td>
<td>34.56</td>
<td>Michael Vaezi: Single study but good</td>
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<tr>
<td>2003</td>
<td>45.67</td>
<td>Marcelo Vela: [No Comments]</td>
</tr>
</tbody>
</table>

Figure 2: Average BMI over 11 years for all patients and GESD patients.
Purpose: Previous studies show that sleeping with the head of bed elevated or on a wedge reduces gastroesophageal reflux (GER). In addition, while recumbent, left side down reduces GER compared to right side down and supine. We performed a randomized controlled trial evaluating a sleep device (SD) consisting of a two-piece inclined base and body pillow (Medcline, Amenity Health, Inc., San Diego, CA) that maintains a patient in lateral position while elevating the head and torso. We hypothesized that sleeping in a fixed position on the left side with the head and torso elevated would significantly reduce recumbent GER.

Methods: This was a single institution, randomized controlled trial involving 20 healthy volunteers, each subject having 4 impedance-pH tests 6 hours in length. After placement of a reflux probe subjects returned home and ate a standardized meal (1350 kcal, 58g fat). Each subject then lay down in one of 4 randomly assigned positions: SD right side down (SD-R), SD left side down (SD-L), standard wedge any position (W), and flat any position (F). A wireless position monitor documented position during each study. Number of reflux episodes (RE) and esophageal acid exposure (EAE) was blindly calculated for 6 hour periods. Position monitor data was used to compare assigned position to actual position.

Results: Significantly less EAE over 6 hrs occurred sleeping SD-L compared to sleeping W (mean 0.46% v. 3.59%, p<.01), SD-R (mean 0.46% v. 4.59%, p<.001), and F (mean 0.46% v. 3.46%, p<.05). RE over 6 hrs were significantly less SD-L than SD-R (mean 5.55 vs. 13.23, p<.05). Patients assigned to SD-L on average spent 83% of first 2 hrs and 61% of 6 hrs in assigned position. Those assigned to SD-R spent 72% of first 2 hrs and 53% of 6 hrs in assigned position. Over 6 hrs, patients sleeping on W and F averaged significantly more time supine than R or L (p<.05).

Conclusion: The sleep device maintains recumbent horizontal position effectively. Lying left side down, it dramatically reduces recumbent esophageal acid exposure. As in previous studies, right side down position gives the worst results, even with aid of the sleep device.
1A: 6 hour mean esophageal acid exposure (EAE) by position. SD-L exhibited significantly less EAE than any other position.

1B: 6 hour mean number of reflux episodes (RE) by position. SD-L exhibited significantly less reflux episodes than SD-R.

SD-L: Sleeper device left side down. SD-R: Sleeper device right side down. * = p<.05, ** = p<.01, *** = p<.001

**IMAGE CAPTION:** 1A: 6 hour mean esophageal acid exposure (EAE) by position. SD-L exhibited significantly less EAE than any other position.

1B: 6 hour mean number of reflux episodes (RE) by position. SD-L exhibited significantly less reflux episodes than SD-R.

SD-L: Sleeper device left side down. SD-R: Sleeper device right side down. * = p<.05, ** = p<.01, *** = p<.001

(no table selected)

**AVERAGE SCORE:** 3

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: good study
Marcelo Vela: [No Comments]
Purpose: GERD symptoms persist despite PPI therapy in 30% of patients. Recent ACG guidelines recommend endoscopy (EGD) with biopsies to exclude eosinophilic esophagitis (EoE) in patients with PPI-refractory typical GERD symptoms, followed by impedance-pH monitoring on PPI when EGD is negative. EGD is normal in 2/3 of patients with untreated GERD. The diagnostic yield of EGD in PPI-refractory patients is not well defined and the value of reflux monitoring ON versus OFF PPI is understudied. We aim to determine the diagnostic yield of EGD followed by impedance-pH for PPI-refractory GERD patients with typical symptoms.

Methods: Single-center, cross-sectional study at an urban county hospital. Prospective enrollment of consecutive PPI-refractory GERD patients without alarm symptoms referred for EGD. PPI-refractory GERD was defined as persistent heartburn or regurgitation ≥3 times/week while on BID PPI therapy, with/without H2-receptor antagonist (H2RA), for ≥2 months. All patients completed a GERD symptom questionnaire (GERDQ) on the day of endoscopy. Esophageal biopsies were obtained in all patients without endoscopic evidence of GERD to exclude EoE; reviewed blindly by a GI pathologist. Those with normal EGD and no EoE on biopsy underwent impedance-pH monitoring ON PPI.

Results: 31 patients (27 female); mean age 51 (range 34-77); mean BMI 29 (range 18-51). Additional H2RA in 7/31. Heartburn=5, regurgitation=2, both=24. GERDQ mean score of 10 (range 5-14); 23/31 patients had a score ≥8 (80% sensitivity for GERD). Endoscopic findings: normal esophagus=19, hiatal hernia=12, erosive esophagitis=0. Biopsies: changes suggestive of reflux=24, Barrett's=0, EoE=0. Impedance-pH completed in 7/31 (pending in the rest); all are negative for pathological reflux (normal acid exposure time and number of reflux episodes), 4/7 had positive symptom index for heartburn or regurgitation consistent with hypersensitive esophagus.

Conclusion: EGD has very limited diagnostic yield in PPI-refractory GERD patients with typical symptoms and no alarm features; esophageal biopsies add little given low rate of EoE and known poor specificity of "histological reflux changes". Impedance-pH, is negative for pathological reflux in 7/7 patients who have completed the test so far. Based upon the findings in our population and contrary to recent guidelines, wireless pH monitoring OFF PPI during rather than after initial normal EGD, may provide a more efficient diagnostic algorithm for PPI-refractory GERD patients with typical symptoms, as this may often demonstrate functional heartburn; impedance-pH monitoring ON PPI may be best for those with proven pathological reflux OFF therapy. This approach should be explored in further studies. Data collection is ongoing.
Marcelo Vela: ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 4.5

**REVIEWER FLAGS:** Marcelo Vela - Conflict of Interest: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
- Evan Dellon: [No Comments]
- John Pandolfino: [No Comments]
- Michael Vaezi: good study it will generate nice discussion
- Marcelo Vela: [No Comments]
Purpose: In patients with proton pump inhibitor (PPI)-resistant symptoms, evaluation with impedance-pH monitoring (MII-pH) is often used to assess whether a relationship exists between symptoms and reflux episodes. Some patients will have a normal number of M-II reflux events and a negative symptom-reflux association, and may be defined as functional heartburn. The purpose of this study was to assess the outcomes of these patients with negative MII-pH monitoring.

Methods: This was a retrospective chart review of all MII-pH studies conducted over a 12-month period at a tertiary referral center. Negative studies were defined as when there was no evidence of increased acid and nonacid events at M-II (total events < 48) and there was a negative association between symptoms and reflux events (Symptom Index scores < 50%). Patient characteristics and clinical outcomes were determined.

Results: A total of 108 studies were reviewed, of which 38 were determined to be negative studies based on SI scores and total number of reflux episodes on M-II pH testing. Thirty of these patients were women, eight were men with mean age 49. No patients had a history of esophagitis on past upper endoscopies. Seven patients were on BID dosing of PPI medications, 26 on QD dosing, and five patients were not on any therapy prior to MII-pH testing. Eleven studies were done on PPI therapy, and the remainder off. Primary indications for the studies were heartburn, hoarseness and throat clearing. 90% had previous evaluations with other specialties (ex. ENT, Pulmonary) and/or gastroenterologists for their symptoms. 44% of patients had a history of concurrent functional GI disorders, and 38% of patients had concurrent diagnosis of depression or anxiety. Follow-up chart reviews revealed 19/38 (50%) were continued on their previous PPI after M-II testing results were completed. Only two of these patients were on a PPI for other indications (PUD, gastric protection). Three patients were placed on agents to modulate visceral hypersensitivity (ex. tricyclics). No patients underwent surgical interventions for their symptoms. Half the patients were able to be contacted on a follow-up phone interview, and 90% reported that their symptoms continued.

Conclusion: A high number of patients with PPI-resistant symptoms and negative evaluations with M-II studies for both acid and nonacid reflux remain on PPI therapy, despite no clear evidence of reflux. Better management strategies, appropriate clinical trials and education need to be determined for these patients.
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: good study
Marcelo Vela: [No Comments]
ABSTRACT BODY:

Purpose: To determine the success rate of Zenker's Diverticulum myotomy in a systematic manner involving most of the symptoms associated with Zenker's diverticulum with the help of a newly designed scoring system.

Methods: The Kothari - Haber scoring system for Zenker's Diverticulum is designed considering the signs and symptoms which the patients experienced before; and after; the myotomy.

Eight patients with Zenker's Diverticulum who had undergone myotomy were randomly selected.

All these patients had undergone myotomy at least 3 months prior to interview to reduce the confounding factors. A score of less than 4/16 would be considered positive result.

All patients were contacted by telephone and the scoring system was marked accordingly for symptoms before; and after; the myotomy.

Results: All patients had significant clinical improvement in swallowing without any difficulty.

4 patients had score of 0/16, 3 patients had score of 1/16 and one patient had score of 2/16.

Conclusion: There was a 100% success rate for myotomy which was confirmed with a simplified and precise scoring system. We suggest the Kothari - Haber scoring system for Zenker's diverticulum patients as it helped recognize the focused symptoms and the resolution of those symptoms post myotomy.
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: small sample size bias but ok
Marcelo Vela: [No Comments]
TITLE: The Effect of Race and Ethnicity on the Clinical Presentation, Treatment Decisions, and Treatment Outcomes for Patients with Achalasia Defined by the Chicago Classification

PRESENTER: Elizabeth Rosenblatt

PRESENTER (INSTITUTION ONLY): Johns Hopkins

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Many aspects of the epidemiology of achalasia remain largely unexplored, particularly racial and ethnic variation in its presentation, treatment choice, or outcomes. The Chicago Classification of Esophageal Motility allows for clinically meaningful subgrouping of patients with achalasia using high resolution esophageal manometry (HREM); here again there is limited data with regards to ethnic and racial variation. Our institution serves as a tertiary motility center for a diverse population and is uniquely served to address this issue. The aim of this study is to assess the racial and ethnic differences in 1) the clinical presentation, 2) HREM diagnosis as defined by the Chicago Classification, 3) treatment decisions and 4) treatment outcomes for our patients with achalasia.

Methods: We performed a retrospective review of consecutive patients referred for HREM at a single tertiary referral center from June 2008 through October 2012. All patients diagnosed with achalasia were included. Demographic, clinical, and manometric data were abstracted and all studies interpreted before the Chicago Classification was in widespread use were re-analyzed. Race was defined as White, Black, or Other. Patients who had missing data were excluded. Proportions were compared using Chi-squared analysis and means were compared using the Student's t-test.

Results: 1268 patients underwent HREM during the study period and 105 (8.3%) were diagnosed with achalasia (51% female, mean age: 53.8 +/- 17.0 years). Table 1 describes the population characteristics, achalasia subtype, and treatment choice stratified by race. A higher percentage of women presented with achalasia in Blacks as compared to Whites or other races (p<0.01); no other significant differences were noted in clinical presentation. Treatment decisions and treatment outcomes were similar among all 3 groups. The proportion of patients with persistent symptoms after treatment, stratified by race and achalasia subtype, is detailed in Table 2 and also was not statistically significant.

Conclusion: Among Blacks, a higher proportion of achalasia patients are female compared to other race/ethnicity groups. This could represent either a referral bias in our cohort or a meaningful interaction of race and gender in the development of achalasia; further study is needed. No other significant differences were identified in the clinical presentation, manometric subtype, treatment decisions or treatment outcomes for patients due to race or ethnicity. To our knowledge, this is the largest cohort assembled to address racial/ethnic disparities and the first to evaluate the issue using the most current technical (HREM) and diagnostic (Chicago Classification) manometric standards.

CURRENT CATEGORY: A. Esophagus

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

Elizabeth Rosenblatt : ACG Non-Member

Komal Gandhi : ACG Non-Member

Victor Chedid : ACG Non-Member

Sameer Dhalla : ACG Member

Ellen Stein : ACG Member
### Table 1: Characteristics of 105 Achalasic Patients by Race

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<th>Blacks (n=26)</th>
<th>Others (n=13)</th>
<th>p-value</th>
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<tr>
<td>Gender (% Female)</td>
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<td>85</td>
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<td>&lt;0.01</td>
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<tr>
<td>ASA Risk (%)</td>
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<td>77</td>
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<td>2</td>
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<td>23</td>
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<tr>
<td></td>
<td>3</td>
<td>27</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Referred for Dysphagia (%)</td>
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<td>81</td>
<td>69</td>
<td>0.14</td>
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<tr>
<td>Pretreatment Symptoms (%)</td>
<td>Dysphagia</td>
<td>83</td>
<td>96</td>
<td>92</td>
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<tr>
<td></td>
<td>Reflux</td>
<td>45</td>
<td>19</td>
<td>46</td>
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<tr>
<td></td>
<td>Chest Pain</td>
<td>24</td>
<td>15</td>
<td>23</td>
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<tr>
<td>Type of Achalasia (%)</td>
<td>I (Classic)</td>
<td>17</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>II (Pan-pressure)</td>
<td>59</td>
<td>65</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>III (Spastic)</td>
<td>24</td>
<td>27</td>
<td>15</td>
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<td>Initial Treatment Choice (%)</td>
<td>Medical and Supportive</td>
<td>30</td>
<td>31</td>
<td>23</td>
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### Table 2: Presence of any Symptom after Treatment -- Stratified by Race and by Achalasia Subtype

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<td>Type II</td>
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<td>3/17 (18%)</td>
<td>3/9 (33%)</td>
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<td>Type III</td>
<td>3/16 (19%)</td>
<td>1/7 (14%)</td>
<td>0/2 (0%)</td>
<td>0.77</td>
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<tr>
<td>Procedure</td>
<td>White</td>
<td>Black</td>
<td>Hispanic</td>
<td>Mean</td>
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<td>----------------------------------</td>
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<tr>
<td>Botulinum Injection</td>
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<td>POEM (n=1)</td>
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<tr>
<td>Heller Myotomy</td>
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<th>Symptoms at Follow-up Visit (%)</th>
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<td>Regurgitation</td>
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<td>Any Symptom</td>
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Motility Abnormalities in Patients with NCCP on PPI therapy with Negative Reflux Testing

Meagan Gray
Medical University of South Carolina, United States

Purpose: To determine the likelihood that patients with non-cardiac chest pain (NCCP) on PPI therapy with negative symptom index on impedance-pH testing have abnormal esophageal motility and compare our results to the large retrospective analysis (Katz et al, Ann Intern Med, 1987) of 910 patients with NCCP which did not exclude reflux.

Methods: A prospective study was conducted on 400 patients from January 1, 2003 - October 31, 2012 evaluated for the diagnosis and treatment of non-cardiac chest pain after being ruled out for cardiac causes. After failing 6 week BID PPI, esophageal manometry and 24hr impedance-pH monitoring on PPI therapy was subsequently performed. Exclusion criteria included patients not on PPI therapy, positive symptom index on reflux testing, abnormal numbers of reflux episodes, or incomplete evaluation with both impedance-pH and manometry testing. We compared patients who had normal gastroesophageal reflux (GERD) parameters and negative symptom correlation on PPI therapy with the NCCP patients from Katz et al using the chi-squared test.

Results: 84 patients met criteria to be involved in the study. 25 (30%) had abnormal motility. Of these patients, 28% (7 patients) had ineffective esophageal motility (IEM), 28% (7 patients) had hypertensive lower esophageal sphincter (LES), 20% (5 patients) had nutcracker esophagus, 16% (4 patients) had distal esophageal spasm (DES), 4% (1 patient) had achalasia and 4% (1 patient) had scleroderma. A small group of patients (14%) had normal manometry with abnormal bolus transit. Total underlying motility abnormalities were not significantly different between our study and the Katz et al study (30% v. 28%, p=NS). The individual motility abnormality findings between the two studies were not significantly different for nutcracker esophagus, DES, hypertensive LES, or IEM. Percentage of patients with achalasia was significantly different between the two studies (p<.05).

Conclusion: The prevalence of motility disorders in patients with NCCP have not significantly changed despite excluding GERD. These findings suggest that motility abnormalities may not be an important factor in the etiology of non-cardiac chest pain.
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
TITLE: An analysis of hospital charges and length of stay in patients with eosinophilic esophagitis, admitted for foreign body in the esophagus

PRESENTER: Derrick Stobaugh

PRESENTER (INSTITUTION ONLY): NorthShore University HealthSystem

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:
Purpose: The rate of eosinophilic esophagitis (EE) appears to be increasing. We sought to analyze the impact of EE on total charges and length of stay (LOS) for patients hospitalized for a foreign body in the esophagus.

Methods: The 2009 Nationwide Inpatient Sample (NIS) database contains data from 1,050 hospitals in 44 different states, with approximately 7.8 million discharges. This is a 20% sampling frame of all hospital discharges across the United States. NIS was used to determine differences in hospitalization charges and LOS for patients with primary diagnosis of a foreign body in the esophagus (ICD 9 935.1); with and without a secondary diagnosis of EE (ICD 9 code 530.13). Severity adjusted weights for length of stay and hospital charges were used. Chi square tests with Yates’ correction were used to determine differences in patient characteristics and unpaired Student’s T-Tests to compare age, hospital LOS and costs using SPSS 20.0 (IBM Co. Armonk, NY). Patients were also compared after stratifying by the median household income (as determined by regional zip code).

Results: There were 7,313 primary discharges for a foreign body in the esophagus in the 2009 NIS. Of these, 204 carried a comorbid diagnosis of EE. EE patients admitted with a foreign body in the esophagus tended to be younger (33.8 years compared to 45.9 years, p < .01) and showed a male predominance compared to those without (76.6% compared to 52.9%, p < .01).

Overall, EE patients had lower mean total charges as well as shorter LOS compared to those without EE (Table 1). When analyzing the largest category of payers for EE, those whose primary payer was an HMO, EE patients still had lower total charges ($12,297 compared to $22,423 p < .001) and shorter LOS (1.05 days compared to 2.23 days, p < .001).

Conclusion: Comorbidity with EE is associated with lower charges and shorter LOS during hospitalization for foreign body of the esophagus. Further analysis is warranted to determine the source of these cost savings.
<table>
<thead>
<tr>
<th></th>
<th>Length ofStay</th>
<th>1.33 days</th>
<th>2.94 days</th>
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<td>Lower 50% Income</td>
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**TABLE TITLE:** Length of stay and hospital charges for patients with and without Eosinophilic Esophagitis

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
TITLE: A retrospective chart review on outcomes after Impedance-pH monitoring (MII-pH) in patients with non acid reflux disease

PRESENTER: Mariann Padron-Gleich
PRESENTER (INSTITUTION ONLY): Cleveland Clinic Florida
PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Proton pump inhibitors (PPIs) are known to be effective treatment for gastro-esophageal reflux disease (GERD). There are a number of patients however who continue to have symptoms despite the use of PPI therapy. Impedance-pH monitoring (MII-pH) can be performed to rule in or out nonacid reflux (NAR) as the etiology of these symptoms. There is limited data available on the management of these cases. The objective of this study was to evaluate patient characteristics and management outcomes in those patients diagnosed with NAR and positive symptom association.

Methods: This was a retrospective chart review of patients that underwent MII-pH testing for symptoms refractory to PPI therapy at our institution. Patients characteristics and treatment outcomes were evaluated for those specifically associated with a positive Symptom Index (SI) for nonacid reflux events (SI score ≥ 50%).

Results: Of 140 MII-pH studies reviewed, 23 patients were found to have + SI score for NAR with an abnormal total number of reflux episodes (15%). All patients were considered to have “refractory GERD” and had been treated with PPI therapy (10 QD dosing and 13 BID dosing). Two patients had previous Nissen fundoplications and were being evaluated for increasing symptoms. There were 15 female and 8 male patients, with a mean age of 60 and mean BMI of 27. Primary symptoms for which the studies were done included: heartburn, cough, and regurgitation. High resolution manometry revealed decreased distal esophageal amplitude peristalsis in 8 patients. Hiatal hernias were noted in 13 patients and no patients had esophagitis on endoscopy. Two patients were treated with visceral pain modulators with improvement in symptoms. Five patients were referred for surgical fundoplication and 2 for surgical revision with reported improvement in their symptoms noted 6-12 months postoperatively. Fifteen patients remained on PPI, 6 in conjunction with antidepressants. A third of these patients were able to be contacted on a follow up phone interview and all of them reported that their symptoms continued. One patient was placed on baclofen but ultimately underwent surgical fundoplication.

Conclusion: Treatment of patients with symptomatic reflux symptoms associated with NAR remains limited. Most patients in this study were kept on PPIs with no resolution of symptoms. Continuing the PPI appeared insufficient for these patients. Anti-reflux surgery may be an option in well selected patients. MII-pH testing will help determine the best strategy of treatment in these patients.
Swapna Devanna : ACG Member
Aman Ali : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 7.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: case report
Marcelo Vela: [No Comments]
Purpose: Topical steroids are used as first-line treatment agents for eosinophilic esophagitis (EoE). Randomized controlled studies have demonstrated only modest efficacy of these agents for inducing histologic remission. The aim of this study was to examine whether there were any characteristics that could predict non-response to treatment with topical steroids.

Methods: Using data from two prospective studies and an EoE registry, children (< 18 years) and adults with EoE, as defined by consensus guidelines, were included in the analysis. All patients were treated with an 8-week course of either swallowed fluticasone or viscous budesonide. Responders were defined as achieving <5 eos/hpf in both the mid-proximal and distal esophageal biopsies and non-responders as having > 5 eos/hpf in proximal and/or distal esophagus. Demographic, clinical, endoscopic, and histologic features were examined.

Results: The study cohort included 75 EoE patients: median age was 33 years (range 2-64 years), 71% adults, 84% male, and 76% Caucasian. Children had a higher response rate to topical steroids compared to adults (60% vs 33%, p=0.047). Response rate was similar between males and females (33% vs 58%, p=0.101) and between the two types of steroids (38% fluticasone vs 36% budesonide, p=0.823). With regards to clinical symptoms, responders were more likely to present with food impaction vs non-responders (43% vs 21%, p=0.047), however dysphagia (86% vs 85%, p=0.943) and heartburn (29% vs 21%, p=0.474) were similar between responders and non-responders. With regards to pretreatment endoscopy, responders were less likely to have furrows compared to non-responders (64% vs 87%, p=0.019). Other endoscopic features were similar between responders and non-responders, rings (54% vs 62%, p=0.489) and white plaques (21% vs 36%, p=0.181). Non-responders were more likely to undergo dilation compared to responders (43% vs 18%, p=0.028). Peak proximal (49±50 vs 55±48, p=0.606) and distal eosinophil (71±81 vs 82±86, p=0.578) counts were similar between responders and non-responders. In multivariate logistic regression, the independent predictors of non-response to topical steroids were adult age (OR 5.13 p=0.048), without food impaction (OR 0.116 p=0.005), furrows (OR 8.24 p=0.006) and dilation (OR 6.30 p=0.023).

Conclusion: Non-responders to topical steroids are more likely to be adults, with longitudinal furrows on endoscopy, who undergo dilation and are less likely to present with food impactions. Consideration should be given to either increasing dosage of steroids or using an alternate form of treatment, such as dietary elimination, in these patients.
AVERAGE SCORE: 4.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: post hoc analysis of prior study
good study worth presenting as a poster
Marcelo Vela: [No Comments]
Purpose: There is a known association between obesity and GERD. Whether percent fat determined by bioimpedance correlates better with reflux measures when compared to BMI is not known. There is little data regarding obesity measures and their relationship to reflux as measured by impedance-pH monitoring in US veterans.

Methods: All consecutive patients undergoing 24-hour impedance-pH reflux monitoring in 2011 for whom BMI and bioimpedance measurements were available were included. Percent fat was determined by a dedicated bioimpedance scale and fat range categories assigned per NY Obesity Research Center standardized ranges based on age and sex. Reflux was measured during 24-hour impedance-pH monitoring performed either on or off acid suppression. We evaluated the association between BMI and percent with the following variables a) number of reflux events (total, acid, nonacid) b) proximal reflux events (extending to 15 cm above the LES or higher). Association was evaluated by Pearson correlation.

Results: 40 patients were included: % male, mean age 54 years, BMI range: 16-40, mean BMI: 28.4, 44 % patients overweight (BMI 25-30), 33% patients obese (BMI>30). Correlations between BMI, and percent fat, and reflux are shown in the table. There were no significant correlations between BMI or fat percent and total number of reflux events (r= 0.386, p=0.20 and r=0.129 and p=0.4402).

Conclusion: BMI or percent fat did not correlate with reflux events in a sample of veteran patients. Our data failed to show a correlation between BMI or percent fat measured by bioimpedance and number of reflux events (total, acid, nonacid) or proximal extent of reflux in a sample of veteran patients. While this could be due to a sample biased toward the overweight and obese, other factors are possible. Recruitment is ongoing.
<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Proximal events</td>
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<td>0.1137</td>
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<td>% Proximal events</td>
<td>0.208</td>
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<td></td>
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<tr>
<td>% Fat</td>
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<td>Total reflux events</td>
<td>0.129</td>
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<td>Acid Events</td>
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<td>Non-acid events</td>
<td>0.021</td>
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<td>Proximal events</td>
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<td>% proximal events</td>
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**TABLE TITLE:**
**AVERAGE SCORE:** 5.5
**REVIEWER FLAGS:** Marcelo Vela - Conflict of Interest: 1
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None
**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: low sample size explains the findings
Marcelo Vela: [No Comments]
Metformin use and the risk of esophageal adenocarcinoma in patients with Barrett's esophagus.

Sangeeta Agrawal

Dayton VA Medical Center, United States

Purpose: The goal of this study is to determine whether the use of Metformin modifies the risk of development of esophageal adenocarcinoma in patients with Barrett's esophagus.

Methods: Data was collected retrospectively using electronic medical records at Dayton Veterans Affairs Medical Center. Patients with a diagnosis of Barrett's esophagus and esophageal cancer were identified between the period 1992 and 2012. Following data was collected from the patient's charts: age, race, gender, BMI (Body Mass Index), diabetic or not, medication list (Metformin, Statin, Aspirin, Proton pump inhibitor (PPI)), alcohol use, tobacco inhalation and histology. The outcome variable was high grade dysplasia or esophageal adenocarcinoma. Univariate analysis was done using two sample t-test for age and BMI, and Chi square test or fisher's exact test for obesity, DM, Metformin, Statin, Aspirin, PPI, smoking and alcohol. Multiple logistic regression analysis was then done using the significant variables to predict independent risk factors.

Results: Retrospective chart review for the last 20 years revealed 625 patients with the diagnosis of Barrett's esophagus or esophageal cancer. Of these 42 were excluded because their diagnosis was squamous cell carcinoma of esophagus. Out of the 583 patients, 115 had esophageal adenocarcinoma and 468 had Barrett's esophagus without high grade dysplasia or cancer. The variables significantly associated with outcome variables were: age, BMI, smoking, alcohol, statin use and PPI use. Patients with esophageal adenocarcinoma were older (p<0.001) and had lower BMI (p=0.001). A higher percent of patients with esophageal adenocarcinoma were smokers (p=0.003) and used alcohol (p=0.029). A lower percent of patients with esophageal adenocarcinoma used statin (p=0.001) and PPI (p=0.001). A multivariate analysis was done using multiple logistic regression. Age, smoking and diabetes were significant risk factors for development of esophageal cancer with the following results: age p <0.001 odds ratio = 1.05 (95%CI = 1.02-1.07), smoking p =.003 odds ratio =2.33 (95%CI = 1.33-4.09), diabetes p=0.007 odds ratio = 2.06 (95%CI = 1.22-3.47). Statin use was protective against the development of cancer with p=0.001 odds ratio 0.43 (95%CI= 0.26-0.72).

Conclusion: The three independent variables that predicted progression of Barrett's esophagus to esophageal adenocarcinoma in our study were older age, smoking and diabetes. Statin use showed protective effect against development of esophageal adenocarcinoma. Metformin use did show a protective effect but it was not statistically significant. This study does not provide support for a beneficial association between usage of Metformin and esophageal cancer.
Piyush Patel : ACG Non-Member
Ronald Markert : ACG Non-Member
William Diedrich : ACG Non-Member
(No Image Selected)
(no table selected)

AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
ABSTRACT BODY:

**Purpose:** To evaluate the utility and clinical impact of four-day two-phase wireless ambulatory pH monitoring on patients referred for esophageal symptoms refractory to high dose proton-pump inhibitor (PPI) therapy in a private practice setting.

**Methods:** 4-day 2-phase (48-h off/48-h on PPI therapy) wireless pH monitoring was performed on 42 adult patients referred for symptoms of heartburn (HB), non-cardiac chest pain (NCP), regurgitation (REG), or laryngeal-pharyngeal reflux (LPR) that failed to respond to at least 30 days of high dose PPI. Studies were interpreted retrospectively by a single observer. The PPI resumed for day 3 and 4 was standard dose. Additional results available were endoscopic findings (42/42), esophageal biopsy (40/42), manometry (HRM) (17/42), ambulatory impedance (4/42), and changes in management.

**Results:** Full test success (F-S) was defined as pH recording for at least 88 hours with at least 20 hours for each day and if symptom diaries were recorded and returned. F-S was achieved in 29/42 patients (69%). Average pH monitoring times were 95.1 hours for F-S and 65.2 hours for partially failed tests. Shortcomings were 9 dislodged sensors (Avg. 61.6h), 2 failed to follow protocol, 6 failed to keep diaries, 8 failed to keep proximity to receiver, and 1 receiver failure. 6 tests had at least 2 shortcomings, and 21 had none. Abnormal gastro-esophageal reflux (GERD) by “gold-standard” criteria met during any 24 hours varied by indication as follows: all 32/42 (76%), HB 21/28 (75%), NCP 15/18 (83%), REG 18/19 (94%), LPR 3/8 (37.5%), HB and CP 9/10 (90%), HB and REG. 11/12 (92%), CP and REG. 5/5 (100%), HB and LPR 2/4 (50%), and any three indications 3/3 (100%). For GERD patients with F-S, diagnostic agreement between day 1 and 2 was 20/22 (91%) and only 1/22 (4.5%) had necessity for both days. Diagnostic agreement between days 3 and 4 was 15/22 (68%) and only 2/22 (9.1%) had GERD on day 4. Mean DeMeester Scores (DMS) for GERD patients were: day 1 36.12, day 2 34.93, day 3 15.94, day 4 5.07, with similar trends for Acid Exposure Times (AET). Results were not clinically or statistically different between day 1-2 for DMS, or AET, (t-test p=.84, NS), but were between day 3-4 (p=.003). 24% of patients had normal pH findings and PPI therapy was eliminated in 15/42. High-dose PPI was continued in only 2 patients. Results contributed to redirecting care in 40/42 patients including new diagnoses of Diffuse Esophageal Spasm in 7/42, and functional HB in 5/42.

**Conclusion:** Although Four-Day Two-Phase pH testing has a moderate rate of partial failure, it has a high degree utility in the evaluation of refractory esophageal symptoms. Our findings suggest that a 3 day protocol (24-h off/48-h on) might be just as useful.
Jo Brandon: ACG Non-Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 5.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: not new but a good poster
Marcelo Vela: [No Comments]
Role of prophylactic pre-esophagogastroduodenoscopy (EGD) endotracheal intubation (ETI) in upper gastrointestinal bleed (UGIB). A retrospective study.

Abhilash Perisetti
University of North Dakota
United States

Purpose: 1) To examine if pulmonary aspiration risk differ in patients who underwent prophylactic pre- EGD ETI, and no ETI; and 2) Assess whether the complications and the mortality differ between elective pre-EGD ETI and emergent post-EGD ETI.

Methods: We reviewed patients with UGIB in the intensive care unit (ICU) who underwent EGD between the years 2000 and 2013. Mean (SD) and median (range) values were computed for continuous variables and frequency distributions were calculated for all categorical variables. All statistical tests were two-tailed with p < 0.05 considered to be significant.

Results: 837 ICU patients with UGIB and EGD were identified of which 89 (11%) fulfilled study criteria. Among these 89 patients, 69 (78%) underwent pre-EGD intubation (prophylactic) and 20 (22%) patients were intubated post-EGD (emergent). 69 (8%) patients were randomly selected who were not intubated. Univariate analysis showed that patients who underwent prophylactic pre-EGD intubation were more likely to be: younger [median (range): 61 (38-84) vs. 66 (30-95); p < 0.04], to have a history of alcoholism 32 (46%) vs. 12 (17%); p < 0.0003, to have cirrhosis 28 (41%) vs. 15 (22%); p < 0.01), to have hematemesis 50 (75%) vs. 63 (91%); p < 0.009, to have history of lung disease 19 (28%) vs. 9 (13%); p< 0.034, to have hepatic encephalopathy 10 (15%) vs. 3 (4%); p < 0.041, and more likely to have sepsis 18 (27%) vs. 3 (4%); p < 0.0003 than patients who were not intubated. Multivariable regression revealed that patients who underwent prophylactic pre-EGD intubation were more likely to have pulmonary aspiration than the patients who were not intubated (OR=10.1; 95% CI: 2.9-35.1). They are also more likely to be hospitalized longer (14 vs. 7 days; p < 0.0001) and to have longer ICU stays (10 vs. 3 days; p < 0.0001). Patients who underwent elective prophylactic ETI prior to endoscopy were less likely to die during hospitalization than patients who received emergent post-EGD ETI 12 (19%) vs. 9 (45%); p < 0.022.

Conclusion: We found that prophylactic pre-EGD intubation may increase the risk for pulmonary aspiration, intensive care unit and hospital length of stay. Given the small sample size, these results should be taken with caution.
<table>
<thead>
<tr>
<th>Outcome</th>
<th>Pre- EGD ETI Cases (n=69)</th>
<th>No intubation Controls (n=69)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myocardial Infarction</td>
<td>6 (9%)</td>
<td>2 (3%)</td>
<td>0.1620</td>
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<tr>
<td>Pulmonary aspiration</td>
<td>26 (39%)</td>
<td>4 (6%)</td>
<td>&lt;0.0001</td>
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<td>Acute respiratory distress syndrome</td>
<td>6 (10%)</td>
<td>0</td>
<td>0.0279</td>
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<tr>
<td>Pulmonary edema</td>
<td>5 (7%)</td>
<td>1 (2%)</td>
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<td>Hospital LOS, median (range)</td>
<td>10 (2, 61)</td>
<td>5 (2, 21)</td>
<td>&lt;0.0001</td>
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<tr>
<td>Intensive care unit LOS</td>
<td>6 (1, 60)</td>
<td>2 (1, 13)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Mortality during hospitalization</td>
<td>15 (22%)</td>
<td>3 (4%)</td>
<td>0.0024</td>
</tr>
<tr>
<td>Mortality within 30 days post discharge</td>
<td>1 (2%)</td>
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### Outcome of patients who underwent pre-EGD ETI with post-EGD ETI

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<tr>
<th>Outcome</th>
<th>Pre- EGD ETI Cases (n=69)</th>
<th>Post EGD- ETI (n=20)</th>
<th>p-value</th>
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<td>Myocardial Infarction</td>
<td>6 (9%)</td>
<td>2 (10%)</td>
<td>1.000</td>
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<tr>
<td>Pulmonary aspiration</td>
<td>26 (39%)</td>
<td>8 (40%)</td>
<td>0.9235</td>
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<tr>
<td>Acute respiratory distress syndrome</td>
<td>6 (9%)</td>
<td>4 (20%)</td>
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<td>Outcome</td>
<td>Pre-EGD ETI</td>
<td>Post-EGD ETI</td>
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<tr>
<td>Pulmonary edema</td>
<td>5 (7%)</td>
<td>4 (20%)</td>
<td>0.1102</td>
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<tr>
<td>Hospital LOS, median (range)</td>
<td>10 (2, 61)</td>
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<tr>
<td>Intensive care unit LOS</td>
<td>6 (1, 60)</td>
<td>9.5 (2, 103)</td>
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<tr>
<td>Mortality during hospitalization</td>
<td>15 (22%)</td>
<td>9 (45%)</td>
<td>0.0390</td>
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**TABLE TITLE:** Outcome of patients who underwent prophylactic intubation with no intubation controls

Outcome of patients who underwent pre-EGD ETI with post-EGD ETI

**AVERAGE SCORE:** 5.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Purpose: Among the available ablative modalities, radiofrequency ablation (RFA) is the most commonly used for treatment of Barrett’s esophagus (BE) with dysplasia. Few studies have assessed the effect of gender on remission rates after RFA. Preliminary studies indicate a potential biological difference between males and females with BE. We aim to assess the effect of gender on the time to achieve complete remission of intestinal metaplasia (CRIM) among patients with BE who underwent RFA.

Methods: This was a retrospective, observational study using large RFA database in a tertiary referral center. The primary outcome was time to CRIM compared between males and females. Candidate predictor variables included patient age, sex, race, smoking history, use of endoscopic mucosal resection (EMR), and initial biopsy before RFA. Time to CRIM (in months) was calculated using the Kaplan-Meier method. Log-rank test was used for comparison. We used Multivariable cox-proportional hazard model to assess for any association between time to CRIM and predictor variables.

Results: 257 patients underwent RFA for BE between May 2005 and June 2012. Of those, only 11% (n=26) were females. Males and females were similar in mean age, race, smoking history, median BE length, history of EMR, and baseline histology. Females required less RFA sessions compared to males (p=0.027). For males, median time to CRIM was 11.7 months [95% CI: 10 – 15]. For females, median time to CRIM was 24 months [95%CI: 10.3 – 60.2]. The Log Rank χ2 statistic for the difference in time to CRIM was 4.7, with p= 0.03. Kaplan-Meir curves of the time to CRIM stratified by gender are presented in Figure 1. Using cox-regression analysis, there was no evidence of confounding, collinearity, or effect modification in the final model. When controlling for age, use of EMR, BE segment length, and the number of RFA sessions, female gender was associated with 55% decrease in the rate of CRIM compared to males (HR = 0.45 [95%CI: 0.25 – 0.82], p=0.009.

Conclusion: Female patients take longer time to achieve remission of intestinal metaplasia when treated with radiofrequency ablation with or without endoscopic mucosal resection when compared to males of similar age and BE length. Further studies are needed to understand the potential factors leading to those important differences.

Extra Info: Dr. Wolfsen is a consultant for CSA Medical, Ninepoint Medical, and Oncoscope. He receives research funding from BARRx Medical and Olympus America, Inc. Dr. Wallace is a consultant for Ninepoint Medical. He receives research funding from Olympus America, Inc, American BioOPTICS, and Fujinon.
Figure 1

**IMAGE CAPTION:** Figure 1

(no table selected)

**AVERAGE SCORE:** 3.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a good poster
Marcelo Vela: [No Comments]
Hypertension is associated with reduced risk of progression to Dysplasia/ Cancer in Barrett’s Esophagus

Prashanthi Thota

Cleveland Clinic

United States

Purpose: Barrett’s Esophagus (BE) is present in 1-2% of general population. Risk stratification is important to identify patients with increased risk of progression to dysplasia or cancer. Various risk factors such as older age, male gender, obesity, smoking etc has been reported. Hypertension (HTN) is more prevalent in BE patients than in general population. It also appears to be associated with increased risk of esophageal cancer. However, it is not known if HTN itself is a risk factor for progression. Our aim was to see if BE patients with HTN are at any increased risk of progression to dysplasia/cancer.

Methods: Cleveland Clinic Barrett’s Registry is a prospectively collected database of patients with BE since 1979. The study population include patients enrolled in the registry from 12/1/2000 to 3/31/2013. Age, race, gender, HTN, diabetes (DM), number of endoscopies, hiatal hernia size, length of Barrett’s, biopsy results are included. Follow up (F/U) is defined as time between first and last endoscopy. Progression is defined as any worsening in the grade of dysplasia during the F/U.

Results: A total of 1623 patients were included in the analysis. HTN was present or diagnosed during the F/U in 679 (41.8%). Among the HTN patients, DM was present in 223 (32.8%). Among patients without HTN, DM was present in 51 (5.4%). Patients with HTN were older, more likely to have DM, had shorter Barrett’s segments and longer F/U. There were no significant differences in terms of race, gender, hernia size, baseline prevalence of dysplasia, number of F/U endoscopies. HTN patients were less likely to have dysplasia within 1 year of date of diagnosis of HTN. On multivariable regression analysis, after adjusting for age, DM, Barrett’s length, hiatal hernia size, subjects without HTN are at 2-fold higher risk of progression to HGD/cancer than patients with HTN (hazard ratio 2.2, 95% CI 1.2, 3.9, P = 0.009).

Conclusion: There is a high prevalence of HTN in our BE population. BE Patients with HTN are less likely to have dysplasia at the time of diagnosis of HTN. They were also at lower risk of progression to dysplasia/cancer. This is an unexpected finding and warrants further study.

Variable | No HTN | HTN | p-value
---|---|---|---

<table>
<thead>
<tr>
<th>Age at BE diagnosis (yrs)</th>
<th>57.9±13.9</th>
<th>63.9±11.9</th>
<th>&lt; 0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male gender (%)</td>
<td>702(75.6)</td>
<td>517(76.9)</td>
<td>0.55</td>
</tr>
<tr>
<td>Caucasian (%)</td>
<td>533(95.2)</td>
<td>492(94.6)</td>
<td>0.67</td>
</tr>
<tr>
<td>BE length (cm)</td>
<td>3.3 ±3.6</td>
<td>2.7±3.2</td>
<td>0.003</td>
</tr>
<tr>
<td>Hernia Size (cm)</td>
<td>2.0±2.1</td>
<td>1.9±2.1</td>
<td>0.78</td>
</tr>
<tr>
<td>DM (%)</td>
<td>51(5.4%)</td>
<td>223 (32.8%)</td>
<td>&lt;0.001</td>
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<tr>
<td>Worst Biopsy within 1 year of diagnosis of HTN (%)</td>
<td>.</td>
<td>.</td>
<td>0.02</td>
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<tr>
<td>-No dysplasia</td>
<td>529(56)</td>
<td>420 (61.9)</td>
<td>.</td>
</tr>
<tr>
<td>-LGD</td>
<td>142(15)</td>
<td>74(10.9)</td>
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<tr>
<td>-HGD</td>
<td>119(12.6)</td>
<td>68(10)</td>
<td>.</td>
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<tr>
<td>-Adeno Ca</td>
<td>153(16.3)</td>
<td>117(17.2)</td>
<td>.</td>
</tr>
<tr>
<td>F/U ( months)</td>
<td>14.6±24.2</td>
<td>17.6±27</td>
<td>0.018</td>
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</table>

**TABLE TITLE:**
**AVERAGE SCORE:** 5.25
**REVIEWER FLAGS:** (none)
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None
**REVIEWER COMMENTS:**
Purpose: Positron emission tomography (PET), using the positron-emitting glucose analogue 18F-FDG, relies on the observation that neoplasms metabolize glucose at a higher rate than normal tissues. The rate or intensity of tissue metabolism can be assessed by semi-quantitative metrics such as standardized uptake value, or SUV. The goal of this study is to correlate esophageal 18F-FDG uptake by PET with esophageal disease identified endoscopically to identify functional imaging factors that might distinguish benign and malignant esophageal disorders.

Methods: We reviewed medical records for the period June 2009 through May 2012 to identify patients who had both a PET/CT scan and an endoscopy (EGD) performed within six months of one another. Metabolic activity was quantified utilizing volumetric SUV max and SUV mean at the gastro-esophageal junction (GEJ) for all patients. PET characteristics were correlated with EGD findings at the GEJ.

Results: From an initial cohort of 285, we identified 220 patients who had both PET/CT and EGD performed within a six months. Patients were grouped into the following categories based on EGD results: esophageal malignancy (n=34), esophagitis (n=21), Barrett's esophagus (n=8), other non-malignant disorders (n=5) and normal (n=151). The average SUV max values for esophageal malignancy, esophagitis, Barrett's esophagus, other and normal were 6.72, 2.47, 2.40, 3.48 and 2.06, respectively. SUV measurements differed significantly between patients with malignancy and normal (p<0.001); these values also differed significantly between patients with malignancy compared to those with Barrett's and esophagitis (p<0.001). There was no significant difference in SUV max that would allow differentiation of normal EGD findings from any individual benign esophageal disorder; however, there was a significant difference in SUV mean comparing normal to the total group of 34 patients with proven benign esophageal disorders (p<0.04).

Conclusion: The current study establishes PET SUV values which may be useful in distinguishing patients with concern for esophageal malignancy, benign disorders, or normal findings. Clinicians might find these results useful in determining the need for EGD in patients with unexpectedly high PET 18F-FDG uptake at the gastro-esophageal junction.
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: good study
Marcelo Vela: [No Comments]
ABSTRACT BODY:

Purpose: Esophagogastric junction outflow obstruction (EGJOO) is a diagnosis made by high resolution manometry (HRM) that represents a heterogeneous group of disorders that cause dysphagia. Potential causes of EGJOO include evolving achalasia, strictures, extrinsic compression by tumors or the aorta, and functional obstruction where no cause is found. The focus after encountering EGJOO should be in determining the cause of the obstruction, then treating the cause. Little is known about the natural history of EGJOO.

Methods: We conducted a retrospective chart review and cross sectional phone survey of patients (25 to 92 years old) with a diagnosis of EGJOO by HRM between June 2010 to June 2012. EGJOO was defined as a minimum integrated relaxation pressure (IRP) of 15 mmHg as well as at least one normal or weak swallow on HRM. Exclusion criteria included diagnosis other than EGJOO on HRM and a history of prior surgical procedure causing the EGJOO. Chart review measures included patient demographic and clinical characteristics (documented symptoms, prior endoscopies, endoscopic ultrasound, and treatments). Patients were contacted via telephone between November 2012 and April 2013 and asked to rate specific symptoms on a severity scale both before and after diagnosis with manometry, and whether improvement in symptoms had been achieved.

Results: 94 patients with EGJOO based on HRM data were initially included in the analysis. 16 patients that had a surgical cause of the EGJOO were excluded, and 21 patients were unable to complete the phone survey for various reasons. Dysphagia was the predominant symptom that initiated HRM testing (46%), followed by chest pain (32%), heartburn (20%), or nausea and vomiting (19%). Of the patients contacted by phone (N=57), 61.4% reported overall improvement in their symptoms; however, many of these patients did not receive treatment for EGJOO (54.4%). There were proportionally more patients reporting improvement in symptoms who received treatment (69.2%) compared to those who did not (54.8%), but this did not reach statistical significance (P=0.115).

Conclusion: Dysphagia is the most common presenting symptom in patients with a diagnosis of EGJOO, although other atypical symptoms such as heartburn, regurgitation, and nausea and vomiting may be present, likely due to the diversity of causes. The majority of patients reported improvement in symptoms over time. Future research should involve prospective, well designed studies with a greater number of patients to evaluate the effect of different treatment modalities on patient outcomes.
<table>
<thead>
<tr>
<th>Demographics</th>
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<tbody>
<tr>
<td>Median age (IQR)</td>
<td>59 (20)</td>
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<tr>
<td>% Female</td>
<td>79.5</td>
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</table>

<table>
<thead>
<tr>
<th>Indications for manometry (%)</th>
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<tbody>
<tr>
<td>Dysphagia</td>
<td>46.2</td>
</tr>
<tr>
<td>Chest pain</td>
<td>32.0</td>
</tr>
<tr>
<td>Heartburn</td>
<td>20.5</td>
</tr>
<tr>
<td>Nausea/vomiting</td>
<td>19.2</td>
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</table>

<table>
<thead>
<tr>
<th>Swallow characteristics (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal swallows</td>
<td>32.5</td>
</tr>
<tr>
<td>Weak swallows</td>
<td>27.3</td>
</tr>
<tr>
<td>Elevated IBP</td>
<td>22.3</td>
</tr>
<tr>
<td>Failed swallows</td>
<td>9.8</td>
</tr>
<tr>
<td>Hypertensive swallows</td>
<td>4.4</td>
</tr>
<tr>
<td>Pan-esophageal pressurization</td>
<td>2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment</td>
<td>62.0</td>
</tr>
<tr>
<td>Botox injection</td>
<td>11.5</td>
</tr>
<tr>
<td>Pneumatic dilation</td>
<td>9.0</td>
</tr>
<tr>
<td>Fundoplication</td>
<td>7.7</td>
</tr>
<tr>
<td>Nitrates</td>
<td>6.4</td>
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<tr>
<td>Hyoscyamine</td>
<td>5.1</td>
</tr>
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<td>Proton pump inhibitor</td>
<td>3.8</td>
</tr>
<tr>
<td>Surgical myotomy</td>
<td>2.6</td>
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</table>
Cognitive behavioral therapy | 1.3

1 Represents percentage of all swallows seen on manometry studies
*IQR= Interquartile range
*IBP= Intrabolus pressure

<table>
<thead>
<tr>
<th>Improvement (%)</th>
<th>No treatment (%)</th>
<th>Treatment (%)</th>
<th>p-value $^1$</th>
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</thead>
<tbody>
<tr>
<td>Improvement (%)</td>
<td>54.8</td>
<td>69.2</td>
<td>0.115</td>
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</table>

$^1$ Pearson's $\chi^2$ test

**TABLE TITLE:** Demographics, swallow characteristics, and treatments

**Improvement by treatment status**

**AVERAGE SCORE:** 4.67

**REVIEWER FLAGS:** John Pandolfino - Conflict of Interest: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments] John Pandolfino: [No Comments] Michael Vaezi: not sure what it tells me different than what we know a poster Marcelo Vela: [No Comments]
Purpose: To ascertain the significance of abnormal findings on CT scan related to upper GI tract with a subsequent endoscopy in an outpatient setting.

Methods: All patients that underwent an upper endoscopy for evaluation of abnormal CT findings at an outpatient endoscopy center were reviewed. Findings on endoscopy and biopsies were compared with the original findings on CT scan that necessitated the endoscopy.

Results: A total of 70 patients over a ten year period (2004 to 2012) were reviewed. Age of patients ranged from 32-92 years. 39(56%) were females, 31(44%) were males. All abnormal endoscopic findings were biopsied and verified with pathology.

Common abnormalities reported in CT include esophageal wall thickening in 15 [21%], gastric wall thickening in 39 [56%] and duodenal wall thickening in 7 [10%]. 9 [13%] had other findings including 3 with portal HTN, 4 with gastric mass and 2 with liver metastasis.

The CT findings co-related with abnormal EGD in 59 out of 70 patients. [84%]

Conclusion: Majority of patients (84%) with abnormal findings related to upper GI tract on CT had significant relevant EGD findings. Therefore, all abnormal CT’s warrant further investigation with EGD.

<table>
<thead>
<tr>
<th></th>
<th>Esophageal thickening</th>
<th>Gastric wall thickening</th>
<th>Thickening of small bowel</th>
<th>Total</th>
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<tbody>
<tr>
<td>Normal</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Condition</td>
<td>CT Findings</td>
<td>EGD Findings</td>
<td></td>
<td></td>
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<tr>
<td>---------------------------------</td>
<td>-------------</td>
<td>-------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrett’s esophagus</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esophageal varices</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presbyoesophagus</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esophageal candidiasis</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Esophagitis</td>
<td>1</td>
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<td></td>
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</tr>
<tr>
<td>Hiatal hernia</td>
<td>1</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>Schatzki’s ring</td>
<td>1</td>
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<td></td>
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</tr>
<tr>
<td>Esophageal carcinoma</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastritis, H. pylori</td>
<td></td>
<td>28, 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastric polyp</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duodenitis</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>39</td>
<td></td>
<td></td>
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<tr>
<td><strong>Correlation when &quot;other CT findings&quot; are reported</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>CT Findings</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastric mass (4)</td>
<td></td>
<td>1 large fungating erosive gastric tumor (on biopsy shows candida gastritis) ;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 antral mass with central umbilication and oozing [On biopsy Liposarcoma] ;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 submucosal lipoma ;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 extraluminal mass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portal HTN (3)</td>
<td></td>
<td>3 portal gastropathy [1 also has esophageal ulcer and varices ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver metastasis (2)</td>
<td></td>
<td>1 Esophageal mass [moderately differentiated adeno CA] ; 1 antral mass</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>[invasive adeno CA]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td></td>
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</table>

**TABLE TITLE:** CT and EGD findings, common
Correlation when "other CT findings" are reported

**AVERAGE SCORE:** 6

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: descriptive
nothing new but a poster
Marcelo Vela: [No Comments]
A Comparative Study of Esophageal pH Metry Parameters in Geriatric Population and Younger Adults with Barrett's Esophagus.

Pramod Pantangi
SUNY Upstate Medical University, United States

Purpose: Barrett's esophagus (BE) is a known risk factor for development of esophageal adenocarcinoma. Esophageal pH monitoring helps to determine the efficacy of antisecretory therapy and guides the management of BE. Very limited data is available on esophageal pH study parameters and treatment responses in geriatric population (>65 years) when compared to younger patients. Our study is conducted to assess if there were significant differences between esophageal pH study parameters in geriatric and younger patients with BE, who were being evaluated for endoluminal therapy.

Methods: Study Design: Single center retrospective study (Institutional review board approved).
Setting: SUNY Upstate Medical Center, Syracuse, NY.
Patient Population: Patients with BE who were being evaluated for endoluminal therapy and underwent esophageal pH study between January 2005 and December 2012. Group A consisted of patients 65 years old and above. Group B consisted of patients younger than 65 yrs.
Exclusion criteria: Patients who were not a candidate for endoluminal therapy and therefore never underwent pH testing, those who could not undergo pH testing and anyone who had an incomplete study.

We reviewed the Electronic medical records to collect demographic, clinical, laboratory, histopathological and esophageal pH metry data of study subjects. Appropriate Statistical analysis was performed using SPSS software.

Results: We present the data on 85 subjects collected to date. Thirty two patients in group A and 53 patients in group B and the data respectively are: Mean age: 71.96 ± 4.7 yrs Vs. 56.07 ± 6.8 yrs; mean BMI-29.77±4.8 Vs. 29.54±3.6 kg/m2, Demeester score - 5.64 ± 5.8 Vs. 8.73 ± 14.1, percentage of time pH<4 - 1.67± 3.13% Vs. 2.15± 3.06%, Barrett's with Low Grade Dysplasia – 22.1% Vs. 44.1% (p = 0.04), Esophageal adenocarcinoma – 14.2% Vs. 0.0%(p = 0.04).

Conclusion: Interestingly, the results of our analysis show that statistically, there was no significant difference between the pH study parameters in patients above and below 65 years of age. We also found that though the prevalence of adenocarcinoma was higher in geriatric subjects and younger patients were more likely to have low grade Barrett’s dysplasia when compared to the elderly.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: poster at best
Marcelo Vela: [No Comments]
Objective: Endoscopic spray cryotherapy is a relatively new ablative modality for the treatment of Barrett’s and esophageal cancer. Spray cryotherapy rapidly cools tissues by spraying them with either liquid nitrogen or rapidly expanding carbon dioxide gas. This study is aimed to summarize our experience of cryotherapy for Barrett’s esophagus and esophageal adenocarcinoma (EAC) treatment.

Methods: A retrospective review was performed to identify patients with T1a-1b EAC and Barrett’s esophagus with high or low grade dysplasia treated by our center from July 2010-December 2012. Medical records were reviewed to collect pertinent information to include demographics, endoscopic findings, pathology results, adverse events, and patient follow-up. Inclusion criteria were the presence of a T1a-1b EAC and a minimum 3-month endoscopic follow-up.

Results: In total 52 subjects were included in the study, with mean age of 66.8±10.2 (range from 38-88), female 21% and male 79%. Among these subjects, 25 were diagnosed as esophageal adenocarcinoma (stage Ia-Ib), 20 were Barrett’s with high grade dysplasia, 7 were Barrett’s with low grade dysplasia. After cryotherapy with mean of 6.3(3-10) sessions, among the 25 patients with esophageal adenocarcinoma, 19 patients remained adenocarcinoma with tumor shrinkage, 1 with high grade dysplasia, 5 with complete response (reactive or normalization mucosa and undetectable tumor cells); among the 20 patients with high grade dysplasia, 7 remained HGD, 3 transformed to LGD, 10 with complete response (repeat normal mucosa); among 7 patients with LGD, 6 remained LGD and 1 became normal. No serious adverse event occurred in our patient series.

Conclusion: Endoscopic spray cryotherapy has been shown to be effective in treating Barrett’s HGD and early esophageal cancer. Cryotherapy is well tolerated and associated with few serious adverse events. More studies with larger sample sizes and longer follow-up are needed to confirm these findings. Prospective studies can further identify the predictors for good response.

CURRENT CATEGORY: A. Esophagus
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>:
Jianfeng Cheng : ACG Member
Doumit Bouhaidar : ACG Member
Karen Chambers : ACG Non-Member
Robin Willingham : ACG Non-Member
Alvin Zfass : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 6

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: nothing new
Marcelo Vela: [No Comments]
Purpose: Obesity is a rising epidemic in the United States and rest of developed world. Obese patients are at higher risk for GERD, erosive esophagitis, Barrett’s esophagus (BE) and related esophageal adenocarcinoma (BEAC) due to abnormal anatomy at GE junction (hiatal hernia), increased intra-abdominal pressure and sophageal motility disorders.

BE is an acquired condition affecting 5-6% of general population in the United States. Obesity increases the likelihood of developing long-segment Barrett’s esophagus (LSBE) and BEAC. Obesity is associated with alterations in hormones and adipokines, which are believed to contribute to carcinogenesis in BE.

Roux-en-Y-gastric bypass (RYGBP) is the operation of choice for treating obesity and also an excellent anti-reflux operation leading to the regression of intestinal metaplasia. Reduction in the size of the stomach and the diversion of duodenal contents reduces both acid and bile reflux which are implicated in the development of BE and BEAC.

Methods: A 69 year old female was referred to our institution with a diagnosis of Barrett’s esophagus (BE) with high grade dysplasia (HGD). Patient underwent RYGBP 6 years ago with successful weight loss of over 70 lbs. She had been under endoscopic BE surveillance for 15 years, but was lost to follow-up for the last 3 years. An upper endoscopy was performed at our institution. EGD showed short segment BE with an ulcerated plaque. Biopsies confirmed HGD with small focus of invasive adenocarcinoma invading into lamina propria. EUS showed mucosal thickening with intact muscularis propria and without lymphadenopathy (T1N0).

Results: Endoscopic submucosal dissection (ESD) was performed with complete resection of the Barrett’s mucosa. Surveillance EGD with mucosal biopsies in 3 months revealed BE without dysplasia. Surveillance EGD in 6 months revealed normal squamous epithelium.

Conclusion: This case illustrates a unique clinical challenge when there is progression of Barrett’s esophagus into related adenocarcinoma after Roux-en-Y-gastric bypass. Previous gastric bypass precluded conventional treatment in this case with esophagectomy and gastric pull through. Diligent postoperative endoscopic surveillance is required in gastric bypass patients with Barrett’s esophagus. ESD may be a viable alternative to chemotherapy and radiation in gastric bypass patients with localized esophageal malignancy.
AVERAGE SCORE: 6.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: Regression of LGD has been observed in majority of patients with BE and LGD. A few patients progress to HGD/adenocarcinoma. Ongoing surveillance is the standard of care with endoscopic ablation offered in select patients. Identifying patients at higher risk for progression will help in tailoring the optimal intervention. The factors which predict this progression are not clearly known. Our aim was to assess the natural history of LGD and evaluate the risk factors for progression to HGD/adenocarcinoma.

Methods: BE Patients with a diagnosis of LGD with no prior diagnosis of HGD/adenocarcinoma with at least one follow-up endoscopy were included in the study. Demographic features such as age, gender and race, diabetes, hypertension, fundoplication, number of endoscopies, BE length, hiatal hernia, and biopsy results were recorded. Prevalent cases were those diagnosed at the time of or within one year of the first endoscopy. The rest were incident cases. Persistent cases were those with LGD on 2 or more consecutive endoscopies. Follow-up (F/U) is from the time of detection of LGD to last endoscopy or the end points of HGD/adenocarcinoma.

Results: Cleveland Clinic Barrett’s registry included 2370 patients. Of these, 313 met the study criteria. Table 1 details the results of this group. On competing risk analysis (Table 2), Men have almost 3 fold higher risk of progression than women. Prevalent LGD were 3.5 times more likely to have progression of disease than those with incident LGD. For every 5 year increase in the age at time of diagnosis of LGD, chance of regression increased by 7%. Also for every 1 cm increase in the BE length, the chance of regression decreased by 6%.

Conclusion: Only a minority of patients with LGD progress to HGD/adenocarcinoma. Men and patients with prevalent LGD are at higher risk for progression. Older age at the diagnosis of LGD and shorter BE segment length are associated with regression. These novel findings are useful in the risk stratification and intervention in BE patients with LGD.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Hazard Ratio (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Progression to HGD/cancer

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male vs Female</td>
<td>2.6(1.1,6.2)</td>
<td>0.026</td>
</tr>
<tr>
<td>Prevalent vs Incident</td>
<td>3.5(1.7,7.1)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Regression to no dysplasia

| Age at LGD ( 5 yr increase) | 1.07 (1.0,1.2) | 0.044 |
| Barrett’s segment length    | 0.94 (0.89,0.99) | 0.016 |

### Table 1. Demographic and Clinical Characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Gender</td>
<td>247(79.2%)</td>
</tr>
<tr>
<td>Age at BE diagnosis(years)</td>
<td>60.5±12.3</td>
</tr>
<tr>
<td>BE segment Length ( cm)</td>
<td>4.1±3.6</td>
</tr>
<tr>
<td>Hiatal Hernia size ( cm)</td>
<td>2.5±2.2</td>
</tr>
<tr>
<td>Prevalent LGD</td>
<td>215(68.7%)</td>
</tr>
<tr>
<td>Incident LGD</td>
<td>98(31.3%)</td>
</tr>
</tbody>
</table>

### Outcomes

- Regression to no dysplasia: 175 (55.9%)
- Persistent LGD with resolution: 24(7.7%)
- Persistent LGD: 55(17.6%)
- Progression to HGD: 42(13.4%)
- Progression to adenocarcinoma: 17 (5.4%)

Median f/u after LGD ( months): 30.1(9.6,58.8)

**Table Title:** Table 2. Competing Risks Analysis

**Table 1. Demographic and Clinical Characteristics**

**Average Score:** 4.75

**Reviewer Flags:** (none)

**Reviewer Recommendation Code Description:** None

**Reviewer Comments:**
- Evan Dellon: [No Comments]
- John Pandolfino: [No Comments]
- Michael Vaezi: nothing new
- Marcelo Vela: [No Comments]
Purpose: Our aim was to evaluate characteristics of the rhythmic contractions, provide data on the structure of pacemaker cells in the esophagus and discuss a potential role for interstitial cells of Cajal (ICC) in the origin of rhythmicity. We hypothesize that intramuscular ICC (ICC-IM) are the primary pacemaker cells.

Methods: Esophageal manometry using a 8-channel water perfused system with a Dent sleeve for LES pressure.

Results: The frequency but not the amplitude of the rhythmic contractions was inhibited by the phosphodiesterase inhibitor drotaverine consistent with cAMP inhibiting pacemaker currents in ICC-IM. The frequency increased by wet swallows but not dry swallows, consistent with stretch causing increase in slow wave frequency in ICC-IM. New studies on archival material showed that ICC-IM were present throughout the human esophageal musculature and were not diminished in early achalasia. Although ICC-IM exhibited a low density, they were connected to PDGFRα-positive fibroblast-like cells with whom they formed a dense gap junction coupled network. Nitrergic innervation of ICC was strongly diminished in early achalasia because of the loss of nitrergic nerves.

Conclusion: It therefore appears possibly that ICC-IM function as pacemaker cells in the esophagus and that the network of ICC and PDGFRα-positive cells allows for coupling and propagating of the pacemaker activity. Loss of nitrergic innervation to ICC in achalasia may render them more excitable such that its pacemaker activity is more easily expressed. Loss of propagation in achalasia may be due to loss of contraction-induced aboral nitrergic inhibition.
CONTROL ID: 1743766
TITLE: Concomitant Herpetic and Eosinophilic Esophagitis in a young immunocompetent adult: unlikely just a rare coincidence?
PRESENTER: Jorge Machicado
PRESENTER (INSTITUTION ONLY): University of Texas Medical School at Houston
PRESENTER (COUNTRY ONLY): United States
ABSTRACT BODY:
Purpose: An 18 year-old Caucasian man presented with 3 days of epigastric pain, odynophagia, vomiting and fevers. His history was significant for heartburn since childhood. He had noticed dysphagia to solids for the last 4 months. Other history included food allergy and allergic rhinitis. On admission, he was febrile (T 101.8 F) and tachycardic (HR 110). Physical exam revealed a 2 mm ulcer in the lower lip, and epigastric tenderness. Blood counts, biochemistry and liver function tests were normal. Esophagogastroduodenoscopy (EGD) revealed 3-4 mm clean base and round ulcers throughout the entire esophagus. Histopathology showed necroinflammatory tissue and squamous epithelium with intercellular edema, basal zone hyperplasia and up to 56 eosinophils per high power field, consistent with eosinophilic esophagitis (EoE). Immunoperoxidase staining was negative for HSV and CMV. Serum HSV IgM, HIV and CMV PCR, were negative. He remained symptomatic despite treatment with pantoprazole, sucralfate and lidocaine vicous. Repeated EGD at day 5 showed white plaques and unchanged ulcers. Histopathology was consistent with EoE and showed viral cytopathic changes. Immunoperoxidase staining was positive for HSV. He was started on intravenous acyclovir with improvement of odynophagia after 3 days. He was discharged on oral budesonide, valacyclovir, sucralfate and pantoprazole. After one month, symptoms were completely resolved.

Herpetic esophagitis in immunocompetent patients is a rare but distinct clinical entity. EoE has been linked to the occurrence of HSV esophagitis in few case reports. One hypothesis is that EoE may increase susceptibility to infection with HSV by a dysregulated T-helper 2 response, which could lead to a breakdown in the barrier function. Common endoscopic features of EoE such as rings and furrows were not observed in our patient, likely masked by HSV infection. Histopathology failed to diagnose HSV in initial biopsy. However, ulcers are uncommon in EoE, as well as fever, odynophagia and oral lesions, which raised our clinical suspicion for HSV, leading us to repeat EGD and confirm the diagnosis. Treatment of concomitant EoE and HSV esophagitis might be challenging as steroids may deteriorate the viral process. Future studies are needed to clarify the link between these 2 entities.

Methods: N/A
Results: N/A
Conclusion: N/A
CURRENT CATEGORY: A. Esophagus
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>: Jorge Machicado : ACG Member
Mamoun Younes : ACG Non-Member
Judith Amaning : ACG Member
Rene Gomez-Esquivel : ACG Member
David Wolf : ACG Member
IMAGE CAPTION:
AVERAGE SCORE: 6.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: To study clinical classification and characteristics among the different heartburn groups.

Methods: All patients were initially evaluated by a symptom questionnaire under the guidance of digestive physician, and thereafter underwent endoscopy. Patients with damaged esophageal mucosa were classified into RE type in GERD group. Those with normal-appearing esophageal mucosa were followed by ambulatory 24h esophageal pH monitoring including counting symptom index and then administrated by PPI trial, those patients having a normal esophageal mucosa were stratified into NERD and FH based on 24h esophageal pH monitoring, symptom index and PPI trial, and the last analyse the different Characteristics of different heartburn groups.

Results: Eighty patients with typical heartburn symptoms were enrolled, including 43 male and 37 female, mean age 51±12 years. There was no statistically significant difference between three groups of age and gender. Combined with esophageal pH monitoring, symptom index and PPI trial, and NERD subdivided into 3 subgroups; 20 patients were testified with excessive acid exposure; 13 patients were found with normal acid exposure and positive SI at the same time the other 13 cases had positive PPI trial although they had normal pH monitoring and negative SI. After complete classification, comparing the differences in esophageal pH monitoring of different classification. Statistical analysis shows the degree of esophageal acid exposure of NERD group (pH+ or pH-) was significantly higher than that of the FH group. There were significant differences of the degree of esophageal acid exposure among 3 subgroups of NERD. No significant differences were found on the degree of esophageal acid exposure between patients with positive PPI trial and those negative, no significant differences were found in the positive rate of PPI trial between patients with positive esophageal pH monitoring and those negative; there were significant differences in curative effect of PPI treatment between GERD group and FH group; Statistical analysis showed that reflux esophagus LA grade didn’t have correlation with the symptom scores.

Conclusion: Heartburn is a common symptom which can be found in a variety of diseases. Such as RE, NERD and FH. There were significant differences of the degree of esophageal acid exposure among 3 subgroups of NERD. The degree of esophageal acid exposure of NERD group (pH+ or pH-) of significantly was higher than that of the FH group. Esophageal pH monitoring results didn’t have correlation with the PPI trial results.
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: the findings can be explained by the self selection of the groups
i.e. nothing new
Marcelo Vela: [No Comments]
ABSTRACT BODY:

Purpose: To evaluate clinical parameters, endoscopic findings and esophageal diameter in patients with symptomatic esophageal eosinophilic infiltration (EEI) with and without pathologic gastroesophageal reflux (GERD).

Methods: A retrospective chart review was performed. Patients who were diagnosed with EEI 11/2009 to 5/2012 by a single investigator (JAA) underwent 24 hour esophageal pH / Impedence testing. All patients had dysphagia, an EGD with a minimum of 15 eosinophils per high powered field on biopsy, a structured esophagram measuring maximal esophageal diameter (EDmax), and 24 hour ambulatory pH / Impedence testing. Small caliber esophagus was defined as a maximal esophageal diameter of < 20 mm. Patients with a DeMeester score of >14.72 were classified as having GERD. Allergy history was defined as a history of asthma, seasonal allergies, of allergic dermatitis. Demographics, clinical history, endoscopic findings, and EDmax were compared between the GERD and non-GERD groups using the Fischer’s exact test for discrete variable and the Wilcoxon rank-sum test for continuous variables.

Results: 33 patients, 10 (30%) with GERD and 23 (70%) without GERD were identified. Table 1 displays the results. Allergy history, heartburn or regurgitation history, EoE endoscopic findings, and presence of small caliber esophagus were no different between the GERD and non-GERD groups by pH testing.

As seen in Table 2, an EDmax of < 17, had a negative predictive value for GERD of .818. Therefore suggesting that those with smaller esophageal diameters were more likely to be non-GERD patients.

Conclusion: In conclusion; 1) Patients with abnormal esophageal acid exposure, esophageal eosinophilia and dysphagia, commonly have a small caliber esophagus. 2) The presence or absence of heartburn or regurgitation, allergy history, small caliber esophagus, or endoscopic findings of EoE does not predict whether there is increased esophageal acid exposure. 3) However, patients with dysphagia, esophageal eosinophilia and smaller esophageal calibers, tend to have normal pH studies.

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

Nicole Gentile : ACG Non-Member
Benjamin Bick : ACG Non-Member
Felicity Enders : ACG Non-Member
Jill Killian : ACG Non-Member
Debra Geno : ACG Non-Member
Lori Kryzer : ACG Non-Member
David Katzka : ACG Member
Glenn Alexander : ACG Member
Jeffrey Alexander : ACG Member
(No Image Selected)
Comparison of Patients with Eosinophilic Infiltration With and Without Reflux

<table>
<thead>
<tr>
<th></th>
<th>No Reflux (N=23)</th>
<th>Reflux (N=10)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median (range)</td>
<td>35 (20-61)</td>
<td>37 (23-70)</td>
<td>0.37</td>
</tr>
<tr>
<td>Male, n (%)</td>
<td>12 (52.2)</td>
<td>7 (70)</td>
<td>0.46</td>
</tr>
<tr>
<td>Edmax &lt; 20, n (%)</td>
<td>13 (65.2)</td>
<td>5 (50.0)</td>
<td>0.46</td>
</tr>
<tr>
<td>EDmax Mean (SD)</td>
<td>18.3 (4.3)</td>
<td>19.6 (4.3)</td>
<td>.40</td>
</tr>
<tr>
<td>Heartburn or Regurgitation, n (%)</td>
<td>12 (52.2)</td>
<td>8 (80.0)</td>
<td>0.25</td>
</tr>
<tr>
<td>Any allergy, n (%)</td>
<td>16 (69.6)</td>
<td>7 (70.0)</td>
<td>1.00</td>
</tr>
<tr>
<td>Plaques, n (%)</td>
<td>1 (4.4)</td>
<td>1 (10.0)</td>
<td>0.52</td>
</tr>
<tr>
<td>Furrows, n (%)</td>
<td>8 (34.8)</td>
<td>5 (50.0)</td>
<td>0.46</td>
</tr>
<tr>
<td>Rings, n (%)</td>
<td>9 (39.1)</td>
<td>4 (40.0)</td>
<td>1.00</td>
</tr>
<tr>
<td>Stricture, n (%)</td>
<td>1 (4.4)</td>
<td>1 (10.0)</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Sensitivity, Specificity, and Predictive Values of Different Maximum Esophageal Diameters

<table>
<thead>
<tr>
<th>Maximum Esophageal Diameter Cutoff</th>
<th>Positive</th>
<th>Negative</th>
<th>False Positive</th>
<th>False Negative</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Positive Predictive Value</th>
<th>Negative Predictive Value</th>
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<tbody>
<tr>
<td>23</td>
<td>3</td>
<td>20</td>
<td>3</td>
<td>7</td>
<td>0.300</td>
<td>0.870</td>
<td>0.500</td>
<td>0.741</td>
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<tr>
<td>20</td>
<td>5</td>
<td>15</td>
<td>8</td>
<td>5</td>
<td>0.500</td>
<td>0.652</td>
<td>0.385</td>
<td>0.750</td>
</tr>
<tr>
<td>17</td>
<td>8</td>
<td>9</td>
<td>14</td>
<td>2</td>
<td>0.800</td>
<td>0.391</td>
<td>0.364</td>
<td>0.818</td>
</tr>
</tbody>
</table>

TABLE TITLE: Comparison of Patients with Eosinophilic Infiltration With and Without Reflux
Sensitivity, Specificity, and Predictive Values of Different Maximum Esophageal Diameters

AVERAGE SCORE: 4.75

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
I like it  Marcelo Vela: [No Comments]
Purpose: One of the common genomic alterations of Barrett’s esophagus (BE) is somatic loss of the q11 region of chromosome 17. This region of chromosome 17 is known to contain the tumor suppression gene NF1. Germline NF1 mutations are the cause of neurofibromatosis type 1 (NF type 1). Our aims were (1) to determine the prevalence of BE in patients with NF type 1 and (2) compare it to the prevalence in patients with cancer syndromes whose causative genes are not reported to be altered in initial development of BE.

Methods: Patients with one of four cancer syndrome diagnoses were studied: NF type 1, Lynch syndrome, familial adenomatous polyposis, and hereditary breast ovarian cancer. Records were reviewed from Mayo Clinic Arizona, Florida and Rochester. Cancer syndrome patients who had had an upper endoscopy or documented history of BE were included in the data set.

Results: BE was more common in the NF type 1 group than in other cancer syndrome groups. 30% of NF type 1 patients had BE (7 of 23), compared to 11% for Lynch syndrome (6 of 53, OR = 3.43 95% CI = 1.00 to 11.7), 6% for familial adenomatous polyposis (9 of 162, OR = 7.44 95% CI = 2.44 to 22.7), and 0% for hereditary breast ovarian cancer syndrome (0 of 48). Five of 7 NF type 1 patients with BE were male. The mean age at diagnosis of BE was 52 years (range 19 to 71 years). Five patients had non-dysplastic BE, while one patient had low grade dysplasia and one high grade dysplasia. None of the 7 patients had progression of their BE while under observation, however, only two patients had the results of more than one upper endoscopy recorded.

Conclusion: BE was commonly found in NF type 1 patients who underwent endoscopy, compared with other cancer syndromes. The association is plausible as both BE and NF type 1 are associated with loss of NF1 function. Molecular studies and higher quality clinical studies are needed to confirm this association.
ABSTRACT BODY:

Purpose: Modalities of endoscopic therapy of Barrett’s HGD and IMC include endoscopic mucosal resection (EMR), radiofrequency ablation (RFA), cryotherapy and argon plasma coagulation (APC). Although these are highly effective in most patients for eradication of dysplasia, some patients continue to have small areas of residual Barrett’s or continue to progress to HGD or cancer. Our aims were to assess eradication rates of Barrett’s metaplasia and dysplasia as well as factors which predict complete eradication.

Methods: Review of prospectively collected database of patients who underwent endoscopic therapy for Barrett’s dysplasia or IMC from 2006 to 2011. Patients who underwent EMR only excluded. Variables such as age, race, sex, BMI, alcohol use, smoking, diabetes, hypertension, hyperlipidemia, medication use were analyzed. Endoscopic data included length of Barrett’s segment, hiatal hernia size, number of endoscopies and biopsy results.

Results: Among 118 patients included, there were 60 patients in RFA and 58 patients in cryotherapy group. Compared to RFA patients, cryotherapy patients were found to be older and were more likely to have never used alcohol. In addition, they had longer treatment period and higher number of treatment sessions (table 1). Patients with RFA were more likely to have complete eradication of dysplasia (100% vs. 90%; p=0.012). There were no other significant differences between two groups.

PREDICTORS: There was complete eradication of Barrett’s in 72 patients (61%). There was Barrett’s without dysplasia in 40 patients (33.8%). 6 patients had persistent HGD or progression to cancer (5%). On univariable analysis, subjects who had eradication of metaplasia had a longer treatment period (months 32.8±20 vs 23.3±18.8, p=0.011) and followup time (months 36.8±21.5 vs 25.9±18.7, p=0.006). There were no other significant differences. After adjusting for all variables in the model, subjects who had RFA had 3-fold higher odds of having eradication of metaplasia than those who had cryotherapy (OR 2.9, 95%CI 1.1,7.7, p = 0.031). In addition, for every 1 month increase in the EGD follow-up time, the odds of having complete metaplasia eradication increased by 4% (OR 1.04, 95% CI 1.01, 1.07, p= 0.002). Younger age was associated with eradication of metaplasia/dysplasia (66.7±10.6 vs 75.8±9.3 yrs p=0.042). In addition, EMR and RFA were associated with eradication of metaplasia/dysplasia while patients without eradication were more likely to have had cryotherapy or APC/band ligation.

Conclusion: Endoscopic therapy is highly effective in eradication of Barrett’s HGD and IMC. RFA with or without EMR and younger age are predictors for complete eradication of BE.
Table 1: Endoscopic Therapy

<table>
<thead>
<tr>
<th>Factor</th>
<th>RFA (n=60)</th>
<th>Cryotherapy (n=58)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>65.2±9.9</td>
<td>69.3±11.2</td>
<td>0.037</td>
</tr>
<tr>
<td>Male (%)</td>
<td>56(93.3%)</td>
<td>48(82.8%)</td>
<td>0.076</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>.</td>
<td>.</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>-Never</td>
<td>21(36.2%)</td>
<td>39(69.6%)</td>
<td>.</td>
</tr>
<tr>
<td>-Mild (&lt;7 drinks/week)</td>
<td>30 (51.7%)</td>
<td>14 (25%)</td>
<td>.</td>
</tr>
<tr>
<td>BMI</td>
<td>31.4±6.6</td>
<td>30.4±6.6</td>
<td>0.45</td>
</tr>
<tr>
<td>Length of BE segment (cm)</td>
<td>5.3±3.2</td>
<td>4.6±3.2</td>
<td>0.26</td>
</tr>
<tr>
<td>Length of hiatal hernia (cm)</td>
<td>2.7±1.8</td>
<td>3.0±1.5</td>
<td>0.37</td>
</tr>
<tr>
<td>Time from first to last treatment session (months)</td>
<td>19.9±12.8</td>
<td>38.7±21.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No. of treatment sessions</td>
<td>5(4,7)</td>
<td>8(7,11)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Any EMR</td>
<td>38(63.3%)</td>
<td>21(36.2%)</td>
<td>0.003</td>
</tr>
<tr>
<td>Eradication of metaplasia</td>
<td>39 (65%)</td>
<td>33 (56.9%)</td>
<td>0.37</td>
</tr>
<tr>
<td>Eradication of dysplasia</td>
<td>21 (35%)</td>
<td>19 (32.7%)</td>
<td>0.012</td>
</tr>
<tr>
<td>Treatment failure</td>
<td>0</td>
<td>6 (10.3%)</td>
<td>.</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Table 1: Endoscopic Therapy  
**AVERAGE SCORE:** 5  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a good poster
Marcelo Vela: [No Comments]
Purpose: Esophageal squamous cell cancers (ESCCs) that are confined to mucosa are amenable to endoscopic therapy. We present a case of early detection of ESCC and prediction of invasion depth based on superficial microvasculature changes using high definition narrow band imaging (NBI) with integrated dual focus magnification endoscope.

78-year-old male with history of Barrett’s esophagus with high grade dysplasia (HGD) status post Barrett’s eradication was noted to have an area of discolored mucosa with texture change in the upper esophagus during surveillance endoscopy. Pathology by endoscopic biopsy showed high-grade squamous dysplasia. NBI with magnification using Olympus GIF-HQ190 dual focus endoscope showed a well-demarcated area with intraepithelial papillary capillary loop (IPCL) dilatation, elongation (Inoue IPCL type V2, Arima’s type 3) and background color change. Lugol chromoendoscopy of this lesion was positive. Margins of the lesion were marked with APC and lesion was lifted using saline injection. 270-degree endoscopic mucosal resection was performed using cap and snare. Mucosectomy pathology revealed m1 ESCC with negative margins. Follow up endoscopy at 3 months was normal and no dysplasia was seen on histology.

Early detection of ESCC may be amenable to endoscopic therapy and has better survival. Lugol chromoendoscopy is commonly used for detecting ESCC but has low specificity and PPV. NBI with magnification can help identify dysplasia by detecting early changes in the superficial microvasculature. Though there are no well-defined guidelines, two classification systems for IPCL changes have been proposed by Inoue et al and Arima et al. Characteristics in IPCL such as tortuosity, dilatation, caliber change and variation in shape of multiple IPCLs have been associated with neoplasia. The depth of invasion may be associated with the pattern of IPCL as well as changes in background color (Inoue) and presence of avascular areas (Arima). We were able to apply this information in our patient and make a decision to pursue endoscopic therapy for treatment of superficial ESCC. Consensus and validation of the IPCL patterns will be helpful in evaluation and treatment of early ESCC.

Methods: NA
Results: NA
Conclusion: NA
A. NBI without magnification  B. NBI with magnification  C. Post EMR  D. H&E stain of mucosectomy specimen

**IMAGE CAPTION:** A. NBI without magnification  B. NBI with magnification  C. Post EMR  D. H&E stain of mucosectomy specimen

(no table selected)

**AVERAGE SCORE:** 7

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]  
John Pandolfino: [No Comments]  
Michael Vaezi: case report  
Marcelo Vela: [No Comments]
Purpose: Eosinophilic esophagitis (EoE) is a chronic inflammatory disease with isolated eosinophils in the esophagus most often triggered by food allergen(s). Repeated esophagogastroduodenoscopy (EGDs) are required to identify food triggers and to follow up resolution of the disease in patients treated with dietary therapy. There is limited data on the safety of repeated endoscopic procedures in these patients.

Methods: We retrospectively reviewed the medical records and endoscopic records of patients enrolled in our EoE biomarker study from 2010-2013. Diagnosis of EoE is defined as 1 or more biopsies showing >15 eosinophils/hpf after at least 6 weeks of high dose proton pump inhibitor. We quantified the total number of EGDs that were performed in lifetime and total number of diagnostic EGDs during reintroduction phase to identify food trigger(s). We defined EGD associated complications as chest pain, mucosal tears, bleeding, perforation, infection, sedation related complications and post-procedural cardiopulmonary problems.

Results: A total of 622 EGDs were performed in 87 patients with definitive EoE (aged 15.1 ± 8.9; 69 M /18 F). Number of EGDs in lifetime and diagnostic EGDs per patient were 7.1 ± 4.7 and 6.4 ± 4.1. Among patients who underwent dietary therapy (9 milk-only elimination, 2 2-food elimination, 3 3-food elimination diet and 21 >3-food elimination diet) and completed the reintroduction phase (n=35), number of total lifetime and diagnostic EGDs per patient were 6.9 ± 3.8 and 6.1± 3.6 respectively. A total of 6-14 biopsies were obtained from each patient and no endoscopic dilations were performed. There were no complications.

Conclusion: Diagnostic EGDs during the food reintroduction phase in EoE patients treated with dietary therapy are well-tolerated and there were no EGD associated complications.
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: ok
Marcelo Vela: [No Comments]
Influence of Central Obesity and Reflux on Esophageal Injury: A Prospective Study

Milli Gupta

University of Calgary, Canada

Purpose: Both central obesity and gastroesophageal reflux (GER) have been implicated in the esophageal injury, inflammation and neoplasia pathway. We have previously shown an association of visceral abdominal fat area with esophageal inflammation and neoplasia. Central obesity may influence esophageal injury via mechanical (promoting reflux) and non-mechanical (systemic inflammatory) means. In this study, we aimed to assess contributions of: 1. BMI and central obesity to acidic (AR) and non-acidic reflux (NAR) 2. Obesity and GER to esophageal injury and metaplasia.

Methods: Patients undergoing ambulatory pH testing and upper endoscopy were prospectively recruited. Patients had anthropometric measurements (height, weight, waist circumference (WC), waist to hip ratio (WHR)) followed by biopsies from the GEJ junction (columnar) and esophageal (squamous) mucosa. Data on AR and NAR were prospectively collected. The biopsies were analyzed for tissue PGE2 (marker of tissue injury) and CDX2 (marker of intestinal metaplasia). Univariate and multivariate linear regression analyses were performed to assess associations.

Results: 100 patients were recruited. Mean age (SD) was 50.89 (16.1) years and 67% were females. 35% patients underwent wireless (Bravo) pH monitoring and 59% conventional pH impedance. 6% had endoscopic findings of esophagitis, thereby eliminating need for a pH study. 38% patients were off PPIs and 77% consented to biopsies. Both central obesity and BMI were independently associated with AR (table 1). Only central obesity was a predictor of NAR. BMI (p=0.0011) and central obesity (WC, trend, p=0.059) appeared to influence supine and NAR. Obesity and reflux do not independently predict tissue injury, as measured by PGE2 in the squamous and GEJ epithelium (table 2). ASA or PPI use was not associated with PGE2. CDX1 and CDX2 were not detected in the squamous mucosa. At GEJ, CDX1 was positive in 7% of patients and CDX2 in 51%. There was no correlation with reflux or obesity to CDX2.

Conclusion: Central obesity, as measured by WC or WHR, is an independent predictor of AR and NAR in non erosive reflux disease. However, neither reflux nor central obesity was associated with esophageal injury (measured by tissue PGE2) or molecular markers of intestinal metaplasia (CDX2). Specific measures such as abdominal visceral fat area or volume may need to be investigated as predictors of esophageal tissue injury and metaplasia.
Table 1: Multivariate Linear Regression Analyses of the Predictors of Reflux

<table>
<thead>
<tr>
<th>Variables</th>
<th>DeMeester score (n=88)**</th>
<th>Day 1 acid reflux/hr (n=92)*</th>
<th>Day 1 nonacid reflux/hr (n=57)*</th>
<th>Day 1 % time pH &lt; 4 (n=87)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>1.49</td>
<td>0.08</td>
<td>0.0005</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>p=0.019</td>
<td>p=0.008</td>
<td>p=0.99</td>
<td>p=0.014</td>
</tr>
<tr>
<td>WC</td>
<td>-1.27</td>
<td>0.018</td>
<td>0.004</td>
<td>-0.14</td>
</tr>
<tr>
<td></td>
<td>p=0.0032</td>
<td>p=0.09</td>
<td>p=0.041</td>
<td>p=0.23</td>
</tr>
<tr>
<td>WHR</td>
<td>-121.64</td>
<td>0.68</td>
<td>2.76</td>
<td>-7.80</td>
</tr>
<tr>
<td></td>
<td>p=0.053</td>
<td>p=0.77</td>
<td>p=0.33</td>
<td>p=0.60</td>
</tr>
</tbody>
</table>

* Models adjusted for age, gender, and PPI.
** Models adjusted for age, gender, PPI and Day1 acid reflux/hr

Table 2: Multiple variable Linear Regression Analyses of Tissue Biomarkers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Squamous PGE2 (N=76)*</th>
<th>GEJ PGE2 (N=77)*</th>
<th>GEJ CDX2 (N=72)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>-0.70</td>
<td>-0.39</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>p=0.32</td>
<td>p=0.70</td>
<td>p=0.37</td>
</tr>
<tr>
<td>WC</td>
<td>-0.26</td>
<td>-0.20</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>p=0.36</td>
<td>p=0.60</td>
<td>p=0.07</td>
</tr>
<tr>
<td>WHR</td>
<td>3.72</td>
<td>-14.10</td>
<td>-0.48</td>
</tr>
<tr>
<td></td>
<td>p=0.95</td>
<td>p=0.87</td>
<td>p=0.58</td>
</tr>
<tr>
<td>Day 1 acid reflux/hr</td>
<td>1.33</td>
<td>1.40</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>p=0.40</td>
<td>p=0.88</td>
<td>p=0.91</td>
</tr>
<tr>
<td>Day 1 nonacid reflux/hr</td>
<td>2.12</td>
<td>0.77</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>p=0.53</td>
<td>p=0.88</td>
<td>p=0.67</td>
</tr>
</tbody>
</table>
| Demeester score | -0.07  
| p=0.58 | -0.09  
| p=0.50 | -0.0001  
| p=0.95 |

* Models adjusted for age, gender, PPI and ASA.
** Models adjusted for age, gender, and PPI.

**TABLE TITLE:** Table 1: Multivariate Linear Regression Analyses of the Predictors of Reflux

**TABLE 2:** Multiple variable Linear Regression Analyses of Tissue Biomarkers

**AVERAGE SCORE:** 3.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
ABSTRACT BODY:

Purpose: Intestinal metaplasia (IM) of the stomach is a significant risk factor in developing intestinal type gastric cancer. Few studies recently linked IM to H pylori and aging. However, there have been no studies addressing the risk factors for developing IM in minorities. In this study, we aim to examine the impact of demographics and H. Pylori infection on the development of IM in the urban minority population.

Methods: Charts of all adult patients who underwent upper endoscopy with biopsy at our medical center in a two year period were reviewed. Data about demographics, endoscopic, and histological findings were collected and analyzed. The presence of H. Pylori infection was based on the immunohistopathological analysis of the biopsy samples. SAS software was used for statistical analysis.

Results: Our cohort included 970 subjects (37% males and 63% females). African Americans (AA) and Hispanics (HAS) represented 52.5% and 28.3%, respectively. Gastric IM was found in 13.8% of AA. AA were more likely to develop IM if they had H. Pylori infection (17.3% vs. 10.5 in non infected patients, P 0.04) or if they were older (More than 65 years vs. <65 years, P 0.03). There was no gender difference in IM prevalence among AA (P 0.2). On multivariate logistic regression analysis, both H. Pylori infection and aging retained significance OR 1.8 (1-3.2) and OR 1.9 (1.02-3.6), respectively. In Hispanics, 12.3% had IM. Hispanics with H. Pylori infection were more likely to develop IM (18.4% vs. 8.5% in non infected patients, P 0.02). There was no age difference in IM prevalence among Hispanics (P 0.09). On multivariate regression analysis, H. Pylori retained significance (OR 2.7 (1.2-6.1)). Also, gender showed significance on this model (IM 15.8% in males while 5.8% in females and OR for female gender 0.3 (0.1-0.7)).

Conclusion: The risk factors for intestinal metaplasia are different among different races. In AA, H. Pylori infection and aging were significant risk factors for the development of IM. While in HAS H. Pylori, but not aging was a significant risk factor for IM development. Female gender appeared to have less IM among the HAS cohort. The duration of infection may influence these differences with HAS males acquiring the infection at a younger age.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Latent Eosinophilic Esophagitis (LEOE) is a unraveled novel clinical entity. A randomized open clinical pilot study

PRESENTER: Patrick Basu
PRESENTER (INSTITUTION ONLY): Columbia School of Physicians and Surgeons
PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: EOE is an increasingly common clinical entity with recent prevalence of 6.4% in US adults. Its natural history is still not understood. Immune driven allergic diathesis in esophageal mucosa with a spectrum of clinical symptoms, intermittent food impaction, refractory reflux, heart burn, atypical chest pain with subtle mucosal changes to trachealisation of lumen on endoscopy. Intramucosal eosinophils of 15/hpf is the standard diagnosis. This study unravels a novel entity of LEOE with symptomatic refractory heart burn, intra epithelial eosinophil count < 10/hpf with normal luminal and mucosal structure on endoscopy.

Methods: Eighty seven (n=87) patients with GERD were recruited. Group A: 35/87(40%) Refractory Symptomatic heart burn, Group B: 30/87(34%) Non erosive Esophagitis (NERD), Group C: 22/87(25%) Non Ulcer Dyspepsia (NUD) with exclusion process, 24 hour Manometry, PH studies and GERD score mean >8, refractory to Proton Pump Inhibitors and Nortryptiline for 6 weeks. All groups underwent Pre and 3 months Post Endoscopy with Intramucosal Eosinophil, Mast cells, and CD3, CD4, CD8 counts with special Immunohistochemical stain Interleukin 5 (IL5). Serum Tryptase, IgE, Interleukin (IL5), Total Eosinophils, Skin RAST, Stool for O&P were evaluated. All withdrew from PPI and Pro-kinetics for 3 months.

Group A: Mean Intraepithelial Eosinophil (IEE) Ct (5-10; Mean 8) with total 17/35 (48%) and 12/17 (70%) IL5 stain positivity. Further randomized into: A1 9/17 (53%) IEE- treated with Budesonide 4mg liquid and A2: IEE 8/17 (47%) with Placebo.

Group B: NERD, total IEE mean 6/30 (20%) and 3/6 (50%) IL5 stain positivity. Further divided into B1- 3/6(50%) with same regiment and B2- 3/6 (50%) placebo. Group C: NUD- Mean IEE 4/22 (18%) and 1/4 (25%) IL5 stain Positivity further subdivided into C1- 2/4 (50%) treated with above regimen and C2: 2/4 (50%) placebo. Pre and Post endoscopy were all evaluated in a single center with a dedicated pathologist.

Results: Post treatment Biopsy with IL5 stain. Group A1- no IEE, Negative IL5, resolved GERD < 4 score. Group A2- IEE 5/8 (63%) Positive IL5 with GERD score 8. Group B1- no IEE with negative IL5 and GERD score <4. Group B2: 3/6 (50%) IEE with Positive IL5 and GERD score >8. Group C1- no IEE with negative IL5 and GERD score <4. Group C2-1/2 (50%) IEE with positive IL5 and GERD score >8. No side events were noted.

Conclusion: This study postulates a novel clinical entity of LEOE (Eos Count <15, range 5-10) confirmed with IL5 stain exists with RGERD. Further study to validate
AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: confusing presentation but interesting
Marcelo Vela: [No Comments]
Purpose: Prevalence of Barrett's Esophagus (BE) in western countries is between 1.6% and 6.8%, and the risk of cancer in patients with BE is approximately 0.5% per year. Familial aggregation of BE may result from complex interactions between the causal genes and risk factors aggregating within families. The aim of this study was to determine the prevalence of “Familial Barrett's Esophagus” amongst the patients undergoing radiofrequency ablation therapy for dysplastic BE.

Methods: Clinico-demographic features of consecutive patients diagnosed with dysplastic BE at our center from January 2009 to March 2013 were reviewed. Data regarding occurrence of BE or esophageal adenocarcinoma (EAC) in first and second degree relatives were abstracted to study the epidemiology of familial aggregation using a case-control design. Differences between patients with and without familial aggregation were compared using Two Sample t-test and Fisher’s exact test.

Results: Of 170 patients with confirmed tissue diagnosis of BE with dysplasia, 20 (12%) had a first degree relative, and 3 (1.77%) had a more distant relative diagnosed with BE or EAC. Comparison of patients with first degree relatives to those without demonstrated an association between female gender and familial aggregation (Table 1). However, the degree of dysplasia, short and long segment BE did not differ between the two groups (Table 1). In addition, patients with “Familial Barrett’s Esophagus” were similar to those without with respect to other clinico-demographic features (Table 1).

Conclusion: Our data shows that up to 12% of patients with dysplastic BE had positive family history for BE or EAC. Female with dysplastic BE were more likely to have “Familial Barrett's Esophagus” as opposed to men with dysplastic BE. Further longitudinal studies are required to understand natural history of BE with familial aggregation in comparison with sporadic occurrence.

Table 1: Clinico-demographic features in patients with Familial BE and non-Familial BE

<table>
<thead>
<tr>
<th>First degree relatives</th>
<th>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second degree relatives</td>
<td>.</td>
</tr>
<tr>
<td>Feature</td>
<td>- (N=150)</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Age</td>
<td>67 (59 - 74)</td>
</tr>
<tr>
<td>Females</td>
<td>25 (16.56)</td>
</tr>
<tr>
<td>Whites</td>
<td>140 (93.3)</td>
</tr>
<tr>
<td>Hispanics</td>
<td>7 (4.64)</td>
</tr>
<tr>
<td>Others</td>
<td>3 (1.9)</td>
</tr>
<tr>
<td>Smokers</td>
<td>56 (37.33)</td>
</tr>
<tr>
<td>BMI</td>
<td>28.85 (25.33 - 32.4)</td>
</tr>
<tr>
<td>BMI &gt; 35</td>
<td>7 (4.93)</td>
</tr>
<tr>
<td>Segment Length</td>
<td>4 (2-5)</td>
</tr>
<tr>
<td>Segment</td>
<td></td>
</tr>
<tr>
<td>Long Segment</td>
<td>79 (52.3)</td>
</tr>
<tr>
<td>Short Segment</td>
<td>71 (47.31)</td>
</tr>
<tr>
<td>Dysplasia Grade</td>
<td>4 (2-5)</td>
</tr>
<tr>
<td>Low</td>
<td>110 (73.3)</td>
</tr>
<tr>
<td>IM</td>
<td>2 (1.33)</td>
</tr>
<tr>
<td>High</td>
<td>38 (25.3)</td>
</tr>
<tr>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>Focal</td>
<td>29 (19.33)</td>
</tr>
<tr>
<td>Multifocal</td>
<td>121 (80.67)</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Table 1: Clinico-demographic features in patients with Familial BE and non-Familial BE  
**AVERAGE SCORE:** 4.75  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Evan Dellon: [No Comments]  
John Pandolfino: [No Comments]  
Michael Vaezi: a good study  
Marcelo Vela: [No Comments]
Purpose: The proton pump inhibitor dexlansoprazole (DEX) is a pH-dependent modified release (MR) formulation consisting of 2 types of granules within a single capsule. DEX MR is approved for use in adults for treatment of heartburn associated with symptomatic nonerosive gastroesophageal reflux disease (GERD), healing of erosive esophagitis (EE), maintenance of healed EE and relief of heartburn. The option to administer DEX MR granules mixed with liquids or soft foods is desirable for patients unable to take capsules.

The objectives were to assess the in vitro stability of DEX MR granules when mixed with liquids or soft foods and assess the bioavailability (BA) of DEX MR granules mixed with applesauce or water.

Methods: The stability of DEX MR granules in soft foods and liquids was determined by an in use stability study. DEX MR capsules were opened and granules were sprinkled on foods or mixed with liquids. After exposing the granules to foods or liquids under ambient conditions, the granules were analyzed for assay and dissolution to determine the DEX potency and the granule enteric coating integrity.

Two phase 1, randomized, single-dose, crossover studies were conducted in healthy subjects 18-55 years old. In Study 1, subjects received a single oral dose of DEX MR 90 mg as a capsule or as granules sprinkled on applesauce. In Study 2, subjects received a single oral dose of DEX MR 60 mg as a capsule or an aqueous mixture of granules administered via oral syringe or NG tube. Blood samples for determination of DEX in plasma were collected for 24 hours post-dose. Analyses of variance models were performed, and bioequivalence (BE) between an administration option and the capsule was declared if 90% confidence intervals (CIs) of central value ratios between 2 regimens for maximum plasma concentration (Cmax) and area under the curve (AUC) were contained within the 0.80-1.25 BE limits.

Results: Stability of DEX MR granules was established for at least 1 hour in liquids and soft foods ranging in pH from acidic to near neutral. DEX potency in the granules was not affected by exposing to the soft foods or liquids. The granule enteric coating integrity was well maintained.

The 90% CIs for the relative BA of DEX MR 90 mg from granules sprinkled on applesauce to that of the capsule, and the 90% CIs for the relative BA of DEX MR 60 mg from an aqueous mixture of granules to that of the capsule for Cmax and AUCs were within the 0.80-1.25 BE range.

Conclusion: Stability of DEX MR granules for 1 hour in liquids and soft foods was established. Administration of DEX MR granules mixed with applesauce or water was BE to the intact capsule. DEX MR granules in liquids or soft foods is expected to provide BA similar to the intact capsule.

CURRENT CATEGORY: A. Esophagus
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Poster Only
ACG Research Grant Support: No
Supported by Industry Grant: No
Commercial Products or Services: Yes
Initiated Research: Industry
Financial Relationships: Yes
Extra Info: : Michael Kukulka - Employee: Takeda Pharmaceuticals America, Inc.
Haiyan Grady - Employee: Takeda Pharmaceuticals America, Inc.
Richard Czerniak - Employee: Takeda Pharmaceuticals America, Inc.
Jing-tau Wu - Employee: Takeda Pharmaceuticals America, Inc.
Claudia Perez - Employee: Takeda Pharmaceuticals America, Inc.
FDA Approval: Yes
Designed Study: Industry
Abstract Author: Industry

AUTH DESIG: ACG Membership Status *:
Michael Kukulka : ACG Non-Member
Haiyan Grady : ACG Non-Member
Richard Czerniak : ACG Non-Member
Jing-tau Wu : ACG Non-Member
Maria Perez : ACG Non-Member

(No Image Selected)
(no table selected)

AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
ABSTRACT BODY:

Purpose: A decision tree models two alternative strategies for BE surveillance: 1) OE examination and biopsies; and 2) HD-WLE examination and biopsies according to standard BE surveillance protocol. The model is conducted from the payer perspective, with expected Medicare facility and physician payments serving as “base case” costs.

The following cost-influencing assumptions are made: 1) patients with true HGD/EC will have at least one physical biopsy taken during OE examination; 2) only 37% of all patients without HGD/EC will have any biopsies taken during Optical Endomicroscopy examination; 3) in the event physical biopsies are taken during OE procedures, only one biopsy jar will be required; and 4) all surveillance procedures involving HD-WLE alone will use three biopsy jars.

Methods: A decision tree models two alternative strategies for BE surveillance: 1) OE examination and biopsies; and 2) HD-WLE examination and biopsies according to standard BE surveillance protocol. The model is conducted from the payer perspective, with expected Medicare facility and physician payments serving as “base case” costs.

The following cost-influencing assumptions are made: 1) patients with true HGD/EC will have at least one physical biopsy taken during OE examination; 2) only 37% of all patients without HGD/EC will have any biopsies taken during Optical Endomicroscopy examination; 3) in the event physical biopsies are taken during OE procedures, only one biopsy jar will be required; and 4) all surveillance procedures involving HD-WLE alone will use three biopsy jars.

Results: The analysis demonstrates that use of Optical Endomicroscopy is expected to result in increased identification of patients with true HGD/EC lesions at an additional expected cost of approximately $56,000 per additional HGD/EC patient identified.

Conclusion: While the expected diagnostic costs associated with Optical Endomicroscopy are higher, each additional patient identified is able to receive earlier treatment for HGD/EC, leading to associated long-term economic and clinical benefits. Additionally, utilizing the model’s assumptions we determined that for every 286 patients screened with Optical Endomicroscopy, one additional patient with HGD/EC will be identified as compared to use of HD-WLE alone.
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice study will generate better discussion as a poster
Marcelo Vela: [No Comments]
TITLE: Hiatal Hernia and Obesity are Associated with Erosive Esophagitis in an Asian Population

PRESENTER: Mary Grace Magallen

PRESENTER (INSTITUTION ONLY): University of Santo Tomas Hospital

PRESENTER (COUNTRY ONLY): Philippines

ABSTRACT BODY:

Purpose: Several studies have reported an independent association between hiatal hernia (HH) and erosive esophagitis (EE) and presence of HH increases by threefold the risk of EE. The overall prevalence of erosive esophagitis in obese patients with HH in Western Europe and North America was around 10%-20%. Thus, this study aims to evaluate GERD patients and establish a relationship between the presence of hiatal hernia and obesity in EE patients.

Methods: Consecutive patients presenting with typical GERD symptoms, i.e., acid regurgitation, heartburn, and/or epigastric pain, were recruited from June 2012 to January 2013. The patients were assigned into 3 groups. Group A are patients with normal BMI (18.5-22.9 kg/m2), Group B are overweight (23-27.4 kg/m2), Group C are obese (>27.5 kg/m2) patients. Description of grade of erosive esophagitis was based on the Los Angeles (LA) Classification, i.e., mild LA A, moderate-severe LA B-D; and hiatal hernia was defined as part of the cardia protruding into the distal esophagus. The prevalence of hiatal hernia and severity of EE were compared between these 3 groups. The association between HH, obesity and severity of EE was determined using multivariate analysis.

Results: Of the 445 EE patients included in this study, they were classified in Group A, 116 (26%) (BMI 22.8+1.3), Group B, 98 (22%) (BMI 24.9+0.2) and Group C, 231 (51.6%) ( BMI 29.4+ 0.4) respectively. The prevalence of HH among patients with EE who have normal BMI is 20%, in the overweight is 45% and in obese 62%, p=0.001. In the patients with HH, moderate to severe erosive esophagitis (LA B-D) is noted in those who are overweight and obese compared to those with normal BMI, i.e., 33%, 69%, and 5%, respectively (OR 2.5, 95% CI 1.5-2.2, p value <0.001)

Conclusion: In the Philippines, there are a significant number of obese individuals among GERD patients with EE. The severity of EE is higher in the obese patients with HH.
Purpose: BACKGROUND: Esophageal motility and sensitivity evaluation exams are performed in patients with esophageal disorders. It is known that asymptomatic subjects might have abnormal exams. However, the data evaluating correlation between abnormal HREM and EBDT in asymptomatic subjects is scarce. AIMS: To evaluate the prevalence of abnormal esophageal function and sensitivity in the adult healthy asymptomatic population, and define the predicting factors for development of symptoms.

Methods: 44 Healthy volunteers were given a GERD symptom assessment scale (GSAS) and Esophageal Function (EF) questionnaire. Those who did not have previous episodes of dysphagia, odynophagia, or reflux were eligible to participate and underwent HRM and EBDT. The HRM protocol was done in supine head left (SHL) position. Each subject was given 10 standard liquid boluses in the SHL position. The parameters evaluated were: UES and LES pressures, integrated relaxation pressure (IRP), contractile front velocity (CFV), distal contractile integral (DCI), and intra bolus pressure (IBP). After one hour rest, each subject underwent an esophageal balloon distension exam. An esophageal manometry probe with a 5 cm long balloon and 3 water-perfused pressure sensors was placed through the mouth into the esophagus. The balloon was distended in a stepwise manner at 5 cm water pressure increments and the subject was given a sensation chart to report sensations following each level of distention. A rest period of 1-2 minutes was allowed between distentions. Data was analyzed retrospectively and compared using Fisher’s exact, Binomial exact and Wilcoxon (rank-sum) tests.

Results: 44 healthy subjects (M/F: 25/19, mean age=27 years, mean BMI=25) were evaluated. 9 subjects were excluded due to insufficient data availability. A total of 7/35 people had abnormal EF and 4/35 had an abnormal GSAS (p=0.019). 17/35 (48.5%) subjects had an abnormal EBDT (p<0.001) (Table 1). A total of 5/35 (14.2%) subjects had abnormal HRMs (p<0.001) and all of them had abnormal EBDT as well (p=0.019). Abnormal response on GSAS or EF did not predict positive EBDT or HRM (p=0.568).

Conclusion: Although esophageal motility and sensitivity evaluations are done on symptomatic subjects, abnormal exams could be seen in asymptomatic subjects. These cannot be detected with current questionnaires. Interestingly, all subjects with abnormal HRM had an abnormal EBDT. It would be interesting to know if these asymptomatic subjects with abnormal exams become symptomatic in future. We need better predictive factors for reliable diagnosis.
# Results, correlation between HRM, EBDT and questionnaires

<table>
<thead>
<tr>
<th>HRM</th>
<th>Normal</th>
<th>Abnormal</th>
<th>Positive</th>
<th>Negative</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBDT (n=35)</td>
<td>12 (70.6%)</td>
<td>5 (29.4%)</td>
<td>0 (0.0%)</td>
<td>0.019</td>
<td></td>
</tr>
<tr>
<td>GSAS or EF (n=35)</td>
<td>6 (75.0%)</td>
<td>2 (25.0%)</td>
<td>0 (0.0%)</td>
<td>0.568</td>
<td></td>
</tr>
<tr>
<td>EF (n=35)</td>
<td>25 (89.3%)</td>
<td>3 (10.7%)</td>
<td>0 (0.0%)</td>
<td>0.256</td>
<td></td>
</tr>
<tr>
<td>GSAS (n=35)</td>
<td>3 (75.0%)</td>
<td>1 (25.0%)</td>
<td>0 (0.0%)</td>
<td>0.477</td>
<td></td>
</tr>
</tbody>
</table>

## Table Title: Results, correlation between HRM, EBDT and questionnaires

## Average Score: 4.5

## Reviewer Flags: (none)

## Reviewer Recommendation Code Description: None

## Reviewer Comments:

Purpose: To assess the impact of age on frequency of peristaltic breaks and abnormalities on high resolution manometry (HRM) in patients presenting for evaluation of GERD or dysphagia.

Methods: The manometry records and charts of all patients undergoing HRM between June 2012 and May 2013 were reviewed. Patients with esophageal aperistalsis, obstructive dysphagia or fundoplication were excluded. Abnormal peristaltic breaks were defined as short (2-5 cm in length in >30% of swallows) or long (>5 cm in >20% of swallows) using 20 mmHg isobaric contour. Clinical characteristics, findings on endoscopy and video-esophagram (VE), and results of HRM were compared between patients age <70 and those who were older.

Results: There were 164 patients who underwent HRM (70 males: 94 females) with a median age of 57 years. Abnormal peristaltic breaks were found in 28 patients (17%) and were long in 10 and short in 18. There were 130 patients less than 70 years old and 34 patients 70 or older. Compared to patients under 70, those ≥ 70 were significantly more likely to have abnormal peristaltic breaks (10% versus 44%, p<0.0001). The frequency of long versus short breaks was similar in the different age groups. The majority of breaks occurred proximally in both groups (85% vs 87%, p=1). Breaks were significantly more common in elderly patients presenting for GERD evaluation [8/111 (7%) in those < 70 vs 12/28 (43%) in those ≥ 70, p<0.0001] but were similar in those with primary dysphagia symptoms [5/19 (26%) in those < 70 vs 3/6 (50%) in those ≥ 70, p=0.3]. Additional HRM, endoscopic and radiographic findings are compared in the table.

Conclusion: Abnormalities on HRM including peristaltic breaks are more common in elderly patients presenting for evaluation of GERD or dysphagia symptoms. These abnormalities are reflected in a higher frequency of impaired bolus transport on videoesophagram in these patients. This decline in esophageal body function with age did not appear to be related to the severity of GERD and should be considered when discussing treatment options and expected outcomes in patients 70 years or older.

<table>
<thead>
<tr>
<th></th>
<th>Age &lt;70</th>
<th>Age ≥70</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n= 130</td>
<td>n=34</td>
<td></td>
</tr>
<tr>
<td>Mean wave</td>
<td>80.3</td>
<td>54</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>amplitude (mmHg)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean distal contractile integral (mmHg-cm-s)</td>
<td>1210.5</td>
<td>1066.5</td>
<td>0.62</td>
</tr>
<tr>
<td>Contractile front velocity (cm/sec)</td>
<td>2.9</td>
<td>2.9</td>
<td>0.43</td>
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<td>% with any dropped/simultaneous contractions</td>
<td>50 (38%)</td>
<td>20 (59%)</td>
<td>0.05</td>
</tr>
<tr>
<td>Failed all liquid swallows on video-esophagram</td>
<td>23/107 (21%)</td>
<td>11/27 (41%)</td>
<td>0.05</td>
</tr>
<tr>
<td>Esophagitis or Barrett's on endoscopy</td>
<td>45/109 (41%)</td>
<td>9/30 (30%)</td>
<td>0.3</td>
</tr>
<tr>
<td>Defective lower esophageal sphincter</td>
<td>96/130 (74%)</td>
<td>28/34 (82%)</td>
<td>0.37</td>
</tr>
<tr>
<td>Abnormal distal acid exposure on pH monitoring Median composite DeMeester score</td>
<td>47/83 (57%)</td>
<td>10/18 (56%)</td>
<td>1</td>
</tr>
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<td>Presence of hiatal hernia</td>
<td>87/119 (73%)</td>
<td>26/31 (84%)</td>
<td>0.25</td>
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**TABLE TITLE:**

**AVERAGE SCORE:** 5.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: [No Comments]
Marcelo Vela: [No Comments]
Purpose: The goal of this study was to assess the clinical and objective findings in patients with abnormal peristaltic breaks on high resolution esophageal manometry (HRM).

Methods: The manometry records and charts of all patients undergoing HRM between June 2012 and May 2013 were reviewed. Patients with esophageal aperistalsis were excluded. Abnormal peristaltic breaks were defined as short (2-5 cm in length in >30% of swallows) or long (>5cm in >20% of swallows) using the 20 mmHg isobaric contour. Clinical symptoms, EGD, video-esophagram (VE), and esophageal function were compared in patients with and without abnormal peristaltic breaks.

Results: There were 218 patients who underwent HRM (96 males and 122 females) with a median age of 58 years (16-91). Evaluation was for GERD symptoms in 196 (90%) and a primary symptom of dysphagia in 22 (10%). Abnormal peristaltic breaks were present in 40 patients (18%). Long breaks occurred in 60% and short breaks occurred in 40%. Patients with abnormal peristaltic breaks were older (65 vs 56 years, p<0.0001) and more likely to have a primary symptom of dysphagia (20% vs 8%, p=0.03). There were fewer peristaltic contractions (7.5 vs 10, p=0.003), more simultaneous contractions (0.5 vs 0, p=0.001) and a lower mean wave amplitude (52.6 vs 84.6mmHg, p<0.0001) in patients with abnormal peristaltic breaks. Esophagitis was more common in patients with abnormal peristaltic breaks (29% vs 10%, p=0.01), and they were more likely to have incomplete bolus transport with all liquid (41% vs 23%, p=0.04) and solid (32% vs 15%, p=0.03) swallows. The location of the break was proximal in 36 and distal in 4 patients. Esophagitis was more common in patients with distal breaks (100% vs 19%, p=0.0004). The frequency of a primary symptom of dysphagia was similar between patients with proximal and distal breaks (22% vs 25%, p=1).

Conclusion: In patients with abnormal peristaltic breaks abnormalities on HRM, endoscopy and VE are commonly present. Breaks are more common in patients with a primary symptom of dysphagia, but the importance of the associated abnormalities in esophageal function as the cause of dysphagia needs further evaluation.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: I think this is the same group that discussed their findings in the elderly
a nice poster
it would have been stronger if they had just one poster
Marcelo Vela: [No Comments]
Purpose: Radio Frequency Ablation (RFA) using Halo Ablation Catheter is an increasingly used form of endoscopic treatment in patients having Barrett’s Esophagus (BE) with or without dysplasia. Most of the studies have been conducted in tertiary care centers. The aim of this study is to present our experience and success rate with this procedure in a community hospital setting.

Methods: We conducted retrospective analysis of patients undergoing RFA at our institution. A total of 24 patients underwent the procedure from a period of 2/27/09 – 4/16/13. Patients’ demographics including age, BMI, sex and race, number of RFA sessions, indications of procedure, ablation response rate and follow up rate were recorded.

Results: A total of 69 sessions were recorded for 24 patients with an average of 2.88 sessions per patient (range of 1-5). HALO\textsuperscript{360} was used for 39 sessions, HALO\textsuperscript{90} for 24 sessions and HALO\textsuperscript{90} ultra for 6 sessions. The mean age was 65 years (range of 38-90 years); mean BMI of 26.5; 19 males, 5 females and all were Caucasians. 19 patients had long segment BE (LSBE) while 5 had short segment BE (SSBE) with a mean length of 6.25 cm (range of 2-12 cm).

The indications for RFA included presence of dysplasia with BE and LSBE. Pre-RFA, 5 patients had BE indefinite for dysplasia, 2 had low grade dysplasia (LGD), 1 had high grade dysplasia (HGD) and 1 had intramucosal adenocarcinoma making a total of 9 patients with dysplasia. Of these 9 patients 8 had complete eradication of dysplasia on subsequent biopsies (89%). One of those had re-appearance of dysplasia after 40 months, while one patient had endoscopic resolution of BE but biopsy showed presence of dysplasia.

Patients were followed up after the RFA sessions. 11 patients have completed a follow up of at least 1 year, 9 patients had at least 1 follow up exam after their last RFA session and are not due for another one as of now, and 3 patients did not follow up, while 1 patient died of other causes.

Success of RFA was defined as complete response, ablation of intestinal metaplasia (CR) at 1 year biopsy or BE not visible under narrow band imaging on endoscopy (ER) or decrease in severity of BE with conversion from LSBE to SSBE. 22/24 (92%) patients had success with RFA. 5 patients had CR, 8 had ER while 9 had decrease severity. These results are different from other published studies where patient population undergoing RFA was specific and did not include all patients with BE.

Conclusion: RFA shows high response rates for patients with BE with or without dysplasia and decreases severity and length of BE in almost all cases. This is an ongoing and continuous process and all patients must be followed longitudinally as evidenced by recurrence of dysplasia in one patient in our study.
AVERAGE SCORE: 6.5

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Low Dose Aspirin Does Not Affect Outcomes from Radiofrequency Ablation for Barrett’s Esophagus

Daniel Chan

Mayo Clinic

United States

Purpose: Aspirin (ASA) may modulate inflammatory processes in the development of adenocarcinoma in Barrett’s esophagus (BE). In this study, we evaluate the effect of low-dose ASA (81mg) in patients undergoing radiofrequency ablation (RFA) for BE complicated by dysplasia.

Methods: We performed a retrospective analysis of patients who underwent RFA for BE with high grade dysplasia/intramucosal adenocarcinoma at a tertiary referral center from Jan. 2003 to Jun. 2013. We extracted patient demographics including age, gender, BMI, smoking history, non-ASA NSAID use and proton-pump inhibitor use. Endoscopy reports were reviewed for diaphragmatic hernia size and length of BE segment. We analyzed low-dose ASA use and duration prior to RFA. ASA use was evaluated with respect to complete remission of dysplasia (CRD) and intestinal metaplasia (CRIM), defined as the absence of dysplasia and intestinal metaplasia respectively after two consecutive endoscopies with biopsies. We compared patient and endoscopic characteristics between ASA and non-ASA users and their proportion of CRIM/CRD outcomes.

Results: The study included a total of 162 patients of which 64 (40%) were low-dose ASA users with a mean (SD) duration of 21 (26) months prior to RFA. There was no difference in baseline characteristics between ASA and non-ASA users. 160 patients (99%) were on proton-pump inhibitor therapy while undergoing RFA. There was no difference in the proportion of patients who achieved CRIM between ASA (59%) and non-ASA users (59%), (p=0.98). 83% of ASA users and 71% of non-ASA users achieved CRD with no statistical difference between groups, (p=0.10). There was no difference in time to achieve CRIM between groups (Figure 1). The rate of adverse events including stricture formation was low with no difference between groups, (p=0.15).

Conclusion: In this cohort of BE patients treated with RFA, there was no difference in the proportion of patients achieving CRIM between low-dose ASA and non-ASA users. Though we were not powered to detect small differences in outcome, it is unlikely that there are large differences with low-dose ASA. The use of low-dose ASA appears to be safe in patients undergoing ablative therapy. The effect of full dose (325 mg) ASA remains to be explored for therapeutic benefit.
Figure 1: Time to CRIM between low-dose ASA and non-ASA users

**IMAGE CAPTION:** Figure 1: Time to CRIM between low-dose ASA and non-ASA users

(no table selected)

**AVERAGE SCORE:** 3.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice study
Marcelo Vela: [No Comments]
Purpose: Intestinal metaplasia (IM) of the stomach is a significant risk factor in developing intestinal type gastric cancer. IM has been linked to H. Pylori infection and there has been emerging evidence that IM may be reversible with eradication of H. Pylori. In this study, we investigated if the IM- H. Pylori association exists in minority patients. One focus was looking for other predictors of IM in this population.

Methods: Charts of all adult patients who underwent upper endoscopy with biopsy at our medical center in a two year period were reviewed. Data about demographics, endoscopic, and histological findings were collected and analyzed. The presence of H. Pylori infection was based on the immunohistopathological analysis of the biopsy samples. SAS software was used for statistical analysis.

Results: Our cohort included 970 patients (37% males and 63% females). African American, Hispanics, and Asian Americans represented 52.5%, 28.3%, and 3.8% of the study population, respectively. The mean age was 59.1 (SD 17.1). The prevalence of H. Pylori and gastric intestinal metaplasia were 24.64% and 11.6%, respectively. On a univariate analysis, gastric IM in patients with H. Pylori infection was 18% in comparison to 7% in non-infected patients (P 0.0002). IM was also significantly associated with aging (6% in >65 years, 3% in 50-65 years, 2% in <50 years, P <0.0001). There was no association found between IM and race or gender. On a multivariate logistic regression analysis, H. Pylori infection and age more than 65 years retained significance in association with IM (OR 2.2 (1.4-3.3) and OR 2.3 (1.3-3.9), respectively).

Conclusion: Gastric IM is relatively common among minority patients. H. Pylori infection and aging are independent predictors of developing IM in this population. Further studies are warranted to elucidate the mechanism behind these findings.

CURRENT CATEGORY: A. Esophagus
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>:
Manhal Olaywi : ACG Member
Anju Malieckal : ACG Member
Sofia Nigar : ACG Member
Venkatasrihari Buddhavarapu : ACG Non-Member
Devin Lane : ACG Non-Member
Faraj Kargoli : ACG Non-Member
Sury Anand : ACG Non-Member
(No Image Selected)
(no table selected)
AVERAGE SCORE: 5.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: wrong section
a nice poster
Marcelo Vela: [No Comments]
Is Pneumatic Balloon Dilation Useful for Refractory Dysphagia Following Cardiomyotomy & Fundoplication for Achalasia

Preparer: Askin Erdogan
Preparer Institution: Georgia Regents University
Preparer Country: United States

Abstract Body:

Purpose: Dysphagia recurs following successful cardiomyotomy and fundoplication in 10% of patients. Whether impaired peristalsis, incomplete myotomy or changes from fundoplication leads to functional obstruction is unclear. Bougie dilations are performed with variable results. How useful is pneumatic dilation is unclear.

Methods: 5 patients with 3-20 year history following cardiomyotomy (2-open, 3-laparoscopic) and fundoplication for achalasia participated. For demographics see table. Dysphagia recurred 1-15 years later and treated with Savary or balloon dilations with poor response. All subjects underwent high resolution manometry, barium swallow and endoscopy (Table 1). Secondary achalasia was excluded. Structured questionnaire assessed heart burn, dysphagia/odynophagia, chest pain before and 6 weeks after procedure. All 5 patients underwent pneumatic balloon dilation with 30 mm balloon (3 subjects) and 30/35 mm balloons (2 subjects). The dilation was held for 1 minute and waist obliteration was seen with fluoroscopy. Follow up, 6 weeks-1 year.

Results: All had persistent symptoms with significant dysphagia and weight loss. Manometry showed features of functional esophago-gastric obstruction with high IRP and IBP, impaired peristalsis and a non-relaxing high pressure zone (HPZ) secondary to fundoplication wrap. LES pressures were usually normal. Pneumatic dilation was well tolerated with no serious adverse events. Esophageal symptoms scores improved significantly after dilation at follow up (Table 2).

Conclusion: Functional obstruction at EG junction most likely secondary to fundoplication appears to be a key mechanism for dysphagia together with impaired peristalsis. Pneumatic balloon dilation appears to be safe and effective and should be considered if routine bougie dilation fails.

Current Category: A. Esophagus
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 DESIG: ACG Membership Status <font color="red">*</font>
Satish Rao : ACG Member
Askin Erdogan : ACG Non-Member
Arie Mack : ACG Non-Member
Erick Singh : ACG Member
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Table 2

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Before and After comparison of symptoms before and after treatment.
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TABLE TITLE: Table 1
Table 2
AVERAGE SCORE: 5.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
ABSTRACT BODY:

**Purpose:** The aim of this study is to evaluate the demographics and characteristics of women with Barrett’s esophagus (BE) and compare this data to men and to identify possible risk factors that may be associated with a higher rate of dysplasia and esophageal adenocarcinoma (EAC) progression rate in BE patients.

**Methods:** The study population was collected from the database at Ochsner Clinic that had BE between the period of 1990-2012. These records were reviewed to obtain age, gender, race, length of BE, hiatal hernia presence and size, BMI, smoking, GERD, esophagitis, alcohol use, anxiety and/or depression history. Subjects with high grade dysplasia (HGD) or EAC confirmed by two expert pathologists found at index endoscopy or during the first year of diagnosis of BE were considered prevalence cases. Incidence cases were considered if the subjects were found with HGD/EAC after 1 year of index endoscopy during surveillance.

**Results:** From 495 BE patients, 329 (66%) men and 166 (34%) women, and 90% was caucasian. HGD incidence for women was 0.6 % vs 2.7% men. Prevalence was 0.6% women vs. 12% men. EAC incidence was men 2.4% vs. women 0.6%, and 13% men vs. 3% women for prevalence (p=0.001). Thirty five percent of patients possessed long segment BE (LSBE) and 65% had short segment BE (SSBE). Twenty-two percent of women had LSBE vs. 42% of men, p = <0.001. LSBE vs. SSBE had higher percentages of HGD 6% vs. 1% and EAC 18% vs. 5%, respectively for prevalence, and HGD 5% vs. 1% and EAC 5% vs. 0.3%, for incidence, P = <0.001. Overall, men had larger hiatal hernias vs. women, P = 0.004. For BMI, incidence cases of HGD had a higher mean BMI (34 ±13) than prevalence cases BMI (27±6), p = 0.0489. EAC in smokers, prevalence was higher than incidence, 33 patients vs 6 patients, P = 0.002, and prevalence for smokers was higher than non smokers, 14% vs. 5%. There was no statistically significant difference seen at incidence vs. prevalence of HGD/EAD in reference to hiatal hernia size, esophagitis, GERD, alcohol, and anxiety and/or depression. Esophagitis and anxiety and/or depression were found in a greater percentage of women. Average BMI showed no significant difference between men and women.

**Conclusion:** Men outnumbered women with BE by a ratio of 3:1, and men were twice as likely to have LSBE. LSBE was associated with a greater incidence and prevalence of HGD/EAC. Higher mean BMI was associated with a greater number of incidence cases of HGD compared to prevalence cases. There was a substantially higher incidence and prevalence of HGD/EAC in men compared to women. This study elucidates the diversity of risk factors/associations that are present in the BE population, and the dynamic interplay involved that influences neoplastic progression.
AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
Purpose: The aim of this open-label extension trial was to study long-term (2-year) safety and efficacy of LES-EST in GERD patients.

Methods: We studied GERD patients at least partially responsive to PPI and had off-PPI GERD-HRQL>20, %24-hour esophageal pH<4.0 for >5%, hiatal hernia <3cm and esophagitis < LA Grade-C. Bipolar stitch electrodes and an implantable pulse generator (EndoStim BV, the Hague, Netherlands) was laparoscopically implanted. EST at 20Hz, 220usec, 3-8mAm in 6-12, 30 minute sessions was delivered. Patients were evaluated using GERD-HRQL, symptom-diaries, SF-12 and esophageal pH-testing. Stimulation sessions were optimized based on residual symptoms and esophageal pH at follow-up.

Results: Twenty-five patients (mean(SD) age= 53(12)years; men=14) were successfully implanted; 23 participated in the 2-year extension trial and 21 completed their 2-year evaluation. At 2-years, there was a significant improvement in their median GERD-HRQL on LES-EST compared to both their on-PPI (9 vs. 0, p=0.001) and off-PPI (23.5 vs. 0, p<0.001) scores. Median 24-hour distal esophageal pH improved from 10.1% at baseline to 4.7% (ITT analysis; p<0.001) and 4.1% (per-protocol analysis, p<0.001) at 2-years; 71% reported either normalization or >50% reduction in their esophageal pH. All except four patients reported complete cessation of PPI use.

Over 2-years, 44 adverse events in 16 subjects were reported. There was 1 serious event –planned thyroid surgery –NOT device or procedure related . Of 43 non-serious events, 37 were not, 5 were possible/probably and 1 was definite device/procedure related. There were no unanticipated implantation- or stimulation-related adverse events, or untoward sensation due to stimulation. There was no new dysphagia reported with LES-EST and swallowing function assessed by HRM was also unaffected.

Conclusion: LES-EST is safe and effective for treating GERD over long-term 2 year duration. There was a significant and sustained improvement in GERD symptoms, esophageal pH and elimination in PPI use. Further, LES-EST was not associated with any GI side-effects or adverse events and can be optimized to individual patient needs.
Michael Crowell: ACG Member
Edy Soffer: ACG Member

AVERAGE SCORE: 3.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: novel device
I like it and may generate some discussion
Marcelo Vela: [No Comments]
Purpose: Previous single-center trial showed that LES-EST significantly improved long-term outcomes in GERD. The aim of this ongoing international multicenter trial is to evaluate the safety and efficacy of LES-EST in refractory GERD patients treated by multiple operators.

Methods: GERD patients partially-responsive to PPI with off-PPI GERD HRQL >20 and >5 point improvement on-PPI, LES end-expiratory pressures of >5 mmHg, % 24-hour esophageal pH<4 for >5%, hiatal hernia < 3cm and esophagitis <LA Grade-C were included. Bipolar stitch electrodes and a pulse generator (EndoStim BV, Hague, Netherland) were implanted. EST at 20 Hz, 220usec, 5mAmp was delivered in12, 30 minute sessions . Patients are evaluated at regular intervals. Stimulation sessions are optimized based on residual symptoms and esophageal pH at follow-up.

Results: Twenty-five patients (median age 52.5; men=14) have been enrolled and implanted to-date. One patient had small-bowel trocar perforation during the implant procedure that was successfully repaired and device prophylactically removed. The remaining 24 patients are continuing with the LES-EST; 20 patients have completed their 3 month and 17 their 6 month evaluation. The median (IQR) off-PPI GERD-HRQL scores at baseline were 32 (26.5-37.0), which improved to 4.0 (3.5-10.3; p<0.001) on EST at months 3, and 5.0 (3.0-9.0; p<0.001) at month 6. There was significant improvement in GERD-HRQL at both month 3 and 6 compared to their baseline on-PPI GERD-HRQL scores of 16.5 (8.8-22.0; p<0.01). Patients' median esophageal pH at baseline was 11.8% (8.9-15.1) which improved to 3.6% (2.7-12.0; p<0.001) at 3 and 3.5% (2.4-6.8; p<0.001) at 6 months; 88% (15/17) of patients at 6 months reported being able to discontinue ALL PPI medication with one patient using PPI <50% of diary-days. Fifty AEs in 17 patients were reported. Two SAE (trocar perforation and AV nodal reentrant tachycardia - not device or procedure related- successfully ablated) were reported; 48 non-serious events include 26 possible/probable device or procedure, and one definite procedure related. There were 2 instances of mild, transient dysphagia in 9/24 patients undergoing hiatus closure at the time of device implant, both resolved within 4 weeks without intervention. There were no stimulation-related GI side effects or sensations reported.

Conclusion: Interim results show that LES-EST is effective in treating refractory GERD. There was a significant improvement in patients’ esophageal pH, GERD symptoms, and elimination of PPI usage. LES-EST was safe with no GI side-effects. Long-term results in a larger group of patients are being collected.
Alex Escalona: ACG Non-Member
Jose Conchillo: ACG Non-Member
Michael Booth: ACG Non-Member
Jelle Ruurda: ACG Non-Member
Justin Wu: ACG Non-Member
D. Reddy: ACG Non-Member
Edy Soffer: ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 2.75

**REVIEWER FLAGS:** Evan Dellon - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: same group as the one before
I think they should combine data and present as one orally
Marcelo Vela: [No Comments]
Purpose: There are few data comparing the efficacy of porfimer sodium photodynamic therapy (Ps-PDT) and radiofrequency ablation (RFA) in achieving complete remission of intestinal metaplasia (CRIM) or dysplasia (CRD). The aim of this study was to highlight the differences in time to CRIM and time to CRD among patient treated with Ps-PDT compared to RFA.

Methods: This was a retrospective, observational study of patients with BE (+/- dysplasia) treated at a tertiary care center with Ps-PDT or RFA. Information of interest was collected regarding baseline characteristics (age, gender, race, history of smoking, histology, previous statin use, previous NSAID use, previous treatments [EMR, PDT, RFA, APC], length of Barrett’s segment), and follow-up characteristics (date of follow-up visit, procedures performed, biopsy results, complications). The primary endpoint of this study was the occurrence of the first normal biopsy after starting treatment with either RFA or Ps-PDT (CRIM). We used Kaplan-Meier analysis, Wilcoxon rank sum test and Cox proportional hazards regression models to compare and assess time to CRIM and CRD.

Results: A total of 233 patients were included in this study. Of those, 103 patients had RFA while 130 patients had Ps-PDT between August 2001 and June 2012. The median follow-up time after first Ps-PDT or RFA treatment was 14.3 months. Patients who underwent RFA were younger (median age 65 years vs. 71 years, p<0.001) and less likely to have a history of smoking (67% vs. 82%, p=0.017). There was no difference in other variables between both groups. Median time to CRIM was 8.8 months in patients with RFA compared to 2.3 months in patients with Ps-PDT. Patients who were treated with Ps-PDT were more likely to experience a normal biopsy than patients who were treated with RFA (RR: 2.42, P<0.001), and this result remained consistent in multivariable analysis (RR: 2.67, P<0.001). Kaplan-Meier cumulative incidences CRIM are shown in Figure 1 for RFA patients and Ps-PDT patients separately.

Conclusion: When treating patient with BE +/- dysplasia, the rate of CRIM is higher in patients treated with Ps-PDT compared to RFA, when controlling for patient age, gender, baseline histology, BE length, use of statins and NSAIDs. Head to head studies may be needed to better quantify this difference and its potential implications.
Herbert Wolfsen : ACG Member

**IMAGE CAPTION:**
(no table selected)

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
Obesity a Risk Factor in Gastroesophageal Reflux Disease in an Asian Population

Mary Grace Magallen

University of Santo Tomas Hospital, Philippines

Abstract Body:

Purpose: Over the past years, studies have pointed out the connection between the increasing number of people suffering from acid reflux symptoms and the spreading obesity epidemic. More than one-third of U.S. adults (35.7%) are obese (CDC data). In 1998, using the non-adjusted BMI guidelines for Asians, the WHO Global Database on BMI reports overweight and obesity in the Philippines at 23.5%. In 2003, the Philippine National Nutritional Health Evaluation and Survey showed that there are 19.6% overweight and 4.9% obese Filipinos. In the Philippines, the relationship between excessive body weight and GERD is not well established. This study aims to evaluate the relationship of obesity and severity of esophagitis in GERD patients.

Methods: Consecutive patients presenting with typical GERD symptoms, i.e., acid regurgitation, heartburn, and/or epigastric pain, were recruited from June 2012 to January 2013. Demographic and clinical data were collected. We used the 2004, WHO new BMI classification intended for Asian population (normal 18.5-22.9 kg/m2, overweight 23-27.4 kg/m2, obese I 27.5-32.5 kg/m2, obese II 32.6-37.5 kg/m2). Description of grade of erosive esophagitis (EE) was based on the Los Angeles (LA) Classification, i.e., LA A, LA B and LA C. The prevalence and association of obesity and severity of EE were compared.

Results: Of the 445 GERD patients included in this study, patients were classified in Group A, 116 (26%), normal (BMI 22.8+1.3); Group B, 98 (22%), overweight (BMI 24.9+0.2); Group C, 166 (37%) obese I (BMI 27.9 + 1.7) and Group D, 65 (14.6%) obese II (BMI 32.9+0.8). Cross group differences were detected for the severity of EE LA class A, for those with normal BMI is 18%, in overweight is 23%, in obese I is 55% and 59% for obese II (p=0.000). Severity of EE LA class B, normal BMI is 11%, in overweight individuals is 25%, in obese I is 57% and in obese II is 59% (p=0.010). For the severity of EE LA class C, those with normal BMI 1%, in overweight is 28%, in obese I is 55% and for obese II is 54%, p= 0.04). The extents of oesophageal mucosal breaks were more severe in obese patients p=<001. Obesity is a significant risk factor for EE (OR 2.9, 1.4-2.3 p= <0.001).

Conclusion: Obesity is a strong independent risk factor of EE in GERD patients. The severity of EE is much higher in obese patients.
Purpose: Experimental data suggest neoplasia may be detected distantly due to epigenetic alterations of adjacent normal tissues (carcinogenesis field effect). This novel fiber-optic probe combines polarization-gating and spectral analysis to depth-selectively quantify the structural and functional tissue properties. The aim of this single center, prospective study was to determine if Barrett’s metaplasia and neoplasia can be detected by PGS measurements taken within the field of a given lesion.

Methods: This IRB approved study was performed at Mayo Clinic Florida in BE patients and normal controls undergoing endoscopy using an optical probe to obtain 6 spectral measurements from the buccal mucosa, esophagus (normal squamous and BE mucosa) and cardia before biopsy. Spectra were correlated with histology using area under the curve algorithms and comparative analysis between controls, BE dysplasia and BE without dysplasia.

Results: 61 patients were enrolled in the study (20 women, median age 67 years, range 33-86) with 17 normal controls, 44 BE patients (19 long segments; 25 IM, 8 LGD, 5 HGD, 6 Ca) with spectral analysis in Figs. 1 & 2.

Conclusion: PGS was used to detect significantly abnormal tissue architecture in BE patients with dysplasia and neoplasia. Significant increases in the depolarization ratio were detected both in the squamous mucosa of the distal esophagus and within the BE segment. These findings support further studies for remote detection of BE dysplasia and neoplasia based on the field carcinogenesis concept.

Figure 1: Significant differences were found in the depolarization ratio (d) obtained from within BE segments in patients with associated dysplasia and neoplasia. In addition, significant differences in the depolarization were also found in spectra obtained from distal esophageal...
squamous mucosa in normal control patients, BE metaplasia and BE dysplasia patients (data not shown).

**IMAGE CAPTION:** Figure 1: Significant differences were found in the depolarization ratio (d) obtained from within BE segments in patients with associated dysplasia and neoplasia.

In addition, significant differences in the depolarization were also found in spectra obtained from distal esophageal squamous mucosa in normal control patients, BE metaplasia and BE dysplasia patients (data not shown).

(no table selected)

**AVERAGE SCORE:** 4.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice technology
Marcelo Vela: [No Comments]
ABSTRACT BODY:
Purpose: The purpose was to test the hypothesis that patients with major motility abnormalities exhibit significantly lower DBI values on esophageal impedance manometry when compared to other patients with dysphagia and to establish a DBI value that yields the highest sensitivity/specificity for a diagnosis to ultimately direct clinical management.

Methods: Using retrospective analysis, receiver operating characteristic (ROC) curves were plotted comparing DBI values among 300 consecutive patients with a range of esophageal diagnoses, but all complaining of dysphagia. DBI is measured in ohms as an average of values from 5 & 10 cm above LES. The primary comparison was between all patients diagnosed with a major motility abnormality (MMA) on esophageal manometry (achalasia, scleroderma esophagus, severe ineffective esophageal motility) and all other patients with a chief complaint of dysphagia. The ROC curves were then used to define DBI cut-off values to yield a diagnostic specificity of ≥95%. Other comparisons included MMA versus normal manometry and MMA versus all other diagnoses including moderate IEM, mild IEM, nutcracker esophagus and diffuse esophageal spasm.

Results: Among 300 consecutive patients undergoing esophageal manometry for dysphagia, the following diagnoses were made: 96 normal manometry, 7 scleroderma esophagus, 46 achalasia, 37 severe IEM, 7 moderate IEM, 5 mild IEM, 13 nutcracker esophagus, 8 diffuse esophageal spasm, and 81 with mixed features of two or more MMAs. An ROC curve comparing MMA patients with all other diagnoses showed that at a DBI value of ≤634Ω there was a sensitivity of 45.56% and a specificity of 95.24% for the diagnosis of MMA.

Conclusion: The results of this study further reinforced the current belief that distal baseline impedance is often significantly lower in patients with major esophageal motility abnormalities. Moreover, we found that a DBI value of ≤634Ω yielded 95.24% specificity for the diagnosis of MMA. Therefore, DBI appears to be a valuable diagnostic aid in the diagnosis of a major motility abnormality when esophageal manometry findings are indeterminate.

CURRENT CATEGORY: A. Esophagus
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>
Matthew Mason : ACG Non-Member
Erik Person : ACG Member
Donald Castell : ACG Member

*Includes the following observed diagnoses: normal manometry, Moderate IEM, Mild IEM, nutcracker esophagus, and diffuse esophageal spasm.
AVERAGE SCORE: 4.25

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Purpose: Majority of patients with chronic symptoms of gastroesophageal reflux disease (GERD) are likely to never develop endoscopic esophagitis. This patient’s population is known under acronym NERD, i.e. negative endoscopically reflux disease. On the other side of the wide GERD spectrum, there is a small subpopulation evolving into Barrett’s esophagus (BE) dysplasia and adenocarcinoma. Prostaglandin E2 generated through the cyclooxygenase I (COX-I) pathway is protective towards the columnar epithelium, however, its very high levels elaborated by COX-II seem to promote the malignant potential within the intestinal metaplasia (Lewis et al. Surg. Endosc., 2011). Little is known, however, regarding the rate of luminal release of PGE2 in patients with BE as compared to subjects with NERD. The following specific aims were designated to our study protocol: 1. To measure the rate of PGE2 generation in esophageal secretion in patients with BE. 2. To compare obtained results with corresponding values recorded in NERD patients.

Methods: The study, approved by IRB, was conducted in 10 patients with the long segment (>3cm) of BE (2F & 8M, mean age of 49, 30-69 range) and in 10 patients with a long history of NERD (4F & 6M, mean age of 40, 27-64 range). The esophageal secretions from the mucosa and submucosal mucous glands were collected during mucosal exposure to initial NaCl followed by HCl/Pepsin (HCl/P) and final saline, mimicking the natural gastroesophageal reflux scenario, using a specially designed esophageal perfusion catheter (Wilson Cook Med. NC). In collected samples PGE2 was measured using RIA (Amersham, MA). Statistical analysis was performed using Σ-Stat (SPSS, IL).

Results: The basal rate of esophageal PGE2 secretion in patients with BE during exposure to saline was (Mean, ±SEM) 7.2-fold higher than in patients with NERD (9622 ±4164 vs. 1332 ±441 pg/min, P<0.01). Furthermore, the rate of esophageal PGE2 secretion in BE patients remained also 5.8-fold higher than in NERD patients during exposure to HCl/P (4030 ±1748 vs. 695 ±203 pg/min, P<0.05). Esophageal PGE2 secretion in BE patients remained also 10.4-fold higher than in NERD patients during the ending mucosal perfusion with saline (5716 ±2656 vs. 551±180 pg/min, P<0.05).

Conclusion: 1. Profoundly lower rate of esophageal PGE2 generation in patients with NERD confirms that equilibrium between aggressive factors and protective mechanisms within the esophageal squamous mucosa is well preserved. 2. Several fold higher rate of esophageal PGE2 secretion in BE may imply that the development of the columnar epithelium of BE could potentially be driven by excessive generation of prostaglandins in mucosal inflammatory changes, potentially setting the stage for further complications.
AVERAGE SCORE: 3.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: The purpose of this study was to determine if preprandial reflux is correlated to total reflux during a prolonged multichannel intraluminal impedance study.

Methods: We analyzed 158 twenty-four hour impedance and pH studies from a prospectively maintained database of patients with symptomatic reflux and compared the preprandial reflux, defined as any reflux episodes before the first meal, to the total number of reflux episodes in the study. All reflux episodes were calculated as a frequency per minute to account for differences in time before first meal and total study length. Symptom correlation as well as medical therapy were also noted. Patients with previous esophageal surgery as well as patients with low distal baseline impedance were excluded.

Results: Of the 158 patients, there was a correlation coefficient of 0.57 between preprandial reflux frequency and total reflux frequency. The median number of preprandial reflux episodes per minute was 0.39, with a mean of 0.74 and a standard deviation of 0.98. Six data values outside of two standard deviations of the mean were excluded. Median number of total reflux episodes per minute was 0.031 with a mean of 0.035 and a standard deviation of 0.02513.

Conclusion: There is a moderate correlation between preprandial reflux and total reflux frequency. Implications for this data could include decreasing prolonged multichannel intraluminal impedance study lengths, which would decrease patient discomfort and may increase testing availability to a larger patient population.

Figure 1: Linear correlation comparing preprandial reflux frequency to 24 hour total study reflux frequency. R=.57, p<.001

IMAGE CAPTION: Figure 1: Linear correlation comparing preprandial reflux frequency to 24 hour total study reflux frequency. R=.57, p<.001
AVERAGE SCORE: 6.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
ABSTRACT BODY:

Purpose: Helicobacter pylori (H. pylori) infection is a pandemic disease; about 70% of the developing world population and 40% of the US population harbor this bacteria as per the CDC. H. Pylori has been implicated in the development of peptic ulcer disease and less frequently, gastric malignancy namely adenocarcinoma and lymphoma of the gastric-mucosa-associated lymphoid tissue. Due to the serious consequences of this common infection and the lack of studies addressing H. Pylori prevalence among minority patients, we aimed to investigate the prevalence of this infection in a downtown Brooklyn population. One of the most diverse urban populations in the country.

Methods: Charts of all adult patients who underwent upper endoscopy with biopsy at our medical center in two years period were reviewed. Data about demographics, endoscopic, and histological findings were collected and analyzed. The presence of H. Pylori infection was based on the immunohistopathological analysis of the biopsy samples. SAS software was used for statistical analysis.

Results: Our cohort included 970 patients (37% males and 63% females). African American and Hispanics represented 52.5% and 28.3% of the study population, respectively. The prevalence of H. Pylori was 24.64%. There was no association found between H. Pylori prevalence and age, race, or sex (P 0.16, P 0.52, and P 0.87, respectively). Peptic ulcer disease was found in 11.5% of our cohort which was significantly associated with H. Pylori (16.3% vs 9.9% in non-infected patients, P 0.007). Gastric intestinal metaplasia (in 11.6% of the patients) was also associated with H. Pylori infection (18.4% vs 9.4% in non-infected patients, P 0.0002).

Conclusion: H. Pylori prevalence among the downtown Brooklyn population is lower than the national average reported by CDC and even lower than any North American population reported in the literature. The environmental, bacteriological and host factors behind these findings need to be evaluated.

CURRENT CATEGORY: A. Esophagus
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
Anju Malieckal : ACG Member
Manhal Olaywi : ACG Member
Sofia Nigar : ACG Member
Venkatasrihari Buddhavarapu : ACG Non-Member
Devin Lane : ACG Non-Member
Faraj Kargoli : ACG Non-Member
Kinesh Changela : ACG Non-Member
Sury Anand : ACG Non-Member
(No Image Selected)
(no table selected)

AVERAGE SCORE: 6.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: me too study
Marcelo Vela: [No Comments]
Purpose: The frequency and clinical significance of heterotopic gastric mucosa in the upper esophagus, also called inlet patch, is not known. It is thought to result in acid production causing GERD. Many histologic changes have been described in the esophageal squamous mucosa in patients with GERD such as balloon cells, basal cell hyperplasia, and intraepithelial eosinophils. The aim of this study was to assess if there were any histologic changes in esophageal squamous mucosa surrounding inlet patches as well as in the upper gastrointestinal tract.

Methods: Patients from 2/2012 to 5/2013 were identified who by endoscopic appearance had an inlet patch. Biopsies were obtained from the inlet patch as well as from esophageal mucosa surrounding the inlet patch. The mucosa surrounding the inlet patch was evaluated for the presence or absence of 8 previously reported reflux-associated histologic changes including dilated intercellular spaces, balloon cells, intrapapillary vessel dilation, elongated papillae, basal cell hyperplasia, acanthosis, intraepithelial eosinophils, and Langerhans cells. Use of proton pump inhibitors, presence of hiatal hernia, reflux esophagitis, Barrett's esophagus, Helicobacter pylori were also noted.

Results: 13 patients were identified. Baseline characteristics: mean age 54 (32-69), gender 12 males: 1 female, nearly all were Caucasian, majority reported heartburn (70%). All heterotopic gastric mucosas were oxyntic type on histologic analysis. All esophageal biopsies of mucosa surrounding the inlet patches revealed normal esophageal squamous mucosa. All 8 histologic markers for GERD were absent. 5/13 had evidence of Barrett's esophagus, 2/13 had H. pylori, 7/13 had hiatal hernia on endoscopic evaluation, 1/13 had reflux esophagitis, and 8/13 were on proton pump inhibitor prior to endoscopy.

Conclusion: Although heterotopic gastric mucosas in the esophagus are thought to produce reflux-like symptoms, there were no histopathological changes consistent with GERD identified in mucosa surrounding the inlet patch in our small pilot study. This may be attributed to the large portion of patients on acid suppression medication prior to endoscopy.
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: very nice
Marcelo Vela: [No Comments]
ABSTRACT BODY:

**Purpose:** The incidence of esophageal adenocarcinoma (EA) continues to rise in the United States. Barrett’s Esophagus (BE) is a major precursor of esophageal adenocarcinoma. Dysplasia is harbored in the Barrett’s mucosa, and is the premalignant lesion for EA. Multiple modalities are available for the treatment of BE with dysplasia. Our aim was to compare radiofrequency ablation (RFA) and cryotherapy for the treatment of BE with dysplasia.

**Methods:**

We reviewed 40 patients who underwent treatment of BE with either RFA or cryotherapy at a community practice. Procedure reports, pathology, and visit notes were reviewed from the charts and data was collected. Specifically number of treatments, length of the initial tongue, whether or not there was evidence of loss of dysplasia and intestinal metaplasia, decrease in surface area, resolution of mucosal tongue, and Prague classification were all collected for each patient.

**Results:** Of the 40 patients that were included in the review, 27 had undergone treatment for Barrett’s with RFA, and 13 with cryotherapy. All 40 patients, treated with either modality, successfully lost dysplasia and surface area of the Barrett’s epithelium. The average number of treatments required with RFA was 3.3 compared to 3.15 with cryotherapy. The starting length of the Barrett's epithelium was 4.48cm in the RFA group vs. 3.15cm in the cryotherapy group. Of the 27 patients in the RFA group, 12 of them (44.4%) lost histologic evidence of intestinal metaplasia compared to 6 of the 13 (46.1%) in the cryotherapy group. Of the 27 patients in the RFA group, 18 of them (66.7%) had complete resolution of the mucosal tongue compared to 8 of the 13 (61.5%) in the cryotherapy group. Of the 27 patients treated with RFA there were 2 patients with a very mild stenosis observed, and 1 episode of vocal cord trauma related to anesthesia. Of the 13 patients treated with cryotherapy, 1 patient had a clinically significant GI bleed requiring intervention.

**Conclusion:** Both radiofrequency ablation and cryotherapy were equally effective in decreasing surface area of Barrett’s epithelium and eradicating both intestinal metaplasia and dysplasia. Given the increasing incidence of esophageal adenocarcinoma, randomized prospective studies should be considered to further evaluate the effectiveness of the available treatment modalities.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
**TITLE:** Wide Area Transepithelial Sampling (WATS$^{3D}$) Improves Detection Of Residual Or Recurrent Intestinal Metaplasia Within The Tubular Esophagus And Squamocolumnar Junction

**PRESENTER:** Michael Smith

**PRESENTER (INSTITUTION ONLY):** Temple University School of Medicine

**PRESENTER (COUNTRY ONLY):** United States

**ABSTRACT BODY:**

**Purpose:** Barrett's esophagus (BE) is a pre-malignant condition defined as the presence of specialized intestinal metaplasia (IM) in the tubular esophagus. Radiofrequency ablation (RFA) and liquid nitrogen spray therapy (LN2SC) are used for endoscopic eradication of BE. Post-eradication surveillance endoscopy with biopsy is used to detect residual or recurrent intestinal metaplasia (IM). In patients with long segment BE (LSBE), data show forceps biopsies (FB) detected residual or recurrent IM at or near the neo-squamocolumnar junction (SCJ) (Shue at al, 2013). Our aim was to evaluate if WATS$^{3D}$ demonstrated similar patterns and/or improved detection within the tubular esophagus.

**Methods:** 33 LSBE patients treated with RFA or LN2SC underwent post-ablation surveillance endoscopy from May 2012 to May 2013. If there was no visual evidence of BE on white light endoscopy or narrow band imaging, WATS$^{3D}$ brush biopsy was performed using the standard 2-brush technique (EndoCDx®, CDx Diagnostics™, Suffern, NY). The SCJ was sampled with a separate brush set than the tubular esophagus. Brush samples were analyzed at a central laboratory using a neural network-based system that identifies abnormal cells and cell clusters for pathologist review. 4 quadrant FB also were obtained every 1 cm for review by an expert GI pathologist. BE was defined for both techniques as the presence of goblet cell metaplasia. Analysis included comparison of both sample sets.

**Results:** 33 patients with visually eradicated LSBE underwent surveillance endoscopy (26 with RFA, 7 with LN2SC). Residual or recurrent IM was detected on either FB or WATS$^{3D}$ in 12 cases (36.4%). Non-dysplastic IM was found only with FB in 5 cases: 4 at the SCJ and the other 2 cm proximal to the SCJ. In the 6 cases where IM was found only with WATS$^{3D}$, a similar detection pattern was seen with 5 cases positive at the SCJ and 1 at least 3 cm proximal to the SCJ. IM was detected on both FB and WATS$^{3D}$ in the final case, though FB detected non-dysplastic IM 2 cm proximal to the SCJ while WATS$^{3D}$ found high grade dysplasia at the SCJ. Overall, adjunct use of WATS$^{3D}$ with FB increased the detection rate by 50% (6/12).

**Conclusion:** Both FB and WATS$^{3D}$ detect residual or recurrent IM following complete visual eradication of LSBE after RFA or LN2SC. Adjunct use of WATS$^{3D}$ not only increases detection at the SCJ, where most post-ablation IM is found, but also can identify IM higher in the tubular esophagus. Use of WATS$^{3D}$ may provide important information that changes the management of patients who were thought to have completed LSBE eradication.
AVERAGE SCORE: 4.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
Purpose: To determine if submucosal gland number and architectural features are associated with dysplasia in Barrett’s esophagus (BE) using volumetric laser endomicroscopy (VLE).

Methods: Endoscopic mucosal resection (EMR) specimens of patients enrolled in a BE surveillance program were imaged using VLE immediately following resection and submitted for histological evaluation. A single investigator blinded to tissue diagnosis reviewed and analyzed each EMR VLE scan for gland number and architectural features. Gland architecture was defined as normal if the gland was symmetrically round and as atypical if irregularly shaped or cribriform. The number of glands per EMR were dichotomized into two groups (≤5 and >5). Measurement of surface area occupied by glands was also performed and compared to the total surface area of each EMR. Gland characteristics were compared to histology categorized into non-dysplastic (non-dysplastic BE and low grade dysplasia) and dysplastic (high-grade dysplasia and intramucosal adenocarcinoma) groups.

Results: A total of 32 EMR VLE scans were selected based on image quality and histological characteristics. EMR histology showed 8 non-dysplastic BE, 6 low-grade dysplasia, 8 high-grade dysplasia and 9 intramucosal adenocarcinoma. We dichotomized these results into 17 (54.8%) dysplastic and 14 (45.2%) non-dysplastic EMRs. 11 (64.7%) dysplastic and 3 (21.4%) non-dysplastic EMRs contained more than 5 glands per EMR. Dysplastic EMRs were more likely to have more than 5 glands per EMR compared to non-dysplastic EMRs ($\chi^2 = 5.8$, $p=0.016$). The mean (SD) EMR surface area of dysplastic and non-dysplastic EMR specimens was 82.6 mm$^2$ (26.5) and 90.8 mm$^2$ (33.1) respectively with no difference between groups ($p=0.45$). The mean (SD) surface area occupied by glands was significantly higher for dysplastic EMRs, 18.3 mm$^2$ (15.8), compared to non-dysplastic EMRs, 3.6 mm$^2$ (2.9); $p<0.001$. A total of 13 (76.5%) dysplastic and 2 (14.3%) non-dysplastic EMRs contained atypical glands. Dysplastic EMRs were 20 times more likely to contain atypical glands compared to non-dysplastic EMRs, OR 19.5 (95% CI 3-100, $p<0.01$).

Conclusion: Glandular atypia and the presence of more than five glands are features associated with dysplasia in BE using VLE. We believe that this represents abnormal stromal tissue in patients with BE associated dysplasia which enhances mucosal proliferation and glandular atypia.
Marlys Anderson: ACG Non-Member
Lori Lutzke: ACG Member
Kenneth Wang: ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 5
**REVIEWER FLAGS:** (none)
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
TITLE: Opioid induced esophageal dysfunction (OIED) in chronic opioid users

PRESENTER: Shiva Ratuapli
PRESENTER (INSTITUTION ONLY): Mayo Clinic Arizona
PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Bowel dysfunction characterized by reduced motility has been recognized as a predominant side effect of opioid use. Even though, the effects of opioids on stomach and intestines have been well studied, there are limited data on opioid induced esophageal dysfunction.

Aim: To compare esophageal pressure topography (EPT) of patients taking opioids at the time of the EPT (≤ 24 hours) with chronic opioid users that were studied off opioid medications for at least 24 hours using the Chicago classification.

Methods: A retrospective review of the motility database identified 123 chronic opioid users that completed high-resolution EPT between March 2010 and August 2012. Manometry was performed using Manoscan (Given Imaging, USA), and was analyzed using Manoview Analysis version 3.0 software. The Chicago classification system was used to characterize esophageal dysmotility. Demographic and manometric data were compared between the two groups using General Linear Models or chi-square (SPSS v 20.0, Chicago, IL).

Results: Current opioid use was reported in 67 patients [76% female; mean (SD) age 57 (16) yrs], and 56 reported no opioid use in the past 24 hours [68% female; mean (SD) age 53 (17) yrs]. The last opioid dose was taken within 4h of manometry in 31 (46%) of those studied on opioids. The last dose in patients studied off opioids ranged from 2 days to 186 days (median 7 days). Outflow obstruction was more prevalent in patients using opioids within 24h compared to those that did not (22.4% v 7.1%, P=0.02). Resting lower esophageal sphincter (LES) pressures tended be higher on opioids (21.25 v 15.45 mmHg, P=0.07), but the mean LES residual pressure was significantly higher in patients studied on opioids (10.54 v 6.70 mmHg, P=0.034). Distal esophageal spasm also tended to be more frequent in patients studied on opioids (13.4% v 3.6%, P=0.056). The distal contractile interval (DCI) also tended be higher on opioids (3273 v 2310 mmHg, P=0.08). Achalasia Subtype III criteria were met more frequently in patients studied on opioids (10.4% v 0.0%, P=0.016). Achalasia Subtype I (3.0% v 0.0%, P=0.500) and II (7.5% v 1.8%, P=0.219) were numerically higher in patients on vs. off opioids, but not statistically significant. The prevalence of other Chicago classifications was similar between the groups.

Conclusion: Opioid induced esophageal dysfunction was found in both chronic and current opioid users. Patients taking opioids within 24h of manometry exhibited more frequent outflow obstruction and spastic esophageal dysmotility patterns compared with opioid users that stopped opioid for at least 24h prior to the study. Further studies are needed to better ascertain this relationship.
George Burdick : ACG Member
David Fleischer : ACG Member
Lucinda Harris : ACG Member
Michael Crowell : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 4

**REVIEWER FLAGS:** Evan Dellon - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice study
Marcelo Vela: [No Comments]
WIDE-AREA TRANSEPITHELIAL SAMPLING (WATS-3D) BRUSH BIOPSY AS AN ADJUNCT TO FORCEPS BIOPSY (FB) FOR THE DETECTION OF BARRETT’S METAPLASIA AND DYSPLASIA AFTER ENDOSCOPIC THERAPY.

PRESENTER: Donald Tsynman

PRESENTER (INSTITUTION ONLY): University of Rochester Medical Center

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Endoscopic ablation is the standard treatment for Barrett’s esophagus (BE) with dysplasia. Post-ablation, the current standard includes surveillance endoscopy with four-quadrant FB every 1-2 cm of neo-squamous epithelium. However, dysplasia can be patchy in distribution and may be missed with standard FB protocol. A novel tissue sampling device, the WATS-3D brush biopsy was developed to overcome sampling limitations. It obtains a sample of the entire thickness of the squamous or glandular epithelium down to the lamina propria.

This study serves to examine the incremental value of WATS sampling over standard FB for Barrett’s and dysplasia surveillance in patients after endoscopic ablation for dysplastic Barrett’s.

Methods: Over an 8 month period, 26 patients with a history of dysplastic BE treated with endoscopic therapy (mucosal resection, radiofrequency ablation or cryotherapy) underwent surveillance endoscopy with both FB and WATS sampling. Retrospectively, demographic data, social/medical history and tissue sampling results from both modalities were collected. WATS results were compared for both concordance and discordance with FB results.

Results: 36 procedures were performed in 26 patients. The mean patient age was 66 years; 93% were male, 96% were Caucasian. 58% had long segment and 42% had short segment BE prior to therapy. 22 patients had been treated with RFA, 8 with cryoablation, and 8 had undergone mucosal resection. Prior to endoscopic therapy, 7 patients had low-grade dysplasia (LGD), 10 patients had high-grade dysplasia (HGD), 7 patients had both LGD and HGD and 7 patients had intra-mucosal carcinoma. On follow-up endoscopy, there was concordance between biopsy techniques in 61% of cases. Of the 36 cases, 9 found BE on WATS only, (1 of these also had LGD by WATS only). One patient was diagnosed with BE on FB only. Two patients were diagnosed with LGD on FB only, and one was diagnosed with HGD on FB only; the corresponding WATS samples showed non-dysplastic BE. There was one case in which subsquamous intramucosal carcinoma was found on FB only (WATS sample was normal). FB upstaged the pathologic diagnosis over WATS in 14% (5/36) cases. WATS upstaged the pathologic diagnosis over FB in 25% (9/36) cases.

Conclusion: In this study of post endoscopic therapy surveillance of dysplastic BE, WATS increased the detection rate for BE and/or dysplasia by 25% when used as an adjunctive technique to 4 quadrant FB. FB revealed dysplasia in 3 patients in which WATS did not. Prospective studies, larger patient cohorts and standardized sampling protocols are needed to further assess this promising new technology.
AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: a nice poster
Marcelo Vela: [No Comments]
CONTROL ID: 1746944

TITLE: Characterization and stratification of the esophageal diagnosis “major motility abnormality”

PRESENTER: Obinna Ukabam

PRESENTER (INSTITUTION ONLY): Georgia Regents University / Medical College of Georgia

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: The term “major motility abnormality” (MMA) is useful in our experience to describe manometry studies with features of two co-existing serious motility patterns. This term has not been described previously in the literature. The purposes of our investigation are to describe the term major motility abnormality (MMA) and determine its frequency as noted on impedance-manometry testing in an active manometry lab.

Methods: This retrospective study evaluated characteristics of MMA including patient demographics, combination of diagnosis patterns (subtypes), annual frequency, bolus transit, and esophageal body/lower esophageal sphincter pressures.

Results: From a total of 4315 esophageal function tests performed during the 9-year period from 1/1/2004 to 12/31/2012, 190 (4.41%) were diagnosed as MMA. 82 of these studies showed dual feature MMAs over this period, resulting in a frequency of <2%. Dual feature MMAs were classified as follows: achalasia / ineffective esophageal motility (IEM); achalasia / distal esophageal spasm (DES); achalasia / systemic sclerosis (SSc); IEM / DES; IEM / SSc; DES / nutcracker; IEM / nutcracker (Figure 1). The median age at MMA diagnosis was 59 (range 19 - 81). 51% of these MMA patients were female. Use of the term MMA has increased over the years (Table 1). As the term has evolved, the use of MMA has changed to focus on incorporating two co-existing serious motility abnormalities.

Conclusion: The term “major motility abnormality” (MMA) is useful in our experience to describe the rare manometry studies with features of two co-existing motility patterns while informing the referring physician that serious dysmotility exists. MMA with features of achalasia / DES and MMA with features of achalasia / IEM are the most frequently diagnosed abnormalities. The use of MMA may be helpful in the management of these patients.

CURRENT CATEGORY: A. Esophagus

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>

Obinna Ukabam : ACG Non-Member

Erik Person : ACG Member

Janice Freeman : ACG Non-Member

Donald Castell : ACG Member

IMAGE CAPTION:
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<td>2006</td>
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<tr>
<td>2007</td>
<td>0.76</td>
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<tr>
<td>2008</td>
<td>2.96</td>
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<td>2009</td>
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<td>3.58</td>
</tr>
<tr>
<td>2011</td>
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</tr>
<tr>
<td>2012</td>
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**TABLE TITLE:** Table 1  Annual frequency of MMA (%)

**AVERAGE SCORE:** 5.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
- Evan Dellon: [No Comments]
- John Pandolfino: [No Comments]
- Michael Vaezi: I don't know of its clinical relevance
- Marcelo Vela: [No Comments]
Purpose: Endoscopic therapy (ET) has been reported to be effective and safe in treating Barrett's esophagus (BE) associated with dysplasia and superficial esophageal adenocarcinoma (AC) and offers an alternative to esophagectomy. We present data covering the last 12 years.

Methods: Patients with BE associated with low-grade dysplasia (LGD), high-grade dysplasia (HGD), or T1 AC who were treated with Photodynamic therapy (PDT) or Radiofrequency ablation (BARRX) ± Endoscopic Mucosal Resection (EMR) as initial therapy were evaluated and compared retrospectively. The response at 12 months for complete eradication (CE) of BE, dysplasia, and AC was evaluated. The number of ET's required to achieve a CE at 12 months and relapses and complication rates were compared.

Results: 55 patients were identified between 1998 and 2010: 28 in PDT and 27 in BARRX group. 17 (30.9%, p=0.104) patients got EMR before PDT/BARRX. Mean age was 69.28 (±10.27) years with 48 (84.2%) males. The frequency of LGD, HGD and AC was 7(12.7%), 27(49.2%) and 21(38.1%) respectively. CE was seen in 40 (72.7%) at 12 months with no differences between the groups (p=0.467) requiring an average of 2.42 (±1.18, p=0.117) ET's. The average reduction in length of BE was 4.92 cm (SD±4.5, p=0.118). 42(76.4%) had CE of dysplasia at the end of the study with average follow up of 2.34 (±2.46) years. The complication rate was much higher in the PDT group -13 (46.42%, p=0.001); they were all strictures. Relapses were significantly more for PDT group -11 (39.28%, p=0.023).

Conclusion: PDT and BARRX are both effective in eliminating BE, dysplasia and AC, as well as alleviating the need for surgery. BARRX is associated with fewer complications and lesser relapses.
<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex (M)</strong></td>
<td>23 (85.2%)</td>
<td>24 (85.7%)</td>
<td>0.626</td>
</tr>
<tr>
<td><strong>Length of BE (cm)</strong></td>
<td>5.76 (±3.9)</td>
<td>6.61 (±5.3)</td>
<td>0.506</td>
</tr>
<tr>
<td><strong># of T1 AC</strong></td>
<td>11 (40.7%)</td>
<td>10 (35.71%)</td>
<td>0.548</td>
</tr>
<tr>
<td><strong>Follow up (yrs)</strong></td>
<td>2.17 (±1)</td>
<td>3.30 (±3.03)</td>
<td>0.003</td>
</tr>
<tr>
<td><strong>Complete Response at 12m</strong></td>
<td>19 (70.37%)</td>
<td>21 (96.42%)</td>
<td>0.467</td>
</tr>
<tr>
<td><strong>Reduction in length of BE (cm)</strong></td>
<td>4.11 (±3.7)</td>
<td>5.77 (±5.2)</td>
<td>0.118</td>
</tr>
<tr>
<td><strong>No of endoscopies£</strong></td>
<td>2.47 (±2.47)</td>
<td>2.24 (±2.24)</td>
<td>0.117</td>
</tr>
<tr>
<td><strong>Preceding EMR before PDT/BRX</strong></td>
<td>11 (40.7%)</td>
<td>6 (21.42%)</td>
<td>0.104</td>
</tr>
<tr>
<td><strong>Relapses in patients with CE at 12 m</strong></td>
<td>4 (14.81%)</td>
<td>11 (39.28%)</td>
<td>0.023</td>
</tr>
<tr>
<td><strong>Time of relapse days</strong></td>
<td>983 (±316)</td>
<td>678 (±919)</td>
<td>0.765</td>
</tr>
<tr>
<td><strong>Chemo/Surgery required</strong></td>
<td>2 (7.4%)</td>
<td>4 (14.28%)</td>
<td>0.352</td>
</tr>
<tr>
<td><strong>Complications</strong></td>
<td>2 (7.4%)</td>
<td>13 (46.42%)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

T1-Tumor invades lamina propria, muscularis mucosae, or submucosa. £- number of ET at 12 months to produce response.

**TABLE TITLE:** General Characteristics and Outcomes  
**AVERAGE SCORE:** 5.75  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Evan Dellon: [No Comments]  
John Pandolfino: [No Comments]  
Michael Vaezi: me too study  
Marcelo Vela: [No Comments]
Purpose: There is scant data about the prevalence of eosinophilic esophagitis (EoE). Some tertiary centers have reported a rapidly increasing prevalence of this condition over the last 10 years especially in the adult population (45 - 65 per 100,000 persons). However, the true disease burden in the community has not been assessed. Therefore, we decided to perform a population based study from a nationwide database (Explorys Inc.) to assess the prevalence of the disease.

Methods: Explorys is a private cloud based data store. A number of health care systems throughout the country (Includes referral centers and community hospitals) which uses electronic health records participate and feed information to this database. Using this database we performed a search on an aggregate cohort of patients with a diagnosis of EoE. Data regarding basic demographic features, symptoms, associated risk factors as well as treatment was analyzed.

Results: A total of 14,360,300 patients were identified nationwide as being active in the electronic health database between March 2010 to March 2013. Amongst them 4,680 patients had EoE. A decreasing trend in the prevalence of EoE was seen with the highest in the pediatric group (< 18 years) at about 40 per 100,000 persons. The adult population group (18 - 65 years) had a significantly lower prevalence of 34 per 100,000 persons (p < 0.0001) as well as the elderly (>65 years) with the 14 cases per 100,000 persons. The disease was most prevalent in male Caucasians across all age groups. 57% of the patients in the adult group reported dysphagia as compared with 25% in the pediatric group (p <0.0001). Vomiting was mainly seen in the pediatric group compared to adults (34% vs.15%; p<0.0001). Food allergies (42.3%), bronchial asthma (36%) and atopic dermatitis (8.1%) were all significantly higher in the pediatric population. Only 1% in the pediatric population required esophageal dilatation vs 25% and 27.5% in the adult and elderly group (p < 0.0001). No cases of esophageal adenocarcinoma were reported.

Conclusion: This is the largest currently available population based-study estimating the prevalence of eosinophilic esophagitis in the United States which is about 29 cases per 100,000 persons in patients over 18 years. Our findings suggest a much lower prevalence (almost half) of what has been reported thus far in the literature. The prevalence is decreasing with age.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Title: Medical Intervention for Eosinophilic Esophagitis
A systemic review and Meta-analysis

Presenter: Tarek Sawas
Preseent (Institution Only): georgetown University washington hospital center
Preseent (Country Only): United States

Abstract Body:

Purpose: Eosinophilic esophagitis is an uprising diagnosis of dysphagia. The underlying pathophysiology is not well understood, but allergic and immune mediated mechanisms are suggested. Current medical therapies include steroids, leukotriene receptor antagonists and immune modulators. Whereas some patients has a histological response to topical glucocorticoids as demonstrated by a decrease in eosinophil counts, symptom improvement is not consistent. Given that the condition is rare, we aimed to improve the power to detect clinically significant effects by conducting a systematic review and meta-analyses on medical therapies for EE.

Methods: Two reviewers developed a search engine using Pubmed, Embase and Cochrane database without language and date restriction. Both reviewer independently evaluated and selected potential studies and disagreement was resolved by a third reviewer. Quality for each included study was assessed by the CONSORT statement. Meta-analysis was done using random effects model for dichotomous variables and standardized mean difference for quantitative outcomes. Heterogeneity of the studies was analyzed by Cochran’s Q statistics and I-squared; publication bias was assessed by funnel plot exam.

Results: Out of 288 studies, twelve RCTs were selected involving 787 patients.
Symptomatic improvement (n =7 studies, 303 participants) was noted in 56% of all treatment groups comparing to 44% in the control group, Risk difference RD: 0.11 (95% confidence interval 95%CI: -0.01, 0.24, p=0.18), a RR of 1.18 (I-squared 32.8%). Treatment subgroup analysis showed topical steroid treatment (n =5 studies, 145 participants) induced symptomatic improvement in 54.5 % compared to 45.6% in the placebo group, RD: 0.18 (95%CI: 0.01, 0.24, p=0.39). No meta- analysis was done on PPI and biologic drugs since only one study in each group was included in symptomatic improvement.
Histologic Improvement (n =9 studies, 291 participants) was 37.6 % and 31.7% in all treatment groups comparing to placebo respectively RD: 0.07 (95% [CI]: -0.15, 0.29, P <0.001). Subgroup analysis for the histologic improvement showed that topical steroid (n =7 studies, 219 participants) induced complete response in 36.8% compared to 22.8 in the placebo group RD: 0.13 (95% [CI]: -0.12, 0.37, P<0.001).

Conclusion: Our finding shows that topical steroid induced statistically significant histologic improvement. There was a trend toward symptomatic improvement with topical steroids but it was not statistically significant. There was not enough data about PPI and biologic drugs to reach a definite conclusion.

Current Category: A. Esophagus
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>:
Tarek Sawas : ACG Non-Member
Mubarak Sayyar : ACG Non-Member
Ruben Hernaez : ACG Member
(No Image Selected)
(no table selected)
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: Esophageal Perforation in adults is associated with high morbidity and mortality. The ideal treatment is controversial. Placement of fully covered metal stents has been recently used in the management of esophageal perforation. However the ideal timing of placing an esophageal stent in patients with esophageal perforation is unknown. Our aim was to evaluate the overall morbidity and mortality in relation to timing of stent placement in patients with esophageal perforation.

Methods: Retrospective review of patients who were diagnosed with esophageal perforation and underwent fully covered metal stent placement between 2008 and 2012. Baseline demographic data, reason for admission and perforation, stent characteristics including type, size, American Society of anesthesiologists score(ASA) and Charleston comorbidity Index, timing of stent placement, length of stay and complications during follow up period were recorded.

Results: There were total of 20 patients (Males(40%) and females(60%)) meeting the inclusion criteria. Mean age was 72.5 yrs +/- 10 yrs. The most common etiology for perforation was iatrogenic after EGD procedure in 10 (50%) patients. The ASA score was greater than 3 in 12 patients and 9 patients had a Charleston comorbidity Index of greater than 3. All patients received either fully or partially covered metal stent and none of them had any intraprocedural complication. The mean length & diameter of stent were 92 and 13.7 mm respectively. The timing of stent placement was divided in to 4 groups with Group 1=<24 hours, Group 2= 24-48 hours, Group3= 48-72 hours, Group 4= >72 hours. Complications were seen in 2 patients in groups 1, 2&4 only. There was no statistical significant difference with the timing of stent placement and rate of complications. The stent was in place for a median of 24.6 days in our cohort. Six patients (30%) developed complications during follow up period, out of which 3 had migration of stent, 2 had hematemesis and 1 had hematemesis and esophagitis. Only 2 patients (10%) were readmitted within 30 days out of which 1 had stent related issue.

Conclusion: Understanding the limitations of small sample size, the timing of stent placement does not appear to impact outcomes in patients with esophageal perforation. Future studies to address the right timing of esophageal stent placement are required.
AVERAGE SCORE: 5.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: sample size too small
Marcelo Vela: [No Comments]
Purpose: The prevalence of Barrett’s esophagus (BE) is 0.5 to 4% in the general population. BE and cirrhosis share many common demographics. However, the presence of varices, thrombocytopenia or coagulopathy makes the confirmation and further management of suspected BE problematic in patients with cirrhosis.

Aim: To investigate the prevalence, management and natural history of suspected Barrett’s esophagus (BE) in cirrhotic patients.

Methods: The study is a retrospective analysis of patients with cirrhosis referred to our hospital between January 2001 and February 2003. Patients with any indication for upper endoscopy were recruited in to our study. Demographic, clinical, laboratory and procedural data were collected for this analysis.

Results: 181 patients were included in our analysis. 14/181 (7.7%) patients had suspected Barrett’s esophagus on EGD; 4 of them were proven by biopsy. One patient out of 181 (0.55%) was found to have a nodule during EGD that turned to be esophageal adenocarcinoma.

Conclusion: Barrett's esophagus has a slightly higher prevalence in patients with cirrhosis undergoing upper endoscopy for any indication. It is less often confirmed by biopsy due to the presence of varices.
<table>
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<td></td>
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<td>Smoking status (%)</td>
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<td>51.7</td>
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<td>Proton pump inhibitors use (%)</td>
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<td>ASA use (%)</td>
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**TABLE TITLE:**
**AVERAGE SCORE:** 6.25
**REVIEWER FLAGS:** (none)
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None
**REVIEWER COMMENTS:**
Evan Dellon: [No Comments]
John Pandolfino: [No Comments]
Michael Vaezi: nice poster
Marcelo Vela: [No Comments]
ABSTRACT BODY:

**Purpose:** High resolution esophageal manometry (HREM) is usually performed in supine position. While it is known that posture has effect on gastroesophageal reflux (GER), studies describing the effect of posture on HRM measurements in gastroesophageal reflux disease GERD are lacking. The aim of this study is to compare the impact of different body positions on HREM recording in patients with GERD.

**Methods:** Prospective study included 42 patients presented with typical and atypical GER symptoms had undergone HREM. A solid-state HREM assembly with 32 circumferential sensors spaced 1 cm apart (Unisensor) was used in the study, plotting graphs with high resolution color topography and pressure waves (GI Solar MMS). HREM recording was done while the patients is fasting and in different positions; recumbent at LT side, RT side, supine and sitting position; 10 minutes each. Patients were given ten 5-ml water swallows in each position. Pressure profiles across the esophagogastric junction (EGJ), upper esophageal sphincter (UES), peristaltic integrity, transient lower esophageal sphincter relaxations (TLESRs) were analyzed and interpreted according to Pandolfino et al, Am J Gastroenterol 2008;103:27.

**Results:** A total of 1680 water swallows in different positions were analyzed. RT recumbent position had the lowest EGJ pressure, and the highest number of TLESRs. On the other hand, change of body position did not significantly change EGJ length, UES pressure, % of peristaltic contractions, and upper and lower body contraction amplitude (table 1). Normal body peristalsis was found in 47.7% of patients, while weak peristalsis with small peristaltic defects, large peristaltic defects, aperistalsis and distal esophageal spasm were found in 26.3%, 14.3%, 2.3%, and 9.4% respectively. Hiatal hernia was observed manometrically in 14.3% of patients.

**Conclusion:** RT recumbent position showed the lowest EGJ pressure and the highest number of TLESRs. Sitting, LT recumbent and supine positions did not significantly affect HREM measurements. Ineffective esophageal motility disorder is a common finding with GERD.

### Table 1: HREM measurements in different body positions.

<table>
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<tr>
<th></th>
<th>EGJ pressure (mmHg)</th>
<th>EGJ length (cm)</th>
<th>UES pressure (mmHg)</th>
<th>UES length (cm)</th>
<th>TLESRs (n)</th>
<th>Upper body amplitude</th>
<th>Lower body amplitude</th>
<th>Normal peristaltic</th>
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<tr>
<td></td>
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**CURRENT CATEGORY:** A. Esophagus  
**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 DESIG:** ACG Membership Status <font color="red">*</font>:  
Hala Imam : ACG Non-Member  
Esam Abdelmohsen : ACG Non-Member  
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<th></th>
<th>(mmHg)</th>
<th>(mmHg)</th>
<th>contraction</th>
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<td>20+/−</td>
<td>3.1+/−</td>
<td>3+/−</td>
</tr>
<tr>
<td></td>
<td>12.1</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Lt recumbent</strong></td>
<td>24.1+/−</td>
<td>2.9+/−</td>
<td>2.9+/−</td>
</tr>
<tr>
<td></td>
<td>2.1</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Supine</strong></td>
<td>31.2+/−</td>
<td>3.2+/−</td>
<td>3.1+/−</td>
</tr>
<tr>
<td></td>
<td>2.6</td>
<td>0.7</td>
<td>0.4</td>
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<tr>
<td><strong>Rt recumbent</strong></td>
<td>12.2+/−</td>
<td>3.0+/−</td>
<td>3.1+/−</td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td>0.8</td>
<td>0.6</td>
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<tr>
<td><strong>P value</strong></td>
<td>&lt;0.05</td>
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TABLE TITLE: Table 1: HREM measurements in different body positions.

AVERAGE SCORE: 5.25

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
A 55 yo male presented acutely to the ED for confusion. Based on history, exam, lab data, and imaging, he was presumptively diagnosed with alcohol-related cirrhosis. His confusion was diagnosed as hepatic encephalopathy and treated effectively. Mild ascites was noted on exam, for which diuretics were initiated with adequate response. He was then seen in the outpatient setting at which time a screening upper endoscopy (EGD) was scheduled. Screening EGD revealed no varices, but C0M5 Barrett's mucosa from 35-40 cm. Diagnosis was confirmed by pathology. No dysplasia was seen. He did, however, report esophageal cancer in his father. He was subsequently scheduled for radiofrequency ablation of the Barrett's mucosa.

EGD confirmed esophageal mucosal changes consistent with Barrett's stage C0-M5 per Prague criteria present in the lower third of the esophagus (TGF 40 cm / TIM 35 cm). Focal radiofrequency ablation of Barrett's esophagus was performed per standard protocol (see images). He was safely discharged on liquid acetaminophen/codeine. Of note, he denied chest pain, dysphagia, or any other complication at two week follow up.

Conclusion:
To our knowledge, this is the first report of RFA in a patient with decompensated cirrhosis (hepatic encephalopathy, ascites). No varices were present on EGD. In the appropriate clinical context, RFA may be a viable option for patients who are at high risk for progression to esophageal malignancy.
AVERAGE SCORE: 7
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS: