CONTROL ID: 1705923
TITLE: Double-balloon Enterosocopy has Higher Diagnostic Yield and Better Clinical Outcomes in Patients with Acute overt-OGIB with Short-Term Follow-Up: Compared with Capsule Endoscopy
PRESENTER: Fa Zhi
PRESENTER (INSTITUTION ONLY): Nanfang Hospital, Southern Medical University
PRESENTER (COUNTRY ONLY): China

ABSTRACT BODY:
Purpose: Capsule endoscopy (CE) and double-balloon enteroscopy (DBE) have been reported to provide comparable diagnostic yields in patients with obscure gastrointestinal bleeding (OGIB). In addition, CE has been recommended as a first-line tool for investigation of patients with OGIB. However, few studies have directly compared the two modalities in patients with acute overt-OGIB. This study was to compare the diagnostic yield of direct CE and DBE in patients with acute overt-OGIB and evaluate the outcomes of short-term follow-up.
Methods: Prospective study was conducted between June, 2012 and December, 2012. EGD and colonoscopy were tandem performed in patients with melena or hematochezia within 24 hours after registration. Tandem CE and DBE were performed within 2 weeks after non-diagnostic EGD and colonoscopy given CE retention. Initially, retrograde DBE route was selected, based on consideration of difficulty in gripping the intestine if antegrade DBE was firstly performed. The primary outcomes assessed were the diagnostic yields of both tests. All patients received short-term follow-up, including assessment of rebleeding, readmission, further transfusion or interventions, and mortality.
Results: A total of 39 patients were included (26 males; mean age: 38.87 years, range13-84years). DBE detected more lesions of bleeding than (35, 89.7%) than that of CE (28, 71.8%) (P=0.039). Both CE and DBE detected lesions of bleeding in 27 patients. CE retention occurred in four patients, and intestinal perforation occurred in one patient with MD diagnosed by DBE. Patients with positive findings received drug therapy or were submitted to surgical procedures (24 cases). Definite diagnosis was confirmed in 36 patients, including MD (11 cases), Crohn’s diseases (eight cases), Gastrointestinal mesenchymal tumors (four cases), erosions (three cases), multiple xanthoma (two cases), multiple diverticulum (two cases), ganglioneuroma (one case), single ulcer(one case), adenocarcinoma (one case), vascular abnormality(one case), intestinal duplication(one case), and metastatic renal clear cell carcinoma (one case). All the patients received a mean of 5.8 months follow-up (range 2.4-9.0 months) except one lost. Three patients complained of slight rebleeding, respectively, and received medicine for hemostasis. Further transfusion or interventions and mortality were not reported.
Conclusion: For patients with acute overt-OGIB, DBE provides a higher diagnostic yield than that of CE, and better outcomes due to timely intervention. (Chinese Clinical Trial Register ChiCTR-DDT-12002465)

CURRENT CATEGORY: K. Endoscopy
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>:
Qiong He : ACG Non-Member
Yang Bai : ACG Non-Member
Fa Zhi : ACG Non-Member
Wei Gong : ACG Non-Member
Hong Gu : ACG Non-Member
Zhi Xu: ACG Non-Member
Jian Cai: ACG Non-Member
Bo Jiang: ACG Non-Member
(No Image Selected)
(no table selected)

AVERAGE SCORE: 4.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: Bit tough to follow. What is MD?
Ali Siddiqui: [No Comments]
Purpose: With the increased volume of endoscopic procedures performed with propofol in ambulatory centers in recent years, the pattern of risks and complications may have changed. In one prospective study, the 30-day mortality rate in patients undergoing endoscopy was 0.07% (1:1537 procedures), which was often due to bronchopneumonia. We identify factors associated with developing aspiration pneumonia as a complication of routine esophagogastroduodenoscopy (EGD) and colonoscopy in our ambulatory endoscopy center (AEC).

Methods: A retrospective case-control study was performed on patients recorded to have a suspected intra-procedure aspiration in the AEC database between 2007 and 2012. We recorded patient age, gender, type of procedure, total procedure length (minutes), history of gastroesophageal reflux disease (GERD), body Mass Index [BMI] and whether abdominal pressure was utilized. Comparison was made to an age, sex and procedure matched control group from the same center. All patients received propofol for anesthesia.

Results: Aspiration pneumonia was identified in 17 patients, 11 of whom underwent colonoscopies (n=15137), four had EGD (n=4529), and two had both procedures (n=949). The median age was 64.7 years (range 33 - 75). Eleven patients had history of GERD. The median procedure length was 22 minutes (range 8-52 minutes). The procedure was aborted in one case. Abdominal pressure was utilized in only two patients.

Compared to age and sex matched controls, aspiration pneumonia patients were heavier (mean BMI 30.8 vs. 26.0 respectively, p=0.01). Cases and controls did not differ by any of the other factors studied.

Conclusion: Intra-procedure aspiration pneumonia was associated with higher BMI, compared to age and sex matched controls. The majority of aspiration cases occurred with colonoscopy. Further studies are needed to investigate predictors of aspiration pneumonia in ambulatory settings. This may provide an opportunity for risk stratification prior to endoscopy in the ambulatory patient population.
Thomas Riley : ACG Member
Ian Schreibman : ACG Member
Lisa Poritz : ACG Non-Member
Thomas Mcgarrity : ACG Member
Abraham Mathew : ACG Member

AVERAGE SCORE: 5.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments] Vanessa Shami: [No Comments] Stavros Stavropoulos: factors such as smoking, comorbidity index, presence of retained food, intraprocedural episodes of hypoventilation or vomiting not analyzed. No rationale offered for BMI effect on risk of aspiration pneumonia. Problems with methodology and study design. For example they could have used more controls (1:2, 1:3 or more). Shin’ichi Takahashi: [No Comments]
Purpose: Risk stratification is an important tool in determining an appropriate and cost-effective strategy for patients presenting with upper gastrointestinal bleeding (UGIB) and in preparing for the upcoming events for high-risk patients. Current scoring systems are often impractical, and some are complex to calculate. We hope that video capsule endoscopy (VCE) might be able to help accurately stratify patients in emergency departments when used solely or when incorporated into Capsule Rockall score (CRE).

Methods: We prospectively evaluated 22 cases presenting to ED with acute UGIB. The patients were enrolled in the study after clinical information was reviewed. Nasogastric (NG) tube insertion and lavage were performed and followed by VCE. All patients were hospitalized and underwent EGD within six hours after presentation. The findings from VCE and EGD were recorded. We created VCE risk stratification algorithm (Figure 1) and CRS (Table 2), and compared them with other scoring systems. Sensitivity, specificity, positive predictive value, negative predictive value and accuracy were compared.

Results: All 22 patients had NG lavage, VCE and EGD performed per protocol. VCE accurately discovered 25% of esophageal lesions and 43% of gastroduodenal ulcers. Sensitivity, specificity, NPV, PPV and accuracy of each scoring system are shown in table 1. CRS has sensitivity of 100% in identifying high-risk patients when the score is ≥ 2, and when the score is ≥ 5, it has specificity of 91%. VCE risk algorithm also has specificity of 91% and accuracy of 73%, but it has low sensitivity in detecting high-risk lesions (55%). All patients who had no blood clot detected by VCE were found to have no lesion or low-risk lesions from EGD. The patients’ mean satisfactory score for VCE was significantly higher than that of EGD, 24.86 vs. 17.77 with the p-value of < 0.001.

Conclusion: CRS is comparable to GBS, and is better than clinical RS, complete RS, and VCE algorithm for safely identifying patients with low-risk lesions who can be managed by outpatient endoscopy (CRS < 2). It is more specific in identifying high-risk patients who might benefit from early endoscopy and close monitoring with specificity of 91% (CRS ≥ 5). VCE risk assessment algorithm is not a safe tool for identifying low-risk patients, due to its low sensitivity. Blood pattern from VCE can be helpful, considering all patients without blood clot had no lesions or low-risk lesions. VCE might have a benefit in decreasing unnecessary hospitalization and helping lower medical costs for patients with acute UGIB in the future. However, the results need to be repeated in a larger study.
Table 2: Sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of each scoring systems compare to EGD findings.

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
<th>PPV (%)</th>
<th>NPV (%)</th>
<th>Accuracy (%)</th>
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<td>Clinical-RS</td>
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<td>36</td>
<td>53</td>
<td>57</td>
<td>55</td>
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<tr>
<td>GBS</td>
<td>100</td>
<td>18</td>
<td>55</td>
<td>100</td>
<td>59</td>
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<tr>
<td>Complete RS</td>
<td>91</td>
<td>64</td>
<td>71</td>
<td>88</td>
<td>77</td>
</tr>
<tr>
<td>VCE risk</td>
<td>55</td>
<td>91</td>
<td>86</td>
<td>67</td>
<td>73</td>
</tr>
<tr>
<td>CRS ≥ 2</td>
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<td>58</td>
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<tr>
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<td>60</td>
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<td>CRS ≥ 6</td>
<td>27</td>
<td>91</td>
<td>75</td>
<td>56</td>
<td>59</td>
</tr>
</tbody>
</table>

PPV; positive predictive value, NPV; negative predictive value, RS; Rockall score, GBS; Glasgow Blatchford score, CRS; Capsule Rockall score.

Table 1: Capsule Rockall score

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<th>1</th>
<th>2</th>
<th>3</th>
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<td>&lt;60</td>
<td>60-79</td>
<td>≥80</td>
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<tr>
<td>Shock (bpm, mmHg)</td>
<td>HR &lt;100, SBP &gt;100</td>
<td>HR &gt;100, SBP &gt;100</td>
<td>HR &gt;100, SBP &lt;100</td>
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<tr>
<td>Co-morbidity</td>
<td>No major co-morbidity</td>
<td>.</td>
<td>CHF, IHD, other co-morbidity</td>
<td>Renal failure; liver failure; disseminated malignancy</td>
</tr>
<tr>
<td>Type of lesion from VCE</td>
<td>MWT</td>
<td>All other diagnoses/ no lesion found</td>
<td>GI malignancy</td>
<td>.</td>
</tr>
<tr>
<td>Stigmata and blood pattern</td>
<td>none; dark spot seen</td>
<td>Coffee ground/ small black clot</td>
<td>Red blood in upper GI tract;</td>
<td>.</td>
</tr>
<tr>
<td>from VCE</td>
<td>Clear</td>
<td>adherent clot; visible or spurting vessel</td>
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<td></td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Table 2: Sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of each scoring system compared to EGD findings.

**Table 1: Capsule Rockall score**

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: VCE risk algorithm not defined. (figure 1 referenced not included. Somewhat confusing presentation of the operating characteristics of the algorithms used and the results. However, the use of real-time CE may have utility in risk stratifying GI bleeding patients at the ER.)
Shin'ichi Takahashi: [No Comments]
Tilt-Down Positioning for Colonoscopy: Prospective Studies of a Novel Scope Insertion Technique

Leonard Weinstock
Specialists in Gastroenterology, United States

Purpose: Tilt-down (TD) positioning during colonoscopy is hypothesized to overcome problems from a tortuous sigmoid colon. The aim of study A was to determine the safety of brief TD-positioning used during passage of the sigmoid colon. The aim of study B was to achieve a 10% reduction in cecal insertion time (CIT) in women both with and without a tortuous colon utilizing prolonged TD-positioning compared to standard left lateral (LL) positioning throughout cecal insertion.

Methods: Study A: Women and men had colonoscopy in brief TD-positioning by one gastroenterologist. Study B: Women had colonoscopy by five gastroenterologists, and were randomized to prolonged TD- or LL-positioning. The head of the stretcher was tilted down 15 degrees in TD-subjects. CIT, cardiopulmonary safety and additional maneuvers required to complete colonoscopy were studied. The only difference in exclusion criteria for each study was weight and gender. Study A excluded obesity, and study B excluded morbid obesity and men.

Results: Study A: 47 women, age 60.1±13.0 years (mean±SD) and 45 men, 59.2±11.0 years. Mean oxygen saturation was 97±2%. Desaturation, aspiration and bradycardia were not observed. Mean CIT was 4.9±1.8 minutes in women and 3.3±1.4 minutes in men. Additional body positions were used in 17/92 (18.3%) subjects, and were required more commonly in women. Abdominal pressure was required only in women (5/47, 8.5%). Switching to the pediatric scope during the procedure was required in three women and one man. Study B: 85-TD and 88-LL women had similar ages (55 years). One of 5 physicians had a statistically significant ≥10% CIT reduction using TD (-23%; 4.6 vs. 6.0 minutes, P=0.04). Two other physicians had ≥10% CIT reduction. The CIT was numerically shorter in 10-TD vs. 12-LL subjects with severe diverticulosis and tortuosity: 6.0±3.1 vs. 7.3±2.0 minutes (P=0.43). Bradycardia occurred 0-TD vs. 2-LL subjects (P=0.50). Brief oxygen desaturation occurred in 10.6% TD vs. 2.3% LL subjects (P=0.02), but did not require mask-assisted ventilation or have clinical sequela. Additional body positions were needed to complete colonoscopy in 19.3% LL vs. 11.8% TD subjects (P=0.21).

Conclusion: Brief TD-positioning was safe. Uncomplicated oxygen desaturation occurred more often with prolonged TD than LL positioning. CIT may be reduced by TD-positioning, but larger studies are needed to confirm this. Brief TD-positioning during colonoscopy may be a reasonable technique for traversing the tortuous sigmoid colon in non-obese patients.
Aim of study cannot be "10% reduction in cecal insertion time". Confusing methodology with "Study A" and "Study B" components. Rationale for possible efficacy of this technique is not provided in the background/purpose section.
TITLE: Predictive Factors of Small Bowel Patency in Crohn's Disease Patients

PRESENTER: Andreia Albuquerque

PRESENTER (INSTITUTION ONLY): Hospital São João

PRESENTER (COUNTRY ONLY): Portugal

ABSTRACT BODY:

**Purpose:** To evaluate the predictive factors of small bowel patency in Crohn Disease (CD).

**Methods:** Prospective analysis including 210 patients submitted to PC (Agile® Patency Capsule) from 2011 to 2012, with CD diagnosis or suspected CD. Patients that excreted the intact PC were classified as positive patency (patent small bowel), and other patients were considered to have negative patency.

**Results:** 58% were females, and the mean age was 40±14 years. 72% of patients were diagnosed with CD, and 18% had previous surgery. Patients had stricturing disease in 16% of cases and penetrating disease in 14% of cases. In 14% of cases, patients had left-sided colonic lesions, and 3.4% had an ileal stricture seen at colonoscopy. In our sample, 72% had a patent small bowel and 28% of patients had a negative patency. In multivariate analysis, independent factors that were associated with negative patency of the small bowel were older age (OR 1.03, p=0.009), no previous surgery (OR 7.3, p=0.003), stricturing (OR 7.4, p<0.001) and penetrating phenotypes (OR 7.9, p=0.002), ileal stricture (OR 7.8, p=0.001) and left-sided colonic lesions (OR 3.4, p=0.02). In patients that underwent PC for suspected CD, older age (p=0.025) and lower hemoglobin level (p=0.007) were predictive factors for negative patency.

**Conclusion:** It was possible to identify factors associated with negative small bowel patency in CD patients, namely older age, no previous surgery, stricturing or penetrating disease, ileal strictures and left-sided colonic lesions. These data can allow for risk stratification for capsule endoscopy retention in CD.

CURRENT CATEGORY: K. Endoscopy

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: No

FDA Approval: No

Designed Study: Investigator

Abstract Author: Investigator

AUTH DESIG: ACG Membership Status: Andreia Albuquerque : ACG Non-Member
Hélder Cardoso : ACG Non-Member
Margarida Marques : ACG Non-Member
Frederico Ferreira : ACG Non-Member
Susana Rodrigues : ACG Non-Member
Filipe Vilas-Boas : ACG Non-Member
Susana Lopes : ACG Non-Member
Monica Velosa : ACG Non-Member
Guilherme Macedo : ACG Member

AVERAGE SCORE: 5.25

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:

Purpose: Thrombocytopenia, a frequent complication of portal hypertension, could potentially increase the risk of bleeding after variceal banding. Aim was to evaluate the safety of performing esophageal variceal band ligation in patients with thrombocytopenia.

Methods: We performed retrospective chart analysis of patients who underwent esophageal variceal ligation (EVL) between January 2010 and July 2012. Data collected also included, demographics, severity of liver disease (MELD score, Child’s score, baseline hemoglobin, hematocrit and platelet counts). Significant post EVL bleeding was defined as either a drop in hematocrit of 10% from the baseline needing hospitalization (covert bleeding) or admission within 3 months with an episode of overt bleeding. Severe thrombocytopenia was defined as a platelet count of less than 60,000/mcL. Fifty patients with a mean age of 56 (range 33-81) with follow up data at least upto 3 months, were included in the analysis. The demographics were as follows; Caucasains-34 (68%), African Americans -12 (24%), Hispanic- 4 (8%). 33 males, 17 females; A p value of less than 0.05 was considered as statistically significant.

Results: Gastrointestinal bleeding within 90 days after EVL was noted in 5 of the 36 (13.8%) in those with platelet count > 60,000 (Childs Pugh C – 3, B – 1, A- 1) compared to none of the 14 patients with platelet counts < 60,000/mcL. In multivariate regression analysis, platelet count did not predict post banding bleeding events.

Conclusion: Esophageal variceal banding can be safely done in patients with platelet counts less than 60,000/mcL without increased risk of bleeding. Despite theoretical concerns, the risk of bleeding within 90 days from band ligation in patients with severe thrombocytopenia was not apparent.
| 1= <60,000/mcL | 2= =>60,000/mcL | Post EVL Bleeding Cross Tabulation |

**TABLE TITLE:**

**AVERAGE SCORE:** 5.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Paradoxical results. No data or adjustment for how many procedures were emergent versus elective banding, size and stigmata of varices. Unclear what variables were included in the MV analysis.
Shin'ichi Takahashi: [No Comments]
Purpose: Since millions of healthy elderly undergo colonoscopy annually, the entire procedure, including bowel cleansing, must have the highest possible safety. Adverse cardiovascular signals (e.g., arrhythmias and lengthened QTc interval) occur with some hyper-osmotic bowel preparations. Because they are particularly at risk, we examined the ECG in elderly subjects receiving a sulfate-based bowel prep kit [SUPREP Bowel Prep Kit (sodium sulfate, potassium sulfate, and magnesium sulfate) Oral Solution].

Methods: Study drug was administered as “one-day dosing” split into two doses 2 hours apart in healthy elderly (>65 yrs) subjects. ECGs were extracted from a continuous recording when subjects were supinely resting: at pre-dose (baseline) at 2 hours post Dose 1, then at 2 and 6 hours post Dose 2 (when the highest serum sulfate levels occur), and before noon on Days 3 and 6. ECG parameters (QTcF, heart rate (HR), PR, QRS, T-wave morphology) were measured by a central ECG laboratory. The change-from-baseline (Δ) was tested using repeated measures ANOVA.

Results: Twelve subjects (8F, mean age 68yrs) completed the study with no clinically significant ECG changes. The bowel prep resulted in a statistically insignificant HR increase, with ΔHR between 1.6 and 2.2 bpm across time points. The effect on the QTcF interval was clinically insignificant with a small shortening of ΔQTcF at most time points (mean from -7 to -2 msec). Despite the small sample size, an effect on ΔQTcF exceeding 10 msec could be excluded. There were no categorical QTcF outliers exceeding 450 msec and ΔQTcF did not exceed 30 msec at any time point post-dosing. No T-wave morphological abnormalities were noted. A small, statistically significant shortening of the PR interval of approximately 6 msec was observed 2 hours after the 1st and the 2nd dose, which was considered to be of no clinical relevance. Changes at other time points were very small. The QRS interval was not affected with ΔQRS at all time-points within 0 msec to -1 msec. There were no unusual or unexpected adverse events related to the sulfate-based bowel prep kit.

Conclusion: This is the first detailed study of the effect of any bowel preparation on the ECG. The sulfate-based bowel prep kit administered in two doses 2 hours apart did not result in any clinically significant changes of ECG parameters during maximum exposure in elderly subjects.

This research was funded by a grant from Braintree Laboratories, Inc. Braintree, MA.
<table>
<thead>
<tr>
<th>Universal Recommendation</th>
<th>Pre-Provision</th>
<th>During Provision</th>
<th>Post-Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess type, reason, need and indication of implanted cardiac device</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Reprogram or COA revise any arrhythmia detection parameters; provide when appropriate; to be used if used to do so, a magnet shall not be used if the magnet can be secured over the pole generator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Consult cardiologist or a team specifically trained in cardiovascular interventional device management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Douglas Adler: [No Comments] | Todd Baron: [No Comments] | Priya Jamidar: Not much to this | Ali Siddiqui: [No Comments]
Purpose: The purpose of this study was to describe and compare the incidence of treatment emergent adverse events (TEAEs) associated with SUPREP® Bowel Prep Kit (SP) to other bowel preparations (BP) following a screening colonoscopy (sCC).

Methods: This observational study used ICD-9 diagnosis codes and laboratory results to identify TEAEs from de-identified health insurance claims (HIC) and electronic medical record (EMR) data in the 3 months following sCC. The observation period covered 08/2010 to 06/2011 (HIC) and 08/2010 to 02/2012 (EMR). Patients were >18 years old with a prescription (RX) for either SP or a BP, an sCC within 60 days of the RX, and in the database for at least 12 months before and 3 months after sCC. Pre-existing risk factors were determined and pre-existing conditions were ruled out as TEAEs. TEAEs associated with SP were compared to a Control cohort consisting of 10 commonly used RX BPs (Colyte®, GoLytely®, HalfLytely®, Moviprep®, NuLytely®, Osmoprep®, Polyethylene glycol 3350 and electrolytes, Trilyte®, and Visicol®). Overall, and for each TEAE, the unadjusted cumulative incidence was estimated using the Kaplan Meier method. If there were sufficient cases, the adjusted cumulative incidence (correcting for confounding factors such as specific demographics and clinical risks) was estimated using Poisson regression.

Results: Among patients with a sCC, there were 33,465 RXs for SP and 265,952 for Controls in the HIC data and 143 RXs for SP and 2,335 Controls in the EMR data. In the HIC data, the overall unadjusted incidence of TEAEs was significantly lower in the SP cohort (2.26% [95% CI: 2.11, 2.43] vs. 2.83% [95% CI: 2.77, 2.89]). Similarly, the overall adjusted incidence of TEAEs was significantly lower in the SP cohort (SUPREP: 1.67% [95% CI: 1.55, 1.80] vs. 1.95% [95% CI: 1.88, 2.02]). No significant differences were found in the unadjusted or adjusted incidence of the following TEAEs: death, ischemic colitis, gout, overall seizure disorders, troponin leak, and overall serum electrolyte abnormalities/serum uric acid. After adjusting for risk factors, elevated creatine kinase was significantly lower for SP.

In the EMR data, the unadjusted and adjusted incidences of TEAEs data were significantly lower in the SP cohort for ischemic colitis, gout, acute cardiac conditions or events, renal failure/other serious renal disease and serum electrolyte abnormalities.

Conclusion: Health insurance claims and EMR provide useful insight into the safety of BPs. The cumulative incidence of TEAEs was low in both cohorts and almost always similar or significantly lower in the SP cohort compared to the Control cohort.

This research was funded by a grant from Braintree Laboratories, Inc. Braintree, MA.
# Table 1: Summary of the Study

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<tr>
<th>Time</th>
<th>Agent</th>
<th>SD/SD/SD (Mean)</th>
<th>Repeatability (%)</th>
<th>Success Rate</th>
<th>Recommendations to Beneficial Practice</th>
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## Reviewer Comments:

- **Douglas Adler**: [No Comments]
- **Todd Baron**: [No Comments]
- **Priya Jamidar**: Literature and review of recommendations--no scientific merit
- **Ali Siddiqui**: [No Comments]
ABSTRACT BODY:

Purpose: The purpose of our study was to examine trends over a nine-year period in the use of anesthesia services, predominantly monitored anesthesia care (MAC) at our institution and to explore which patient variables might have influenced the use of these services.

Methods: This was a retrospective review of all out-patient and in-patient colonoscopies performed in our hospital-based endoscopy unit from 2003-2012. We determined whether MAC was utilized and, if not, the quantitative doses of specific conscious sedation agents. Data were extracted from our Provation® database and analyzed (t-test, Chi square, logistic regression) using SAS® statistical software. Patient variables evaluated included: age, gender, BMI, ASA class, indication for procedure and presence of major co-morbidities.

Results: Between January, 2003 and October, 2012, we identified 37,803 performed colonoscopies. The mean patient age was 57.2 years, and 53.3% were women. The mean ASA class was 1.7, and 33.5% of cases were performed for diagnostic reasons, and the remaining for screening or surveillance. Over the nine years, 2.2% of all cases had MAC. Use of MAC increased in a significant fashion from 0.38% in 2003 to 10.0% in 2012 (p<0.0001). For cases in which conscious sedation was used, the mean doses of meperidine, fentanyl and midazolam did not change significantly over time. Using multivariate logistic regression, the following patient variables were associated with increased MAC use: female gender, higher BMI, higher ASA class, diagnostic (versus screening or surveillance) procedures and presence of certain comorbidities (pulmonary, psychiatric, renal, and cerebrovascular). However, the greatest predictor of MAC use was the year of the procedure. After adjusting for the above patient variables, the odds of using MAC increased by approximately 1.5 times per year from 2003-2012. The adjusted odds of using MAC in 2012 were 35.8 times higher than in 2003.

Conclusion: 1.) Use of MAC for colonoscopies performed in our endoscopy unit increased significantly from 2003 to 2012. 2.) While increased MAC use was associated with some patient variables, it was most significantly associated with the year of the procedure. This suggests that there were other undetermined factors influencing its utilization. 3.) The reasons for greater MAC utilization need to be further studied to determine whether the increase is justified given the additional costs associated with MAC.
AVERAGE SCORE: 3.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
ABSTRACT BODY:

**Purpose:** Polyethylene glycol (PEG)-electrolyte solution is widely used for bowel cleansing, including preparation for colonoscopy (CS). The dose of 2 L or more of PEG alone is needed for appropriate cleansing, which has become a burden to the examinee. The adjunction of a laxative, picosulfate sodium, on the day before CS is also popular in order to reduce the dose of PEG. However, insomnia and abdominal pain caused by bowel movements during sleep at night is not preferable for medical checkup facilities. Therefore, we assessed the efficacy and feasibility of adjunction of a prokinetics, mosapride citrate, to 2 L of PEG preparation for CS.

**Methods:** Design: An observational open-label study. 324 consecutive examinees of CS for medical checkup were enrolled at our institute in open label evaluation. The mean age was 60.5 years old, and 247 were male (76.2%). Preparation procedure: Two liters of PEG solution were ingested on the morning of the CS. No dietary restrictions were applied until the day before examination. As an adjunct, 20 mg of mosapride were administered twice orally at the beginning and the end of PEG ingestion. In case of examinee being subjected to esophagogastroduodenoscopy (EGD) on the same day, an aliquot of 500cc of PEG was endoscopically injected in the duodenum. If defecation was insufficient after completion of PEG ingestion, PEG was added orally or per rectum. Quality of colon cleansing was evaluated by a physician, who performed CS as four grades (no or faint residue, some residue but capable for observation, poor for observation and inadequate for intubation). Adverse events and tolerability were also assessed by nurses.

**Results:** 324 examinees were analyzed. 146 underwent EGD on the same day (45.1%). 10 (3.1%) did not ingest the whole volume of PEG and 24 (7.4%) required additional cleansing treatment. Quality of cleansing was adequate in 314 (96.9%, no or faint residue in 51.8% and some residue but capable for observation in 45.1%). In the remaining 10 cases (3.1%), cleansing was poor for observation (2.8%) or inadequate for intubation (0.3%). Three examinees (0.9%) felt abdominal distention or nausea. There were no adverse effects observed that required discontinuation of PEG ingestion.

**Conclusion:** Combination of PEG 2 L with mosapride is tolerable and safe bowel preparation for CS, and its efficacy is comparable to PEG alone or PEG-based procedures. As it does not require any restriction or additional laxatives on the day before CS, it can be suitable for on-site preparation for CS performed at the time of medical checkup.
Ryoko Shimizu : ACG Non-Member
Michiyo Takayama : ACG Non-Member
Hiroshi Hirose : ACG Non-Member
Yoshinori Sugino : ACG Non-Member

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(no table selected)

**AVERAGE SCORE:** 4

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Purpose: Use of anesthesia services during endoscopic procedures has increased in the past decade, and estimates are that anesthesia services will be involved in more than 50% of all endoscopic procedures by 2015. In light of increasing concern regarding the cost of anesthesia-supported procedures, efforts are warranted to risk-stratify patients who may be more difficult to sedate with conscious sedation. There is currently sparse literature identifying risk factors for difficult-to-sedate patients during endoscopic procedures.

Methods: We performed a cross-sectional analysis of all esophagogastroduodenoscopies (EGDs) and colonoscopies performed at a large urban academic medical center over a 6.5-year period. We identified all notes in which the procedure was complicated by agitation, discomfort or other difficulty with sedation. Univariate and multivariate analysis was performed to measure for an association of the following variables with the outcome: age, sex, body mass index (BMI), procedure indication, tobacco use, home benzodiazepine, opioid and other psychoactive medication use, and the presence of a GI trainee.

Results: We identified 14,209 EGDs and 23,051 colonoscopies. Difficulty with sedation was reported in 237 (1.7%) EGDs and 558 (2.4%) colonoscopies. In the multivariate analyses, significant risk factors for difficult sedation during EGD were younger age (OR for 50-69 vs. 18-29 0.46; 95%CI 0.30-0.71), tobacco use (OR 1.61; 95%CI 1.02-2.55), home opioid use (OR 2.23; 95%CI 1.12-4.45) and presence of a GI trainee (OR 1.76; 95%CI 1.20-2.58). Significant risk factors during colonoscopy were younger age (OR for 50-69 vs. 18-29 0.58; 95%CI 0.34-0.97), female sex (OR 1.83; 95%CI 1.52-2.21), tobacco use (OR 1.60; 95%CI 1.26-2.03), home opioid use (OR 2.26; 95%CI 1.48-3.44) and presence of a GI trainee (OR 2.16; 95%CI 1.70-2.75). BMI, procedure indication, home benzodiazepine use and other psychoactive medication use were not independently associated with difficult sedation.

Conclusion: Younger age, smoking, opioid use, and trainee participation increased the risk of difficult sedation during both EGD and colonoscopy. Female sex was associated with difficult sedation for colonoscopy but not for EGD. Stratification based on risk factors may allow for a cost-effective allocation strategy for anesthesia services during endoscopic procedures.
AVERAGE SCORE: 7.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: To evaluate the feasibility and safety of endoscopic papillary balloon dilation for removal of bile duct stones in patients who have undergone a Billroth II gastrectomy.

Methods: Data of 72 patients with bile duct stones after Billroth II gastrectomy, who underwent ERCP from January, 2008 to December, 2012, were retrospectively analyzed.

Results: A total of 55 patients (36 male) underwent EPBD for the retrieval of CBD stones, and concurrent fistulotomy was performed in 9 patients. CBD stones were successfully removed in all patients. The median diameter of the balloon was 13.5±5.7 mm. The median operating time was 10.43±4.68 min. Acute complications from EPBD included mild pancreatitis in three (5.45%) patients, and post-ERCP hyperamylasemia without clinical pancreatitis in five patients. Severe complications, including perforation and bleeding, were not observed.

Conclusion: In cases of Billroth II gastrectomy, EPBD is a safe and highly effective technique for the retrieval of CBD stones.
Endoscopic and cholangiographic views of CBD stones removal by EPBD in patient with Billroth II gastrectomy

A1: Successful deep cannulation of bile duct; A2: Endoscopy shows a large inflated balloon; A3: A markedly dilated papilla after large balloon sphincteroplasty; A4: A large stone extracted by using a basket via a dilated papilla. B1-3: The balloon is inflated gradually across the papilla until the notch of the balloon disappears; B4: Complete stone removal of CBD stones confirmed by balloon occlusion cholangiography.

AVERAGE SCORE: 6.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
ABSTRACT BODY:

Purpose: Endoscopic sclerotherapy has been used for the therapy of esophageal variceal hemorrhage. However, post-endoscopic bacteremia has been reported after sclerotherapy. There is conflicting data on the frequency with which this occurs. We reviewed the risk of bacteremia after endoscopic sclerotherapy of variceal hemorrhage.

Methods: We performed a systematic review of computerized databases along with manual searching of published abstracts and review of citations in relevant primary articles to identify relevant citations from 1980 to 2013. A total of 18 relevant prospective trials (all randomized) were identified that described the frequency of bacteremia after endoscopic sclerotherapy. Independent, triplicate data abstraction of the patient population, etiology, positive culture and bacteremia rate, and endoscopic sclerotherapy type was collected. Fisher exact test was used to compare categorical values. Quality scores were assigned for the included manuscripts.

Results: There was a total of 1,996 procedures in 724 patients (311 male/ 131 female/ 282 unspecified). All patients had portal hypertension, with the most underlying etiology of cirrhosis being alcoholic and viral. Bacteremia was measured before endoscopy in 6 studies, during endoscopy in 2 studies, 5 minutes in 11 studies and 30 minutes in 7 studies after endoscopy, and some combination of 1,2,3,4,24 hours and 2 weeks after endoscopy in 6 studies. Endoscopic sclerotherapy for esophageal varices was associated with a frequency of bacteremia of 7.3% (145/1996) (range=0–53.5 %). A total of 29 organisms were reported, the most common being: Group A Streptococcus 35, S. epidermidis 25, Bacillus 15, Pseudomonas 12, S. aureus 11. There was no significant difference between the frequency of bacteremia in emergency (8.0 %, 35/433) compared with elective sclerotherapy sessions (6.3%, 80/1263) (P=0.598). The frequencies of bacteremia using different sclerosants were: cyanacrylate 12.7% (20/157), ethanolamine olate 3.1 % (46/1495), polidocanol 39.4% (28/71), sodium tetradecyl 13.1% (23/175), sodium morrhuate 18.0% (20/111), alcohol 40.0% (12/30). The only significant difference in bacteremia rate comparing sclerosant agents was the use of ethanolamine being associated with a lower rate of bacteremia than polidocanol (p=0.039).

Conclusion: Endoscopic sclerotherapy of esophageal varices can cause bacteremia in patients with portal hypertension, but the incidence is variable. The type of sclerosant can affect the frequency of bacteremia. Although there was a trend toward a higher bacteremia rate after emergency compared with elective sclerotherapy, this was not statistically significant.
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Good methodology. Limited relevance in the modern era where banding has eclipsed sclerotherapy.
Shin'ichi Takahashi: [No Comments]
Purpose: The diagnostic accuracy of EUS-FNA in non-pancreatic lesions is poor relative to pancreas adenocarcinoma; accuracy is improved with EUS-FNB. As histology is often needed in these lesions, it may be possible to forgo initial EUS-FNA and rapid on-site cytology evaluation (ROSE). The goal of this study was to compare the diagnostic accuracy of EUS-FNB alone with a conventional sampling algorithm of EUS-FNA with ROSE followed by EUS-FNB in non-pancreas adenocarcinoma lesions.

Methods: Retrospective cohort study of subjects who underwent EUS sampling of non-pancreatic adenocarcinoma lesions over a 28-month time period (2/2011-5/2013) since introduction of new core biopsy needle (Echotip ProCore, Cook Endoscopy, USA). Lesions included 1) lymphadenopathy or retroperitoneal/mediastinal mass (LRMM), 2) subepithelial mass (SEM), 3) non-adenocarcinoma pancreas, or 4) gastrointestinal wall thickening. Two cohorts were compared: EUS-FNB without EUS-FNA or ROSE (EUS-FNB group) and EUS-FNA with ROSE and if needed, EUS-FNB (EUS-FNA/B group). The primary outcome of this study was to compare diagnostic accuracy, defined as the percentage of total cases where an accurate cytologic or histologic diagnosis was achieved. The secondary outcome was total procedure time.

Results: Over the study period, there were 96 lesions (43 in EUS-FNB, 53 in EUS-FNA/B groups). In the EUS-FNB cohort, SEM was the most common indication (48.8%) followed by LRMM (20.0%). In the cohort of EUS-FNA/B patients, LRMM (50.9%) was the most common indication followed by SEM (26.4%). Mean lesion size was similar between EUS-FNB and EUS-FNA/B groups (23.8 mm vs. 27.6mm, p=0.35). In the EUS-FNA/B group, a median of a 4 (±1.4) EUS-FNA passes were performed prior to either procedure termination or EUS-FNB. A diagnosis was obtained by EUS-FNA alone in 9 patients (17.0%). Overall diagnostic accuracy was similar between the EUS-FNB and EUS-FNA/B groups (83.7% vs. 84.9%, p=NS). [Table 1]. In the subgroup of SEM lesions, diagnostic accuracy remained similar in the EUS-FNB and EUS-FNA/B groups (81.0% and 70.6%, p=0.7). In cases where only a single needle size was used, diagnostic accuracy was numerically greater when a 19-gauge needle was used compared to 22-gauge or 25-gauge needles (Table 2). EUS-FNB procedures were significantly shorter than those in the EUS-FNA/B group (58.4 min vs. 73.5 min, p<0.0001).

Conclusion: EUS-FNB without ROSE has a high diagnostic accuracy in lesions where histology is likely needed. Addition of EUS-FNA and ROSE is associated with increased time and resource utilization but does not improve diagnostic accuracy. This data suggests EUS-FNB without ROSE may be the optimal technique for lesions other than pancreas adenocarcinoma.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
TITLE: Unexpected Hospitalizations and Emergency Room Visits within 30 Days of a Colorectal Cancer Screening-Related Colonoscopy Performed at a Canadian Non-Hospital Endoscopy Unit

PRESENTER: Robert Hilsden
PRESENTER (INSTITUTION ONLY): University of Calgary
PRESENTER (COUNTRY ONLY): Canada

ABSTRACT BODY:

Purpose: To determine the rate of and reasons for unexpected emergency room (ER) and inpatient (IP) stays within 30 days of a colorectal cancer (CRC) screening-related colonoscopy in asymptomatic, generally healthy individuals.

Methods: All 24,145 colonoscopy appointments from 2008 to 2010 at the Forzani and MacPhail Colon Cancer Screening Centre, a publicly-funded non-hospital endoscopy unit, were identified from the endoscopy reporting system Endopro, whether or not the colonoscopy was performed. Patients were ASA I/II, free of significant comorbidities. Colonoscopies were performed by one of 51 gastroenterologists or colorectal surgeons. Patients were linked by their personal health number to provincial administrative databases by Alberta Health Services, the government body responsible for providing all emergency and inpatient care in the province of Alberta. All ER and IP visits (events) from two days prior to 30 days after the scheduled date were identified, and research assistants completed reviews of the hospital chart. Severity of the event was classified using a modification of the NHS Bowel Cancer Screening Programme criteria. Causal relationship to the colonoscopy appointment was established by consensus of three of the authors.

Results: 22,253 patients (47% men, mean age 56, range 17 – 75) had at least one appointment. Indications for colonoscopy were screening (89%), CRC/adenoma surveillance (5%) and positive FOBT (5%). Overall, 498 events were identified (2.1% of appointments), of which 337 (67%) were not related, 138 (28%) were definitely related and 23 (5%) were possibly related to the appointment. 84% of related events occurred within seven days of the colonoscopy. Thirty events occurred prior to the appointment date, of which 6 (21%) were definitely or possibly related to the bowel preparation. 21,518 patients underwent 22,054 colonoscopies. Events definitely or possibly related to the colonoscopy occurred in 146 (0.7%), of which 88 (60%) were ER visits with no associated IP stay. There were seven (0.3/1000) perforations and four (0.2/1000) post-polypectomy syndromes. There were no colonoscopy-related deaths. Event severity was mild in 107 (72%), intermediate in 33 (22%) and major in 9 (6%). The most common colonoscopy-related events were bleeding (n = 63, rate 2.9/1000) and gastrointestinal symptoms (45, 2.0/1000).

Conclusion: Approximately 2.1% of patients had an ER visit or unexpected IP admission immediately prior to or within 30 days of a scheduled colonoscopy, but most are unrelated to the colonoscopy. Events resulting from a colonoscopy occurred in 0.7%, with bleeding and GI symptoms as the most common causes. The majority of colonoscopy-related events occurred within seven days of the test.
AVERAGE SCORE: 4
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: Endoscopic ampullectomy for premalignant lesions involving the duodenal papilla is associated with significant risks. Other endoscopic ablative modalities with less risk would be desirable. Endoscopic cryotherapy has been shown to be effective in the esophagus but there is no data on its safety and efficacy at the papilla due to the potential risks associated with liquid nitrogen expansion in the small intestine. The aim of this study was to assess the feasibility, efficacy and complications of liquid nitrogen spray cryoablation at the duodenal papilla in a porcine model.

Methods: The study was approved by the Institutional Animal Care and Use Committee (IACUC) at our institution. Four 80-100 lbs pigs (sus) underwent liquid nitrogen spray cryotherapy (CSA Medical Inc, Baltimore, MD) at the duodenal papilla. Technical success was defined as successful placement of the cryotherapy decompression tube past the second portion of the duodenum, followed by delivery of liquid nitrogen spray to the duodenal papilla. Safety was determined by monitoring peri-procedural and post-treatment blood tests and clinical course. Clinical efficacy was established by histological evidence of cryogen-induced tissue injury. Cryoablation was initially tested in two non-survival pigs and subsequently assessed in two survival animals. In the survival studies, biopsies from the papilla were obtained prior to cryotherapy. Freeze time of 20 seconds was applied per cycle for a total of 4 cycles per session. All animals were monitored daily for post-treatment adverse events, based on signs of distress, behavior changes, and/or loss of appetite. Blood specimens were obtained prior to treatment, on post-ablation day (POD) #1 and #7 for evaluation of Hb, WBC, liver tests, and pancreatic enzymes. EGD was performed on POD#7 to assess the local effects of cryotherapy and to obtain biopsies for histology. All animals were euthanized at the end of the one-week survival period and necropsy was performed.

Results: Spray cryotherapy was technically successful in all 4/4 (100%) animals. Lab data showed no significant changes following cryotherapy when compared to baseline, except for transient AST elevation on POD#1 with normalization on POD#7 in one animal. The two survival animals thrived without any adverse events. There was no evidence of bleeding, infection (abscess), or bowel perforation on necropsy. Endoscopic evaluation on POD#7 showed edema and superficial ulceration at the duodenal papilla. Biopsies revealed inflammation and mucosal necrosis, consistent with successful cryogen-induced tissue injury.

Conclusion: Our data suggests that endoscopic liquid nitrogen spray cryotherapy is feasible and safe for endoscopic ablation at the duodenal papilla in a porcine model.
AVERAGE SCORE: 3.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
The use of an oral suction device improves patient tolerance to esophagogastroduodenoscopy (EGD)

Purpose: To evaluate the effect of continuous oral suction, performed with two different modalities of local oropharyngeal anesthesia, on patient tolerance to EGD

Methods: In this prospective, single-blinded, placebo-controlled trial, two hundred consecutive patients scheduled for an elective diagnostic EGD, were randomized to one of four study groups: (I) EGD performed with lidocaine spray and continuous oral suction; (II) EGD performed with lidocaine spray; (III) EGD performed with lidocaine gel and continuous oral suction; (IV) EGD performed with lidocaine gel. The lidocaine dose used in all groups was 150 mg.

Patients were informed that intravenous sedation would be given only if needed during the procedure. The gag reflex was assessed before the EGD and the patient tolerance to the procedure was documented by the blinded physicians performing the procedure. The amount of sedatives required during the procedure was also recorded. After the procedure, patients were asked to rate the difficulties encountered during the procedure.

Results: No demographic differences were observed among the four study groups. 53% of patients who had no continuous oral suction, experienced cough during the procedure, compared to only 18% of those who had continuous oral suction (p<0.01). The use of continuous oral suction improved the procedure tolerability for those patients who received the lidocaine spray as the pharyngeal anesthesia (P= 0.031). The use of continuous oral suction had no effect on the amount of sedatives used during the procedure.

The results of this trial confirmed our previous data that the use of lidocaine gel significantly decreased the need for sedatives used during the procedure as 57% of the patients who used the lidocaine gel did not require any intravenous sedation as compared to only 10% of the patients who received the lidocaine spray (P= 0.001). Also, patients who received the lidocaine gel as the pharyngeal anesthesia were more satisfied with the mode of anesthesia as compared to those who received the lidocaine spray.

Conclusion: The use of continuous oral suction during EGD is a promising adjunct to oropharyngeal anesthesia. Its use resulted in a decrease in the cough experienced during the procedure and improved patient tolerance. Thus, it would be ideal to combine the use of posterior lingual lidocaine gel with continuous oral suction to improve patient tolerance to EGD and decrease the need for intravenous sedation.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Purpose: The value of routine ileoscopy during colonoscopy is unclear, but intubation of the terminal ileum (TI) is considered to be the main method of confirming completeness of colonoscopy. TI intubation rates are variable and intubation is often omitted due to time constraints and the perception of little added diagnostic value. Our aim was to assess the diagnostic yield of TI intubation during colonoscopies at our institution.

Methods: A retrospective study was undertaken at our institution. Colonoscopy data over a 5 year period (1st October 2007 to 30th September 2012), were retrieved from the Endoscopy Reporting System database (Unisoft, Enfield, UK). Patients with ileo-caecal resection were excluded. Demographic data, TI pathology (endoscopic and histopathologic) and indications for colonoscopy were analysed.

Results: 8016 colonoscopies were performed with an overall unadjusted caecal intubation rate of 90.3%. The endoscopists were of different grades including gastroenterologists, colorectal surgeons and a nurse endoscopist. 206 with previous ileo-caecal resection were excluded. Further analysis was performed on 7810 colonoscopies. Mean age was 61 with a female preponderance at 52.6%. The TI was intubated in 1845 (23.5%). Endoscopic TI pathology was identified in 42 patients (2.3%). Histology was available for 31, of which 23 (1.3%) had confirmed histological abnormalities. Diagnoses on ileoscopy included one adenocarcinoma, one carcinoid tumour, one metastatic malignant melanoma and 20 with terminal ileitis, of which, 6 had histological features of Crohn's disease. The most common indications in those with TI pathology were diarrhoea (15), abdominal pain (8) and rectal bleeding (8).

Conclusion: Although overall diagnostic yield was low, TI intubation identified significant pathologies requiring further action, including three malignancies. Routine ileoscopy at colonoscopy is a simple manoeuvre, which, apart from quality assurance can identify important pathology. The most common indication in those with confirmed TI pathology was diarrhoea, therefore ileoscopy may have added diagnostic value in this context.
Purpose: Good bowel preparation is essential for optimal visualisation of the mucosa during colonoscopy. The aim of this retrospective study was to evaluate the efficacy of three types of bowel preparation – Picolax (sodium picosulphate), single dose Moviprep and split-dose Moviprep.

Methods: Two groups of patients; bowel cancer screening and symptomatic patients - who underwent colonoscopy at our institution over a 12-month period were identified. Within the two groups, 50 patients receiving each type of bowel preparation were selected providing a total of 300. Data collected included subjective rating of bowel preparation (good, satisfactory, poor), depth of insertion, timing of endoscopy and polyp detection.

Results: In symptomatic patients, 94% prescribed split-dose Moviprep had good or satisfactory bowel preparation with an unadjusted caecal intubation rate of 96%. 80% prescribed single dose Moviprep and 84% prescribed Picolax received the same rating with a caecal intubation rate of 88% and 92% respectively. More colonoscopies done in the afternoon received a ‘good’ bowel preparation rating (65.3% vs 30.8%, p value <0.001) and more polyps (52.6% vs 47.4%) were detected regardless of preparation type. Moviprep was associated with the highest polyp detection rate (61% vs 34%, p value 0.03). In screening patients, 98% prescribed split-dose Moviprep had good or satisfactory bowel preparation. 94% prescribed single dose Moviprep and 90% prescribed picolax achieved the same rating. There was no significant difference in caecal intubation or polyp detection within the screening group.

Conclusion: Split-dose Moviprep (low volume PEG) and colonoscopy performed in the afternoon are two independent factors facilitating better bowel cleansing and higher polyp detection.
AVERAGE SCORE: 6.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: Although split-dose administration of bowel preparations for colonoscopy is recommended by the American College of Gastroenterology, there has been some concern regarding the use of split doses in patients with diabetes. Patients with hypertension and/or obesity may also be more susceptible to adverse events (AEs) after administration of a bowel preparation product. Therefore, we performed a post hoc analysis of results from the SEE CLEAR I study to assess the safety and tolerability of Split-dose sodium picosulfate and magnesium citrate (P/MC; PREPOPİK™), a nonphosphate, low-volume, dual-action, natural orange-flavored bowel preparation, among patients with 1 or more comorbidities that include diabetes, controlled hypertension, and/or obesity (BMI ≥ 30).

Methods: The SEE CLEAR I study was a phase 3, randomized, multicenter, assessor-blinded trial that investigated the efficacy, safety, and tolerability of Split-dose P/MC compared with conventional Day Before dosing of 2L polyethylene glycol solution and two 5-mg bisacodyl tablets (2L PEG-3350 + bisacodyl tablets, HALFLYTELY®) in adults preparing for colonoscopy (Rex D et al, Gastrointest Endosc. 2013;Apr 5. [Epub ahead of print]). In this post hoc analysis, safety was assessed by evaluating AEs; tolerability was assessed by a patient-reported questionnaire.

Results: A total of 174 patients receiving P/MC and 182 patients receiving 2L PEG-3350 + bisacodyl tablets had ongoing diabetes, controlled hypertension, and/or obesity. The most common AEs for each of these comorbidity subgroups included nausea, headache, and vomiting. For example, the incidence of nausea was similar when comparing patients with or without diabetes (2.8% vs 2.9%), with or without controlled hypertension (1.9% vs 4.4%), and with or without obesity (3.1% vs 2.1%). Similar patterns were seen for headache and vomiting among patients in these comorbidity subgroups. More patients with diabetes, controlled hypertension, and/or obesity who received P/MC (86%, 89%, and 91%, respectively) rated their bowel preparation as "very easy" or "easy" to complete than did patients in the comorbidity subgroups who received 2L PEG-3350 + bisacodyl tablets (21%, 27%, and 27%, respectively). These patient ratings are similar to the patient tolerability profile that was reported for the overall study.

Conclusion: Colon cleansing with Split-dose P/MC was safe and tolerable among patients in the SEE CLEAR I study who had diabetes, controlled hypertension, and/or obesity.

Disclosure: This study was supported by funding from Ferring Pharmaceuticals Inc, Parsippany, New Jersey.
FDA Approval: No
Designed Study: Industry
Abstract Author: Industry
AUTH DESIG: ACG Membership Status <font color="red">*</font>:
Gerald Bertiger : ACG Non-Member
Steven Clift : ACG Non-Member
Richard Krause : ACG Non-Member
Raymond Joseph : ACG Member
(No Image Selected)
(no table selected)
AVERAGE SCORE: 5.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Endoscopic Ultrasound is of Limited Benefit in the Management of Obstructing Esophageal Cancers.

Joshua Peck

The Ohio State University Wexner Medical Center

United States

Purpose: Endoscopic Ultrasound (EUS), along with PET scanning, is the current standard of care in the staging of esophageal cancer. The locoregional staging benefit of EUS in directing management of these cancers has been demonstrated. However, the actual importance of EUS staging in obstructing tumors has yet to be determined. The aim of this retrospective study was to observe the impact of EUS in management of individuals with cancer described as partially or completely obstructing on initial diagnostic upper endoscopy.

Methods: We studied 93 patients presenting with esophageal cancer. We collected and analyzed data including the endoscopic presence of obstruction, EUS findings, PET scan findings, and pathology reports from surgical resection. Locally advanced or metastatic disease was defined as T3–4 N0–3 M0 and T1–4 N0–3 M1, respectively.

Results: Among the 93 patients, the mean age was 64.5 and 67 (72%) were male. 64 (68.8%) of the tumors were described as obstructing (either partially or completely). EUS staging of those 64 patients identified 60 (93.8%) with either T3 or N1-3 involvement. Of the remaining four patients, two patients had positive mediastinal lymph nodes on PET scan and were referred for neoadjuvant therapy. The other two patients went to surgery, which showed one with T2N0 staging and the other with T3N1 staging. Thus, 63/64 (98.4%) patients with obstructing lesions had at least locally advanced disease.

By EUS, only one patient was found to have a liver lesion, however resulting cytology was negative. PET scanning identified four patients with evidence of liver metastases. EUS identified metastatic abdominal lymphadenopathy in three patients. PET scan was positive in two of the three patients. In patients with non-obstructing tumors, 14 of 27 (51.8%) were either T3 or N1. No EUS evidence of liver metastases was identified. PET identified one patient with evidence of liver metastasis. EUS demonstrated one patient with distant abdominal metastatic lymph nodes, which was also identified on PET scan.

Conclusion: The overwhelming majority of patients with obstructing esophageal tumors were found to have locally advanced or metastatic disease. The literature has clearly demonstrated the importance of EUS in determining the management of patients with esophageal cancer. However, these studies have evaluated all cancers, obstructing and non-obstructing. It has been our observation that obstructing tumors are typically locally advanced or metastatic at the time of presentation. This study suggests that EUS may be of limited value in the management of obstructing esophageal tumors, and PET scan may be sufficient for triaging patients to neoadjuvant or palliative therapy.
Jonathan Walker: ACG Non-Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 5.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Purpose: Day-before dosing of a bowel preparation for colonoscopy provides a flexible dosing option, which may be important for patients with comorbidities such as diabetes, hypertension, and/or obesity who may be more susceptible to adverse events (AEs). We performed a post hoc analysis of results from the SEE CLEAR II study to assess the safety and tolerability of Day Before sodium picosulfate and magnesium citrate (P/MC; PREPOPIK™), a nonphosphate, low-volume, dual-action, natural orange-flavored bowel preparation, among patients with 1 or more comorbidities that include diabetes, controlled hypertension, and/or obesity (BMI ≥ 30).

Methods: The SEE CLEAR II study was a phase 3, randomized, multicenter, assessor-blinded study. The study investigated the efficacy, safety, and tolerability of Day Before P/MC compared with conventional Day Before dosing of 2L polyethylene glycol-3350 solution and two 5-mg bisacodyl tablets (2L PEG+bis; HALFLYTELY®) in adults preparing for colonoscopy (Katz P, et al. Am J Gastroenterol. 2013;108:401-409). In this post hoc analysis, safety was assessed by evaluating AEs; tolerability was assessed by a patient-reported questionnaire.

Results: A total of 176 patients receiving P/MC and 177 patients receiving 2L PEG+bis had ongoing diabetes, controlled hypertension, and/or obesity. The most common AEs for each comorbidity subgroup included nausea, headache, and vomiting. For instance, the incidence of nausea was similar when comparing patients with or without diabetes (0% vs 2.9%), with or without controlled hypertension (0% vs 6.5%), and with or without obesity (3.3% vs 0%). Similar patterns were seen for headache and vomiting among patients in these comorbidity subgroups. More patients with diabetes, controlled hypertension, and/or obesity who received P/MC rated their bowel preparation as "very easy"/"easy" to complete and rated their experience with the bowel preparation as "excellent"/"good" than patients in these subgroups who received 2L PEG+bis (Table). This is similar to the patient tolerability profile that was found in the overall study.

Conclusion: Colon cleansing with Day Before P/MC was safe and tolerable among patients in the SEE CLEAR II study who had diabetes, controlled hypertension, and/or obesity.

Disclosure: This study was supported by funding from Ferring Pharmaceuticals Inc, Parsippany, New Jersey.
<table>
<thead>
<tr>
<th>Patient Parameter</th>
<th>Diabetes</th>
<th>Hypertension</th>
<th>Obesity</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/MC (n=37)</td>
<td>2L PEG+bis (n=33)</td>
<td>P/MC (n=114)</td>
<td>2L PEG+bis (n=108)</td>
</tr>
<tr>
<td>Bowel preparation is “very easy”/“easy” to complete</td>
<td>34 (92)</td>
<td>14 (42)</td>
<td>100 (88)</td>
</tr>
<tr>
<td>Overall experience with bowel preparation was “excellent”/“good”</td>
<td>35 (95)</td>
<td>22 (67)</td>
<td>104 (91)</td>
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**TABLE TITLE:**

**AVERAGE SCORE:** 6

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Purpose: Patients ≥65 yrs may be more susceptible to adverse reactions with the administration of a bowel preparation before colonoscopy. We assessed the safety and tolerability of sodium picosulfate and magnesium citrate (P/MC; PREPOPIK™), a nonphosphate, low-volume, dual-action, natural orange-flavored bowel preparation, among patients ≥65 yrs using data from 2 previous phase 3, randomized, multicenter, assessor-blinded studies.

Methods: The previous 2 studies investigated the efficacy, safety, and tolerability of Split-dose (SEE CLEAR I) or Day Before (SEE CLEAR II) administration of P/MC compared with conventional day before dosing of 2L polyethylene glycol-3350 solution and two 5-mg bisacodyl tablets (2L PEG+bis; HALFLYTELY®) among adults preparing for colonoscopy. This post hoc analysis assessed safety (adverse events [AEs] and laboratory values), tolerability (patient-reported questionnaire), and efficacy (Aronchick and Ottawa scores) of P/MC among patients who were <65 yrs and patients ≥65 yrs.

Results: Across both studies, P/MC was administered to 111 patients aged ≥65 yrs and 487 patients aged <65 yrs. The overall incidence of treatment-emergent AEs was similar among P/MC patients who were ≥65 yrs (73%) and those who were <65 yrs (71%). The most common AEs for both studies included nausea (1.8% and 3.1%), headache (0.9% and 2.5%), and vomiting (0.9% and 1.0%), and were reported at slightly lower rates among patients ≥65 yrs than those <65 yrs, respectively. Changes in mean serum bilirubin and magnesium levels were transient, returned to baseline levels within 24 hours of colonoscopy, and remained within normal ranges throughout the course of both studies, regardless of patient age. There were no marked changes in other serum electrolytes including sodium and potassium. When comparing patients who received P/MC with those who received 2L PEG+bis, more patients ≥65 yrs who received either Split-dose P/MC (86% vs 31%; P < .0001) or Day Before PMC (90% vs 38%; P < .0001) rated their bowel preparation as very easy/easy to consume than did patients ≥65 yrs who received 2L PEG+bis. More than 80% of patients ≥65 yrs who received either dosing regimen of P/MC rated the taste as excellent/good, compared with only 31% of patients ≥65 yrs who rated the taste of 2L PEG+bis as excellent/good. Based on Aronchick and Ottawa scores, both dosing regimens of P/MC were equally effective at bowel cleansing in patients ≥65 yrs and patients <65 yrs.

Conclusion: Split-dose and Day Before P/MC was safe, tolerable, and efficacious in patients ≥65 yrs and <65 yrs who were enrolled in the 2 SEE CLEAR studies.

Disclosure: This study was supported by funding from Ferring Pharmaceuticals Inc, Parsippany, New Jersey.
**Designed Study:** Investigator

**Abstract Author:** Investigator

**AUTH DESIG: ACG Membership Status**: Sree Kowsika: ACG Non-Member
Divya Vani Sadaram: ACG Non-Member
Murthy Madhira: ACG Member

(No Image Selected)

(no table selected)

**AVERAGE SCORE:** 7.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
TITLE: Is a Follow-up Endoscopic Retrograde Cholangiopancreatography procedure necessary for removal of biliary stents?

PRESENTER: Shashank Ponugoti

PRESENTER (INSTITUTION ONLY): West Virginia University School of Medicine

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Follow-up endoscopic retrograde cholangiopancreatography (ERCP) procedures are routinely performed to remove biliary stents. Simply removing the stents is feasible with upper endoscopy (EGD), which cost less, are technically less challenging, likely more comfortable for the patient and safer from a sedation perspective. But therapeutic interventions requiring ERCP may preclude this option.

Over a 7-year span in a tertiary care referral center analyze the utility of follow-up ERCP for biliary stent removal to determine whether EGD can substitute for ERCP for stent removal.

Methods: After obtaining appropriate institutional IRB, data was collected from procedure notes of ERCPs performed for stent removal January 1, 2005 to December 31, 2011. A total of 430 such procedures were identified. Initial ERCPs done at other institutions and ERCPs for pancreatic stent removal/exchange were excluded from analysis. Patient demographics, ERCP findings and therapies on initial and follow-up ERCP were analyzed. Five groups were identified based on initial ERCP diagnosis: bile leak, choledocholithiasis, benign stricture or obstruction, malignant stricture or obstruction and bile leak with malignancy, stricture or stone.

Results: A total of 284 patients were included in the analysis. The mean age of patients was 56 years; 117 were male and 167 were female. On follow-up ERCP in the bile leak group only, 16% of patients (5/31) required therapy that would only be feasible with an ERCP (removal of stones or sludge in 4, and replacement of a stent 37 days post-initial stent placement for non healing of leak in 1 patient). In contrast, 90% of patients with choledocholithiasis (114/127), 82% of patients with benign stricture or obstruction (63/77), 100% of patients with malignant stricture or obstruction (44/44) and 100% of patients with multiple etiology including bile leak with malignancy, stone or stricture (5/5), required therapy that could only have been accomplished with a follow up ERCP. The two most common therapies in follow-up ERCPs were stone and sludge removal in 57% (144/253) and stent replacement in 39% (99/253).

Conclusion: In this larger study spanning 7 years, patients with uncomplicated bile leak appear to require a follow-up ERCP for stent removal in only 16% of cases. In contrast, a higher incidence of findings requiring ERCP-related interventions necessitates the performance of follow-up ERCP in initial conditions other than bile leak. A larger, multicenter, prospective study may be necessary to determine if EGD might substitute for ERCP in uncomplicated bile leak patients.

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

Shashank Ponugoti : ACG Member
Ravi Juluri : ACG Member
Umapathy Sundaram : ACG Member
(No Image Selected)

*No table selected*
REVIEWER COMMENTS:
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: This study would have been presented better as an observational study of the findings and therapeutic interventions during follow-up ERCP in patients in whom simple stent removal is planned. It is clear from the study that there is no population of patients in whom a prior the value of follow-up ERCP is so low that it can be a priori eliminated in favor of simple EGD/stent removal. |Shin'ichi Takahashi: [No Comments]
A Single-Blind, Prospective Study for Evaluation of Transnasal Endoscopy in Patients with Roux-en-Y Gastric Bypass Referred For Upper Endoscopy

Purpose: To determine if transnasal esophagogastroduodenoscopy (EGD) is equivalent to transoral EGD in the detection of anastomotic ulcers and strictures in patients with complications after a Roux-en-Y gastric bypass (RYGB).

Methods: Patients with a RYGB who were referred for an EGD for abdominal pain, vomiting, nausea, or dysphagia were enrolled prospectively. After deep sedation using propofol was administered by the anesthesia team per standard endoscopy unit protocol, endoscopy was first performed transnasally with a slim scope (Pentax EG-1870K, 6 mm outer diameter). The presence or absence of pathology was documented and the scope was withdrawn. A second endoscopist blinded to the results then performed a transoral endoscopy with a routine diagnostic endoscope (Pentax EG-2990i, 9.8 mm outer diameter). The presence or absence of pathology was determined and documented. Further therapeutic maneuvers (e.g. dilation of stricture) were then performed as the clinical scenario dictated.

Results: Eight patients (seven female) with mean age of 45 (range 22-60) were enrolled in our study. In 6 patients (75%), transnasal and transoral endoscopy yielded similar diagnostic findings. The anastomotic diameters estimated on transnasal and transoral endoscopy were similar, with mean values of 10.3 mm and 12.5 mm, respectively (p value 0.21). In one patient (patient 7) there was a 5 mm ulcer present that was unseen on transnasal endoscopy. In another case (patient 1), a physician was unblinded to the results of transnasal endoscopy after a marginal ulcer was discovered and the standard endoscope could not traverse a stricture. In three cases, transnasal endoscopy was complicated by self-limited nosebleeds.

Conclusion: These initial results of our ongoing prospective study have shown the diagnostic utility of transnasal endoscopy in patients with complications after a RYGB. Specifically, the detection of ulcers and estimation of anastomotic diameter on transnasal endoscopy was shown to be comparable to that of traditional transoral. Implicit is the potential diagnostic yield while avoiding anesthesia and increased endoscopic resources. While further examination of a larger patient population is needed, this initial data shows promise in establishing the transnasal endoscopy as a useful diagnostic tool in this patient population.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:

Peter Draganov: [No Comments] | Vanessa Shami: [No Comments] | Stavros Stavropoulos: Very small number of pts. Anesthesia was used for the transnasal endoscopy limiting the validity of the study (a more abbreviated and technically more difficult transnasal examination would be expected in unsedated patient). One of the larger transnasal endoscopes was used (6 mm) resulting in nosebleeds in over 1/3 of patients. It is unlikely that such traumatic procedure would have been tolerated by an awake patient. | Shin'ichi Takahashi: [No Comments]
Purpose: Esophageal obstruction occurs from either intrinsic or extrinsic etiologies. Intrinsic causes are more common and largely due to malignancy. The majority of esophageal cancer patients are not resection candidates, requiring palliative stent placement. SEMS (self-expanding metal stents) are thought to be preferable to SEPS (self-expanding plastic stents) for palliation of malignant disease due to perceived decreased technical difficulties and stent migration rates. Data using SEPS in benign disease are mixed and report success rates between 17 to 95%. In addition, SEPS are not routinely recommended due to complications. The aim of the study was to retrospectively compare safety, efficacy, clinical outcomes and placement ease of SEMS and SEPS in benign or malignant esophageal stenosis.

Methods: All patients at UFCOM-Jacksonville endoscopy laboratory having EGD with stent placement for benign or malignant esophageal stenosis between January 2005 and April 2012 were eligible for study. Patients without stent placement at the completion of EGD were excluded. Data collected included patient demographics, procedure time, stent cost and clinical outcomes (technical success of stent placement, procedure-related complications, need for subsequent re-intervention, length of hospital stay and mortality).

Results: Forty three patients underwent stent placement for either benign or malignant disease during the study period. SEMS were placed in 30 patients (25 male, mean age 59.6 yrs old) and SEPS were used in 13 patients (10 male, mean age 61.7 yrs old). Placement outcome of SEPS compared to SEMS did not differ statistically. Complication rate in the SEPS group was 23.1% compared with 25.2% in the SEMS group. Stent migration was the most frequent complication, occurring in 66.7% in the SEPS group compared with 57.1% in the SEMS group. In-hospital mortality was also similar: 7.7 % (SEPS) compared with 6.7 % (SEMS). Procedure time, need for re-intervention, survival after procedure, length of hospital stay and time to first complication were also not significantly different between SEPS and SEMS groups. Interestingly, metal stents were more expensive than plastic stents with an institution cost difference of approximately $205/stent and even higher patient costs.

Conclusion: SEPS and SEMS placement produced similar outcomes for either benign or malignant esophageal occlusion. SEPS are less costly than SEMS and it may be more practical to initially use SEPS due to this factor. If all patients who received SEMS had SEPS placed instead, a significant cost reduction would be realized for this patient cohort.
AVERAGE SCORE: 4.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Relevance uncertain as SEPS are rarely used currently. Unclear what the proportions of malignant and benign lesions was and what the selection criteria were for use of SEPS vs SEMS in this retrospective study. 57% migration rate for SEMS is very high especially for a series including malignant disease. Maybe fully covered stents were used. The type of SEMS used (diameter and FC vs PC) is not provided. 7-8% mortality on the index hospital stay appears high for a series including benign disease.|Shin'ichi Takahashi: [No Comments]
Objective Evaluation of a New Endoscopic Ultrasound (EUS) Processor

Ji Young Bang

Center for Interventional Endoscopy, Florida Hospital

United States

Background: Image quality is critical for EUS examinations. High-end EUS processors have advanced features, but are expensive, space-consuming and not easily portable. Smaller-sized processors are more economical and portable, but have fewer features and are limited by image quality. A new EUS processor has recently been developed with the objective of being more versatile in functionality, portable and able to generate high-quality imaging.

AIM: To evaluate the technical performance of a newly developed EUS processor.

Methods: Device description: EUS processor EU-Y0006 (Olympus Medical Systems Corp.) is a compact, portable system with a touch screen keyboard. The processor has Tissue Harmonic Echo capability with penetration (THE-P) and resolution (THE-R) modes, pulse wave doppler and high-resolution flow mode.

Study design: This is a prospective, single-blind study that compared the performance of the new EU-Y0006 processor with a commercially available high-end processor (ProSound Alpha 10, Hitachi Aloka Medical Ltd.). Visiting (observer) endosonographers (experience >150 procedures) were instructed to observe and grade image quality generated by both processors in individual patients. The top borders of image monitors were masked so as to blind the observer to source generator. Examinations were initiated in random sequence with either processor. Without withdrawing the echoendoscope, the generators were changed and the examination was continued. Given the predefined criteria and clinical importance, only pancreatic exams were included: suspected chronic pancreatitis (CP), solid pancreatic masses (SPM) and pancreatic cysts (PC). The overall image quality was graded 0-5 and morphological features of disease states were compared in individual patients.

Results: 43 observations were performed on 24 patients: CP (n=10), SPM (n=6) and PC (n=8). There was no significant difference in the median score for overall image quality in PC (5 vs. 5, p=0.63) and SPM (5 vs. 5, p=0.66), or for total number of EUS criteria (n=9) in CP (3 vs. 3, p=0.99) and SPM (5 vs. 5, p=0.66) between Alpha 10 and EU-Y0006 processors, respectively. No significant difference in vascular or nodal involvement, metastasis or ascites (p=0.99) and cyst morphology (p>0.05) was observed between both processors. Although statistically insignificant, cyst-duct communication (0 vs. 21.4%, p=0.22) and septations (14.3 vs. 35.7%; p=0.39) were observed more definitively with EU-Y0006.

Conclusion: Technical performance of the new EUS processor was comparable to that of the currently available high-end EUS processors. This development has implications for decreasing EUS capital equipment costs and for further dissemination of EUS technology.

Financial Relationships: Yes

Extra Info: Dr Shyam Varadarajulu - Consultant for Olympus Corp. and Boston Scientific, involved with teaching, research and development

Dr. Robert Hawes - Consultant for Olympus Corp. and Boston Scientific, involved with teaching, research and development

FDA Approval: No
**Designed Study:** Investigator

**Abstract Author:** Investigator

**AUTH DESIG: ACG Membership Status:**
- Ji Young Bang: ACG Member
- Muhammad Hasan: ACG Non-Member
- Amy Logue: ACG Non-Member
- Robert Hawes: ACG Member
- Shyam Varadarajulu: ACG Member

(No Image Selected)

(no table selected)

**AVERAGE SCORE:** 5.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
- Douglas Adler: [No Comments]
- Todd Baron: [No Comments]
- Priya Jamidar: [No Comments]
- Ali Siddiqui: [No Comments]
Purpose: Endoscopic cyst gastrostomy and pancreatic necrosectomy has emerged to be one of the main options for treatment of infected pancreatic pseudocyst or walled off pancreatic necrosis. One of the limitation of successful endoscopic drainage in these situations is the small size of the gastrostomy created (usually around 1cm) and the large amount of necrotic material within the cyst/abscess cavity. In this case series we describe our technique of creating large gastrostomy opening (2cm) with hydrogen peroxide irrigation to facilitate abscess/cyst cavity drainage and hence improve the successfulness of the endoscopic intervention.

Methods: This case series demonstrates our modified endoscopic ultrasound (EUS) guided cyst-gastrostomy technique using the following:

1. Creation of an extended cyst gastrostomy by gastrostomy dilation up to 2 either with:
   a. Single stage dilation: if the EUS showed no blood vessels within the puncture site and the CT scan demonstrates a mature cyst wall
   b. Dilation of a pre-existing cyst gastrostomy: in patients with gastric varices or immature cyst wall

2. Direct endoscopic examination of the cavity with hydrogen peroxide irrigation to debride adherent necrotic tissue

3. Placement of two 10 French double pig tail stents to keep the gastrostomy tract open.

Results: Four cases (2 M, 2 F) were included in this series. Mean age was 54.7 yrs. Three patients had walled off pancreatic necrosis and one patient had pancreatic abscess after distal pancreatectomy. Resolution of the cyst or abscess cavity was achieved in all patients. No complication were reported.

Conclusion: With our technique, patients required a single session or at maximum two-staged sessions of endoscopic pancreatic necrosectomy prior to resolution of the cyst/abscess cavity.
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Only 15 patients including carcinoid patients. The study appears to basically follow a relatively established algorithm for stage-dependent management of rectal lesions and thus reads as a simple study of the accuracy of T staging of rectal ultrasound with pathology as gold standard. This has been studied and reported on in larger well designed studies.|Shin'ichi Takahashi: [No Comments]
Purpose: Atrophic gastritis (AG) is a well-characterized premalignant condition with a significantly increased risk for developing gastric neoplasia. A rigorous upper endoscopy surveillance program has been shown to undoubtedly reduce this risk. However, white light endoscopy random multiple biopsies in the regular standard of care missed lesions of high grade dysplasia and neoplasia in atrophic gastritis with commonly in patchy distribution. Recently, multiple new endoscopic imaging technologies such as chromoendoscopy with indigo carmine, which, with increased sensitivity, are able to obtain, and confocal laser endomicroscopy (CLE), which is developed to provide a more detailed visualization of the mucosa by enhancing morphology and vascularization with high specificity.

Methods: In this prospective clinical trial, 20 patients from the First Hospital of Jilin University undergoing endoscopic screening and surveillance for AG were enrolled. High-definition white light endoscopy followed by indigo carmine sprayed in the antrum was performed to search for highly interested spot of lesions in antrum, followed by the CLE scan performed by two endoscopists experienced more than 30 CLE examinations and biopsy for standard histological pathologic diagnosis as “gold standard”, and sent to a single GI pathologist to provide diagnosis. The endoscopists CLE diagnosis and standard pathologic diagnosis were compared.

Results: The comparison of CLE plus chromoendoscopy to histological pathology diagnosis is sensitivity 89.00%, and specificity 87.50% in atrophic gastritis (Kappa=0.0495, 0.4<k<0.75), sensitivity 97.98%, specificity 94.59% (Kappa=0.557, 0.4<k<0.75).

Conclusion: CLE has significant consistency to the pathology diagnosis in the atrophic gastritis and intestinal metaplasia. CLE with chromoendoscopy enhances the diagnostic accuracy, clinical real-time result and decision. CLE with chromoendoscopy has potential advantage for diagnosis and treatment of atrophic gastritis.
Purpose: Following the devastation of Hurricane Sandy, all three New York University (NYU) Hospital Centers (Manhattan Veterans Affairs Medical Center (VAMC), Bellevue Hospital Center and Langone Medical Center) were forced to temporarily shut down operations. During this time, all housestaff were systematically relocated to nearby hospitals in order to continue training. All Manhattan VAMC gastroenterology trainees were relocated to the Brooklyn VAMC. We compared the performance of gastroenterology trainees at their home site (Manhattan VAMC) prior to the disaster, with their performance after being transferred to the Brooklyn site after the disaster in order to assess the impact of a natural disaster and relocation on colonoscopy performance. The primary aim of our study was to examine the impact of relocation of gastroenterology trainees following the devastation caused by Hurricane Sandy on colonoscopy performance benchmarks.

Methods: We studied eleven gastroenterology fellow trainees who performed a total of 202 colonoscopies prior to Hurricane Sandy and 175 colonoscopies after Hurricane Sandy, over a 5-month period. We analyzed differences in total colonoscopy procedure time, colonoscopy insertion time to cecum, colonoscopy withdrawal time, adenoma detection rate (ADR), cecal intubation rate, and the amount of sedation administered from pre-Hurricane Sandy and post-Hurricane Sandy procedures.

Results: We compared the 202 colonoscopies performed by eleven gastroenterology fellows prior to Hurricane Sandy at the Manhattan VAMC with 175 colonoscopies performed by the same eleven gastroenterology fellows at the Brooklyn VAMC after the disaster. There were no differences in the sedation requirements for colonoscopies performed before or after the disaster. Still, the disaster seemed to have impacted colonoscopy performance as insertion time to cecum (15.48 min vs. 17.83 min, p=0.0089) and total procedure time (33.64 min vs. 36.24 min, p=0.0318) were significantly increased after the disaster, compared to before the disaster. Average withdrawal time (18.53 min vs. 18.63 min, p=0.5973) and ADR (38% vs. 37%, p=0.8308) were not impacted by displacement. Successful cecal intubation was achieved in 97% of the colonoscopies before relocation and in 94% of the colonoscopies after relocation (p=0.2078).

Conclusion: In our study, the relocation of fellow trainees following Hurricane Sandy, a natural disaster which caused closure of the NYU Hospital Centers, was associated with longer insertion and total procedure times, but not cecal intubation rate or ADR. Whether performance was impacted by the stress of the disaster or unfamiliarity with working at an unfamiliar site will be explored.
AVERAGE SCORE: 5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
TITLE: Mid-afternoon vs. evening start time for Polyethylene glycol preparation in hospitalized patients undergoing next day colonoscopy

PRESENTER: Syed Mahmood

PRESENTER (INSTITUTION ONLY): Department of Medicine, Massachusetts General Hospital

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Compared to outpatients, it is more challenging to consistently achieve high quality bowel preparation in hospitalized patients. Reasons include wide variability among centers in use of protocols such as ‘split’ preparation dosing and ‘morning only’ dosing for afternoon colonoscopy. Additionally, not all centers use dedicated endoscopy rooms for inpatients, which would allow standardization of procedure times. Hence, it is important to improve existing guidelines for timing of inpatient preparation administration, to maximize bowel preparation efficiency. We tried to identify the most efficient start time for inpatient Polyethylene glycol preparation for next day colonoscopy.

Methods: Our hospital uses a six point descriptive bowel preparation assessment scale, which is a modification of the validated Aronchick scale. We classified bowel preparations as ‘acceptable’ only if patients had their bowel preparations graded as ‘Excellent’, ‘Good’ or ‘Adequate’ on the scale. Our center used Polyethylene glycol (PEG) for bowel preparation. Statistical calculations demonstrated that we needed 103 patients in the five pm-midnight group and 103 patients in our 2pm-5pm group, to demonstrate a 20% difference in acceptable bowel preparation rates (Power 80%; Alpha error of 0.05). Data was collected prospectively (daily from the endoscopy suite) and analyzed retrospectively.

Results: At baseline, we found wide variation in PEG start times (60% patients started 5pm to midnight, 27% noon to 5pm and 13% midnight to noon) as well as a lack of consistency in procedure start times (67.7% started noon-5pm, 31.7% 8am-noon and 0.6% had their procedures after 5pm). Crude analysis of differences between pre-noon and post-noon colonoscopies is tabulated below:

<table>
<thead>
<tr>
<th>Next day Cscope procedure time</th>
<th>Prep start time</th>
<th>% of 'acceptable' preps</th>
<th>n</th>
</tr>
</thead>
</table>

Conclusion: For hospitalized patients, strategies such as ‘split dosing’ and ‘morning only’ preparation are not always consistently used. Inpatients tend to be sicker, older and with more co-morbidities as compared to outpatients. In the presence of these challenges, we tried to ascertain best time to start bowel prep for inpatients (afternoon start time vs. evening start time) in anticipation of next day colonoscopy. Preliminary data suggests a trend towards higher average efficiency of bowel preparation with an afternoon start time. This trend remained the same regardless of whether the procedure was pre-noon or post-noon the next day.

CURRENT CATEGORY: K. Endoscopy

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>:

Syed Mahmood : ACG Non-Member

Emily Campbell : ACG Non-Member

James Richter : ACG Member

(No Image Selected)
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<td>Post noon only</td>
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<td>38</td>
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</table>

**TABLE TITLE:**

**AVERAGE SCORE:** 5

**REVIEWER FLAGS:** Douglas Adler - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Purpose: The merits of rectal ultrasound for rectal cancer staging are well documented. Conventional approaches to accessing perirectal and presacral lesions entail CT guidance via a transgluteal approach or frank surgical exploration. We report on the safety and efficacy of performing rectal ultrasound with FNA for evaluating presacral and perirectal abnormalities.

Methods: All patients who underwent rectal ultrasound with fine needle aspiration of either perirectal or presacral lesions between August 2005 and November 2012 were identified using an institutional database. Patient demographics, presenting symptoms, and imaging characteristics were noted. Procedural details included lesion size, location, echo appearance, and technical information. All patients were given antibiotics prior to FNA attempt and for three days after. Diagnostic yield, clinical utility, and complications were noted.

Results: Twenty-six patients met criteria during the specified study time period, with an average age of 50 (range: 19-80). The cohort consisted of 11 males (42.3%) and 15 females (57.7%). Presenting symptoms included: None (10, 38.5%), pelvic pain (5, 19.2%), back pain (2, 7.7%), diarrhea (1, 3.8%), vomiting (1, 3.8%), and hematochezia (1, 3.8%). Six patients (23.1%) presented after a physical, surgical, or endoscopic abnormality. Twelve patients (46.2%) had known prior rectal or colon adenocarcinoma. One (3.8%) patient had known endometriosis, and one had known esophageal adenocarcinoma. Final results are summarized in Table 1. RUS-FNA was diagnostic in 23 patients (88.5%) and allowed 12 (46.2%) patients to forgo surgery. In total, there were four complications (15.4%), each of which was an abscess, either perirectal or presacral, presenting with fever and pain. Three required I&D, and one required surgical excision.

Conclusion: While the diagnostic yield of transrectal FNA is high and the potential to affect clinical decision making is substantial, the risk of complication is not negligible. Transrectal FNA should only be performed if the result will substantially alter clinical management, and the decision to perform transrectal FNA should be made with close consultation between the endosonographer, surgeon, and/or medical or radiation oncologist.

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Size (cm)</th>
<th>Average Findings</th>
<th>Complication</th>
</tr>
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</table>

Table 1
<table>
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<tr>
<th>Number of Passes</th>
<th>Presacral Mass (n=12)</th>
<th>Perirectal Abnormality (n=12)</th>
<th>Perirectal Node (n=2)</th>
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<tr>
<td></td>
<td>4.2 (range: 2.5-7.6)*</td>
<td>2.7 (range: 1.3-4.5)</td>
<td>0.95 (range: 0.9-1.0)</td>
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<tr>
<td></td>
<td>2.6 (range: 1-5)</td>
<td>2.9 (range: 1-5)</td>
<td>4 (both 4)</td>
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<tr>
<td></td>
<td>Adenocarcinoma (n=4)</td>
<td>Adenocarcinoma (n=2)</td>
<td>Benign lymphoid hyperplasia (n=2)</td>
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<tr>
<td></td>
<td>Cystic lesion (n=3)</td>
<td>Squamous cell carcinoma (n=2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other benign cells (n=2)</td>
<td>Other benign cells (n=4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Myelolipoma (n=1)</td>
<td>Cystic lesion (n=1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sarcoma (n=1)</td>
<td>Seminal vesicle (n=1)</td>
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<td></td>
<td>Non-diagnostic (n=1)</td>
<td>Non-diagnostic (n=2)</td>
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</tr>
<tr>
<td></td>
<td>3 (25%)</td>
<td>1 (8%)</td>
<td>0</td>
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</table>

*Does not include 16cm sarcoma for which measurement on endorectal ultrasound was not available*
Purpose: Chronic kidney disease (CKD) is an emerging risk factor for upper gastrointestinal (UGI) bleed. This study will determine the clinical and laboratory prediction variables associated with esophagagogastroduodenoscopic (EGD) findings in CKD patients with anemia suspected for a UGI bleed.

Methods: This is a single center, retrospective study at a university medical center over 5 years (January 2008 to December 2012). Patients with chronic kidney disease (CKD) stage III and above with an EGD were reviewed for clinical, laboratory, and endoscopic findings. Two groups CKD stage III/IV and CKD V/ESRD subset on hemodialysis (HD) were analyzed separately with univariate and multivariate logistic regression analysis to determine the predictors of UGI bleed and positive EGD findings.

Results: A total of 327 CKD patients (stage III 129, stage IV 51, and stage V 147 subset 92 HD) with anemia and other indications (UGI bleed 32.1%, GERD 27.8%, occult GI bleed 16.8%, and nausea, vomiting, and abdominal pain 15.5%) underwent a diagnostic EGD. Mean age 62(20 -93 years). There were 181 males and 146 females. Positive EGD findings were seen in 71.2% patients (esophagus 26.6%, stomach 29.9%, and duodenum 25.4%).

Univariate analysis revealed risk factors for EGD findings and UGI bleed include cirrhosis, coumadin use, lack of proton pump inhibitor (PPI) use, lower admission hemoglobin (Hb), and greater difference in baseline Hb to pre-procedure Hb (p<0.05). The common predictors for a UGI bleed were a lower Hb on admission (stage III/IV 7.65±1.91 vs. 9.05±2.69, p = 0.001 and stage V/ESRD 7.24±1.46 vs. 8.39±2.22, p = 0.002) and greater difference in baseline Hb to pre-procedure Hb(stage III/IV 4.02±2.13 vs. 2.95±1.73 p = 0.001 and stage V/ESRD 4.08±1.91 vs. 3.35±1.91, p = 0.036).

Similar results were seen on multivariate regression analysis. The unique predictors of UGI bleed in CKD III/IV were atrial fibrillation diagnosis and in CKD V/ESRD was HD use. However, the greatest predictor of a UGI bleed and EGD findings was a greater difference in baseline Hb to pre-procedure Hb(p<0.05).

Conclusion: Our study showed that most anemic patients with CKD stage III and above with a suspected UGI bleed were more likely to have positive EGD findings. These patients were at high risk for UGI bleed. The greatest predictor of UGI bleed and EGD findings was a greater difference in baseline Hb to pre-procedure Hb. A trend in Hb from baseline to pre-procedure is probably the most powerful tool in identifying the urgency of an EGD in patients with CKD.
TITLE: How Relevant is Pre-gastrointestinal Endoscopy Screening for HBV and HIV Infections among Nigerian Patients?

PRESENTER: Adegboyega Akere

PRESENTER (INSTITUTION ONLY): University of Ibadan/University College Hospital

PRESENTER (COUNTRY ONLY): Nigeria

ABSTRACT BODY:

Purpose: This was to determine the prevalence of HBV and HIV infections among Nigerian patients referred for gastrointestinal (GI) endoscopy, and to evaluate the need for pre-screening of patients prior to this procedure.

Methods: The data of 772 Nigerian patients referred for (GI) endoscopy were retrospectively reviewed, but out of this number, only 711 patients had the results of their screening tests for HBV and HIV infections available for appraisal. The screening method used for both infections was ELISA.

Results: The 772 patients consisted of 420 (54.4%) males and 352 (45.6%) females with a mean age of 50.4±16.5 years and range of 10-100 years. Of the 711 patients with screening results, 574 (80.7%) had UGI endoscopy, while 137 (19.3%) had Colonoscopy. The results showed that 82 (11.5%) and 26 (3.7%) patients were positive for HBV and HIV infections, respectively. Out of the number with HBV infection, 71 (86.6%) had UGI endoscopy, while among those with HIV infection, 21 (80.8%) had UGI endoscopy (P= 0.95). Among the patients with HBV infection, 41(52.6%) were between the ages of 30-49 years, compared to other age groups (P= 0.018). Among the patients with HIV infection, 10 (38.4%) were between the ages of 30-49 years. Six (23.1%) patients were less than 30 years of age (P= 0.39).  

Among those with HBV infection, 62 (75.6%) patients were males, while 20 (24.4%) were females, and this was significant (P= 0.00). Among the patients with HIV infection, 16 (61.5%) were males, while 10 (38.5%) were females (P= 0.39). Co-infection of HBV and HIV was observed in eight (1.1%) patients, out of which three (37.5%) patients were in the age group 40-49 years. Six (75.0%) of these patients were males, while two (25.0%) were females (P=0.29) Table 1

Conclusion: The high prevalence of HBV and HIV infections observed in this study calls for high level precaution to prevent transmission of these infections. Pre-screening of Nigerian patients for HBV and HIV infections is advisable, and the option of dedicating scopes to positive patients may be warranted.

CURRENT CATEGORY: K. Endoscopy

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>: Adegboyega Akere : ACG Member  
Jesse Otegbayo : ACG Member  
Samuel Ola : ACG Non-Member

(No Image Selected)

Table 1: Age ranges of Patients with HBV and HIV infections

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<thead>
<tr>
<th>Age (yrs)</th>
<th>HBV</th>
<th>HIV</th>
<th>Co-infection</th>
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^ ACG Membership Status: Adegboyega Akere - ACG Member, Jesse Otegbayo - ACG Member, Samuel Ola - ACG Non-Member.
<table>
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<tr>
<th>Age Range</th>
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<th>50 – 69</th>
<th>above 70</th>
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<tr>
<td></td>
<td>10(12.8%)</td>
<td>41(52.6%)</td>
<td>21(26.9%)</td>
<td>6(7.7%)</td>
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<td>6(23.1%)</td>
<td>10(38.4%)</td>
<td>7(26.9%)</td>
<td>3(11.5%)</td>
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<tr>
<td></td>
<td>2(25%)</td>
<td>4(50%)</td>
<td>1(12.5%)</td>
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<td><strong>Total</strong></td>
<td><strong>82</strong></td>
<td><strong>26</strong></td>
<td><strong>8</strong></td>
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**TABLE TITLE:** Table 1: Age ranges of Patients with HBV and HIV infections  
**AVERAGE SCORE:** 5.75  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Douglas Adler: [No Comments]  
Todd Baron: [No Comments]  
Priya Jamidar: [No Comments]  
Ali Siddiqui: [No Comments]
Purpose: Videocapsule endoscopy (VCE) enables excellent visualization of the entire small bowel mucosa in a non-invasive fashion. Metanlyses have established that the accuracy of VCE for the diagnosis of Crohn’s disease (CD) is superior to ileocolonoscopy and CT enterography. This modality may be also useful in patients with an established diagnosis of CD. However, scarce data exist of the impact of VCE findings on the management of patients with established CD. The aim of this study is to examine the impact of VCE on the management of patients with established CD.

Methods: Retrospective cross-sectional study in a tertiary IBD center. The study cohort included all consecutive patients (1/2009-3/2013) with established CD who underwent VCE. Clinical and demographic data were extracted from patients’ files and electronic records. All the capsule endoscopy studies were performed using the SB II capsule (Given Imaging, Yokneam, Israel) after administration of a patency capsule (PC). The presence of small bowel mucosal inflammation on VCE was quantified using the Lewis score (LS).

Results: Twenty-eight patients with CD were included in the study. The PC was eliminated from the small bowel after 30 hours in 24/28 (85.7%) patients (age 33 ± 13 y, 75% F, age of onset – 24 ± 12 y). Disease location: ileal - 38%, ileocolonic - 42%, colonic - 20%. VCE was performed for the following indications: unexplained symptoms (62.5%), assessment of extent of small bowel disease in patients with known colonic or terminal ileal disease (20%), evaluation of unexplained anemia (4%) and evaluation of mucosal healing in patients in clinical remission (17%). Inflammatory markers (CRP or fecal calprotectin) were elevated in 55% of the patients. VCE was normal in 25% of the patients. The exam was consistent with mild and moderate to severe enteritis in 29% and 46%, respectively, with mean LS of 1429 ± 1521. The management of the patients was changed as a result of VCE findings in 67% of the patients. Management changes included escalation of medical therapy (anti-TNF agent initiated in 25%, anti-TNF dose escalated in 12.5%, azathioprine initiated in 25%, enteric coated budesonide initiated in 6.25% and tacrolimus initiated in 6.25% of the patients), referral for surgery in 6.25% of the patients and de-escalation of anti-inflammatory therapy or initiation of therapy for concomitant IBS in 18.75% of the patients. Small bowel disease was diagnosed in 40% of patients by VCE initially diagnosed with isolated colonic CD. No capsule retentions occurred.

Conclusion: VCE findings had a significant impact on treatment of patients with established Crohn’s disease and should be considered a very safe and valuable tool in evaluation and management of these patients.
Waqqas Afif : ACG Non-Member
Talat Bessissow : ACG Non-Member
Ernest Seidman : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 5.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: Subepithelial lesions of the gastrointestinal tract have become more prevalent due to detection during endoscopy and radiographic imaging. Accurate diagnosis of these lesions remains challenging. Endoscopic ultrasound (EUS) with fine needle aspiration (FNA) has been the gold standard for characterization and definitive sampling of these lesions. The cytologic yield with FNA is suboptimal, and ranges between 38-82%. Previously described in a small case series, EUS-guided single incision with needle knife (SINK) biopsy is a novel technique for histologic sampling of these lesions (Serna-Higuera, et al). We review the safety and efficacy of our center’s experience with the largest case series to date using EUS-guided SINK for diagnosis of subepithelial lesions.

Methods: From 2008-2013, a single endosonographer (AMD) at Carolinas Medical Center performed 25 EUS-guided SINK biopsies for various submucosal lesions in the stomach or duodenum. Procedure notes and pathology reports were reviewed. After EUS, a needle knife sphincterotome was used to make a small, submucosal incision, allowing passage of biopsy forceps to directly sample the lesion. Data for the procedures including diagnostic accuracy and complications were reviewed.

Results: Twenty-five patients with gastrointestinal subepithelial lesions who underwent EUS-guided SINK biopsy were reviewed (Table 1). In the three patients with previously non-diagnostic EUS-guided FNA, a subsequent tissue diagnosis was made with SINK biopsy. In total, our review shows a success rate of 92% (23/25) for diagnosis without complication.

Conclusion: We report the largest series of lesions undergoing EUS-guided SINK biopsy for definitive diagnosis of subepithelial lesions with 92% success and no complications. This novel method of tissue acquisition can significantly impact diagnostic yield with an excellent safety profile.
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<th>Grade</th>
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**TABLE TITLE:** TABLE 1  
**AVERAGE SCORE:** 4.25  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Douglas Adler: [No Comments]  
Todd Baron: [No Comments]  
Priya Jamidar: [No Comments]  
Ali Siddiqui: [No Comments]
TITLE: Plasma Transfusion for Gastrointestinal Hemorrhage in the Pre-Hospital Setting in Appropriately Chosen Patients can be Beneficial

PRESENTER: Jason Puckett

PRESENTER (INSTITUTION ONLY): Mayo Clinic

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Hemostatic resuscitation in patients with coagulopathies relies on early and aggressive plasma infusion. Patient selection is crucial, as plasma is limited and expensive. Our group previously evaluated outcomes of patients receiving plasma in the rural setting during air ambulance transport per defined selection criteria. To confirm the validity of our selection of patients, we sought to compare the original data to a group of patients who were not empirically infused with plasma.

Methods: Comparison between 17 patients transported to our institution who met criteria through our plasma transfusion protocol from February, 2010 and April, 2012 to a second group of 27 patients who were transfused only with packed red blood cells. The 2 groups were then analyzed using chi-square, Fisher exact, 2-sample Student’s t-test, and Wilcoxon rank-sum tests as appropriate. Examined variables included gender, age, mortality, length of stay, change in international normalized ratio and admission to the intensive care unit.

Results: 76.4% of the plasma-transfused patients required endoscopy in comparison to 85.1% of the non-plasma transfused patients. The average time from admission to endoscopy was 410 minutes for the plasma-infused patients compared to 578 minutes in the non-transfused group (p=0.4). Endoscopic findings included duodenal ulcers, esophageal varices, esophageal ulcerations, Mallory-Weiss tear, antral ulcer, friable colonic vessel and no findings to explain bleeding. Hemostasis after endoscopy, length of hospital stay, time to endoscopy, re-bleeding rates and need for surgery were also similar between the 2 groups. Mortality was not different between the 2 groups (11.8% vs. 3.7%, p=0.3). As expected, the only examined variables found to be significant were the pre-transfused INR (4.1 vs. 1.4, p= 0.0005) and change in INR after plasma transfusion (2.1 vs. 0.04, p=0.0001).

Conclusion: Pre-hospital plasma transfusion during air transport in appropriately chosen patients seems to have similar outcomes to patients not requiring plasma despite statistically significant differences in pre-transfusion INR after plasma. Although it is unclear if empiric plasma transfusion is beneficial, this study suggests early recognition and transfusion of plasma in appropriate patients may improve outcomes of GI bleeding. Larger studies are needed to effectively examine looking at critical primary endpoints.

CURRENT CATEGORY: K. Endoscopy

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>: 

Jason Puckett : ACG Non-Member
Kathleen Berns : ACG Non-Member
Mohammad Khasawneh : ACG Non-Member
James Stubbs : ACG Non-Member
Donald Jenkins : ACG Non-Member
Todd Baron : ACG Member
Martin Zielinski : ACG Non-Member

(No Image Selected)
AVERAGE SCORE: 5.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Criteria of plasma transfusion not listed. The optimal study would have been comparing patients meeting criteria for plasma transfusion that are randomized to plasma transfusion vs just blood transfusion. This study compared pts meeting criteria and receiving plasma transfusion to those not meeting criteria and presumably having better coagulation and other parameters. Mortality in the latter group was 3x less than the plasma group. Lack of statistical significance is likely a type II error due to limited sample size
Shin'ichi Takahashi: [No Comments]
Purpose: UGB is typically controlled by endoscopic intervention (EI). For the small subset of patients (pts) that fails EI for non-variceal UGB, IRE has become standard when available. Surgery remains the preferred secondary therapy in institutions lacking IRE support, or for those that have failed IRE. Endoscopic and clinical characteristics that predict re-bleeding rates without EI have been defined for non-variceal UGB. However, no classification addresses the risk of re-bleeding following failed EI and prior to IRE. The aim of this study is to identify endoscopic and clinical predictors of the success or failure of salvage IRE for non-variceal UGB.

Methods: We conducted a retrospective review of the charts, from 2009 to 2012 at two large tertiary hospitals, of all pts who had IRE for control of non-variceal UGB following failed EI. Pts were identified using CPT codes. Data was collected and categorized on pts’ age, gender, co-morbid conditions, presenting complaints, medication usage, clinical and lab findings, transfusion requirements and endoscopic findings prior to IRE. Failure of IRE was defined by a need for salvage surgery the primary endpoint. Secondary outcomes analyzed were post IRE transfusion requirement of >4 units packed RBC, in-hospital mortality, and readmission for UGB. Fisher’s exact test was used to correlate endoscopic/clinical characteristics with primary and secondary outcomes.

Results: 33 pts were identified, 20 were males. Average pt age was 72 years (range 29-102). 18 pts had bleeding due to duodenal ulcers (DU), seven had gastric ulcers, seven had unidentified UGB source, with the reminder having angioectasias or dieulafoy lesions. Five pts (15%) ended up requiring surgery despite IRE, seven pts died and six pts were re-admitted for further GI bleeding control. The only endoscopic predictor for primary IRE failure was the presence of a DU, five out of 18 pts (28%) (p=0.04), but a trend towards eventual surgery was seen with those pts with multiple ulcers four out of 14 pts (29%), (p =0.14). No statistically significant association was seen between any endoscopic/clinical characteristic and a secondary endpoint.

Conclusion: IRE has become a valuable, minimally invasive alternative to urgent surgery for non-variceal UGB that has failed EI. The modality, however, is not universally available, often leading to emergency patient transfers with delay of therapy. We have identified DU as a risk factor for IRE failure, with almost 1/3 of patients requiring salvage surgery. While this fact alone may not be enough to triage pts directly to surgery, it should certainly be taken into account. Larger cohort studies are needed to further characterize lesions based on size, locations and other endoscopic characteristics as predictors of success for IRE.
AVERAGE SCORE: 5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Do CRNAs need on site MD anesthesia supervision for safe propofol sedation in an ambulatory endoscopy center (AEC)? A comparison of 2 sedation models: CRNA alone and CRNA with MD anesthesia supervision in 99,818 consecutive procedures.

PRESENTER: Murtaza Parekh

PRESENTER (INSTITUTION ONLY): Digestive Healthcare
PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Propofol use in AEC’s is increasing in use – driven by multiple factors such as increased patient satisfaction and improved efficiency. Given the concern for complications due to propofol’s narrow therapeutic window and impaired patient response with deep sedation, it is administered by anesthesia personnel. Currently the labeling on propofol states it “should be administered only by persons trained in the administration of general anesthesia”. Current options would include an MD anesthesiologist in each procedure room, a combination of a CRNA in each procedure room and an MD anesthesiologist overseeing several CRNA’s (CRNA+A) or a CRNA in each procedure room without an MD anesthesiologist (CRNA) on site. There is little data comparing safety outcomes of these models.

AIM: assess if there are any significant differences in adverse outcomes between 2 different anesthesia models: CRNA+A vs CRNA in a large AEC.

Methods: The data for the study were retrospectively obtained from a large AEC over a 55 month period (October 2008 through May 2013) A total of 99,818 consecutive endoscopic procedures performed by gastroenterologists, all using MAC anesthesia with propofol only were included. Between 10/6/08 to 2/10/12, these were performed with the CRNA+A model (70,436 procedures). Subsequently, the CRNA model was adopted from 2/13/12 until 5/31/13 (29,382 procedures). All patients were ASA 1 to ASA 3. We recorded adverse events using data from incident reports during and immediately after the procedures, follow up phone calls typically performed 24 hours post procedure and reporting of adverse events by individual physicians. We compared frequencies of adverse events (aspiration, desaturation with intervention, laryngospasm, cardiac arrhythmia or hyper/hypotension, perforation and splenic injury) between the two models of MAC anesthesia using chi square analysis.

Results: Aspiration rates were .020% and .027% with CRNA+A and CRNA respectively. Desaturation (with intervention) rates were .075% and .078%. Laryngospasm rates were .024% and .041%. Cardiac event rates (arrhythmia and hypo/hypertension) were .020% and .020%. Perforation rates were .011% and .003%. Splenic injury requiring splenectomy rates were 0% and .003%. There were no procedure related deaths. None of the frequency comparisons resulted in a statistically significant p value of <.05.

Conclusion: In a large AEC with nearly 100,000 total procedures, there were no differences in adverse outcomes using 2 different propofol sedation models: CRNA alone and CRNA with MD anesthesia supervision. 1. CRNA administered propofol anesthesia is safe in an AEC. 2. MD anesthesia supervision does not significantly impact safety outcomes with propofol in an AEC.
Purpose: Colonoscopy is the gold standard screening modality for colorectal cancer but miss rates up to 25% have been reported. Novel technologies assist real-time polyp histology evaluation such as confocal endomicroscopy and endocytoscopy along with the contemporary NBI, I-Scan and FICE functions. The aim of this survey was to investigate trainee fellow exposure and demand of novel optically-enhanced endoscopy (OEE) techniques.

Methods: A 10 question web-based survey was distributed to 34 gastroenterologists (17 fellows and 17 attendings) at a university based gastroenterology program. Each of the survey participants have experience in performing screening colonoscopy and polyp evaluation but variable experiences with OEE.

Results: We received a 74% overall response rate which included 15 fellows and 9 attending physicians. The GI trainee response rate was 94% and the attending response rate was 53%. The trainees comprised 6 physicians in their first year, 4 in their second year and 6 in their third year. Overall, 68% of the survey participants reported a cecal intubation rate > 90% and in 88% an estimated cecal withdrawal times greater than 6 minutes. 40% of the survey reported high confidence in classifying polyps as hyperplastic or adenomatous. A total of 68% reported limited formal training with OEE either during GI training or as part of continued medical education. An overall 80% of respondents felt formal training in these modalities would be useful; since only 40% currently utilize these techniques in polyp evaluation. Predictably, attendings characterized polyp histology with a higher confidence than fellows (78% vs. 19%). Only 31% of the trainee fellows reported significant formal exposure to OEE but 63% use these technologies to assist polyp evaluation. These values were similar for attending physicians with one-third reporting formal training in OEE and nearly two-thirds utilizing these technologies in polyp evaluation. Overall, 75% of fellows reported formal training in these technologies would be useful in their training and 89% of the experienced attending physicians stated that formal training in these technologies would be useful.

Conclusion: A majority of GI trainees and GI attendings surveyed reported limited formal training in OEE techniques and believe that formal training in these technologies would be useful during GI fellowship. The limitations of this study include its single institution, survey-based format, and lack of correlation between self-reported polyp characterization confidence and technology utilization rates with actual clinical encounters. Further studies are needed to explore the learning curve for novel endoscopic technologies and the role of these technologies in GI fellowship training.

Survey Demographics and Response Rate

<table>
<thead>
<tr>
<th>.</th>
<th>Responses</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
</table>

AUTH DESIG: ACG Membership Status <font color="red">Ali Ahmed : ACG Member</font>  
Frank Gress : ACG Member
(No Image Selected)
<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Total</th>
<th>Response Rate</th>
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<tbody>
<tr>
<td>1st Year Fellows</td>
<td>6</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>2nd Year Fellows</td>
<td>4</td>
<td>5</td>
<td>80%</td>
</tr>
<tr>
<td>3rd Year Fellows</td>
<td>6</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Fellows</td>
<td>16</td>
<td>17</td>
<td>94%</td>
</tr>
<tr>
<td>Attendings</td>
<td>9</td>
<td>17</td>
<td>53%</td>
</tr>
<tr>
<td>Overall</td>
<td>25</td>
<td>34</td>
<td>74%</td>
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**TABLE TITLE:** Survey Demographics and Response Rate  
**AVERAGE SCORE:** 6  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Douglas Adler: [No Comments]  
Todd Baron: [No Comments]  
Priya Jamidar: [No Comments]  
Ali Siddiqui: [No Comments]
Title: Is preoperative antibiotics necessary for infection prevention before peroral endoscopic myotomy

Presenter: Enqiang Linghu

Presenter (Institution Only): Department of Gastroenterology and Hepatology, The PLA General Hospital

Presenter (Country Only): China

Abstract Body:

Purpose: Peroral endoscopic myotomy (POEM), with building submucosal tunnel, has opened up a new promising prospect for endoscopic therapy. Meantime, infection is potential to follow due to non-sterile operation and open esophagus. Presently, it still remains controversial whether preoperative antibiotics is necessary. Our aim was to evaluate the effects of preoperative antibiotics to prevent infection before the procedure.

Methods: This was a a prospective randomized controlled trial. Data for 56 consecutive patients confirmed esophageal achalasia who underwent POEM by one fixed expert endoscopist (more than 30 POEMs before) between January 2012 and December 2012 were analyzed. 4 patients were excluded for getting a fever or recent usage of antibiotics. Patients in preoperative antibiotics group (n=26) were administered intravenous ceftriaxone sodium (2.0g) 30-60min before operation, and the control group (n=26) for equivalent normal saline. All patients received postoperative prophylactic antibiotics for 48h. Complications, especially infection, were given close observation, as well as change of laboratory test, including leukocyte count, C-reaction protein (CRP) and blood cultures.

Results: POEM was performed successfully in 52 patients and the mean operation time was 50.4 min (range 25-76min). Symptoms were relieved significantly for all patients at 3 month follow-up (Eckardt score, pre-treatment vs post-treatment: 7.4 vs 0.8, P<0.05). No major bleeding occurred in all patients (hemoglobin, pre vs post 134.0 vs 133.6g/L, P>0.05). Although there were a significant increase in leukocyte count, neutrophil ration, CRP and temperature 12-18h after POEM (6.3 vs 8.9×10^9, 52% vs 77%, <0.345 vs 1.704mg/dL, 36.3 vs 37.0 degree centigrade; P<0.05), there were no significant difference in the change of those between two groups (P<0.05), and no infection were encountered, including sign of fever and obvious temperature increase (T>38.3 degree centigrade). 29 patients received blood cultures 12-18h after the operation (preoperative vs control group (14:15)) and no one was positive. Meantime, mild fever and those blood test value grew to the normal in 48h.

Conclusion: There were no additional clinical benefit from preoperative antibiotics over postoperative antibiotics alone in prevention of infection after POEM.

Current Category: K. Endoscopy

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>:

Yaqi Zhai: ACG Non-Member
Enqiang Linghu: ACG Non-Member
Huikai Li: ACG Non-Member
Zhichu Qin: ACG Non-Member
Xiaolin Shi: ACG Non-Member
Lihua Peng: ACG Non-Member
Xiangdong Wang: ACG Non-Member

(No Image Selected)

Average Score: 5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Endoscopic submucosal tunnel dissection for esophageal semi-circumferential neoplastic lesions: a feasibility study in a porcine model

Purpose: Endoscopic submucosal dissection (ESD) has become a widely-adopted standard technique targeting esophageal intra-mucosal neoplasias. However, the operation will be more time-consuming and the incidence of complications, such as bleeding and perforation, will significantly increased, when dealing with esophageal lesions larger than semi-circumferential. Our main aim was to explore the safety and feasibility of endoscopic submucosal tunnel dissection for esophageal semi-circumferential neoplastic lesions.

Methods: Endoscopic submucosal tunnel dissection was performed under general anesthesia, targeting ten simulated esophageal semi-circumferential lesions in six 4-month domestic pigs. The procedures of ESTD were as follows: 1. marking lesion margin with a Dual knife 2. Anal and oral incision after submucosal injection 3. Creating submucosal tunnel from the oral incision to anal incision 4. Mucosa resection with IT knife along the marked dots. 5. specimen removal and electric coagulation of wound preventing from bleeding.

Results: 10 ESTDs were successfully performed by one fixed experienced endoscopist. All long semi-circumferential lesions were moved en bloc, with a mean length of (9.0±0.9)cm, ranging from 8.0cm to 10.0cm. The operation time were (62.1±18.9)min, ranging from 45min to 100min. Additionally, there were no complications occurring during operations, such as mostly-concerned perforation and bleeding.

Conclusion: The initial study shows that endoscopic submucosal tunnel dissection (ESTD) is safe and feasible to treat esophageal long semi-circumferential neoplastic lesions.
Purpose: In pediatrics, endoscopic examination has become a common procedure for the evaluation of gastrointestinal presentations. However, there are limited data on the pediatric endoscopy in Korea. We aimed to analyze the current status and clinical impacts of endoscopic examination in children and adolescents.

Methods: We retrospectively reviewed the medical records of outpatients who visited the pediatric department at St. Vincent hospital (Suwon, Korea) and St. Paul hospital (Seoul, Korea), the Catholic University of Korea. Patients under 18 years of age who underwent endoscopy were included. Endoscopy findings were classified as specific and normal based on gross findings. Specific endoscopic findings were reflux esophagitis, peptic ulcers and Mallory-Weiss tear. The other findings included acute gastritis classified by the updated Sydney system.

Results: In 722 of 330,350 patients (0.2%), endoscopic examination (554 esophago-gastroduodenoscopies [EGDs], 170 colonoscopies) was performed between January, 2007 and December, 2011. In EGD, abdominal pain was the most frequent presentation (64.1%). The most common diagnosis was gastritis (53.2%), followed by reflux esophagitis (17.7%). The frequency of peptic ulcer disease was 13.9%. Frequent symptoms leading to colonoscopic examination were abdominal pain (35.7%), diarrhea (28.0%) and hematochezia (25.6%). In colonoscopy, more than half of the examinees had a negative result, and it was more likely for a negative result to be under 7-year-old children (76.2%). After the procedure, the rate of change in management change was 67.1%.

Conclusion: The most frequent symptom leading to pediatric endoscopic examination was abdominal pain. In pediatrics, endoscopic examination was useful for the choice of therapeutic strategy.
### Endoscopic diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>&lt; 7 year</th>
<th>&gt; 8 year</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythematous / erosive / hemorrhagic gastritis</td>
<td>17</td>
<td>241</td>
<td>&lt; 0.01*</td>
</tr>
<tr>
<td>Gastric ulcer (GU)</td>
<td>5</td>
<td>22</td>
<td>0.68</td>
</tr>
<tr>
<td>Duodenal ulcer (DU)</td>
<td>2</td>
<td>40</td>
<td>0.12</td>
</tr>
<tr>
<td>GU + DU</td>
<td>1</td>
<td>1</td>
<td>.</td>
</tr>
<tr>
<td>Reflux esophagitis</td>
<td>2</td>
<td>83</td>
<td>&lt; 0.01*</td>
</tr>
<tr>
<td>Foreign body</td>
<td>46</td>
<td>9</td>
<td>&lt; 0.01*</td>
</tr>
<tr>
<td>Normal finding</td>
<td>6</td>
<td>60</td>
<td>0.13</td>
</tr>
<tr>
<td>Duodenitis</td>
<td>1</td>
<td>4</td>
<td>0.76</td>
</tr>
<tr>
<td>Henoch-Schonlen purpura</td>
<td>3</td>
<td>1</td>
<td>&lt; 0.01*</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>8</td>
<td>.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>85</strong></td>
<td><strong>469</strong></td>
<td>.</td>
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</table>

### Symptoms leading to endoscopy

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Total (N=554)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal pain</td>
<td>355 (64.1%)</td>
</tr>
<tr>
<td>Removal of foreign body</td>
<td>50 (9.0%)</td>
</tr>
<tr>
<td>Nausea/ Vomiting</td>
<td>49 (9.0%)</td>
</tr>
<tr>
<td>Dyspepsis</td>
<td>34 (6.1%)</td>
</tr>
<tr>
<td>Anemia</td>
<td>17 (3.1%)</td>
</tr>
<tr>
<td>Hematemesis</td>
<td>17 (3.1%)</td>
</tr>
<tr>
<td>Symptom</td>
<td>Count (Percentage)</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Melena</td>
<td>11 (2.0%)</td>
</tr>
<tr>
<td>Acid regurgitation</td>
<td>10 (1.8%)</td>
</tr>
<tr>
<td>Chest pain</td>
<td>5 (0.9%)</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>2 (0.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (0.7%)</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Endoscopic diagnosis

**Symptoms leading to endoscopy**

**AVERAGE SCORE:** 5.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Can the Presence of Endoscopic High-Risk Stigmata be Confidently Predicted Before Endoscopy: A Multivariable Analysis Using the RUGBE Database

PRESENTER: Yen-I Chen

PRESENTER (INSTITUTION ONLY): McGill University Health Center, Division of Gastroenterology

PRESENTER (COUNTRY ONLY): Canada

ABSTRACT BODY:

Purpose: Many aspects in the management of acute upper gastrointestinal bleeding (UGIB) rely on pre-endoscopy stratification of patients likely to exhibit high-risk stigmata (HRS); however, data predicting the presence of HRS are lacking. The purpose of this study is to determine clinical and laboratory predictors of HRS at index EGD in patients presenting with acute UGIB, using a retrospective data of a validated national database: the Canadian RUGBE registry.

Methods: We evaluated relevant clinical and laboratory parameters. HRS was defined as a spurting, oozing, non-bleeding visible vessel or adherent clot after vigorous irrigation. Multivariable modeling was used to identify predictors of HRS, including age, gender, hematemesis, use of antiplatelet agents (APA), American Society of Anesthesiologists (ASA) classification, nasogastric (NG) tube aspirate, hemoglobin level and elapsed time from onset of bleeding to EGD.

Results: Of the 1,677 patients (66.2 ± 16.8 yrs, 38.3% female), 28.7% had hematemesis, 57.8% had an ASA score of 3 to 5, and mean hemoglobin 9.7 ± 2.7 g/dL. Mean time from presentation to endoscopy was 22.2 ± 37.5 hours. The best-fitting multivariable model included the following significant predictors (odds ratios [95% CI estimates]): ASA score 3 to 5 (2.16 [1.71, 2.74]), a shorter time to endoscopy (0.99 [0.98, 0.99]) and a lower initial hemoglobin (0.99 [0.99, 0.99]).

Conclusion: A higher ASA score, a shorter time to endoscopy, and lower initial hemoglobin level all significantly predict the presence of endoscopic HRS. These criteria could potentially be used to improve the optimal selection of patients requiring more urgent endoscopy.
ABSTRACT BODY:

Purpose: To use Lean management principles to increase overall patient satisfaction by improving cycle time for procedure room turnover, improving overall cycle time and developing methods to anticipate work ahead of time.

Methods: Background: Lean management principles have been used effectively in manufacturing companies for decades, particularly in Japan. The Institute for Healthcare Improvement believes that Lean principles can be—indeed, already are being—successfully applied to the delivery of health care.

Lean thinking begins with driving out waste so that all work adds value and serves the customer’s needs. Identifying value-added and non-value-added steps in every process is the beginning of the journey toward lean operations.

In the UNM endoscopy unit, we noticed that patients had longer wait, discharge and recovery times than the national average. Additionally, patient satisfaction was below average. To address this, we decided to use the Lean process to identify areas for improvement.

The areas we identified include:

1. The front desk was found to be a bottleneck that prevents timely procedures.
2. Recovery room turnover is 50 minutes, which is 30 minutes longer than reported best practices.
3. Triage was found to halt when there were no empty beds required by patients needing admission.
4. Nurses and technicians were not available during lunch, which caused significant delays in getting started on afternoon procedures.

Planned intervention

Using PDSA (Plan, Do, Study, Act) methodology to assess and develop areas of improvement as shown in figure 1.

Results: Using Lean methodology and implementing the Plan, Do, Study, Act (PDSA) Cycle have significantly reduced procedure cycle time and improved patient satisfaction.

Staff involvement and sense of ownership of the change have been reported.

Waste elimination and time saving have directly improved productivity and reduced costs.

Conclusion: Health care delivery systems are striving to provide quality care at low cost. Our study demonstrates that Lean management principles and the PDSA process improvement can significantly improve health care delivery and provide costs saving as it has in other industries.
EUS-guided fine needle aspiration (FNA) is employed for tissue acquisition and analysis with a reported diagnostic accuracy of 60 to 90% with a false positive rate of 5% to 7%. FNA is limited by the inability to aspirate cellular elements. GISTs are diagnosed by immunohistochemical staining which may be better diagnosed by evaluating cellular elements that are not always obtained by FNA. Recently, a novel EUS histology needle (FNB) was developed to obtain histologic core specimens. This study represents a secondary analysis comparing the diagnostic accuracy of EUS guided FNA and FNB on samples procured from the same patient for the evaluation of GIST lesions.

Methods: This study retrospectively evaluates the 8 GIST lesions identified in our larger prospectively compiled database of 75 patients referred for EUS evaluation of upper GI lesions. The Cook and Boston Scientific FNA (22g or 25g) and Echotip ProCore Cook Medical FNB needle (19g or 22g) were used by experienced endosonographers. Tissue was obtained using both the FNA and FNB needle on the same lesion. The sample acquisition technique, needle gauge and number of passes were determined at the discretion of the physician. On-site cytopathology was not available for sample evaluation. Eight of the lesions were identified as GISTs and further analyzed.

Results: The patients had an average age of 73 years (60-87) and were mainly female (88%), black (75%) without any patient or technical complications. The average lesion size was 2.6 cm in its largest diameter and half were located in the gastric fundus and half in the gastric body. The average number of needle passes was greater for the FNA (4) than the FNB (2). Sample adequacy was greater for the FNB needle (88% vs 75%) as was the diagnostic yield (86% vs 71%). Sensitivity values were comparable for both FNA (83%) and FNB (86%).

Conclusion: GIST lesions are often better diagnosed using immunohistochemical staining. The novel FNB needle provides the ability to extrude cellular elements necessary to assist the diagnosis of GISTs. This study demonstrates an increase in sample adequacy and diagnostic yield for GIST tumor analysis when the FNB needle is utilized, without compromising the sensitivity of the evaluation. This study is limited by its small number of cases and further studies are needed.
**Lesion Characteristics**

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<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Average Lesion Size</td>
<td>2.6 cm</td>
</tr>
<tr>
<td>FNA Average # of Passes</td>
<td>4.0</td>
</tr>
<tr>
<td>FNB Average # of Passes</td>
<td>2.0</td>
</tr>
<tr>
<td>Gastric Body Location</td>
<td>50%</td>
</tr>
<tr>
<td>Gastric Fundus Location</td>
<td>50%</td>
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</table>

**Outcome Measures**

<table>
<thead>
<tr>
<th></th>
<th>FNA</th>
<th>FNB</th>
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</thead>
<tbody>
<tr>
<td>Sample Adequacy</td>
<td>75%</td>
<td>88%</td>
</tr>
<tr>
<td>Diagnostic Yield</td>
<td>71%</td>
<td>86%</td>
</tr>
<tr>
<td>DN</td>
<td>83%</td>
<td>86%</td>
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**TABLE TITLE:** Lesion Characteristics

**Outcome Measures**

**AVERAGE SCORE:** 6

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Douglas Adler: [No Comments]  
Todd Baron: [No Comments]  
Priya Jamidar: [No Comments]  
Ali Siddiqui: [No Comments]
CONTROL ID: 1741925

TITLE: Diagnosis of a Spindle Cell Neoplasm of the Inferior Vena Cava via Endoscopic Ultrasound Guided Fine Needle Aspiration

PRESENTER: Jonathan Congeni
PRESENTER (INSTITUTION ONLY): Ohio State University
PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:
Purpose: Case: A 69 year old woman presented for evaluation of a retroperitoneal mass of unclear etiology. She had been complaining of intermittent epigastric pain for several years and recently developed increasing lower extremity edema. CT scan on initial presentation several years prior only noted several slightly enlarged para-aortic lymph nodes with no hypermetabolic activity on follow up PET scan. Due to the persistence of her symptoms, a repeat CT scan was obtained which identified a mass within or adjacent to the inferior vena cava (IVC). However, the diagnosis or site of origin could not be clearly established. A tissue diagnosis was preferred prior to any consideration of surgical resection. Attempted trans-venous biopsy was unsuccessful and the location was not suitable for CT guided biopsy.

An upper endoscopic ultrasound (EUS) was performed. With the curvilinear ultrasound probe (Olympus; UC140P; 7.5MHz) positioned in the second portion of the duodenum, a 4.0 cm x 2.4 cm hypoechoic mass was identified evolving from the wall of the inferior vena cava adjacent to the renal vein insertion. Doppler evaluation confirmed minimal vascular compromise. Transduodenal fine needle aspiration was undertaken utilizing a Cook 25G FNA needle. Core biopsy was not utilized due to the concern for potential bleeding complications. Six passes were performed. Final cytology was positive for spindle cell neoplasm, favoring smooth muscle cell neoplasm. Surgical oncology, in concert with vascular surgery, subsequently resected the lesion along with en bloc partial IVC resection and reconstruction without renal vein compromise. Final pathology was consistent with an intermediate grade Leiomyosarcoma. Six months after surgery, the patient was doing well with improvement of all symptoms and no radiographic evidence of recurrence.

Discussion: EUS was developed for the purpose of diagnosis and staging of luminal and pancreatobiliary malignancies. However, with advancement in technology and skills, EUS has demonstrated its diagnostic capabilities for other extraluminal diseases. This case emphasizes the evolving role of EUS in the evaluation and management of a number of vascular anomalies from mass lesions to thrombus identification to direct portal pressure monitoring. The location of the ultrasound probe within the lumen of the upper gastrointestinal tract allows for a high resolution evaluation of a number of vascular structures, including the IVC, aorta, portal vein, celiac artery, and superior mesenteric artery. While the current literature is limited to case reports and small series, the data supporting this role continues to expand.

Methods: N/A
Results: N/A
Conclusion: N/A

CURRENT CATEGORY: K. Endoscopy
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>:
Jonathan Congeni : ACG Member
Jonathan Walker : ACG Member
Mark Bloomston : ACG Non-Member
Michael Go : ACG Non-Member
Samer El-dika : ACG Member
(No Image Selected)
(no table selected)

AVERAGE SCORE: 6
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Douglas Adler: [No Comments][Todd Baron: [No Comments][Priya Jamidar: [No Comments][Ali Siddiqui: [No Comments]
ABSTRACT BODY:

Purpose: Peroral endoscopic myotomy (POEM) is a new treatment for achalasia. The aim of our study was to study the healing of esophageal tunnel incision and the falling of titanium clips after POEM.

Methods: The time of esophageal tunnel incision healing and titanium clips falling of 62 patients with achalasia using PPI (proton pump inhibitors) for 1 month after POEM were retrospectively analyzed between May 2012 to March 2013. The follow-up time of endoscopic examination is 1 week, 2 weeks, 1 month, 3 months and 6 months.

Results: The rate of all titanium clips falling off is 15.9%(72/454), 41.0%(186/454), 64.3%(292/454), 84.6%(384/454) and 98.2%(446/454) at 1 week, 2 week, 1 month, 3 month and 6 month, There is no patient to have complete falling of titanium clips at 1 week and 2 week, and the rate of complete falling were 22.5%(14/62), 56.5%(35/62) and 93.5%(58/62) at 1 months, 3 months and 6 months. Moreover, the rate of esophageal tunnel incision healing 21%(13/62), 88.7%(55/62), 96.8%(60/62), 100% and 100%.

Conclusion: Most of esophageal tunnel incisions after POEM will heal from 2 weeks to 1 months, but falling completely of the titanium clips will require a longer time.
Purpose: To systematically evaluate the effect of endoscopic LDRf typing on ectopic varicose veins in the whole digestive tract except the esophageal and stomach varices and discuss the feasibility of by LDRf typing.

Methods: Relevant research articles about ectopic varices except esophagus and stomach in digestive tract from December 1983 to August 2012 were retrieved from Medline, EMBase and China Journal Full-text Database. A total of 1078 patients with ectopic varices in gastrointestinal tract were classified by LDRf, and analyzed ectopic varices location (L), the vascular diameter (D), the risk factor (Rf). The etiology of the portal hypertension was determined, and the patients were treated and follow-up.

Results: The ectopic varices were located in duodenum 237 cases, in jejunum and ileum and unknown location in small intestine 146 cases, in bile duct 110 cases, in colon 75 cases, and in rectum 510 cases.

Conclusion: Endoscopic LDRf classification is simple, applicable, standardized, suitable for the varicose veins in whole digestive tract.
Purpose: Endoscopic submucosal dissection (ESD) and surgery is efficacious technique for superficial gastrointestinal neoplasms. However, the procedure is long, complex, and associated with higher complication rates. To evaluate the feasibility and efficacy of endoscopic resection of gastric subepithelial tumors originated and closure of muscularis propria layer with double peroral endoscopes.

Methods: In this study 6 patients who presented with gastric subepithelial tumors were enrolled. Endoscopic resection was performed using preoral endoscopes. The six gastric subepithelial tumors were removed integrally and incision of muscularis propria layer were closed firmly by metal clips when ancillary endoscopy draw tumors or muscularis propria layer.

Results: The six gastric subepithelial tumors originated from the muscularis propria layer were removed integrally, which were diagnosed pathologically as gastrointestinal stromal tumor and leiomyoma. The diameter of tumors were 20 mm. The mean procedure time was 42 minutes. No complications as perforation or bleeding occurred in all cases after the operation, who received successful closure with metal clips. The mean hospitalization time was 7 days.

Conclusion: Double peroral endoscopic resection, an efficacious and safe endoscopic surgical procedure to resect gastric subepithelial tumors originated and close the incision of muscularis propria layer, is able to achieve the efficacy equivalent to ESD or surgery.
Purpose: Placement of fully covered self-expandable metal stents (FCSEMS) has not been reported to aid extraction of large pancreatic duct stones.

Methods: Four symptomatic patients with large (>10 mm) pancreatic duct stones, who could not be cleared of stones using a balloon catheter and basket using ERCP alone, were selected for FCSEMS placement. After placement of FCSEMS (10-mm diameter) in the pancreatic duct for 1 week to 5 months (mean duration: 77 days), standard endoscopic maneuvers cleared large pancreatic duct stones. Technical success and safety of temporary placement of a FCSEMS in the PD for aiding extraction of large PD stones. Technical success was defined as successful placement of stents and the ability to achieve PD clearance in two endoscopic encounters. Complications were assessed according to consensus criteria.

Results: The procedure was technically successful in all 4 patients. At 6-month follow-up, no residual stones were seen on pancreatography, and all patients were doing well without any symptom recurrence.

Conclusion: Temporary placement of a FSCEMS in the PD for aiding extraction of large PD stones is a safe technique that facilitates the removal of large stones.
Title: Safety of polyethylene glycol based preparations for bowel cleansing before colonoscopy: An analysis of the Food and Drug Administration Adverse Event Reporting System

Presenter: Parakkal Deepak

Abstract Body:

Purpose: Safety of medications used in bowel cleansing before colonoscopy is of concern in an era of mass screening for colorectal cancer. We sought to analyze the safety of the most commonly used class of drugs; the polyethylene glycol (PEG) based bowel preparations.

Methods: The largest publicly available database for adverse event reporting, the Food and Drug Administration Adverse Event Reporting System (FAERS), was utilized for this safety analysis. A total of 2,237,269 case numbers were downloaded between April 2007 and June 2012 using SPSS 20 (IBM Co. Armonk, NY, USA). The dataset was queried for an indication of colonoscopy using indication terms from the Medical Dictionary for Regulatory Activities - colonoscopy, diagnostic procedure, endoscopy, intestinal polyp and routine health maintenance. This subset was then queried for Primary Suspect (PS) adverse events reports with PEG based bowel preparations using trade names (Colyte, Gavilyte, Golytely, Halflytely, Moviprep, Nulytely and Trilyte). Generic PEG preparations and smaller volume PEG preparations used for treatment of constipation were excluded from the analysis. Adverse events were classified according to the organ system affected. Prescription data obtained from IMS health Inc. (Deerfield, IL, USA) was used to calculate rate of AEs and hospitalizations for AEs per million prescriptions for a brand name PEG based preparation. Reports with more than one type of AE within the same report were counted as a single entry for calculating the rate of AE for a particular brand of PEG based preparation, but separately for categories of AEs by organ system affected.

Results: 198 total AEs were identified with brand name PEG based preparations (table 1). A female predominance was seen in the reported AEs (132 reports, 66.7%). Hospitalization for AE was reported in 55 cases (27.8%) and death in 2 reports (1.0%). The commonest non-gastrointestinal AE reported were those affecting the neurological system (81 reports, 40.9%). Overall, AEs were reported most commonly with Moviprep (91 reports, 46.0% of all reports) followed by Halflytely (60 reports, 30.3% of all reports). Based on total prescription usage for individual brand name PEG based bowel preparation, Moviprep had the highest reported AE rate of 14.5 AEs per million prescriptions and hospitalizations, 4.1 hospitalizations per million prescriptions.

Conclusion: PEG based preparations appear to be safe for usage before colonoscopies. However, variations exist in reported AEs between individual brands.
<table>
<thead>
<tr>
<th></th>
<th>Colyte N=1</th>
<th>Gavilyte N=6</th>
<th>Golytely N=10</th>
<th>Halflyte N=60</th>
<th>Moviprep N=91</th>
<th>Nulytely N=10</th>
<th>Trilyte N=20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age in years (±SD)</strong></td>
<td>78</td>
<td>66±12</td>
<td>57±14</td>
<td>59±12</td>
<td>60±12</td>
<td>58±6</td>
<td>58±13</td>
</tr>
<tr>
<td><strong>Female Gender (%)</strong></td>
<td>-</td>
<td>50.0</td>
<td>40.0</td>
<td>70.0</td>
<td>68.1</td>
<td>80.0</td>
<td>65.0</td>
</tr>
<tr>
<td><strong>Outcomes (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitalization</td>
<td>100.0</td>
<td>33.3</td>
<td>40.0</td>
<td>21.7</td>
<td>28.6</td>
<td>20.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Mortality</td>
<td>-</td>
<td>-</td>
<td>10.0</td>
<td>1.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Adverse events by organ system (N)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurological</td>
<td>-</td>
<td>4</td>
<td>7</td>
<td>30</td>
<td>27</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>17</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Fluid and Electrolyte</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>21</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Respiratory</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Immunological</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>8</td>
<td>13</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>44</td>
<td>45</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td><strong>Rate of Adverse events</strong></td>
<td>1.3</td>
<td>2.6</td>
<td>1.6</td>
<td>10.1</td>
<td>14.5</td>
<td>4.6</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Rate of hospitalization</strong></td>
<td>1.3</td>
<td>0.9</td>
<td>0.6</td>
<td>2.2</td>
<td>4.1</td>
<td>0.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

a-Per million prescriptions; SD- Standard deviation
TABLE TITLE: Table 1: Characteristics of patients with adverse events reported with polyethylene glycol bowel cleansing preparations for colonoscopy

AVERAGE SCORE: 5.5

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
ABSTRACT BODY:

Purpose: In an outpatient endoscopy center (ASC) where physician-directed propofol sedation has been the primary sedation method, but where drug shortages have forced the use of other methods, we performed an analysis of all cases performed during the years 2011-12 to determine which combination optimized efficiency based on sedation time (ST), sedation associated process time (SAPT), and total time to discharge (TTD).

Methods: Patient procedural data including age, sex, race, height, weight, home medications, and key time-stamps were recorded in the electronic record for all procedures at a single ASC (N=11,328). All data was imported into SPSS Version 20 for analysis. The TTD, which spans from scope-out time until the time of discharge, is the broadest measure of the discharge efficiency. The SAPT, which spans from time of first dose of any sedative until discharge, measures the overall effect of sedation on efficiency, but begins with a pre-operative dose of Fentanyl for some methods, and in the procedure room for others. The ST, which spans from first dose given until scope-out time, has the same limitation. Since the TTD is measured in the same way for all methods, it is best suited for comparing discharge efficiency between methods. After eliminating 1458 cases with incomplete data, four methods had sufficient numbers to be included: propofol alone (P) (N=1977), propofol/fentanyl (PF) (N=5849), fentanyl/midazolam (FM) (N=484), and propofol/fentanyl/midazolam (PFM) (N=1467).

Results: Average SAPT for each drug combination was as follows: P 69:23, PF 72:45, FM 79:37, and PFM 78:33. Average ST was P 13:32, PF 18:27, FM 18:41, and PFM 19:46. Average TTD for each combination was as follows: P 55:41, PF 58:42, FM 60:42, and PFM 58:08. Analysis of variance (ANOVA) test demonstrated significantly shorter TTD for any propofol-based combinations P, PF, or PFM than for FM (p<.001). The PF combination had shorter TTD than P (p=.003) or PFM (p=.001). Single drug method P had shorter ST and SAPT than FM (p=.001), but cannot be compared to PF or PFM due to the different start times. These findings were independent of the age, race, height, weight, and sex or procedure time.

Conclusion: The combination of sedation medications used is a significant independent factor for efficiency in outpatient endoscopy. Sedation combinations which include propofol (P, PF, PFM) have TTD as much as 6:43 minutes (11%) shorter than traditional FM. The PF combination demonstrated the shortest TTD of all methods, and had significantly shorter ST and SAPT than the other propofol-based combinations PM and PFM. Based on these measures of efficiency, the combination of Propofol with Fentanyl is the optimal sedative combination.
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: To identify the clinical factors with significant independent effects on a patient’s propofol dose as the first step in the process of developing a responsive, optimal methodology for the administration of propofol for moderate sedation.

Methods: In an ambulatory endoscopy center (ASC) where physician-directed propofol sedation is the primary sedation method, we performed a prospective study of all cases performed during 2011 and 2012 (N=11,328) to determine which factors had significant independent effects on the dose of sedation medication used. Data recorded in the electronic record at the time of the procedure included age, sex, race, height, weight, procedure type, procedure duration, the use of home narcotic, anxiolytic, or anti-depressant medication, and doses of sedatives administered. The data was imported into SPSS Version 20 for analysis.

Results: Using ANOVA the clinical variables exerting independent effects on propofol dose were age, height, weight, and race. A patient’s sex did not have a significant effect, nor did home use of pain medication, anti-depressants, or anxiolytics. None of these factors exerted a confounding effect on procedure time. Administration of Fentanyl reduced propofol in a dose-independent manner (p=.001), while midazolam reduced propofol dose in a dose-dependent manner (p=.001).

Conclusion: We report results demonstrating the potential to create models based upon clinically gathered data as functions of statistically significant variables. Age, race, height, and weight have independent effects on propofol dose used to achieve moderate sedation. Co-administration of fentanyl and midazolam also significantly reduces propofol dose. An opportunity therefore exists to develop responsive and optimized mathematical models for the administration of propofol based on these factors. The predictive nature of the models will then be juxtaposed with optimal values of relevant performance measures for validation.
### Effects of Fentanyl and Midazolam on Propofol Dose

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Mean Dose</th>
<th>Median Dose</th>
<th>Std. Dev.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 25 (Group 1)</td>
<td>185.83</td>
<td>186.13</td>
<td>101.56</td>
<td>p=.001 vs. group 3 and 4</td>
</tr>
<tr>
<td>26 to 50 (Group 2)</td>
<td>158.83</td>
<td>150.00</td>
<td>98.03</td>
<td>p=.001 vs. group 3 and 4</td>
</tr>
<tr>
<td>51 to 75 (Group 3)</td>
<td>160.56</td>
<td>110.00</td>
<td>87.83</td>
<td>p=.001 vs. groups 1, 2, 4</td>
</tr>
<tr>
<td>Over 75 (Group 4)</td>
<td></td>
<td></td>
<td>65.07</td>
<td>p=.001 vs. groups 1, 2, 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight (pounds)</th>
<th>Mean Dose</th>
<th>Median Dose</th>
<th>Std. Dev.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 100 (Group 1)</td>
<td>149.42</td>
<td>150.00</td>
<td>96.26</td>
<td>Differences ns</td>
</tr>
<tr>
<td>101-150 (Group 2)</td>
<td>155.65</td>
<td>150.00</td>
<td>84.84</td>
<td>p=.001 group 4, .013 group 5</td>
</tr>
<tr>
<td>151-200 (Group 3)</td>
<td>158.45</td>
<td>150.00</td>
<td>88.96</td>
<td>p=.003 group 4</td>
</tr>
<tr>
<td>201-250 (Group 4)</td>
<td>167.01</td>
<td>160.00</td>
<td>94.33</td>
<td>p=.003 group 3</td>
</tr>
<tr>
<td>251-300 (Group 5)</td>
<td>169.18</td>
<td>150.00</td>
<td>99.82</td>
<td>p=.013 group 2</td>
</tr>
<tr>
<td>&gt; 301 (Group 6)</td>
<td>154.67</td>
<td>150.00</td>
<td>64.24</td>
<td>Differences ns</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Height (inches)</th>
<th>Mean Dose</th>
<th>Median Dose</th>
<th>Std. Dev.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;61 (Group 1)</td>
<td>153.08</td>
<td>150.00</td>
<td>82.71</td>
<td>P=.042 group 2, .001 group 3, .009 group 4</td>
</tr>
<tr>
<td>62-68 (Group 2)</td>
<td>159.54</td>
<td>150.00</td>
<td>91.20</td>
<td>p=.042 group 1</td>
</tr>
<tr>
<td>69-74 (Group 3)</td>
<td>164.84</td>
<td>150.00</td>
<td>92.21</td>
<td>p=.001 group 1</td>
</tr>
<tr>
<td>&gt;74 (Group 4)</td>
<td>173.53</td>
<td>160.00</td>
<td>91.67</td>
<td>p=.009 group 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race (self-reported)</th>
<th>Mean Dose</th>
<th>Median Dose</th>
<th>Std. Dev.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>163.17</td>
<td>150.00</td>
<td>91.59</td>
<td>p=.001 Blacks, .001 Asians, .002 Hispanics</td>
</tr>
<tr>
<td>Hispanic</td>
<td>149.90</td>
<td>140.00</td>
<td>82.06</td>
<td>p=.008 Asians, .002 White, .922 Blacks</td>
</tr>
<tr>
<td>Black</td>
<td>145.68</td>
<td>140.00</td>
<td>79.34</td>
<td>p=.001 White, .045 Asians, .922 Hispanic</td>
</tr>
<tr>
<td>Asian</td>
<td>122.64</td>
<td>110.00</td>
<td>75.20</td>
<td>p=.045 Black, .001 White, .008 Hispanic</td>
</tr>
</tbody>
</table>
### TABLE TITLE: Independent Factors for Propofol Dose Effects of Fentanyl and Midazolam on Propofol Dose

**AVERAGE SCORE:** 5.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**


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<thead>
<tr>
<th>Dose (mg)</th>
<th>Fentanyl Without</th>
<th>Fentanyl With Fentanyl</th>
<th>p= .001</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>198.28</td>
<td>190.00</td>
<td>86.44</td>
</tr>
<tr>
<td>1</td>
<td>156.51</td>
<td>150.00</td>
<td>76.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dose (mg)</th>
<th>Midazolam Dose (mg)</th>
<th>190.00</th>
<th>86.44</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>177.17</td>
<td>160.00</td>
<td>83.03</td>
</tr>
<tr>
<td>1</td>
<td>156.62</td>
<td>150.00</td>
<td>80.96</td>
</tr>
<tr>
<td>2</td>
<td>138.47</td>
<td>130.00</td>
<td>82.06</td>
</tr>
<tr>
<td>3</td>
<td>54.43</td>
<td>30.00</td>
<td>65.21</td>
</tr>
<tr>
<td>4</td>
<td>45.23</td>
<td>20.00</td>
<td>62.56</td>
</tr>
<tr>
<td>5</td>
<td>30.91</td>
<td>00.00</td>
<td>40.75</td>
</tr>
<tr>
<td>6</td>
<td>19.29</td>
<td>00.00</td>
<td>40.34</td>
</tr>
</tbody>
</table>
Purpose: The use of endoluminal colonic stent (ECS) has slowly increased in recent years. ECS has been shown to be effective for decompression of acute large bowel obstruction (ALBO). There are 2 common scenarios in which ECS placement is indicated: permanent placement to palliate ALBO in the setting of incurable malignancy (Pal) and relief of ALBO with subsequent bowel prep for one-staged resection with primary anastomosis (PreOp). This is a review of ECS use in a community hospital setting.

Methods: A retrospective review of ECS placement for ALBO over a 3 year period at a community hospital performed by a single endoscopist (NJS) in Greenwich, CT.

Results: Eighteen ECS placements were performed, 11 (61%) for Pal and 7 (39%) for PreOp. Successful decompression with ECS was achieved in 89% of cases (10/11 [91%] Pal; 6/7 [86%] PreOp). Indications for ECS were malignant colorectal neoplasms, 16 (89%), and diverticular or ischemic strictures, 2 (21%). Locations of pathology were: 5 (23%) descending, 9 (50%) sigmoid, and 4 (22%) rectosigmoid colons. Seven (44%) of the malignant cases had stage IV disease. The average time to surgery post ECS placement was 2 days. Five Preops (71%) avoided diverting ostomies and had one-staged resections with anastomosis. The overall length of stay (LOS) was 12 days; Pal had a shorter LOS than PreOp (8 days vs. 17 days). There were no colonic perforations after ECS placements or stent-related complications. One Pal case with ischemic stricture required emergent surgery after unsuccessful placement. There were 3 post-operative complications in PreOp. All PreOps were discharged and followed without any 30-day mortality.

Conclusion: ECS placement is an effective palliative decompression of ALBO. Palliative ECS placement allows for resolution of ALBO in patients who are not candidates for surgical decompression. ECS can be a bridge to surgery in appropriate cases and lead to successful one-stage operations without diversions. Postoperative complications or diversions reflect the advanced disease state of the ALBOs. ECS is considered a high risk in many published series in tertiary centers. However, it provides excellent palliation with potential quality of life to patients with advanced disease. Although the review is limited by a small case series in a community setting, the success and efficacy of ECS placement are considered beneficial when performed by experienced endoscopist and surgical staff.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Purpose: Colonoscopy led to a reduction in the incidence and mortality of colorectal cancer, a remarkable achievement when compared to other cancers. Interval cancers after screening colonoscopy drew attention to quality improvement. Missed small adenomas may be a contributing factor. The impact of adjunct measures (dye, cap, insertion polypectomy, retroflexion, NBI, water immersion) on ADR is mixed, suggesting usual insertion with air insufflation (AI) imposes unrecognized limitations. A new insertion platform may be needed. Hypothesis-generating retrospective studies show water exchange (WE) increases ADR. Pilot data of WE plus dye or cap vs AI show higher ADR. Since 2010 six RCTs have assessed the impact of WE on primary outcomes of insertion pain, cecal intubation rate and ADR. Hypothesis: Aggregate data of these RCTs show that WE enhances results of withdrawal inspection. Overall ADR in the entire colon and overall and <10 mm ADR in the proximal colon are increased significantly.

Methods: Water exchange is a novel method based on modification of the widely used water immersion method. Its original goal was to minimize insertion pain in veterans who accepted scheduled unsedated colonoscopy without backup sedation in the US. It entails exclusion of air (air pump turned off and all residual luminal air removed by suction). Infusion of water coupled with removal of residual feces to clear the view is used to identify the lumen to aid insertion. Unique to the approach is that the infused water is removed predominantly during insertion to minimize distension. The approach avoids looping and pain during insertion; and minimizes distraction (need to remove large quantities of liquid) during withdrawal inspection. Mastery of the maneuvers after practice is reproducible. Six RCT compared WE to AI. During withdrawal polyps were removed from the air filled colon. ADR was recorded based on intention-to-treat. Proper use of WE was ascertained by FWL via site-visits or by e-mail discussions. Uniform use of WE justifies merging ADR data for analyses.

Results: (Tables 1 & 2): 797 and 805 subjects were randomized to the WE and AI arms. Data (not all shown) of each RCT confirm even randomization. Compared to AI, WE consistently (n=6 RCT, P=0.05, signed rank test) produces higher ADR, irrespective of ethnicity, site, sedation option, gender mix or bowel preparation regimen. The aggregate data of overall ADR in the entire colon (↑4-13%; mean 7%); overall and <10 mm ADR in the proximal colon (↑7-8%) show that WE is superior to AI. Limitation: Unblinded colonoscopists, included non screening cases.

Conclusion: The consistently higher ADR supports WE as a suitable insertion platform to replace AI in planned evaluation of new adjunct measures to improve ADR.
<table>
<thead>
<tr>
<th>RCT Number/ (Site)</th>
<th>Sedation Option</th>
<th>Primary Outcome</th>
<th>Age (years)</th>
<th>% Male</th>
<th>Insertion time (min)</th>
<th>Withdrawal time (min)</th>
<th>Pain Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (USA)</td>
<td>Unsedated</td>
<td>Insertion Pain</td>
<td>67</td>
<td>66</td>
<td>100</td>
<td>34</td>
<td>22</td>
</tr>
<tr>
<td>2 (USA)</td>
<td>On demand</td>
<td>Unsedated CIR</td>
<td>61</td>
<td>58</td>
<td>98</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>3 (USA)</td>
<td>Full sedation</td>
<td>Overall ADR</td>
<td>60</td>
<td>59</td>
<td>97</td>
<td>7*</td>
<td>13</td>
</tr>
<tr>
<td>4 (USA)</td>
<td>Unsedated</td>
<td>Unsedated CIR</td>
<td>61</td>
<td>60</td>
<td>100</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>5 (Italy)</td>
<td>On demand</td>
<td>CIRM PMS</td>
<td>60</td>
<td>59</td>
<td>59</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>6 (Taiwan)</td>
<td>Minimal</td>
<td>Insertion Pain</td>
<td>53</td>
<td>57</td>
<td>59</td>
<td>18*</td>
<td>11</td>
</tr>
</tbody>
</table>

Al, air insufflation; WE, water exchange. ADR, adenoma detection rate; CIR, cecal intubation rate; CIRM PMS, cecal intubation rate with minimal pain (≤2) and minimal sedation (≤2 mg Midazolam); NA, not applicable. Data are expressed as means and percent (%) of total. Pain score scale: 0=none, 10=maximum. *vs Al, P<0.05, t-test. †Maximum pain score during colonoscopy; ††Overall pain score after colonoscopy before discharge.
Table 2: Detection of adenomas in the entire colon and the proximal colon.

<table>
<thead>
<tr>
<th>RCT Number (Site)</th>
<th>Jadad Score</th>
<th>Split-dose Bowel Regimen</th>
<th>Number of Patients Randomized</th>
<th>Number of Patients with At Least 1 Adenoma (ADR)</th>
<th>Differe nce in Overall ADR in Entire Colon</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Proximal &lt;10 mm</td>
<td>Proximal All Sizes</td>
</tr>
<tr>
<td>1 (USA) 3</td>
<td>No 42 40</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
</tr>
<tr>
<td>2 (USA) 3</td>
<td>No 50 50</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
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</tr>
<tr>
<td>3 (USA) 3</td>
<td>No 177 191</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
</tr>
<tr>
<td>4 (USA) 3</td>
<td>No 50 50</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
</tr>
<tr>
<td>5 (Italy) 3</td>
<td>Yes 410 406</td>
<td>WE AI</td>
<td>WE AI</td>
<td>WE AI</td>
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</tr>
<tr>
<td>6 (Taiwan) 3</td>
<td>Yes 68 68</td>
<td>WE AI</td>
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<td>WE AI</td>
<td>WE AI</td>
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</table>
### Table 1: Demographic variables and procedural outcomes

<table>
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<tr>
<th>Aggregated Data</th>
<th>Total number</th>
<th>797</th>
<th>805</th>
<th>186</th>
<th>127</th>
<th>189</th>
<th>126</th>
<th>298</th>
<th>244</th>
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</thead>
<tbody>
<tr>
<td>ADR (%)</td>
<td>.</td>
<td>.</td>
<td>23%</td>
<td>16%</td>
<td>24%</td>
<td>16%</td>
<td>37%</td>
<td>30%</td>
<td>.</td>
</tr>
<tr>
<td>ADR difference (WE minus AI, %)</td>
<td>.</td>
<td>.</td>
<td>7%</td>
<td>8%</td>
<td>7%</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P**</td>
<td>.</td>
<td>.</td>
<td>0.0002</td>
<td>0.0001</td>
<td>0.0031</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AI, air insufflation; WE, water exchange. Data are expressed as frequency counts and percent (%) of total. **Fisher exact test.

### Table 2: Detection of adenomas in the entire colon and the proximal colon

| Average Score | 4.25 |

**Reviewer Flags:** Stavros Stavropoulos - Newsworthy?: 1

**Reviewer Recommendation Code Description:** None

**Reviewer Comments:**
- Peter Draganov: [No Comments]
- Vanessa Shami: [No Comments]
- Stavros Stavropoulos: [No Comments]
- Shin'ichi Takahashi: [No Comments]
Impact of Propofol on Endoscopy Unit Efficiency: A Discrete Event Simulation Model

Ziad Gellad
Durham VA Medical Center, United States

Purpose: Propofol has become a popular choice for sedation in endoscopy because of its rapid onset of action, quick recovery and reported superior efficacy. We employed discrete event simulation modeling to evaluate the impact on efficiency of conversion to propofol sedation in an ambulatory surgical center.

Methods: We built a discrete event simulation model of a two-room ambulatory surgical center affiliated with an academic health system. Procedures performed in the unit under physician-directed sedation with fentanyl and midazolam include colonoscopy (83%), upper endoscopy (15%) and flexible sigmoidoscopy (2%). Seven bays are available for prep and recovery. Endoscopy unit staff electronically captured time data for the model using commercially available software (Provation® MultiCaregiver) as part of the normal workflow in the unit. Simio® simulation software was used for model creation. The baseline model utilized the maximum weekly appointment schedule with two endoscopists (n=101). To evaluate the impact on unit efficiency of increasing weekly volume by 10% with and without propofol, we simulated three alternative scenarios: baseline with propofol; baseline + 10%: baseline + 10% with propofol. Based on published data, recovery time was decreased in the propofol scenarios by 70% but not to less than 30 minutes per policy and the sedation time was decreased by 2 minutes. Key outcome measures were calculated based on 50 replications of the model.

Results: The results of the simulation are provided in the Table. Propofol did not have a significant impact on patient waiting time but did decrease flow time by an average of 11.2 minutes (baseline scenario) or 12.1 minutes (+10% scenario) and cut the proportion of days with overtime in half. With increased volume, the availability of preparatory nurses became a constraining resource.

Conclusion: In the ambulatory surgical center modeled in this study, the use of propofol for sedation is predicted to enable a 10% increase in weekly throughput without an increase in staff overtime and with a minimal impact on patient waiting time. Discrete event simulation allows data-driven analysis of operational efficiency and can be a valuable tool for resource planning.

Metrics in four modeled scenarios:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Baseline</th>
<th>Baseline + Propofol</th>
<th>Baseline + 10%</th>
<th>Baseline + 10% + Propofol</th>
</tr>
</thead>
</table>

Operational metrics (mean ± 95% confidence interval) in four modeled scenarios.

Ziad Gellad : ACG Member
Dariele Burchfield : ACG Non-Member
Kevin Cooper : ACG Non-Member
Javad Taheri : ACG Non-Member

(No Image Selected)
<table>
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<th>Table Title: Operational metrics (mean ± 95% confidence interval) in four modeled scenarios.</th>
<th>Average Score: 4</th>
<th>Reviewer Flags: (none)</th>
<th>Reviewer Recommendation Code Description: None</th>
<th>Reviewer Comments: Douglas Adler: [No Comments] Todd Baron: [No Comments] Priya Jamidar: [No Comments] Ali Siddiqui: [No Comments]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Waiting Time, min</td>
<td>6.48 ± 0.69</td>
<td>6.27 ± 0.44</td>
<td>7.86 ± 0.58</td>
<td>8.14 ± 0.57</td>
</tr>
<tr>
<td>Flow Time, min</td>
<td>98.3 ± 0.70</td>
<td>87.1 ± 0.68</td>
<td>99.9 ± 0.96</td>
<td>87.8 ± 0.68</td>
</tr>
<tr>
<td>Average Overtime, min</td>
<td>3.29 ± 1.32</td>
<td>1.26 ± 0.80</td>
<td>7.47 ± 2.25</td>
<td>2.13 ± 0.80</td>
</tr>
<tr>
<td>% Days with Overtime</td>
<td>15%</td>
<td>7%</td>
<td>33%</td>
<td>14%</td>
</tr>
<tr>
<td>Prep Nurse Utilization (%)</td>
<td>62.6 ± 0.9</td>
<td>62.5 ± 0.6</td>
<td>70.0 ± 0.8</td>
<td>70.2 ± 0.6</td>
</tr>
<tr>
<td>Charge Nurse Utilization (%)</td>
<td>31.4 ± 0.6</td>
<td>28.7 ± 0.7</td>
<td>35.1 ± 0.6</td>
<td>31.0 ± 0.7</td>
</tr>
<tr>
<td>Room Utilization (%)</td>
<td>51.7 ± 0.6</td>
<td>49.8 ± 0.7</td>
<td>57.3 ± 0.7</td>
<td>52.2 ± 0.7</td>
</tr>
<tr>
<td>Bay Utilization (%)</td>
<td>65.0 ± 0.7</td>
<td>63.6 ± 0.8</td>
<td>71.1 ± 0.8</td>
<td>69.3 ± 0.8</td>
</tr>
</tbody>
</table>
Cap-assisted endoscopy as a rescue intervention in difficult to identify or treat acute GI hemorrhage that has failed conventional endoscopy

PRESENTER: Wajeeh Salah

PRESENTER (INSTITUTION ONLY): University Hospitals Case Medical Center

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Failure of conventional endoscopy to identify a source of acute GI hemorrhage (GIH) can result in significant morbidity and mortality. Poor visualization or difficult patient anatomy can impair localization or treatment of bleeding. A soft disposable distal attachment or “cap” (Olympus America, Center Valley, Pa) can maintain a regular, fixed focal length between the endoscope tip and mucosal folds (Figure 1). This can facilitate parting of the mucosal planes, navigation of sharply angulated mucosal folds, and stabilization of the endoscope/injection needle. We describe the successful use of cap-assisted endoscopy (CAE) to identify and treat GIH in patients that have failed conventional endoscopy.

Methods: From an endoscopy database, 16 patients in which CAE was used to locate and treat GIH after failed conventional endoscopy, were identified over an 18 month period. Patient demographics, etiology of bleeding, and clinical/treatment outcomes were evaluated.

Results: Mean age was 69 years (50-95). All patients required ICU admission and blood transfusion. A bleeding lesion was identified in all 16 cases (10 men, 6 women), 94% (n=15) required treatment (Table 1). CAE was used to identify the lesion (62.5%, n=10) or provide definitive treatment of a previously identified lesion (37.5%, n=6) during EGD (n=6), enteroscopy (n=5) or colonoscopy (n=5). The most common lesion was angioectasia in 50% (n=8; cap used to facilitate parting of the mucosal planes and identify lesion) followed by diverticula (n=2; cap used to efface the diverticula and visualize base), ulcer with visible vessel (n=2; cap used to stabilize endoscope to obtain en-face view of lesion), gastric varix (n=1; cap used to stabilize injection needle in retroflexed position for glue injection), Dieulafoy lesion (n=1), colonic polyp (n=1) and malignancy (n=1). In 2 cases, the cap facilitated endoscope passage to areas previously inaccessible due to difficult anatomy (cecum due to severe sigmoid angulation, excluded stomach due to Roux-en-Y gastric bypass). No patients rebled within 30 days.

Conclusion: Cap-assisted endoscopy (CAE) can localize and treat acute GIH throughout the GI tract that has previously failed conventional endoscopic management. CAE may be especially useful when bleeding is suspected either in the small bowel or due to angioectasia. In addition, CAE may reach areas inaccessible due to difficult anatomy.

CURRENT CATEGORY: K. Endoscopy

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>:

Wajeeh Salah : ACG Member
Katarina Greer : ACG Member
Linda Cummings : ACG Member
John Dumot : ACG Member
Richard Wong : ACG Member

Figure 1. Cap-fitted endoscope (left) and Bleeding colonic angioectasia (right) found on cap-assisted endoscopy

IMAGE CAPTION: Figure 1. Cap-fitted endoscope (left) and Bleeding colonic angioectasia (right) found on cap-assisted endoscopy
<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Sex</th>
<th>Indication for endoscopy</th>
<th>Failure of conventional endoscopy to locate or treat source of GIB</th>
<th>Difficulty encountered with conventional endoscopy</th>
<th>Cap-assisted endoscopic procedure</th>
<th>Finding with cap-fitted endoscopic procedure</th>
<th>Endoscopic intervention performed</th>
<th>Recurrent Bleeding at 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>79</td>
<td>Female</td>
<td>Anemia, Hematemesis</td>
<td>EGD x 1</td>
<td>Unable to locate source</td>
<td>EGD</td>
<td>Actively bleeding angioectasia in the duodenal sweep</td>
<td>Epinephrine injection and Endoclipsis x 1</td>
<td>No</td>
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<td>2</td>
<td>80</td>
<td>Male</td>
<td>Anemia, Hemochezia</td>
<td>EGD x 1; Colonoscopy x 2</td>
<td>Unable to locate source</td>
<td>Colonoscopy</td>
<td>Actively bleeding diverticula in the transverse colon</td>
<td>Endoclip x 2</td>
<td>No</td>
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<td>Male</td>
<td>Hematemesis</td>
<td>EGD x 1</td>
<td>Unable to</td>
<td>EGD</td>
<td>Fundic gastric</td>
<td>Cyanoacrylat</td>
<td>No</td>
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<td>No</td>
<td>Age</td>
<td>Gender</td>
<td>History</td>
<td>Symptoms</td>
<td>Endoscopic Findings</td>
<td>Treatment</td>
<td>Source</td>
<td>Injection</td>
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<tr>
<td>4</td>
<td>62</td>
<td>Male</td>
<td>Melena; Severe Fe-defanemia*</td>
<td>Unable to locate source</td>
<td>Enteroscopy</td>
<td>APC*</td>
<td>No</td>
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<tr>
<td>5</td>
<td>56</td>
<td>Male</td>
<td>Melena, severe Fe-defanemia</td>
<td>Unable to locate source</td>
<td>Colonscopy</td>
<td>Angioectasia in the cecum</td>
<td>No</td>
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<tr>
<td>6</td>
<td>62</td>
<td>Female</td>
<td>Melena, Hematochezia</td>
<td>Unable to locate source</td>
<td>Endoscopy</td>
<td>Actively bleeding duodenal bulb Dieulafoy's lesion in the excluded stoma ch of a patient post Roux-en-Y gastric</td>
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<td>Case</td>
<td>Age</td>
<td>Gender</td>
<td>Diagnosis</td>
<td>Initial Workup</td>
<td>Further Workup</td>
<td>Diagnosis</td>
<td>Treatment Options</td>
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<tr>
<td>7</td>
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<td>EGD x 1; Colonoscopy x 1</td>
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<td>Biopsy obtained for diagnosis only</td>
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<td>Angioectasia (second part of the duodenum)</td>
<td>Epinephrine injection and Endoclip x 2</td>
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<td>EGD x 1</td>
<td>Unable to treat source</td>
<td>EGD</td>
<td>Ulcer with visible vessel in the posterior duodenal bulb</td>
<td>Epinephrine injection and Heat probe application</td>
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<td>EGD x 1</td>
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<td>EGD</td>
<td>Angioectasia in the duodenal bulb</td>
<td>Endoclip x 1</td>
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<td>11</td>
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<td>EGD x 2; Colonoscopy x 1; Endoscopy; CT angiography;</td>
<td>Unable to locate source</td>
<td>Enteroscopy</td>
<td>Jejunal diverticulum with fresh clot</td>
<td>Site tattooed and patient sent for small bowel resection</td>
<td>No</td>
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<tr>
<td>No</td>
<td>Age</td>
<td>Gender</td>
<td>History</td>
<td>Procedures</td>
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<tr>
<td>12</td>
<td>63</td>
<td>Male</td>
<td>Melena, Anemia</td>
<td>Mesenteric angiography; WCE; DBE*; Unable to locate source; EGD Bleeding polyp at the duodenal sweep; Epinephrine injection and Endoclip x 1</td>
<td>No</td>
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<tr>
<td>13</td>
<td>69</td>
<td>Female</td>
<td>Melena, Fe-def anemia</td>
<td>EGD x 1; Colonoscopy x 1; DBE; Unable to locate source; Enteroscopy; Actively bleeding angioectasia in the proximal jejunum; Epinephrine injection, APC and Endoclip x 2</td>
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<td>14</td>
<td>78</td>
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<td>EGD x 1; Colonoscopy x 3; WCE; Unable to treat source; Colonoscopy; Actively bleeding angioectasia at the hepatic flexure; APC</td>
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<td>15</td>
<td>67</td>
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<td>Melena, Anemia</td>
<td>WCE; Enteroscopy x 2; Mesenteric angiography; Unable to treat source; Enteroscopy; Actively bleeding angioectasia in the proximal</td>
<td>No</td>
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<tr>
<td>al jejenum</td>
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<td>16</td>
<td>60</td>
<td>Male</td>
<td>Hematochezia, Anemia</td>
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<td>Colonscopy x 1</td>
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<td></td>
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<td>Unable to treat source</td>
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<td>Activel y bleeding rectal ulcer with visible vessel</td>
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<td></td>
<td>Epinephrine injection, Endoclip x 2</td>
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</tbody>
</table>

*Abbreviations: WCE (Wireless Capsule Endoscopy); DBE (Double balloon enteroscopy); APC (Argon Plasma Coagulation); Fe-def (Iron-deficiency)*

**TABLE TITLE:** Table 1. Summary of results

**AVERAGE SCORE:** 4.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: The aim of this study was to evaluate the clinical efficacy, safety, and feasibility of full-coated metallic stent for preventative management of esophageal stricture after endoscopic submucosal dissection (ESD) or multi-band mucosectomy (MBM) for the large neoplastic lesions and early carcinoma in the esophagus.

Methods: Clinical data of 23 patients with large esophageal neoplastic lesion or early esophageal carcinoma who underwent ESD or MBM between November 2009 and January 2013 were analyzed retrospectively. Demographics, endoscopic operation-related data, therapeutic outcomes, postoperative pathological diagnosis, complications and follow-up outcomes were recorded.

Results: All of the patients (male/female, 13/10) at the mean age of 61.09 ± 8.63 years (range: 44-78) who were enrolled in this research had been given the treatment of ESD or MBM successfully. The mean procedure time was 182 ± 118.64 min (range: 40-420). En bloc resection was performed in 7 patients, and the other 16 patients were treated by MBM. There were no perforation and severe bleeding happened during the operation. Patients with lesions in the whole circumferential lumen of the esophagus were 19 cases, with the other 4 patients with lesions in more than three-quarters of the circumferential area but less than the whole circumference of the lumen. The mean longitudinal diameter of the lesions was 63.3 ± 21.6 mm (range: 20-100). The postoperative pathological outcomes of ten patients were esophageal high-grade intraepithelial neoplasia, and 11 patients were early carcinomas of the esophagus. The mean follow-up time was 110.21 days (range: 11-643). The number of patients whose stent dropped off was 12 (52.1%), 7 cases (30.4%) had no postoperative esophageal stricture, another 7 cases (30.4%) had mild esophageal stricture that didn’t need to be treated by endoscopic balloon dilatation (EBD) or bougienage after operation, and severe esophageal stricture that required the treatment of EBD or bougienage happened to the remaining 9 patients (39.2%). The average time of stenosis was 62.8 ± 52.1 days (range: 7-189) after ESD or MBM. There are three cases (13.0%) of postoperative recurrence.

Conclusion: Fully-coated metallic stent is an safe, effective, and feasible measure which can manage esophageal stricture after ESD or MBM for the large neoplastic lesion and early carcinoma in the esophagus, and only a small number of patients still need the subsequent treatment of EBD or bougienage.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Does size matter? Minimal incision cricopharyngeal myotomy (CPM); possibly an effective therapy for diverticula of all sizes

Luke McCrone

Mayo Clinic, Department of Gastroenterology and Hepatology

United States

Purpose: Zenker’s diverticulum (ZD), a posterior outpouching of mucosa through transverse cricopharyngeal muscle fibers, is associated with marked morbidity. A peroral endoscopic myotomy (POEM)-based minimal incision cricopharyngeal myotomy (CPM) technique has been developed, using a needle knife to dissect the cricopharyngeal bar by way of an 8 to 10 mm incision within the confines of the mucosa without an extended diverticulotomy. It is yet to be determined which patients, with respect to size of the diverticulum, will benefit the most from this procedure and show improvement in the dysphagia score. The primary aim of this study was to evaluate whether the size of the Zenker’s Diverticulum could potentially serve as a determinant of post procedure improvement in dysphagia. Secondary aims were to observe the efficacy of endoscopic minimal incision CPM in the treatment of both large and small Zenker’s Diverticula.

Methods: This was a prospectively collected cohort of patients undergoing minimal incision needle-knife cricopharyngeal myotomy under monitored anesthesia care at a single center tertiary referral center. Subjects included patients with symptomatic ZD as demonstrated by radiographic and/or endoscopic evaluation. The size of the diverticulum was evaluated by a pre-procedural esophagram. The size of the ZD was approximated (in cm) by measuring from the cricopharyngeal bar to the caudal aspect of the diverticulum.

Results: From January 2009 to March 2013, 16 patients underwent minimal incision CPM (see table). The mean age was 76 years (range 61-98 years; 69% male). Time to follow up ranged from 1 day postprocedure to 17 months. A preprocedural barium esophagram was available for 13 patients. The size of the diverticula ranged from 1.48cm to 7.14cm, with a mean size of 3.33cm. Improvement in dysphagia was seen in 94% of patients, though complete resolution was seen only in 6 patients (38%). As minimal incision CPM was effective in 96% of patients, we did not see a relationship between ZD size and procedure success rates.

Conclusion: Minimal incision CPM is likely to benefit ZD of all sizes. This study, while limited to a small sample size, does suggest that the size of the diverticulum should not prohibit one procedure in favor of another; rather the patient’s comorbidities should guide procedure selection.
<table>
<thead>
<tr>
<th>Case</th>
<th>Age/Sex</th>
<th>Dysphagia Pre-procedure</th>
<th>Dysphagia Post-procedure</th>
<th>Size of ZD (cm)</th>
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<tbody>
<tr>
<td>1</td>
<td>84/Male</td>
<td>3</td>
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<tr>
<td>2</td>
<td>68/Male</td>
<td>3</td>
<td>1</td>
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<tr>
<td>3</td>
<td>70/Male</td>
<td>3</td>
<td>1</td>
<td>7.14</td>
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<tr>
<td>4</td>
<td>61/Female</td>
<td>2</td>
<td>0</td>
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<td>5</td>
<td>75/Female</td>
<td>2</td>
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<tr>
<td>6</td>
<td>76/Male</td>
<td>3</td>
<td>1</td>
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<td>7</td>
<td>63/Male</td>
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<tr>
<td>8</td>
<td>91/Female</td>
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<tr>
<td>9</td>
<td>88/Male</td>
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<td>10</td>
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<td>11</td>
<td>74/Male</td>
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<td>2</td>
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<tr>
<td>14</td>
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<tr>
<td>15</td>
<td>98/Female</td>
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<td>2</td>
<td>5.36</td>
</tr>
<tr>
<td>16</td>
<td>61/Male</td>
<td>2</td>
<td>1</td>
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</tr>
</tbody>
</table>

Dysphagia Score: 0=no dysphagia; 1=able to swallowing some solid foods; 2=able to swallowing only semi-solid foods; 3=able to swallowing liquids only; 4=total dysphagia.
**TABLE TITLE:** Results of Cricopharyngeal Myotomy

**AVERAGE SCORE:** 4

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: Video capsule endoscopy (VCE) is frequently performed to evaluate for obscure GI bleeding (OGIB) when esophagogastroduodenoscopy (EGD) and colonoscopy fail to identify the bleeding source. Previous studies show diverticular bleeding, which is the most common identified cause of lower GI bleeding, accounts for 30-40% of confirmed bleeding sources. However, only in a minority of cases is there active bleeding at the time of endoscopy and prior to the advent of VCE, GI bleeding was often attributed to a self-limited diverticular bleeding and no further work-up was performed. There have been no prior studies determining the yield of VCE in patients with diverticular disease in the setting of GI bleed. The purpose of this study was to determine the diagnostic yield of VCE for the localization of a GI bleed when colonic diverticular disease is present but not bleeding at the time of endoscopy.

Methods: We reviewed the medical records of all patients with diverticular disease with a GI bleed whose source was not identified on EGD and colonoscopy who had video capsule endoscopy performed from July 1, 2004 to January 3, 2013 at Georgia Regents Health System. Patients with hereditary hemorrhagic telangiectasia (HHT) were excluded from the study. We then determined the diagnostic yield with video capsule endoscopies that were identified as being positive if there was active bleeding, greater than 5 arteriovenous malformations, or small bowel ulceration present. Statistical significance was determined using a Chi-square test.

Results: Of 466 patients who had VCE performed during the study time period, there were 41 patients with a GI bleed who had diverticular disease with no bleeding source identified on EGD and colonoscopy. Two of these patients were excluded from the study as they had HHT. The diagnostic yield for VCE in patients with diverticular disease and a GI bleed that was not identified on EGD or colonoscopy was 44% (17/39). The diagnostic yield was greater in patients 65 years of age or older (50%) than patients younger than 65 (33%) (p value= 0.035).

Conclusion: Prior studies have found the diagnostic yield of VCE for clinically significant lesions to be around 42-56%. We were expecting the diagnostic yield of VCE for small bowel pathology to be lower in patients with diverticulosis as diverticular bleeding is often not active during the time of endoscopy. However, our study demonstrates that video capsule endoscopy may be a useful study identifying findings of clinical significance in the setting of diverticular disease to identify the etiology of a GI bleed not identified during EGD or colonoscopy.
Colonoscopy view of spurting blood vessel (inside rectum) and application of clip

IMAGE CAPTION: Colonoscopy view of spurting blood vessel (inside rectum) and application of clip

AVERAGE SCORE: 6.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Purpose: Capsule endoscopy has revolutionized evaluation of the small bowel. Deep enteroscopy with single or double techniques allows for diagnostic and therapeutic intervention. Deep enteroscopy can be time consuming, but also requires special scopes and accessories to fit down the working channel. The NaviAid system enables the endoscopist to perform deep enteroscopy with the conventional colonoscope and use standard accessories.

Methods: We performed a nine center retrospective study using the NaviAid balloon system for small bowel evaluation. The NaviAid™ AB device (SMART Medical Systems Ltd., Ra’anana, Israel) is an on-demand balloon catheter that is inserted through the instrument channel of a standard colonoscope and enables it to advance deep into the small bowel in either anterograde or retrograde approach. It consists of a balloon inflation/deflation system and a single-use balloon catheter, designed for anchoring in the small bowel. The balloon is inflated to anchor in the intestine and a repetitive push-pull technique is performed, with the endoscope sliding over the guiding catheter to the balloon inflated in the distal small bowel. The catheter may be removed to allow for therapeutic intervention while maintaining scope position. The balloon catheter can then be reinserted for further advancement.

Results: A total of 98 patients were included; 52% were male, mean age 55 years old (range 15-94). Indications included abdominal pain, anemia, occult gastrointestinal bleed, diarrhea, abnormal capsule endoscopy, weight loss, protein losing enteropathy, retained foreign body, altered anatomy ERCP, and small bowel strictures. Anterograde enteroscopy was performed in 54 patients. The average depth of insertion (DOI) was 156cm (range 50cm-350cm). The average procedural time for the anterograde enteroscopy cases was 15.5min. Retrograde enteroscopy was performed in 33 cases. The average DOI was 89 cm (range 20cm-150cm) beyond the ileocecal valve. Overall, diagnostic yield was 45%. There were no procedural complications reported in the 98 cases.

Conclusion: The NaviAid advancing balloon is a safe and effective way to perform deep enteroscopy using a conventional colonoscope without the need of an overtube. Procedure time is shorter than other forms of deep enteroscopy. Diagnostic yield and depth of insertion are on par with other forms of deep enteroscopy. This is the largest reported study using this novel technology to diagnose and treat small bowel disease.
Vivek Kumbhari: ACG Non-Member
Daniel Wild: ACG Non-Member
Zamir Halpern: ACG Member
Helmut Neumann: ACG Non-Member
Mark Pochapin: ACG Member
Seth Gross: ACG Member

(No Image Selected)
(no table selected)

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

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
Repeat endoscopic ultrasound-guided celiac plexus block and neurolysis: What is the efficacy and safety?

Michael Sey
Indiana University Medical Center, United States

Purpose: Endoscopic ultrasound-guided celiac plexus block and neurolysis (CPB/N) are established treatments for pain secondary to chronic pancreatitis (CP) and pancreatic cancer (PC). The effectiveness and safety of serial repeated blocks and neurolysis have not been reported.

Methods: The EUS database at Indiana University Health was searched for patients who underwent CPB/N. The following information was recorded for each patient: age, gender, indication, number of CPB/N procedures, number of EUS criteria for CP, injection of ganglia (yes/no), and complications.

Results: 1284 patients were identified between 1996 through 2012. 983 patients underwent a single CPB/N and were excluded. 301 patients underwent > 1 CPB/N and were included in our analysis. The mean (SD) number of CPB/N was 2.9 (1.6). CPB was performed in 251 patients with known or suspected CP (72 had ≥4 EUS criteria and 179 had <4 EUS criteria). The mean (SD) number of CPB procedures in a single patient was 3.1 (1.6). After the first CPB, pain relief was reported in 76%. The mean (SD) duration of pain relief after the first CPB was 9.9 (11.3) weeks. Lack of pain relief after the first CPB was associated with failure to achieve pain relief with subsequent CPB (OR 0.17, 95% CI 0.06-0.54). The number of EUS criteria for CP and direct injection of the ganglia were not associated with pain relief. CPN was performed in 50 patients with PC. The mean (SD) number of EUS-CPN procedures in a single patient was 2.2 (0.6). After the first CPN, pain relief was reported in 80%. The mean (SD) duration of pain relief after the first EUS-CPN was 13 (12.1) weeks. Response to the first CPN was associated with a response to the second CPN (p<0.0001). Direct ganglia injection was not associated with block effectiveness. Four minor complications were reported: post-procedure abdominal pain in 1 (post 1st CPN), presyncope in 1 (post 1st CPB), and desaturations in 2 (during 1st CPB). There were no major complications noted up to the 10th CPB or the 4th CPN.

Conclusion: Repeated serial EUS-CPB/N are effective and safe for the treatment of pain in suspected/established CP and PC. A prospected study is warranted to confirm our findings.

CURRENT CATEGORY: K. Endoscopy
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>:

Michael Sey : ACG Member
Mohammad Al-Haddad : ACG Member
John DeWitt : ACG Member
Julia LeBlanc : ACG Member
(No Image Selected)
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<td>CP (number of patients)</td>
<td>235 107 57 35 22 12 6 5 3 1</td>
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<tr>
<td>Duration of pain relief (weeks)</td>
<td>9.9 13.1 17.4 17.6 17.7 18.7 19.8 19.2 19.7 17.0</td>
</tr>
<tr>
<td>CA (number of patients)</td>
<td>50 7 3 1 . . . . . . .</td>
</tr>
<tr>
<td>Duration of pain relief (weeks)</td>
<td>13.0 8.1 7.0 8.0 . . . . . .</td>
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Patients with missing effectiveness data excluded

**TABLE TITLE:**
**AVERAGE SCORE:** 3.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Endoscopic Sigmoidopexy with T-fasteners in Recurrent Sigmoid Volvulus: A Report of Two Cases and Review

Kevin Tin
Maimonides Medical Center, United States

Abstract Body:

Purpose: Introduction:
Sigmoid volvulus (SV) is the third leading cause of large-bowel obstruction in the United States after colon cancer and diverticular disease. Following diagnosis, the endoscopic decompression and detorsion of the volvulus should be attempted if there is no evidence of bowel necrosis. Endoscopic detorsion is usually a temporizing measure, with hospitalization and surgical resection being the standard of care. Operative treatment is associated with a relatively high morbidity and mortality and therefore may not be an option for select patients. Patients who do not undergo surgical resection have a high rate of recurrence (40-50%). We report two cases of recurrent SV which were treated definitively with the novel approach of endoscopic sigmoidopexy with T-fasteners.

Case 1: An 88 yr old male with PMH CAD, HTN, COPD, Alzheimer’s dementia, CHF, with history of six episodes of recurrent SV within the past 2 years presented to the ER with abd pain of 2 days duration. Abd CT revealed a large SV. Given his multiple episodes of recurrent volvulus, the patient underwent endoscopic sigmoidopexy during which four T-fasteners were placed across the site of torsion (two proximal to the site and two distal to the site). The patient tolerated the procedure well and was discharged without subsequent hospital admissions after six months of follow-up.

Case 2: A 68 yr old male with PMH CVA, seizures, and HTN presented from a nursing home with a 1 day history of constipation, abdominal distention, diffuse abdominal pain and lack of flatus for. An abd CT scan revealed a SV with marked distention of the closed loop of sigmoid without free air. As the patient was not a surgical candidate, he underwent successful endoscopic reduction of the volvulus with sigmoidopexy using four T-fasteners. The patient tolerated the procedure well and was discharged on two weeks of antibiotics in stable condition.

Discussion: There are less than ten published reports in literature that describe endoscopic sigmoidopexy with only one utilizing a T-fastener. Most of the previously published reports utilized percutaneous endoscopic gastrostomy tubes to fix the colon in place. The morbidity associated with fixation of the colon to the abdominal wall is significant given the large defect created and the potential for peritonitis. In our cases, we have demonstrated the efficacy of T-piece anchors to affix the bowel to the abdominal wall, which requires a small puncture thus minimizing the risk of leakage of colonic contents into the peritoneal cavity.

Conclusion: T fastener-assisted sigmoidopexy is an effective and minimally invasive tool available to gastroenterologists for definitive treatment of recurrent SV.

Methods: N/A
Results: N/A
Conclusion: N/A

Current Category: K. Endoscopy
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
Authorship:

Kevin Tin: ACG Member
Nnaemeka Anyadike: ACG Member
Mohammad Choudhry: ACG Non-Member
Yuriy Tsirlin: ACG Member
Kadirawel Iswara: ACG Member
Anna Serur: ACG Non-Member
Ira Mayer: ACG Member
Rabin Rahmani: ACG Member

Average Score: 5.5

Reviewer Flags: (none)

Reviewer Recommendation Code Description: None

Reviewer Comments:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
TITLE: A Single Center Case Series of Endoscopic Submucosal Dissection Performed in a Western Setting

PRESENTER: Gabriel Lang

PRESENTER (INSTITUTION ONLY): The University of Chicago Center for Endoscopic Research and Therapeutics, Section of Gastroenterology, Department of Medicine

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: Endoscopic Submucosal Dissection (ESD) enables en bloc resection and is associated with high success rates for early neoplastic lesions in the gastrointestinal (GI) tract. Compared with the piecemeal resection associated with endoscopic mucosal resection, ESD allows for more accurate histological assessments for adequacy of complete resection and has reduced overall recurrence rates. ESD is not widely performed in Western countries given increased technical difficulty, high complication rates, availability of tools, and long procedure times. Here we present a case series of all ESDs performed at a single center in the United States.

Methods: A retrospective chart review was performed to identify all cases in which a single operator (IW) performed ESD at a tertiary care referral center. A total of 15 cases were identified, 6 performed in the upper GI tract (4 esophagus and 2 stomach) and 9 in the lower GI tract (8 rectal and 1 sigmoid colon). Data regarding location of lesion, pathology, method of ESD (composition and volume of lifting injection and method of resection), post-procedure complications, and involvement of margins on resected specimen were collected.

Results: A variety of devices were utilized to perform ESD: hook knife (3), needle knife (2), flexible-tip knife (7), insulated tip knife (1), or a combination (2). Major complications occurred in 1/15 (6.6%), which was a perforation. Minor blood loss was reported in 2 procedures (13%), both of which were endoscopically treated with coagulation and/or placement of hemostatic clips. ESD was successfully performed in 12/15 (80%) of cases, with exceptions secondary to perforation (1) and inability to dissect the submucosal layer (2). Of the 12 procedures in which pathology was obtained by ESD, 11/12 (92%) had clear margins.

Conclusion: Our major complication (6.6%) and complete resection rates (92%) were similar to those found in large Japanese studies on ESD performed by Myanoto and Tamegi et al. Our case series show that ESD can safely and effectively be performed in a Western setting. ESD will gain more traction in Western countries with continued improvement in early detection of gastrointestinal neoplasms, increased clinical experience, development of specialized training programs, and refinement of instruments.
<table>
<thead>
<tr>
<th>Patient Number</th>
<th>Location</th>
<th>Pathology</th>
<th>How ESD Performed</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GEJ with invasion into submucosa</td>
<td>Adenoma</td>
<td>Hook knife, Insulated Tip, hook, flex knife</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Thoracic esophagus with penetration to deep mucosa</td>
<td>Adenocarcinoma</td>
<td>Hook knife, needle knife, 7 clips</td>
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</tr>
<tr>
<td>3</td>
<td>GEJ with invasion into deep mucosa</td>
<td>Focal high grade dysplasia</td>
<td>Hook knife, needle knife, insulated tip knife, 4 clips</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Pylorus with invasion into deep mucosa</td>
<td>High grade dysplasia</td>
<td>Flex tip knife, insulated tip knife, 20 clips and ligature</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>Prepyloric stomach with invasion to deep mucosa</td>
<td>Intramucosal adenocarcinoma</td>
<td>Flex tip knife, insulated tip knife, 20 clips</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>30 mm granular lesion in rectum with invasion into submucosa</td>
<td>Adenocarcinoma</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>Rectal mass with invasion into submucosa</td>
<td>Tubulovillos adenoma</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>50 mm rectal mass with invasion into submucosa</td>
<td>Villous adenoma</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>9</td>
<td>Rectal mass with invasion into deep mucosa</td>
<td>Carcinoid tumor</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>10</td>
<td>17 x 8 mm subepithelial lesion in rectum.</td>
<td>Tubulovillos adenoma</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>11</td>
<td>Rectal mass with invasion into submucosa</td>
<td>Granuloma</td>
<td>Insulated tip knife</td>
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<tr>
<td>12</td>
<td>Rectal mass with invasion into submucosa</td>
<td>High grade dysplasia</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>13</td>
<td>Rectal mass with invasion into submucosa</td>
<td>Adenocarcinoma</td>
<td>Insulated tip knife</td>
<td>None</td>
</tr>
<tr>
<td>14</td>
<td>Rectal mass with invasion into submucosa</td>
<td>Low grade dysplasia</td>
<td>Insulated tip knife</td>
<td>None</td>
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<tr>
<td>15</td>
<td>Rectal mass with invasion into submucosa</td>
<td>High grade dysplasia</td>
<td>Insulated tip knife</td>
<td>None</td>
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<tr>
<td>Clear Margins</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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**TABLE TITLE:**

**AVERAGE SCORE:** 5.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: The purpose of this study was to investigate the association between tongue color and endoscopic findings, H. pylori infection, and serological atrophic gastritis.

Methods: 896 residents of Ishigaki, Okinawa Prefecture aged 28-86 years were enrolled. All participants had their tongue photographed, received esophagogastroduodenoscopy, and serum antibody to H. pylori (anti-H. pylori) was measured. Serological atrophic gastritis was defined as a serum PGI isozyme level≦70ng/ml and a PGI /Πratio of≦3.0. Gastrin was measured as a marker of atrophic gastritis. Tongue color was measured by the device-independent international commission on Illumination (CIE) 1976L*a*b* color space at four points: 1) tongue edge, 2) tongue posterior, 3) tongue middle, 4) tongue apex.

Results: Erosive esophagitis was significantly associated with sex and tongue color (a1,b1,a3,b3,a4,b4)(P<0.001,0.011,0.048,0.003,0.021,0.007,0.029,respectively). Esophageal hernia was significantly associated with sex, tongue color (b1,b3,b4) and gastrin (P<0.001, gastrin P=0.027). Seropositivity to Anti-H. was significantly associated with age, tongue color(b2,b4) and gastrin (P=0.043,0.028,0.024,<0.001). Serological atrophic gastritis was significantly associated with age, tongue color (a4), and gastrin (<0.001, 0.037, <0.001). From multivariable analysis, erosive esophagitis was significantly more frequent, by 4.72 times, for men with tongue color b2≧6.0 than for women with tongue color <6.0 (men:odds ratio=2.810, 95%CI 1.958-4.033, P<0.001, b2:odds ratio=1.678,95%CI 1.129-2.495, P=0.011). Esophageal hernia was significantly more frequent, by 3.64 times, for men with tongue color b2≧6.0 than for women with tongue color <6.0 (men: odds ratio=2.456, 95%CI 1.823-3.308, P<0.001, b2: odds ratio=1.484, 95%CI 1.064-2.070, P=0.020). Seropositivity to Anti-H. was significantly more frequent, by 2.24 times, for participants≧65years with tongue color b2 <6.0 than for participants <65 years with tongue color b2≧6.0 (≧65years:odds ratio=1.428, 95%CI 1.027-1.985, P=0.034, b2:odds ratio=1.568, 95%CI 1.151-2.136, P=0.004). No significant correlation was found between serological atrophic gastritis and tongue color.

Conclusion: Tongue diagnosis is useful indicator of gastroesophageal disease.
Multivariable analysis of factors influencing erosive esophagitis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Odds Ratios</th>
<th>95% CI</th>
<th>P values</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥65 years</td>
<td>0.880</td>
<td>0.614 – 1.261</td>
<td>0.486</td>
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<tr>
<td>Men</td>
<td>2.810</td>
<td>1.958 – 4.033</td>
<td>&lt;0.001</td>
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<td>Tongue color b²≥6.0</td>
<td>1.678</td>
<td>1.129 – 2.495</td>
<td>0.011</td>
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</table>

TABLE TITLE: Multivariable analysis of factors influencing erosive esophagitis

AVERAGE SCORE: 4.5

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]

Purpose: Standard colonoscopy (SC) can have a polyp miss rate up to 31%. The NaviAid™ G-Eye System integrates an inflatable balloon onto the flexible tip of a standard colonoscope, which can be partially inflated upon withdrawal for Balloon Assisted (BAT) colonoscopy, straightening colon folds and flexures. The mechanical flattening of haustral folds can improve visualization and stabilization, increasing polyp detection rates (PDR). This study compares the diagnostic yield of BAT colonoscopy vs. SC in the detection of simulated polyps in a colon model.

Methods: Gastroenterologists were recruited to identify “simulated” colon polyps in a colon model first using SC followed by BAT colonoscopy using the NaviAid™ G-Eye System at a national meeting. The elastic colon model mimics the flexible structure of haustral folds allowing dynamic response to balloon inflation. The model was shorter than a human colon with a withdrawal time of 2 minutes equivalent to 6 minutes in a human colon. There were 12 simulated polyps: 8 obscured behind folds and 4 non-obscured. Demographics, simulated PDR, withdrawal times, and subjective evaluation of instrument usability were analyzed.

Results: Fifty gastroenterologists [45 (90%) male, median age 45 years] participated. The median number of years in practice was 11 (2-51 years) with an average of 24 colonoscopies per week. The mean ± SD number of simulated polyps detected with SC was 5.3 ± 2.0 polyps (44.2% PDR) as compared to BAT, with which 10.5 ± 1.8 polyps were detected (87.5% PDR), p-value < 0.0001. The significantly higher simulated PDR with BAT vs. SC was notable both with non-obscured polyps 3.6 ± 0.64 (90%) vs. 3.0 ± 0.81 (75%), respectively, and for obscured polyps 7.0 ± 1.45 (88%) vs. 2.3 ± 1.57 (29%), p-value <0.0001 (Fig 1). The mean withdrawal time with BAT was shorter than with SC, 1 minute and 48 seconds vs. 2 minutes and 16 seconds, respectively. On a scale of 1-5 with 1 representing ‘absolutely disagree’ and 5 representing ‘absolutely agree,’ mean scores for ‘intuitiveness’ of the NaviAid™ G-Eye system, ease of handling, improvement in ability to detect simulated polyps, and improvement in PDR in colonoscopy ranged between 4.5-4.8.

Conclusion: Balloon Assisted (BAT) colonoscopy with the NaviAid™ G-Eye system significantly improved simulated polyp detection rate in a colon model. Prospective human clinical studies are in progress.
Figure 1. Percentage of Polyps Detected by Standard vs. BAT Colonoscopy

**Image Caption:** Figure 1. Percentage of Polyps Detected by Standard vs. BAT Colonoscopy

**Average Score:** 4.75

**Reviewer Flags:** (none)

**Reviewer Recommendation Code Description:** None

**Reviewer Comments:**
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: For iron to be absorbed by the GI tract, it must be reduced from the ferric (Fe3+) to the ferrous (Fe2+) form. Impaired gastric secretion can lead to malabsorption and iron deficiency. Only a few studies in the past have investigated the link between proton pump inhibitor therapy (PPI) and iron deficiency anemia (IDA). In recent years, capsule enteroscopy (CE) has become a useful method to evaluate IDA and bleeding of obscure origin in patients with negative endoscopy and colonoscopy. CE therefore serves as a suitable imaging modality to analyze the link between PPI therapy use and IDA.

Methods: We conducted a retrospective chart review on 200 patients who had a CE between January 1, 2007 and December 30, 2012 for various indications, including iron deficiency anemia, melena, and inflammatory bowel disease. 86 of the 200 patients were found to have a normal study. Of these 86 patients with a negative study, 52 patients had indications for iron deficiency anemia.

Results: For the 52 patients with negative studies, we did a thorough chart review and found that half of them were taking a PPI prior to the study. Excluding 3 patients who were started on a PPI less than 2 weeks before the study, the average duration of PPI use was 570 days. Out of the 26 patients, 16 (61.5%) patients had their PPI ultimately terminated after our study. Interestingly, after iron supplementation, these patients were found to have a stable and improved hemoglobin level 12 months after the CE (see Table 1).

Conclusion: The majority of patients in our study had a CE after having a small bowel follow through, upper endoscopy, and colonoscopy. Previous studies have shown that combining camera-based scoping techniques and X-rays with radiopaque contrast serves as a model to detect a large number of pathologies within the gastrointestinal system. Therefore, based on our findings and prior negative studies, we believe there is an important association between PPI use and IDA. Healthcare providers should become aware of this link and be judicious with prescribing PPIs to their patients. Further case-controlled studies should be done to elucidate the connection as this may change future prescribing habits.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
Purpose: A smartphone-based application was developed that uses free-form speech, textual, graphical and menu-based interaction to remind patients just-in-time of newly active instructions, to ensure understanding of and compliance with checklist items, and to answer ad-hoc questions. Delivery via mobile device is exploited including visual aids, step-by-step vocal instructions, links to ancillary services such as transportation services, and communication with clinic to identify patients at risk for poor colonoscopy preparations.

The purpose of the study was to evaluate the concept of improving adequacy of patient preparation for colonoscopy by using a virtual mobile coach enabled with natural-language processing technologies with smartphone-based ease of use.

Methods: Fourteen users aged 30 to 69, 7 of whom had previously undergone colonoscopy, including 8 men and 6 women, were asked to interact with the application after a brief introduction to the scenario. The interactions were recorded and observations were noted. Users completed a survey following the interaction intended to measure the usability and engagement potential of the application based on a 7-point Likert scale.

Results: The average rating for the 14 participants was positive (4.7), though the average rating was higher for those who had undergone a colonoscopy in the past (5.3). Average scores of 6.0 or higher were the attained on the following statements to which users reacted:

-Overall, I felt comfortable using the app
-I liked the voice that I heard in the system messages
-The app is an efficient way to prepare for the exam
-I would recommend this app to friends and family for colonoscopy prep

The below-average scales had to do with the performance of the app, and the rate of accuracy of speech recognition (these are two system aspects that are undergoing enhancement for future tests). Nevertheless, the most liked features of the app included: Ease of Use; Use of Speech; and Multimodality (graphics and large-font text accompanying speech output).

Conclusion: The results of this usability study demonstrated that this smartphone-based mobile virtual coach was easy to use and engaging, particularly among people who have previously undergone colonoscopy. Further testing of the clinical effect of using this virtual coaching software on adequacy of colonoscopy preparation is warranted.
Sundeep Singh : ACG Member
Robert Quinn : ACG Non-Member
Sarah Adler : ACG Non-Member
Ann Thyme-Gobbel : ACG Non-Member

(No Image Selected)

(no table selected)

**AVERAGE SCORE:** 5

**REVIEWER FLAGS:** Stavros Stavropoulos - Newsworthy?: 1

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: very preliminary results but interesting and promising idea
Shin'ichi Takahashi: [No Comments]
Purpose: Inpatient colonoscopy is a costly process. Several studies (including our center’s data) have shown that inpatient bowel preparation is more challenging than in the outpatient setting and is associated with increased possibility of canceled or repeat studies. We tried to ascertain frequency of repeat procedure secondary to poor bowel preparation as well as the cost involved in such cases.

Methods: Cross sectional study at a tertiary teaching hospital. Database comprised of 430 patients undergoing inpatient colonoscopy (data spanning a period of 10 months). We identified patients who underwent repeat colonoscopy secondary to poor bowel preparation noted during first attempt. Subsequently compared financial data to identify costs related to second procedure. In order to reduce confounding, we only compared data relating to the Gastroenterology cost center.

Results: Although a significant number of inpatients had suboptimal bowel preparation (51% based on predetermined criteria), only 2% of all patients in database underwent a repeat colonoscopy as a result of poor bowel preparation. Cost data suggests that in terms of purely gastrointestinal department costs, a repeat colonoscopy resulted in 60-257% increase in cost to patient with an average increase of 138%. This number includes direct as well as indirect costs.

Conclusion: Pursuing strategies to increase bowel preparation efficiency not only leads to better patient outcomes, but also reduces need for repeat procedures. Even though the number of patient undergoing repeat colonoscopy as a result of poor bowel preparation is small, repeating inpatient colonoscopy involves a significant expense to the healthcare system.
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
Purpose: Background: Quality measures such as readmissions to the hospital within 30 days of discharge (30-day readmission rate) may impact the use of stents in palliative treatment in cancer.

Objective: To investigate the incidence of readmissions and factors predicting readmissions and long-term outcomes in patients with self-expanding metal stents (SEMS) placed for malignant obstruction.

Methods: Retrospective analysis of all patients who were admitted to our center for SEMS from Jan 2007 to Jan 2012 for malignant esophageal, gastroduodenal and colonic obstruction. Incidence and variables associated with 30-day readmission and long-term outcomes were determined.

Results: One hundred and ninety one patients underwent stent placement. The 30-day readmission rate was 17.3% (N=33). Stent-related complications were responsible in 7.3% (N=14) and non stent-related complications responsible for 9.9% (N=19) readmissions. Stent placement was technically successful in 185 of 191 (96.9%) and clinically successful with relief of obstruction combined with a functioning stent after 1 week in 185 of 191 (96.9%) patients. On long-term follow-up, 32 (16.8%) patients needed reintervention, 22 required repeat endoscopic interventions while the remaining 10 required surgery. The mean stent patency was 142 days. 83.2% of patients had a patent stent until death. Readmission within 30 days was independently associated with development of early complications (<7 days) following stent placement (odds ratio [OR], 5.90; 95% confidence interval [CI], 2.04 – 17.1), while the stent location did not impact readmission risk. 148 patients (77.5%) were deceased at the end of the study. The overall median survival was 107 days: 89.7 days after esophageal, 107 days after gastroduodenal and 162.6 days after colonic stenting (Figure 1). On Cox regression analysis, ASA physical classification (OR, 1.36; 95% CI, 1.02 – 1.87) and stent location in the esophagus (OR, 1.82; 95% CI, 1.10 – 3.02) were independently associated with long-term mortality, while 30-day readmission did not impact the long-term outcomes.

Conclusion: Early complications following stent placement increase the risk of 30-day readmissions. SEMS is efficacious in the long-term for the palliation of malignant GI obstruction.
AVERAGE SCORE: 4.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Purpose: Split-dose bowel preparation has been shown to produce superior cleansing to evening only bowel preparation in patients undergoing colonoscopy. This study seeks to determine if differences in efficacy can be detected when an oral sulfate (OS) preparation and sodium picosulfate and magnesium citrate (P/MC) preparation are both given in a split-dose (PM/AM) administration.

Methods: Adult outpatients scheduled for colonoscopy were enrolled into this single-blind, multi-center study and were administered either an OS preparation (SUPREP®) or P/MC preparation (Prepopik™). Both preparations followed their approved labeling for a split dose (PM/AM) regimen. Colonoscopies were performed by investigators blinded to treatment assignment. Cleansing was graded using a 4 point scale (Excellent - no more than small bits of adherent feces/fluid, Good - small amounts of feces or fluid not interfering with exam, Fair - enough feces or fluid to prevent a completely reliable exam, Poor - large amounts of fecal residue, additional cleansing required) where scores of Good or Excellent were considered “successful”. Each colon segment was also rated for the quantity of residual stool and fluid. The volume of irrigation water used was recorded, along with the number of polyps, adenomas and flat lesions identified.

Results: Ninety-five percent of patients had successful cleansing with OS, compared to 86% of P/MC patients (p < 0.01). Twice as many sulfate preparations (55%) were graded as Excellent by the colonoscopist, as compared to P/MC (26%, p < 0.001). OS was superior in cleaning stool in all colon segments, including the ascending colon (p < 0.001). Endoscopists used less water to irrigate the colon with OS (55ml) compared to P/MC (90ml, p < 0.05). No difference was seen for residual fluid, polyp or adenoma detection. A trend was seen favoring OS for flat lesion detection (10% vs 5% for P/MC, p = 0.066).

Conclusion: Oral sulfate solution provides superior bowel cleansing compared to sodium picosulfate and magnesium citrate when both are given as split-dose regimens. This result was seen in the global efficacy assessment, as well as in the proportion of Excellent preparations achieved. The difference in utilization of irrigation water confirms the better efficacy associated with the sulfate solution. The high level of efficacy confirms results seen in prior studies, and adds greater support to the efficacy of split-dosing, especially when an oral sulfate solution is used.
### Bowel Preparation Cleansing Efficacy

<table>
<thead>
<tr>
<th></th>
<th>OS (n=168)</th>
<th>P/MC (n=169)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Overall Success</td>
<td>95</td>
<td>86</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>% Excellent Preps</td>
<td>55</td>
<td>26</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Segmental Cleansing</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>% Patients with No Stool</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Cecum</td>
<td>77</td>
<td>57</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Ascending</td>
<td>84</td>
<td>63</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Transverse</td>
<td>86</td>
<td>65</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Descending</td>
<td>86</td>
<td>67</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Sigmoid/Rectum</td>
<td>82</td>
<td>60</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Bowel Preparation Cleansing Efficacy  
**AVERAGE SCORE:** 4  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Douglas Adler: [No Comments]  
Todd Baron: [No Comments]  
Priya Jamidar: [No Comments]  
Ali Siddiqui: [No Comments]
Purpose: To determine the agents, co-morbidities, and intestinal anatomical abnormalities that contribute to the improved capsule endoscopy (CE) completion rates (CR) starting at 2010 to present in a Veteran's Administration single-center tertiary care medical center.

Methods: A retrospective analysis of 53 patients undergoing CE, aged 26-88 years, median age 65 years, >97% male, from 2007 through 2013. CR defined as capsule completing the transit to the cecum. Small bowel transit time (SBTT) defined as the capsule’s total time in the small intestine.

Results: In our study of 53 patients undergoing CE, the most common indications were obscure gastrointestinal bleed (38%), iron-deficiency anemia (34%), diarrhea (16%), abdominal pain (10%) and suspected Crohn’s disease (10%). The three most common findings were angioectasia (33.3%), ulcerations (23.8%) and active bleeding (16.7%). Significant improvement in outpatient EGD-assisted CE was detected starting from 2010 to the present compared to previous years (94% vs 60%, p=0.034).

EGD-assist CE showed a significantly improved CR compared to conventional CE without endoscopy assisted CE placement (94% vs 38%, p=0.018, 2010-present). Patients who underwent conventional CE and failed to have complete capsule transit consisted of a marked diabetic population (57% vs 0%, p=0.015). The significantly improved CR amongst the EGD-assisted CE in 2010-present showed a population which used significantly increased opiates (50% vs 0%, p=0.0015) compared to years prior. Amongst the patients from all years who successfully completed capsule transit to the cecum, there was a marked use of narcotic agents (35% vs 0%, p=0.0024) compared to those whose capsules did not complete their transit to the cecum. Amongst patients who had successful CR there was a trend towards shorter SBTT in the patient population taking narcotics, though the trend was not statistically significant (201 vs 223 min, p=0.44). Other factors including promotility (i.e. Metoclopramide), and bowel cleansing regimen (GoLYTELY), co-morbidities such as Crohns disease, and anatomical abnormalities were not found to have statistical significance contributing to the improved CR from 2010 to the present.

Conclusion: Long known for contributing to intestinal hypo-motility, we report opiate use markedly improved CR with evidence that SBTT may be shortened in patients undergoing EGD-assisted CE in the clinical setting. In contrast, conventional CE remained inferior to endoscopy-assisted CE with lower CR. Future prospective studies are needed to further understand this novel and intriguing relationship.
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Unusually low completion rate without EGD assistance to get the capsule beyond the stomach. Studies have suggested more rapid SBTT with narcotics due to their effect on the MMC. Their effect on slowing gastric motility may have been overcome by the EGD-assisted protocol followed in this center after 2010. Study is of unclear broader merit. |Shin'ichi Takahashi: [No Comments]
Characterizing the Learning Curve and Accuracy of Wireless Capsule Endoscopy Interpretation Amongst Digestive Healthcare Practitioners

Vinay Chandrasekhara
University of Pennsylvania Perelman School of Medicine, United States

Trainees and mid-level providers are often used as first-line readers of wireless capsule endoscopy (WCE) studies to earmark images that are subsequently reviewed by an attending gastroenterologist. This study is intended to prospectively evaluate the accuracy and learning curve of WCE trainees without prior WCE experience (GI fellow, CRNP fellow and senior GI nurse).

Each trainee individually reviewed and interpreted 48 full-length de-identified WCE studies. Significant findings, the time required to interpret each study, and the confidence of the interpretation were recorded. The results were compared to a WCE expert. After every 10 studies, each trainee reviewed findings with the expert. The first 10 studies were considered the training period, the next 19 studies considered study period 1, and last 19 studies considered study period 2. Reading times were compared using Wilcoxon rank-sum tests.

The median time for interpretation improved significantly from the training period to the first study period for each trainee, but was only different from study period 1 to 2 for the RN (Table 1). Pharmacokinetic modeling of the median reading time compared to the WCE expert demonstrates that the GI fellow and CRNP fellow plateau in reading speed during the study, suggesting that additional studies are unlikely to improve reading efficiency (Fig 1). The GI nurse never plateaus during the study. Confidence improved for all trainees during the study. However, during the final study period, the GI fellow reported higher confidence levels than the CRNP fellow, who reported higher confidence than the GI nurse. The GI nurse was still only "moderately confident" for half the studies during study period 2. The MD fellow was found to have a higher sensitivity, specificity and accuracy compared to other trainees (Table 2).

A minimum of 25 WCE studies, with each study read in its entirety, appears to be sufficient for trainees enrolled in a GI fellowship program who are actively performing endoscopy. Physician extenders and nurses appear to require interpretation of more than 25 WCE studies before adequate proficiency is achieved.

CONTROL ID: 1743642
TITLE: Characterizing the Learning Curve and Accuracy of Wireless Capsule Endoscopy Interpretation Amongst Digestive Healthcare Practitioners
PRESENTER: Vinay Chandrasekhara
PRESENTER (INSTITUTION ONLY): University of Pennsylvania Perelman School of Medicine
PRESENTER (COUNTRY ONLY): United States
ABSTRACT BODY:

Purpose: Trainees and mid-level providers are often used as first-line readers of wireless capsule endoscopy (WCE) studies to earmark images that are subsequently reviewed by an attending gastroenterologist. This study is intended to prospectively evaluate the accuracy and learning curve of WCE trainees without prior WCE experience (GI fellow, CRNP fellow and senior GI nurse).

Methods: Each trainee individually reviewed and interpreted 48 full-length de-identified WCE studies. Significant findings, the time required to interpret each study, and the confidence of the interpretation were recorded. The results were compared to a WCE expert. After every 10 studies, each trainee reviewed findings with the expert. The first 10 studies were considered the training period, the next 19 studies considered study period 1, and last 19 studies considered study period 2. Reading times were compared using Wilcoxon rank-sum tests.

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Conclusion: A minimum of 25 WCE studies, with each study read in its entirety, appears to be sufficient for trainees enrolled in a GI fellowship program who are actively performing endoscopy. Physician extenders and nurses appear to require interpretation of more than 25 WCE studies before adequate proficiency is achieved.

CURRENT CATEGORY: K. Endoscopy
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Oral Only
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Supported by Industry Grant: No
Commercial Products or Services: Yes
Initiated Research: Investigator
Financial Relationships: No
FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator

AUTH DESIG: ACG Membership Status <font color="red">^</font>:
Vinay Chandrasekhara : ACG Non-Member
Russell Shinohara : ACG Non-Member
Kerry Dunbar : ACG Non-Member
Monica VanDongen : ACG Non-Member
Eric Tomakin : ACG Non-Member
Gerard Mullin : ACG Member

PK modeling of median difference in reading time compared to the WCE expert.

Table 2. Sensitivity, specificity, and accuracy of WCE trainees after a training period of 10
### Table 1. Median reading time (in minutes) for each interpreter.

<table>
<thead>
<tr>
<th>WCE Interpreter</th>
<th>Training Period</th>
<th>Study Period 1</th>
<th>Study Period 2</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>17</td>
<td>17</td>
<td>23</td>
<td>0.15</td>
</tr>
<tr>
<td>MD Fellow</td>
<td>41</td>
<td>21</td>
<td>19</td>
<td>TP-SP1: &lt;0.002 SP1-SP2: 0.27</td>
</tr>
<tr>
<td>CRNP Fellow</td>
<td>67</td>
<td>33</td>
<td>29</td>
<td>TP-SP1: &lt;0.002 SP1-SP2: 0.42</td>
</tr>
<tr>
<td>RN</td>
<td>82</td>
<td>30</td>
<td>30</td>
<td>TP-SP1: &lt;0.001 SP1-SP2: 0.05</td>
</tr>
</tbody>
</table>

### Table 2. Sensitivity, specificity, and accuracy of WCE trainees after a training period of 10 studies

<table>
<thead>
<tr>
<th>GI Fellow</th>
<th>Sensitivity (%, 95% CI)</th>
<th>Specificity (%, 95% CI)</th>
<th>Accuracy (%, 95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI Fellow</td>
<td>89 (76-100)</td>
<td>95 (85-100)</td>
<td>92 (84-100)</td>
</tr>
<tr>
<td>CRNP Fellow</td>
<td>79 (61-97)</td>
<td>84 (68-100)</td>
<td>82 (69-94)</td>
</tr>
<tr>
<td>RN</td>
<td>47 (25-70)</td>
<td>89 (76-100)</td>
<td>68 (54-83)</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Table 2. Sensitivity, specificity, and accuracy of WCE trainees after a training period of 10 studies

**AVERAGE SCORE:** 3.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Douglas Adler: [No Comments]|
Todd Baron: [No Comments]|
Priya Jamidar: [No Comments]|
Ali Siddiqui: [No Comments]
Purpose: Incomplete colonoscopies can present many challenges for the patient and endoscopist. There is a recently developed colonoscope (Olympus CF-Y0009-L) which has many of the same attributes as the adult version (CF-H180AL) except for 2 new features. These are a Passive Bending section and a High Force Transmission insertion tube. These features are designed to reduce looping and thus allow the endoscopist to negotiate turns in the colon with more ease. The goal of our study was to compare the Technically Improved Colonoscope to the Adult Colonoscope with regards to difficulty of insertion.

Methods: We compared the two colonoscopes using a randomized controlled double blinded study. Consecutive patients between the ages of 35 to 75 years of age were consented and randomized to have either the Adult Colonoscope or the Technically Improved Colonoscope for their colonoscopy. Patients with previous colon resection and IBD were excluded. One endoscopist (JCA) performed all of the procedures and was blinded to the randomly selected colonoscope. Insertion time from rectum to cecum (in seconds) was recorded by a nurse. Completion of the insertion was defined as the ability of the endoscopist to intubate the cecum with enough control to abut the appendix and begin to retroflex the scope. We also collected data regarding the amount of sedation needed, abdominal pressure, scope stiffening and change of patient’s position.

Results: 56 patients had a colonoscopy performed in the study. The time to insert the colonoscope to the appendix was faster for the Technically Improved Colonoscope than for the Adult Colonoscope. These data are shown in the Table. There was no difference between the two groups with regards to the amount of sedation required.

Conclusion: The Technically Improved Colonoscope allowed for faster insertion time than the adult colonoscope. This may have implications for increasing the completion rate for colonoscopies.

---

<p>| Results of Comparison of Technically Improved Colonoscope and Adult Colonoscope |
|---------------------------------|---------------------------------|-----------|
| .                               | Technically Improved Colonoscope (n=27) | Adult Colonoscope (n=29) | p value |
| Age                             | 55.7 years                        | 56.1 years          | .32     |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>56%</td>
<td>55%</td>
<td>.30</td>
</tr>
<tr>
<td>BMI</td>
<td>30.3</td>
<td>28.8</td>
<td>.30</td>
</tr>
<tr>
<td>Need for stiffening</td>
<td>22%</td>
<td>38%</td>
<td>0.2</td>
</tr>
<tr>
<td>Need for external pressure</td>
<td>11%</td>
<td>24%</td>
<td>0.20</td>
</tr>
<tr>
<td>Need for position change</td>
<td>7%</td>
<td>19%</td>
<td>0.70</td>
</tr>
<tr>
<td>Time to cecum</td>
<td>271 seconds</td>
<td>413 seconds</td>
<td>0.005</td>
</tr>
</tbody>
</table>

**TABLE TITLE:** Results of Comparison of Technically Improved Colonoscope and Adult Colonoscope

**AVERAGE SCORE:** 3.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Peter Draganov: [No Comments] | Vanessa Shami: [No Comments] | Stavros Stavropoulos: [No Comments] | Shin’ichi Takahashi: [No Comments]
Purpose: Fluoroscopy time (FT) correlates with the utilization of fluoroscopy during ERCP. Practical and easy to follow predictors of prolonged FT during ERCP are poorly defined. We hypothesize that FT varies based on the type of ERCP (intrahepatic vs. extrahepatic vs. pancreatic).

Methods: This is a retrospective American multicenter study. The centers that participated are a tertiary center, a cancer center and a community hospital. After reviewing patients charts, ERCP cases were classified into three groups, according to the anatomical location of pathology requiring treatment: intrahepatic cases when the managed pathology was located at or above the bifurcation of the biliary tree, extrahepatic cases when the treated pathology was located in the common hepatic duct or biliary duct or ampulla and pancreatic cases when the approached pathology was located in one of the pancreatic ducts. Then, we compared the mean FT for each category using one factor ANOVA.

Results: 414 ERCP cases were reviewed. A total of 6 cases were excluded due to unsuccessful ERCP (n=4), a case that involved placement of duodenal stent (n=1) and a rendezvous procedure (n=1). 57.7% of the patients were males. Average age of the patients was 60.2 years. 6 endoscopists performed the procedures. Experience of endoscopists ranged from 1 year to 20 years. 49.2% of the procedures were performed without trainees. 50.7% of the cases involved native papillae.

There were 283 extrahepatic cases with mean FT of 298 seconds (95% confidence interval 267 – 329 seconds), 104 intrahepatic cases with mean FT of 775 seconds (95% confidence interval 665-885 seconds) and 21 pancreatic cases with mean FT of 405 seconds (95% confidence interval 205-605 seconds).

The average FT for all cases was 425 seconds (95% confidence interval 8 seconds to 3516 seconds). The mean FT of the extrahepatic cases, pancreatic cases and intrahepatic cases were 298 seconds, 405 seconds and 775 seconds respectively with P value < 0.05.

Conclusion: Fluoroscopy utilization is significantly higher in intrahepatic cases followed by pancreatic cases. Extrahepatic cases are associated with least fluoroscopy utilization. These findings have clinical implications for patient and staff radiation exposure, and would need to be accounted for if fluoroscopy time is adopted as a quality measure.
<table>
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<tr>
<th>ERCP case</th>
<th>Number of ERCP (%)</th>
<th>Mean FT (Seconds)</th>
<th>Median (Seconds)</th>
<th>95% confidence interval (Seconds)</th>
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</thead>
<tbody>
<tr>
<td>Extrahepatic</td>
<td>283 (69.3)</td>
<td>298</td>
<td>210</td>
<td>267-329</td>
</tr>
<tr>
<td>Pancreatic</td>
<td>21 (5.1)</td>
<td>405</td>
<td>240</td>
<td>205-605</td>
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<tr>
<td>Intrahepatic</td>
<td>104 (25.5)</td>
<td>775</td>
<td>651</td>
<td>665-885</td>
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<tr>
<td>Total</td>
<td>408</td>
<td>425 (7.8-3516)</td>
<td>291</td>
<td>384-466</td>
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**TABLE TITLE:** ERCP cases as Extrahepatic, Pancreatic and Intrahepatic with mean and median fluoroscopy time (FT)

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Few cases were included (414) compared to the number of ERCPists (6) and their very broad range of experience (1-20 years). No apparent adjustments were made for endoscopist volume and experience. Nevertheless, the results tend to support the generally accepted difficulty scales proposed for ERCP in which hilar/IH duct cases, altered anatomy cases and pancreatic cases are much more challenging than extrahepatic bile duct cases. The study did not provide data on altered anatomy cases.
Shin'ichi Takahashi: [No Comments]
Purpose: Rebleeding’s rate in non-variceal upper gastrointestinal bleeding remains high. Therefore, the aim of this study was to identify predictors of endoscopic therapy failure in adult patients with recurrent non-variceal upper gastrointestinal bleeding treated at the Hospital Universitario de Maracaibo between January, 2006 and December, 2010 that required a second endoscopy.

Methods: The sample will be divided into Group A (with rebleeding) and B (without rebleeding within 96 hours after the first endoscopy). Data will be obtained from the reports of endoscopic procedures to evaluate the endoscopic features of lesions and the applied therapy, in order to identify the differences in the frequency of predisposing factors among groups.

Results: Of the 380 cases who received therapy during the first endoscopy, 271 ulcers (71.3% p <0.0001) represented the most frequent type of injury, followed by vascular malformations and these results were consistent with the 24 cases that rebleed (6,31%) (45.8% ulcers, n=11, vs 33.2% vascular malformation, n=8). Rebleeding lesions were located mainly in second portion of duodenum (20.8%), gastric fundus (16.6%) and posterior duodenal bulb (12.5%). Meanwhile, the rebleeding ulcers (n=11), were duodenal 54.5% vs gastric 45.4%, classified as Forrest IA, IB and IIA (p <0.03), with exposed vessel length greater than 2 mm (mean 5 mm, SD ± 3mm) , of which 5 had diameters greater than 1.5cms and rebleed despite receiving combination therapy.

Conclusion: We conclude that the predictors of endoscopic therapy failure in our location are similar to those established in the literature, which correspond to the ulcer size ≥ 2cms, location (posterior duodenal bulb), endoscopic signs of bleeding (Forrest IA, IB and IIA) and endoscopic therapy applied during the first episode. These factors and their severity, contribute independently to increased risk of rebleeding despite applying the recommended therapeutic.
Randomized study comparing peroral endoscopic myotomy, botulinum toxin injection and balloon dilation for achalasia: one-year follow-up

**Title:** Randomized study comparing peroral endoscopic myotomy, botulinum toxin injection and balloon dilation for achalasia: one-year follow-up

**Preparer:** Enqiang Linghu

**Preparer (Institution Only):** the Chinese PLA General Hospital

**Preparer (Country Only):** China

**Abstract Body:**

**Purpose:** Endoscopic treatments for achalasia include peroral endoscopic myotomy (POEM), botulinum toxin injection (BTI) and balloon dilation (BD), yet no randomized studies have compared POEM with the other two treatments. This randomized study was aimed to compare the efficacy and safety of the three treatments.

**Methods:** Forty-five patients were averagely randomized into three treatment groups, namely 15 patients in POEM, 15 in BTI and 15 in BD. Outcomes at 1 year after treatment were documented and compared among the groups. The primary outcome was symptom remission, and the secondary outcome was complication, lower esophageal sphincter pressure (LESP) and maximum esophageal width by barium swallow. Symptom remission was defined as a reduction in the Eckardt score to no more than 3. This study was registered online at the Chinese Clinical Trial Registry (Registration number: ChiCTR-TRC-12002204). During POEM, only the inner circular muscle was incised. During the procedure of BTI, a total of 100 units of botulinum toxin was injected into muscularis propria at the level of lower esophageal sphincter (LES) at one time by injecting 25 units of toxin into each of the four quadrants of the LES. BD was performed as a single-procedure in the patients with a Rigiflex pneumatic dilation balloon of 30 mm in diameter with its maximum pressure up to 12 PSI, which was maintained for 60 seconds after gradually reaching maximum pressure during dilation under direct endoscopic vision.

**Results:** Endoscopic treatments were successfully performed in all of the 45 patients, and 93.3% of patients were successfully followed up at 1 year after treatment. Symptom remission rate was 100% in POEM group, 5.4% in BTI group and 64.3% in BD group, and the difference was statistically significant between every two groups. Complication rate was 20.0% in POEM group, 0% in BTI group and 6.7% in BD group with no statistical difference found between the three groups. LESP, maximum width of esophagus were similar both before and 3 months after treatment among the three groups.

**Conclusion:** Symptom remission of POEM was higher than BTI and BD at 1-year after treatment, and complications were similar among the 3 groups.

**Current Category:** K. Endoscopy

**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>

Enqiang Linghu : ACG Non-Member
Huihui Li : ACG Non-Member
(No Image Selected)
(no table selected)

**Average Score:** 2.25

**Reviewer Flags:** (none)

**Reviewer Recommendation Code Description:** None

**Reviewer Comments:**

Douglas Adler: [No Comments]
Todd Baron: [No Comments]
Priya Jamidar: [No Comments]
Ali Siddiqui: [No Comments]
ABSTRACT BODY:

**Purpose:** Dieulafoy first described a lesion (DL) more than 130 years ago as a large focal artery without ulceration of the stomach causing massive fatal UGI hemorrhage (UGIH). Endoscopically, DL is reported in patients with severe UGIH when major stigmata of recent hemorrhage (SRH) without ulceration are seen. For endoscopically diagnosed & treated UGI DL’s, our purposes were: 1) to report prevalences of SRH, 2) to compare 30 day outcomes after thermal coagulation vs. hemoclipping (HC) & 3) to describe recent changes in hemostasis of DL with Doppler probe ultrasound (DUP) monitoring.

**Methods:** 56 patients with severe UGIH were enrolled in prospective CURE hemostasis studies. Techniques evolved from monotherapy, to combination hemostasis, to use of DUP to complete treatments. 32 patients before 6/2006 were treated with thermal coagulation. 24 other patients after 8/2006 had hemostasis with hemoclipping. Endoscopic treatments usually included epinephrine pre-injection & tattooing after hemostasis. When it became available, DUP was used for arterial blood flow detection underneath SRH in 9 patients, to map the arteries, & to check for blood flow ablation to complete hemostasis. All patients were followed up to 60 days. Data were prospectively collected, entered onto computer databases, & managed with SAS.

**Results:** For all 56 patients, prevalences of SRH were 60.7% active bleeding, 17.9% adherent clot, 2.5% non-bleeding visible vessel (NBVV), & 8.9% spot. For thermal vs. HC treated patients, there were no significant differences in 30 day outcomes: re-bleeding 25% vs. 29%; surgery 16% vs. 17%; or death 6% vs. 0%. However, the non-DUP assisted DL hemostasis group had a significantly higher 30 day re-bleed rate than the DUP assisted patients: 33% (15/45) vs. 0% (0/9).

**Conclusion:** For 56 patients with severe UGIH from Dieulafoy’s lesions: 1) SRH were active bleeding 60.7%, clot 17.9%, NBVV 12.5%, & other SRH 8.9%. 2) 30 day outcomes of re-bleeding, surgery, death were similar for thermal & hemoclip treated patients. 3) However, the 30 day re-bleeding rate of DUP assisted hemostasis patients was significantly lower than those without DUP monitoring.

Acknowledgements: Partially supported by a Clinical VA Merit Review grant and NIH CURE DDRC CURE grant-Human Studies Core (AM41301).
TITLE: Comparison of Oral Sulfate Solution Regimens to 4L PEG-ELS in Adult Subjects Undergoing Colonoscopy

PRESENTER: Mark Cleveland

PRESENTER (INSTITUTION ONLY): Braintree Laboratories, Inc.

PRESENTER (COUNTRY ONLY): United States

ABSTRACT BODY:

Purpose: While split-dose bowel preparation has gained acceptance as the most effective cleansing administration for colonoscopy, evening only regimens continue to be utilized. This study compares the efficacy of an oral sulfate (OS) preparation given as both evening and split administrations to 4L PEG-ELS given in its approved evening regimen.

Methods: Adult outpatients scheduled for colonoscopy were enrolled into this single-blind, multi-center study and were administered either an OS preparation (SUPREP®) or 4L PEG-ELS (Golytely®). Patients were equally randomized to either OS (split or PM only) or 4L PEG-ELS (PM only). Colonoscopies were performed by investigators blinded to treatment assignment. Cleansing was graded using a 4 point scale (Excellent - no more than small bits of adherent feces/fluid, Good - small amounts of feces or fluid not interfering with exam, Fair - enough feces or fluid to prevent a completely reliable exam, Poor - large amounts of fecal residue, additional cleansing required) where scores of Good or Excellent were considered “successful”. Each colon segment was also rated for the quantity of residual stool and fluid. The volume of irrigation water used during examination was also recorded.

Results: Ninety-five percent of patients had successful cleansing with OS-Split, compared to 77% of PEG-ELS patients (p < 0.001). With 74% successful preparations, OS-PM was non-inferior to PEG-ELS (p < 0.001). OS-Split had more than twice as many excellent preparations as PEG-ELS or OS-PM (p < 0.001), and was superior to both in cleaning stool in all segments, including the ascending colon (p < 0.001). The volume of water used to irrigate the colon during the procedure was about 50% less for OS-Split (74ml) than for the PM only regimens (150 - 160ml, p < 0.01).

Conclusion: Oral sulfate solution given in a split-dose regimen provides superior bowel cleansing compared to 4L PEG-ELS and evening only sulfate solution. This result was seen both overall and segmentally, and supports continued emphasis of split-dosing bowel preparations. Differences in utilization of irrigation water confirm the better efficacy associated with the split dose regimen. Comparing the efficacy of evening only preparations, there was no significant difference between OS-PM and PEG-ELS.

CURRENT CATEGORY: K. Endoscopy

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: Industry

Financial Relationships: Yes

Extra Info: Mr. McGowan - Employee: Braintree Laboratories;
Dr. Cleveland - Employee: Braintree Laboratories;
Dr. Rex - Speaker's Bureau: Ferring Laboratories, Speaker's Bureau: Braintree Laboratories;
Dr. DiPalma - Speaker's Bureau: Braintree Laboratories, Other: Medical Director, Braintree Laboratories

FDA Approval: Yes

Designed Study: Industry

Abstract Author: Industry

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

Mark Cleveland : ACG Member
Douglas Rex : ACG Member
Jack Di Palma : ACG Member

(No Image Selected)
<table>
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<tr>
<th>Segmental Cleansing</th>
<th>% Patients with No Stool</th>
<th>OS-Split (n=184)</th>
<th>4L PEG-ELS (n=177)</th>
<th>OS-PM (n=180)</th>
<th>P value PEG vs OS-Split</th>
<th>P value PEG vs OS-PM</th>
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</thead>
<tbody>
<tr>
<td>Cecum</td>
<td></td>
<td>74</td>
<td>50</td>
<td>41</td>
<td>&lt; 0.001</td>
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<tr>
<td>Ascending</td>
<td></td>
<td>79</td>
<td>58</td>
<td>51</td>
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<td>Transverse</td>
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<td>65</td>
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<td>Sigmoid/Rectum</td>
<td></td>
<td>84</td>
<td>63</td>
<td>55</td>
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*P value for non-inferiority analysis of OS-PM vs PEG-ELS

**TABLE TITLE:** Bowel Preparation Cleansing Efficacy

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
ABSTRACT BODY:

Purpose: This study evaluated the safety and efficacy of a combination bowel preparation for colonoscopy consisting of 6oz of oral sulfate solution followed by 2L of PEG-ELS (OS+PEG) given in both evening only (PM) or split dose (PM/AM) administrations.

Methods: Adult outpatients scheduled for colonoscopy were enrolled into two separate single-blind, multi-center studies. In Study 1 (PM only dosing), patients took either OS+PEG (SuClear®) on the evening prior to colonoscopy, or 10mg bisacodyl plus 2L of PEG-ELS (HalfLytely®). In Study 2 (split-dosing), patients took either OS+PEG (OS in PM / PEG in AM) or PEG with ascorbic acid (PEG-EA) (MoviPrep®). Colonoscopies were performed by investigators blinded to treatment assignment. Cleansing was graded using a 4 point scale (Excellent - no more than small bits of adherent feces/fluid, Good - small amounts of feces or fluid not interfering with exam, Fair - enough feces or fluid to prevent a completely reliable exam, Poor - large amounts of fecal residue, additional cleansing required) where scores of Good or Excellent were considered “successful”. Patients completed a rating scale for expected preparation symptoms. Safety was also assessed by adverse event reports and laboratory testing. In Study 1, preparation completion time was also reported.

Results: OS+PEG was non-inferior to PEG+Bis and PEG-EA in achieving successful cleansing, with both OS+PEG regimens having > 90% success (p<0.001). For PM only dosing, more OS+PEG preparations were graded as Excellent than with PEG+Bis (p=0.01). The time to complete the preparation was shorter with OS+PEG in Study 1 (3.7 hrs) than PEG+Bis (5.5 hrs, p<0.001). There were no clinically significant differences between OS+PEG and the comparator preps in laboratory parameters (including serum electrolytes and creatinine). In Study 1, OS+PEG patients rated their overall discomfort slightly higher than PEG+Bis patients (p=0.032). In Study 2, PEG-EA patients rated their bloating slightly higher than OS+PEG (p=0.03), while OS+PEG patients experienced slightly more vomiting (p=0.04).

Conclusion: OS+PEG provided equivalent cleansing to the marketed control preparations when administered in a PM only or split dose regimen. When given in a PM only dose, it was superior to PEG+Bis in Excellent preparations and its predictable regimen resulted in a shortened prep time. With OS+PEG, there appears to be no qualitative difference between PM only and split-dose regimens, with both achieving high cleansing success rates. There were no clinically significant safety differences between OS+PEG and the control preparations, and it can therefore be considered a safe and effective option for bowel preparation.
### Bowel Preparation Cleansing Efficacy

<table>
<thead>
<tr>
<th></th>
<th>Study 1</th>
<th>Study 2</th>
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<tr>
<td></td>
<td>PM only Administration</td>
<td>Split Dose Administration</td>
</tr>
<tr>
<td>OS+PEG (n=176)</td>
<td>PEG+Bis (n=190)</td>
<td>OS+PEG (n=186)</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>PEG-EA (n=185)</td>
</tr>
<tr>
<td>% Overall Success</td>
<td>90</td>
<td>94</td>
</tr>
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<td></td>
<td>84</td>
<td>94</td>
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<tr>
<td></td>
<td>&lt;0.001</td>
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<tr>
<td>% Excellent</td>
<td>48</td>
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<td>% Good</td>
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<td>% Fair</td>
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<td></td>
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<td>% Poor</td>
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**TABLE TITLE:** Bowel Preparation Cleansing Efficacy  
**AVERAGE SCORE:** 4.75  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Douglas Adler: [No Comments]  
Todd Baron: [No Comments]  
Priya Jamidar: [No Comments]  
Ali Siddiqui: [No Comments]
Abstract Body:

Purpose: With widespread availability of endoscopic ultrasound in the community, patients often present to a tertiary cancer center with prior endoscopic ultrasound performed at the site of diagnosis. Many of these patients undergo repeat EUS to confirm the results of the outside EUS. The aim of the study is to compare the T stage of esophageal cancer as noted on the outside EUS with staging performed at a tertiary cancer center (our center).

Methods: Among the patients who presented with a newly diagnosed esophageal cancer, the study included only the patients who had an EUS examination at an outside facility (OSF), and had a repeat EUS at our center during 2005-2011. Electronic medical records were reviewed to collect information on the T stage, duration between the two EUS procedures, and type of outside facility (academic or private).

Results: A total of 77 patients [mean age 64 ± 10.7 years, 65/80 (81.3 %) males] met the study inclusion criteria. Adenocarcinoma was present in 65 and squamous cell cancer was present in 12 patients. The median duration of interval between the EUS at the OSF and the EUS at our center was 28 days (range 2-103 days). The outside facilities where EUS was performed were academic centers in 52% of the patients and non-academic centers in the remaining 48%. Table 1 shows the comparison of T staging on the procedures performed at an OSF and our center. In 4 patients, the T staging on the OSF EUS was not clearly described or could not be performed. On comparing the results of 73 patients, the T-staging on the OSF EUS and our center, EUS agreed in 67.1% patients. The most agreement in the staging was noted on T3 stage (97.5%). For esophageal cancer T-stages 1a, 1b and T2, the agreement between OSF and our center staging was only 29%. The trend was for our center assessment to be higher T-staging than outside exam. The agreement in T-staging between the OSF and our center did not vary significantly by the type of hospital (academic and non-academic centers).

Conclusion: There can be significant inter-observer variation in T-stage of early esophageal cancers. A second look at a tertiary center may be beneficial to confirm the T-stage in these patients before initiating treatment. However, there was a good inter-observer agreement in EUS staging of T3 cancers. Hence a repeat EUS in these patients may not be warranted.

Current Category: K. Endoscopy
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>:
Amanpal Singh : ACG Member
Abhik Bhattacharya : ACG Non-Member
Harshad Ladha : ACG Non-Member
Somashekar Krishna : ACG Member
William Ross : ACG Member
Manoop Bhutani : ACG Member
Jaffer Ajani : ACG Member
Jeffrey Lee : ACG Member
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<table>
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<tr>
<th>Outside Facility EUS T-stage</th>
<th>MD Anderson EUS T-stage</th>
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<tr>
<td>.</td>
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<td>T1b</td>
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**TABLE TITLE:**

**AVERAGE SCORE:** 3.5  
**REVIEWER FLAGS:** (none)  
**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None  
**REVIEWER COMMENTS:**  
Purpose: Narrow Band Imaging (NBI) and Acetic Acid Chromoendoscopy (AAC) have been used to enhance the detection of Barrett’s esophagus (BE) and associated dysplasia. Our goal is to assess the advantage of using either NBI or AAC over white light endoscopy (WLE) in recognizing BE with high grade dysplasia (BE-HGD) by senior and mid-career gastroenterologists.

Methods: Senior gastroenterologists must have at least 10 years of endoscopy experience with expertise in BE diagnosis and treatment. A secure website was used to present endoscopic images and to record participants’ answers. The survey had 25 sets of high quality images (each with WLE, NBI and AAC). Still images of suspected BE lesions were obtained by an expert gastroenterologist and were presented to the participants with encircled regions of interest that have been histopathologically-verified by an expert pathologist. Improvement was assessed by comparing accuracy rates between NBI versus WLE and AAC versus WLE among senior and mid-career gastroenterologists, using Wilcoxon signed rank test.

Results: 8 gastroenterologists (4 senior, 7 males) participated in the survey. Senior gastroenterologists had 12 ± 0.8 yrs. while mid-career had 5 ± 2.0 yrs. of endoscopy experience. Overall accuracy rate in recognizing BE and BE-HGD between imaging modalities are presented in Table 1. Among the 8 gastroenterologists, there was no difference in accuracy rates with NBI over WLE (p=0.09) or AAC over WLE (p=0.47). Among senior gastroenterologists, there was no improvement in accuracy with the use of NBI over WLE (p=0.90) or AAC over WLE (p=0.29). Mid-career gastroenterologists also did not benefit with the use of NBI over WLE (p=0.81) or AAC over WLE (p=0.57).

Conclusion: In both senior and mid-career gastroenterologists, the use of NBI or AAC did not have an added benefit over high resolution WLE in the recognition of BE-HGD.

Table 1. Diagnostic Accuracy between Imaging Modalities

<table>
<thead>
<tr>
<th>Imaging Modality</th>
<th>Participants' Accuracy (%) in Recognizing Barrett's Esophagus</th>
<th>Participants' Accuracy (%) in Recognizing Barrett's Esophagus with High Grade</th>
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<tbody>
<tr>
<td>WLE</td>
<td></td>
<td></td>
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<tr>
<td>NBI</td>
<td></td>
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<tr>
<td>AAC</td>
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AUTH DESIGN: ACG Membership Status: Emmanuel Gorospe: ACG Member
            Badr Al-Bawardy: ACG Non-Member
            Alexander Mallari: ACG Member
            Subhash Chandra: ACG Non-Member
            Jemilat Badamas: ACG Member
            (No Image Selected)
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<tr>
<th>Imaging Modality</th>
<th>Dysplasia</th>
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<tr>
<td>White Light Endoscopy</td>
<td>59.73</td>
<td>42.70</td>
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<tr>
<td>Narrow Band Imaging</td>
<td>60.38</td>
<td>54.16</td>
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<tr>
<td>Acetic Acid Chromoendoscopy</td>
<td>53.74</td>
<td>47.85</td>
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**TABLE TITLE:** Table 1. Diagnostic Accuracy between Imaging Modalities

**AVERAGE SCORE:** 5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Purpose: Review literature on antiplatelet therapy before endoscopic procedures, and determine what gastroenterologists do in practice.

Methods: MEDLINE, EMBASE, Cochrane Library, American College of Gastroenterology (ACG), ASGE, American College of Cardiology reviewed to identify established guidelines about use of antiplatelet therapy before endoscopic procedures. Using Survey Monkey, and with ACG approval, 5 questions were emailed to ACG members.

Results: 10,091 emails sent 366 responses collected over a 12 month period 2012 to 2013. Question 1; do you discontinue aspirin and/or clopidogrel before a routine colonoscopy or endoscopy; 97 responses 3 skipped the question 6% chose aspirin only 43% chose clopidogrel only 18% chose aspirin and clopidogrel 33% chose to continue both. Question 2; do you stop antiplatelet therapy depending on the procedure risk of inducing bleeding; 99 responses 1 skip 67% chose to hold antiplatelets for high risk procedures i.e. polypectomy, ablative therapy, ERCP, dilatation, 20% chose to hold therapy for both low and high risk procedures 13% opted to continue antiplatelets for both low and high risk procedures. Question 3; do you consider why patients are on antiplatelets and how detrimental taking them off could be -previous strokes or coronary disease with stents. 99 responses and 1 chose to skip. 92% selected yes, 2% selected no and 6% selected sometimes. Question 4; do you consult the patient's cardiologist or neurologist prior to stopping antiplatelet medication, 99 responses and 1 skip 51% chose yes 5% chose no and 44% chose sometimes. Question 5; do you postpone elective procedures until therapeutic antiplatelet treatment is completed; 98 responses 2 skipped 45% chose yes 12% chose no 42% chose sometimes.

Conclusion: Individual clinical decision making seems prominent in the management of antiplatelet agents before endoscopic procedures by gastroenterologists. Review of the literature reveals guidelines but scarce data from randomized clinical trials. In our survey the respondents tend towards stopping clopidogrel prior to routine endoscopic procedures as well as high risk of bleeding procedures, though guidelines do not recommend stopping it for low risk bleeding procedures. A significant minority also stop aspirin for low and high risk procedures, contrary to guidelines. 90% of physicians take into account the indication for antiplatelet therapy and the risk of holding treatment. Communication with prescribing specialist occurs in the majority of cases. A mixed result was seen regarding postponement of elective procedures until antiplatelet therapy was completed. We hope that this study may influence further research and possibly encourage development of more defined standards and guidelines.

AVERAGE SCORE: 4.25
REVIEWER COMMENTS:
ABSTRACT BODY:

**Purpose:** The quality and efficacy of colonoscopy is important to patient care, diagnosis and cancer screening. An important factor for a satisfactory colonoscopy is the quality of the prep. Yet other studies have found the quality of preps for inpatient exams to be worse than outpatients. The aim of this study is to evaluate any variations in the quality of prep or patient demographics between inpatient and outpatient exams at a community hospital.

**Methods:** We collected data on 104 inpatient exams between Sept. 1st 2012 to Feb. 28th 2013 and 102 outpatient exams from Sept. 1 to Sept. 9 2012 from our endoscopy database. The quality of prep was assessed in the endoscopy reports using the Aronchick scale which is descriptive bowel preparation assessment scale.

Our center uses Bisacodyl and Polyethylene glycol (PEG) solution for bowel preparation. Data was collected and analyzed on patient age, sex and visualization of the ileocecal valve.

**Results:** Quality of prep on inpatient studies showed that 27 (25.96%) were rated “excellent”, 45 (43.27%) were “good”, 22 (21.15%) were “fair – adequate”, 4 (3.85%) were “inadequate”, 5 (4.80%) were “poor” and 1 (0.96%) study was indeterminate (patient did not have any prep). The average age and mode for these inpatients are 67.50 years and 80 years respectively and 38 (36.54%) inpatients were males and 66 (63.46%) were females. In 15 (14.42%) of these exams, the ileocecal valve could not be visualized.

Quality of prep in outpatients showed that 51 (50%) were excellent, 37 (36.27%) were good study, 8 (7.84%) were fair – adequate, 1 (0.98%) was inadequate, and 5 (4.90%) was poor. The average age and mode is 60.20 years and 53 years respectively, and 47 (46.08%) patients were males and 55 (53.92%) were females. In 5 (4.90%) of the studies, the ileocecal valve could not be visualized.

**Conclusion:** In this observational study, the result showed that the quality of colonoscopy was rated as excellent or good in 69.23% of inpatient exams and 86.27% of outpatient exams. Our experience yielded more satisfactory preps than other centers; however we also saw better rates of excellent/good preps in the outpatient setting versus inpatients. This may be due to factors beyond our center’s control such as inpatient co-morbidities and age; in our study the average age of inpatient needing colonoscopy is 67.5 years while the average for outpatients was 60.2 years.

In the inpatient setting the total number of inadequate, indeterminate and poor study was 10 exams, which is less than the number of exams with an incomplete exam. The discrepancies in this number were found to be due to inability to get to this part of the colon for other reason rather than poor prep quality.
Joshua Namias : ACG Non-Member
(No Image Selected)
(no table selected)

**AVerage Score:** 5

**Reviewer Flags:** (none)

**Reviewer Recommendation Code Description:** None

**Reviewer Comments:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
Purpose: To compare known colonoscopy quality parameters, cecal intubation rate (CIR), polyp detection rate (PDR), and withdrawal time (WT) with year of fellowship training.

Methods: We conducted a quality improvement project to assess the impact of the level of training on three measures of colonoscopy quality. We included only those patients who were undergoing initial screening colonoscopy. Data collected was from eleven GI fellows on a semi-annual basis over the course of 3 years. Data points for each level of training were 9 for 1st years, 8 for 2nd years and 8 for 3rd years. The quality indicators examined were PDR, CIR and WT > 6 minutes. Statistical Products and Service Solutions 20 (SPSS) was used for statistical analysis. The Kruskal-Wallis test was used to analyze the non-parametric interval variables.

Results: 821 screening colonoscopies were analyzed (483 by 1st year, 224 by 2nd year and 114 by 3rd year fellows). For 1st year fellows, the average PDR was 49% and the average CIR was 88%. For 2nd year fellows, the average PDR was 52% and the average CIR was 98%. For 3rd year fellows, the average PDR was 62% and the average CIR was 100%. Withdrawal time was always greater than six minutes for all exams recorded. The CIR showed a statistically significant increase (p=0.009) for the second and third year fellows (mean rank of 14.38 and 17.00 respectively) compared to the first year fellows (mean rank =8.22). There was no statistically significant difference in PDR among any years of training (p=0.256).

Conclusion: Our study showed no improvement in PDR during fellowship. Prior studies on PDR have been inconclusive. PDR can be influenced by multiple factors including other health care providers present in the room (attendings and nurses) and innate individual characteristics. Hence, in an endoscopy training environment PDR maybe a less robust parameter of fellowship evaluation. Some prior studies have even shown that trainees may improve PDR of attendings. Polyp detection rate perhaps is better suited for evaluating quality in established practitioners. Our study demonstrated that CIR is a better milestone for level of endoscopy training. We therefore suggest including CIR in any endoscopy training evaluation.
<table>
<thead>
<tr>
<th></th>
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<th>2nd year (n=8)</th>
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<td>224</td>
<td>114</td>
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<tr>
<td>PDR*</td>
<td>39-70%</td>
<td>43-70%</td>
<td>42-100%</td>
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<tr>
<td></td>
<td>Avg 49%</td>
<td>Avg 52%</td>
<td>Avg 61%</td>
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<tr>
<td>CIR**</td>
<td>54-100%*</td>
<td>93-100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Avg 88%</td>
<td>Avg 98%</td>
<td>Avg 100%</td>
</tr>
<tr>
<td>WT</td>
<td>&gt; 6 minutes</td>
<td>&gt; 6 minutes</td>
<td>&gt; 6 minutes</td>
</tr>
</tbody>
</table>

*p= 0.256 for PDR 1st year fellows vs 2nd and 3rd
**p=0.009 CIR 1st year fellows vs 2nd and 3rd
Title: Lower rates of cecal intubation by GI fellows are associated with performing a disproportionally higher percentage of inpatient colonoscopies: a retrospective chart review

Presenter: Daniel Shue

Abstract Body:
Purpose: An expectation of cecal intubation rates for gastroenterology fellows at graduation has been set at 85% based on a recent study done by Sedlack (GI Endoscopy, 2011). The goal of this study was to investigate whether or not the proportion of inpatients to outpatients impacted the overall cecal intubation rate.

Methods: A retrospective chart review was done on all colonoscopies (n = 8645) performed by GI staff regardless of fellow involvement at our facility from July 2010 to June 2012. This was done by interrogating the Oracle-based database used by Provation (Minneapolis, MN). Colonoscopies were then assigned to inpatient and outpatient subgroups. Cecal intubation rates were measured based on whether the endoscopist successfully reached the cecum. For those colonoscopies that failed to reach the cecum, the reasons for cecal intubation failure were noted and tallied. The percentage of inpatient vs. outpatient cases was also quantitated for GI fellow involvement and compared to the entire GI department as a whole.

Results: Cecal intubation rates were found to be significantly lower among inpatient (88%) vs. outpatient colonoscopies (98%) (p < 0.0001). The top three reasons for failing to reach the cecum among inpatient colonoscopies were poor bowel prep, significant colitis, and colonic obstruction. Furthermore, GI fellows were involved with a disproportionally higher percentage of inpatient colonoscopies (41%) when compared to the entire GI department as a whole (8%) (p < 0.0001).

Conclusion: Lower cecal intubation rates among GI fellows are likely due to the fact that they perform a disproportionately higher percentage of inpatient colonoscopies. These procedures may be technically more difficult for fellows to reach the cecum, especially in the setting of poor bowel prep, significant colitis, and colonic obstruction. Thus, the expectation of cecal intubation rates for GI fellows should be interpreted in light of the proportion of inpatient to outpatient procedures they perform at their institution.
Limited Clinical Utility of the Fecal Occult Blood Test for Evaluation of Gastrointestinal Bleed in Hospitalized Patients

Sohaib Jamil

University at Buffalo, The State University of New York

United States

Purpose: Fecal occult blood test (FOBT) is widely used for colorectal cancer screening in an outpatient setting. There is little data on whether an inpatient FOBT will guide clinical management. This is a study evaluating the clinical effectiveness of an inpatient FOBT to predict significant endoscopic lesions in the setting of a gastrointestinal (GI) bleed.

Methods: We reviewed laboratory and endoscopic reports from hospitalized patients with FOBT performed over one year at a single university-based medical center. Statistical analysis was performed using the Chi Square test and multivariate regression analysis to determine whether the use of inpatient FOBT can predict significant endoscopic lesions.

Results: A total of 575 anemic patients were checked for a guaiac-based FOBT during admission. Patient characteristics included ages 19-94 (mean 58), 327 men, and 248 women. A total of 167 GI consults were placed and 119 patients underwent 182 endoscopies (89 EGD, 63 colonoscopy, and 30 flexible sigmoidoscopy).

Among 67 overt GI bleeding patients, 79% were found to have positive endoscopic findings predominantly with high risk stigmata. Of those with positive endoscopic findings, 60.5% were FOBT positive and 41.5% were FOBT negative, clinically non-significant between the two groups (p=0.52).

Among 52 suspected occult GI bleeding patients, FOBT and iron deficiency anemia status were not significantly different in predicting a clinically significant endoscopic lesion. On multivariate regression analysis, the strongest predictor for an endoscopic lesion was the presence of a low hemoglobin (OR=1.67, 95% CI 1.08-2.56, p<0.05). On the other hand, a positive FOBT correlated with an 80% probability of less positive endoscopic lesions (OR=0.20, 95% CI 0.04-0.95, p<0.05). Regardless of the FOBT status, the presence of GI symptoms coupled with abnormal imaging has a high predictive value of 64% for clinically significant endoscopic lesions.

Conclusion: In our study, there is limited utility of checking FOBT in the inpatient setting. It is potentially harmful in a clinically overt GI bleeding patient. Thus, inpatient FOBT should not be checked in an overt GI bleeding patient with the potential for false negatives which may delay endoscopic intervention. Limitations of checking an inpatient FOBT in a suspected occult GI bleeding patient stem from high rates of false positives due to lack of strict dietary and medication adherence. Nonetheless, gastrointestinal symptoms coupled with an abnormal imaging and severe anemia is the most important predictor of a clinically significant endoscopic finding. Future prospective and randomized controlled trials are needed to determine if there is any role for FOBT in an inpatient setting.
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Retrospective study with poor methodology. Authors included a large number of patients with overt GI bleeding. It is unclear why FOBT was performed in such patients. It appears that the decision to endoscope a patient was largely based on signs and symptoms and imaging which along with inclusion of pts with overt bleeding makes the findings that FOBT was of limited use unsurprising. |Shin'ichi Takahashi: [No Comments]
TITLE: The need for antibiotic prophylaxis in CAPD patients undergoing colonoscopy: A retrospective multicenter study

PRESENTER: Sung Hoon Jung
PRESENTER (INSTITUTION ONLY): Catholic university of Korea
PRESENTER (COUNTRY ONLY): Korea, Republic of

ABSTRACT BODY:
Purpose: In the current guidelines of the American Society for Gastrointestinal Endoscopy (ASGE) and the European Society of Gastrointestinal Endoscopy (ESGE), the risk of peritonitis in PD patients is not mentioned. No advice is given about antibiotic prophylaxis prior to colonoscopy in PD patients with increased risk of peritonitis.

we investigated the frequency and risk factors of peritonitis, and evaluated the effect of prophylactic antibiotics in CAPD patients undergoing colonoscopy.

Methods: All medical records were searched for CAPD patients undergoing colonoscopy in 7 catholic medical centers from 2003 to 2012.

Results: Total 236 CAPD patients undergoing colonoscopy were enrolled in this study. The overall frequency of CAPD peritonitis after colonoscopy was 3.8%(9cases). All peritonitis were developed in patients without antibiotics before CFS. Procedures such as polypectomy was the most important risk factor of CAPD peritonitis after CFS(P < 0.01) but colonic biopsy did not increase the risk of peritonitis.

Conclusion: Prophylactic antibiotics administration should be considered for CAPD patients undergoing colonoscopy, especially with polypectomy.

CURRENT CATEGORY: K. Endoscopy
CURRENT SUB-CATEGORY: None
PRESENTATION TYPE: Poster Only

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<th>Peritonitis(n=9)</th>
<th>P-value</th>
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<td>52.6±11.1</td>
<td>50.4±16.7</td>
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<td>Sex : M/F, n(%)/n(%)</td>
<td>123(54.2)/104(45.8)</td>
<td>5(55.6)/4(44.4)</td>
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<tr>
<td>Characteristics</td>
<td>With Peritonitis</td>
<td>Without Peritonitis</td>
<td>p-value</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
<td>---------------------</td>
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</tr>
<tr>
<td>Height (cm)</td>
<td>162.4±8.1</td>
<td>166.6±7.4</td>
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<tr>
<td>Weight (kg)</td>
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<td>24.3±2.2</td>
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<td>Etiology of ESRD</td>
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<tr>
<td>DM : n(%)</td>
<td>85(37.4)</td>
<td>3(33.3)</td>
<td>1.000</td>
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<tr>
<td>non-DM : n(%)</td>
<td>142(62.6)</td>
<td>6(66.7)</td>
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</tr>
<tr>
<td>Duration of CAPD (months)</td>
<td>51.4±53.7</td>
<td>33.8±25.5</td>
<td>0.441</td>
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<tr>
<td>Indication of CFS</td>
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<tr>
<td>Screening : n(%)</td>
<td>137(60.4)</td>
<td>5(55.6)</td>
<td>0.744</td>
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<tr>
<td>Others** : n(%)</td>
<td>90(39.6)</td>
<td>4(44.4)</td>
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<td>Examiner</td>
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<tr>
<td>Trainee : n(%)</td>
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<td>3(33.3)</td>
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<td>3(33.3)</td>
<td>0.009</td>
</tr>
<tr>
<td>Yes : n(%)</td>
<td>53(23.4)</td>
<td>6(66.7)</td>
<td></td>
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<td>Use of antibiotics</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>No : n(%)</td>
<td>162(71.4)</td>
<td>9(100)</td>
<td>0.067</td>
</tr>
<tr>
<td>Yes : n(%)</td>
<td>65(28.6)</td>
<td>0(0)</td>
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* Statistical analysis: Fisher’s Exact test, Mann-Whitney test by SPSS 12.0
** Others: diverse GI symptom (abdominal discomfort, bowel habit change, etc), bloody stool, etc
*** Procedure: polypectomy, EMR

** TABLE TITLE: Characteristics of patients with and without peritonitis
** AVERAGE SCORE: 5.75
** REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
ABSTRACT BODY:

**Purpose:** Evaluate the learning curve of cap-assisted endoscopic mucosal resection (C-EMR) for colorectal lesions.

**Methods:** Retrospective review of 81 consecutive patients who underwent C-EMR using the specially designed Inoue cap (Olympus) for colorectal lesions between September 2008 and May 2013 by a single endoscopist. Outcomes, including complications and complete eradication rates (CE), were compared between the first 57 C-EMRs and second 56 C-EMRs. Complications are categorized as minor (intra-procedural bleeding or mucosal defect at polypectomy site) or major (rectal bleeding or perforation).

**Results:** A total of 113 C-EMRs were performed on 104 lesions (48 flat, 36 sessile, 20 other). Nine lesions underwent planned C-EMR twice to achieve CE. CE was evaluated on 75 polyps after excluding subjects with no follow-up (18); carcinoid tumors (5); colonic mucosa on pathology (5); and inflammatory polyp (1). Overall incomplete eradication rate was 8% (6/75); 2 with residual on follow-up biopsy (both treated with forceps); 1 was complicated by perforation resulting in surgery; and 3 procedures were halted as endoscopist did not feel safe to proceed. Of these, 2 with submucosal invasions with biopsy showing adenocarcinoma; 1 was a 7 by 8cm rectal polyp (all were referred to surgery). Of 71 polyps which in the endoscopist’s opinion had been eradicated, only 2 showed residual adenoma on follow-up (2.8%); both in the first group of 57 C-EMRs. Overall complication rate was 21% (24/113), including intra-procedural bleeding 4% (5/113); mucosal defect 10% (11); rectal bleeding 3% (3/113); and perforation 4% (5/113). All minor complications were treated endoscopically by applying clips and argon plasma coagulation as appropriate. Of 5 perforation cases, 1 (the first C-EMR case) was an enblock resection of a cecal polyp and 1 was a cecal polyp involving one third of the base of the cecum (both cases were treated surgically with complete recovery); 1 was treated with clips; 1 with clips/bedside peritoneal air evacuation with needle; and 1 asymptomatic patient, with free air upon imaging, was treated conservatively. Rectal bleeding developed in three subjects 1, 5, and 8 days after C-EMR: 2 were treated with epinephrine injection/gold probe; in the third subject, colonoscopy did not reveal the source of active bleeding. Although the overall complication rate throughout the study period remains the same, the major complication rate significantly decreases in second 56 C-EMRs (13%, 2/15) compared to the first 57 C-EMRs (67%, 6/9, p=0.022).

**Conclusion:** C-EMR is an effective approach for colorectal polyps. In a single endoscopist’s experience, the major complication rate significantly decreased after 57 C-EMRs and the CE rate increased to 100% after 57 C-EMRs.
Purpose: Inpatient (inpt) colonoscopy preparation is often inadequate. We evaluated whether preparation adequacy improved when a hospital formulary added split (PM/AM) dose 2L polyethylene glycol-electrolyte solution (PEG-ELS) to existing PM-dosed 4L PEG-ELS.

Methods: A single university retrospective inpt study. 2 study periods were evaluated: P1 (10/09-9/10) – single formulary purgative was 4L PEG-ELS (GoLYTELY®), and P2 (7/11-1/12) – 8 months after the formulary addition of 2L PEG-ELS (MoviPrep®), recommended as a split. Data was collected using Thomas Jefferson University (TJU) EMR, billing records, and hospital charts. Preparation was graded using a modified Aronchick scale (good, excellent = adequate; fair, poor, inadequate = inadequate). Colonoscopies canceled for incomplete purgation were considered inadequate. Primary outcome was preparation quality (adequate vs. inadequate), and powered to detect an improvement P1 to P2 from 60% to 75% using Fisher’s exact test with 2-sided alpha of 0.05. Secondary outcomes: colon completion, repeat colonoscopy and cost of inpt repeat (1 hospital day at pt’s current level of care), and findings. P1 and P2 were compared with Fisher’s exact test for categorical values and either t-test or Wilcoxon’s rank-sum for continuous variables. Main analyses were based on multiple logistic regression which included age and sex; other confounders were included if p value < 0.10. The study was approved by TJU IRB.

Results: 495 pts were screened, 160 excluded (most common - bowel surgery, no preparation evaluation), and 335 analyzed (P1=171, P2=164). Pt characteristics were similar except fewer pts in P1 had psychiatric illness (17% vs. 26.8%, p=0.034) and activity restrictions (ad lib vs. ambulate or bedrest/chair) (P=0.007). In P1, 168 (98%) received 4L PEG-ELS (154 PM, 14 split), and 3 split PEG-sports drink (SD). In P2, 152 (92.7%) received 2L PEG-ELS (34 PM, 118 split), 11 (6.7%) 4L PEG-ELS (4 split, 7 PM), and 1 split PEG-SD. Preparation adequacy was not significantly better during P2 (72.6%) compared to P1 (67.6%) (P2 vs. P1: OR 1.29, 95% CI [0.79, 2.12]; P=0.341). This finding was confirmed on multivariate analysis (P2 vs. P1: OR 1.46, 95% CI [0.90, 2.38]; p=0.126). P2 was not associated with significantly better colon completion, adenoma detection, or lower rate of repeat colonoscopy (P2=15%, P1=14%). Repeat inpt colonoscopy was somewhat more common during P2 (12% vs. 8.2%), and not associated with significant additional cost/pt (p=0.377). Volume (2L vs. 4L) and dosing (split vs. PM) had no significant interactions or associations with the main study outcomes.

Conclusion: The formulary addition of 2L PEG-ELS, recommended as a split, to PM dosed 4L PEG-ELS did not improve inpatient preparation adequacy.

Supported by Industry Grant: Yes
Extra Info: Salix Pharmaceuticals, Inc.
8510 Colonnade Center Drive
Raleigh, NC 27615
Commercial Products or Services: Yes
Initiated Research: Investigator
Financial Relationships: Yes
Extra Info: Dr. David Kastenberg - Salix Pharmaceuticals, Inc: Consultant, Grant/Research support. No financial investment.
FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator

AUTH DESIG: ACG Membership Status <font color="red">*</font>
AVERAGE SCORE: 4.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments] | Vanessa Shami: [No Comments] | Stavros Stavropoulos: Retrospective cohort study. Well done but would have been better studied with a RCT which would not been overly complicated to do given the abundance of inpatient colonoscopies. | Shin'ichi Takahashi: [No Comments]
Purpose: Colonoscopy is the gold standard for colorectal cancer screening and prevention. When a polyp is identified prior to removal the endoscopist will estimate the polyp size. Inaccurately sized adenomas could lead to incorrect surveillance recommendations. The primary aim of our study was to assess the accuracy between actual polyp size versus estimated polyp size of colon polyps by endoscopists.

Methods: A prospective survey using polyp images ranging from 4mm to 12mm in size. A total of 18 images were used and half had forceps opened to help better estimate polyp size. Participants evaluated each polyp image, estimated the size, ranked their confidence in estimating polyp size and frequency of forceps use in measuring polyp size. The polyp size estimations were compared to the true polyp size for each image.

Results: 130 physicians (128 GI/2 CRS) participated, 86% male with a mean age of 47 years (range 28-70 yrs). Nine polyp images without forceps had a mean absolute error between the estimate and actual polyp size of 3.65 mm. Average mean absolute error between the polyp size estimate and the actual polyp size for polyp images with forceps was 1.91 mm. The average relative difference between estimated and actual polyp size in the non-forceps group was 0.50mm and 0.28mm in the forceps group. Forceps improved accuracy by an average of 1.74 mm (p<0.0001). Using relative difference values, use of forceps improved accuracy of polyp size estimation by 22.2% (p<0.0001).

Given an absolute 20% margin of error from the true polyp size, 20-47% subjects accurately estimated the size of the nine polyps without forceps as a reference while this range increased to 26%-72% for the same nine polyps with forceps present in the images. Difficulty in assessing polyp size using forceps was noted for small polyps.

Confidence of estimating polyp size was low, 18% of subjects had high confidence. Confidence increased to 49% when forceps were used as a reference. There was no direct link seen in increasing confidence and increased accuracy. Each point increase in confidence level, the accuracy in polyp size estimation increased by 0.23mm (p=0.347). Each point increase in confidence level, the accuracy in polyp size with forceps was reduced by 0.19mm (p=0.426). Subjects used forceps to estimate polyp size 40.6% of the time, only 22% used forceps >75% of the time. Subjects measured the polyp size externally after polypectomy 26.8% of cases.

Conclusion: Accurately estimating polyp size during colonoscopy is a challenge for the endoscopist. Similar to other areas of endoscopy, variation amongst endoscopists exists. Our study shows the use of forceps as a measuring tool can improve polyp size accuracy and has another role beside tissue acquisition.

AUTH DESIGN: ACG Membership Status <font color="red">Rabia Ali : ACG Non-Member</font>
Douglas Rex : ACG Member
Yixin Fang : ACG Non-Member
Demetrios Tzimas : ACG Non-Member
Mark Pochapin : ACG Member
Seth Gross : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Purpose: Single balloon deep small bowel enteroscopy has improved diagnostic and therapeutic yield for small bowel pathologies over the past 10 years. Also during this time, left ventricular assist devices (LVAD) have become a new destination therapy for patients with end stage heart failure. There are increasing reports in the literature of GI bleeding complications in LVAD patients. Our study aimed to evaluate the safety of single balloon enteroscopy within the LVAD population as well as compare single balloon enteroscopy (Olympus Optical) vs. spiral enteroscopy (Spirus Medical) at a single institution.

Methods: We performed a retrospective review of all patients who underwent an enteroscopy to evaluate differences between single balloon and spiral enteroscopy. Using administrative data from an integrated healthcare delivery system, we identified all patients who had an enteroscopy from January 2008 to April 2012. From this we excluded all cases that did not have a single balloon enteroscopy or spiral enteroscopy as well as patients who underwent retrograde enteroscopy. We sought to compare the technologies by depth, yield, therapeutic intervention, success of primary goal and rebleeding. A special attention was made for patients who had a LVAD and their complication with GI bleeding.

Results: Demographics and clinical characteristics were done for all patients, then via univariate analysis single balloon was compared to spiral enteroscopy. There were a total of 48 single balloon cases and 18 spiral cases. The univariate analysis did not show a significant difference between both groups as far as yield (67% vs. 67%, p = 1.000), repeat endoscopy (17% and 6%, p=0.145), therapy (52% vs. 56%, p=1.000), bleeding within 30 days (26% vs. 0%, p=0.145) as well as success of primary goal (68% vs. 61%, p=0.770). Then, cases which were done with a LVAD in place (7 single balloon enteroscopies) were compared to non LVAD single balloon cases. This also demonstrated no significant difference in yield, repeat endoscopy, therapy, bleeding within 30 days and success of primary goal. In the LVAD group, all of the cases were finished to completion with no periprocedural complications.

Conclusion: Single balloon enteroscopy is a safe procedure in patients with a LVAD. There was no diagnostic and therapeutic difference between single balloon enteroscopy and spiral enteroscopy.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Of unclear utility other than showing that SBE is feasible in LVAD pts with similar results to non LVAD pts. Relatively small number (7 pts).
Shin'ichi Takahashi: [No Comments]
Purpose: Disruptive behavior can be seen in the hospital setting and may be associated with adverse events. Fellows must be able to effectively communicate with the attending and nurse when there is a difficult situation, however the hierarchy of training may inhibit fellows from utilizing their leadership skills. We created a colonoscopy scenario utilizing an objective structured clinical examination (OSCE) to assess fellows’ ability to negotiate a difficult situation during endoscopy.

Methods: We developed an OSCE where the fellow used a colonoscopy simulator while interacting with a standardized team of patient (SP), nurse, and attending physician all played by actors. The nurse and attending were instructed to display disruptive behavior (i.e., talk on the phone, argue with each other) and ignore the fellow unless asked to stop the disruptive behavior and focus on the patient and procedure. The goal for the fellow was to reach a right-sided mass safely, ensuring patient comfort while working through the distracting behavior of those around him or her. Twelve fellows from four GI training programs participated. The objectives of the case were ensuring consent was obtained, asking for a time out, administering sedation, reaching the mass safely, appropriately administering of fluids for hypotension, and acknowledging the tumult between the nurse and attending. The patient (SP) used a checklist to rate the fellows' performance. Faculty observed the case and provided feedback at the end. The fellows were also surveyed on their performance regarding the case.

Results: Three of the 12 fellows asked to see the consent and only four initiated a “time-out” prior to starting the colonoscopy. Eight of 12 fellows reached the lesion. Only four (50%) of those who reached the lesion did so without causing clinically relevant decompensation of the patient due to over-sedation. Four of the 12 fellows acknowledged difficulty during the case and asked for help. Post-OSCE surveys revealed that nine out of 12 felt prepared for the colonoscopy portion of the case.

Conclusion: The fellows’ greatest challenge was dealing with a distracted attending who had a tense interaction with the nurse. Disruptive behavior can have adverse effects on patient care. The key for fellows is to recognize this type of behavior and effectively communicate with other members of the team. Most hospitals have a zero-tolerance policy for disruptive behavior; this should also become a part of the systems-based practice aspect of the curriculum of GI training programs.
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Trying to study such complex interpersonal situations with two actors and a colonoscopy simulator is simplistic and doing so without a control arm limits the utility of the results of this study. The goal of the study was unclear. It is not clear whether the authors were mainly trying to demonstrate a decline in fellow colonoscopy performance metrics in the setting of a distracting situation. Doing so with an arbitrary clinical scenario on a simulator and no control arm invalidates this goal. An alternative goal would be to assess whether fellows would try and address and correct such a disruptive situation early in the case in order to then proceed with a more peaceful execution of the procedure. The statement "The nurse and attending were instructed to display disruptive behavior (i.e., talk on the phone, argue with each other) and ignore the fellow unless asked to stop the disruptive behavior and focus on the patient and procedure" suggests that the fellow had such an option but it is unclear that the fellow was informed of this option and thus may have assumed that he/she was required to execute the procedure under these conditions. In any case, this objective would be of more interest to psychologists than gastroenterologists as it evaluates the willingness of trainees to challenge others particularly those perceived to have a position of authority. |Shin’ichi Takahashi: [No Comments]
Usefullness of covered self-expandable metal stent insertion for the treatment of anastomotic leaks and tracheoesophageal fistulas after upper GI surgery

Sang Woo Kim

The Catholic University of Korea

Korea, Republic of

Purpose: Anastomotic leaks and tracheoesophageal fistulas (TEFs) are severe complications of upper gastrointestinal surgery with serious morbidity and mortality. Endoscopic placement of cSEMS is emerging as a less-invasive alternative to surgery for the treatment of leaks and TEFs. The aim of this study was to investigate treatment success rate of cSEMS, removal rate of successful cSEMS and complications of procedure.

Methods: Patients with postsurgical gastrointestinal leaks and TEFs treated with fully cSEMS between September 2009 and September 2012 were retrospectively reviewed. Treatment success was defined as complete and persistent closure of leaks or TEFs after cSEMS removal (primary closure) or after complementary endoscopic treatment (reposition or re-insertion).

Results: 19 patients were treated with covered self-expandable metal stent (cSEMS). Included patients had anastomotic leaks or TEFs after total gastrectomy (9), esophagectomy (6) and etc (4, esophageal diverticulectomy, submucosal tumor enucleation, transcervical mediastinal drainage, primary esophageal closure). Overall treatment success rate of the leaks or TEFs occurred in 89% (17 of 19, including multiple procedures). Repositioning was done in 26% (5 of 19, d/t migration) and successful repositioning was done in 4 of 5. (additional re-insertion was needed in 1 case and was successful.) Re-insertion was done in 16% (3 of 19, d/t migration) and 2 of 3 were successful. (1 case was failed d/t stent site erosion) Stent removal after successful treatment was done in 94% (16 of 17, average 30.6 days, range 11 ~ 43 days, 1 was lost to follow-up.) There was no procedure-related complication including perforation or death.

Conclusion: cSEMSs are a minimally invasive, safe and useful alternative for treating postsurgical leaks in the upper gastrointestinal tract and can be easily removed after cSEMS insertion. Migration is a major problem, but most can be cured by complementary endoscopic procedure (reposition or re-insertion).

Byung Wook Kim : ACG Non-Member
Sang Yong Kim : ACG Non-Member
Jin Il Kim : ACG Non-Member
Sung Hoon Jung : ACG Non-Member
Sung Jin Moon : ACG Non-Member
Chul-Hyun Lim : ACG Non-Member

No Image Selected

No table selected
REVIEWER COMMENTS:
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Relatively small retrospective study that treads familiar ground. Multiple studies have demonstrated utility of CSEMS for fistulas and leaks.|Shin'ichi Takahashi: [No Comments]
Purpose: Abnormal mucosal hyperpigmentation or melanosis is a rare endoscopic finding with unclear clinical significance. Although this appearance is classically attributed to oral iron use, it is hypothesized that a variety of diseases may be associated with this finding. There are few studies that have explored the relationship between melanosis and co-morbid conditions or medication use. We report a case series exploring clinical factors associated with the endoscopic and histologic finding of melanosis in the upper GI tract.

Methods: A single-center retrospective review was performed of patients with the endoscopic finding of melanosis during upper endoscopy from 2000 to 2012. Electronic database and medical records were reviewed for demographics, medical comorbidities, medications, indications for endoscopy, endoscopic findings, biopsy results, and pertinent laboratory values.

Results: Eighteen patients with the endoscopic finding of melanosis were identified. In our study, 55.56% of subjects were male, and the mean age was 59.54 ± 15.87 years. 50% of patients were African-American, and 38.89% were Caucasian. The most common co-morbid conditions identified were hypertension (88.89%), chronic kidney disease (61.11%), and anemia (55.56%). Commonly used medications were beta blockers (72.22%), hydralazine (66.67%), and oral iron (55.56%). Indications for endoscopy included anemia (33.33%), overt GI bleeding (22.22%), abdominal pain (11.11%), and reflux (11.11%). Melanosis was identified primarily in the duodenum (88.89%). In these patients, the average hemoglobin (10.1) and hematocrit (30.66) were lower than normal, while the average BUN (38.19) and creatinine (2.73) were higher than normal. Biopsy was performed in 15 of the 18 patients. Histology confirmed melanosis or pigment deposition in 7 cases (46.67%), while no significant pathological changes were found in 4 cases (26.67%). Of those with pigment deposits, only 2 samples (28.57%) stained positive for iron. On follow up, 3 patients had died within 90 days of diagnosis.

Conclusion: Clinical features associated with the rare endoscopic finding of melanosis in the upper GI tract vary widely. The most common co-morbid conditions include hypertension, chronic kidney disease, and anemia. Use of beta blockers and hydralazine was more common than oral iron therapy. Additionally, the endoscopic finding of melanosis is not reliably confirmed with histologic iron pigment deposition. Further studies are needed to elucidate the cellular and molecular mechanisms in the development of this endoscopic melanosis, as well as its clinical implications.
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Does not shed much new light but is a substantial series of patients for this rare condition
Shin'ichi Takahashi: [No Comments]
Functional nursing assessments are important predictors of inpatient colonoscopy success.

Robert Frankel

Thomas Jefferson University, United States

Purpose: Inpatient (inpt) status is an independent risk factor for inadequate colon preparation. Our aim was to identify specific inpt characteristics predictive of inadequate cleansing.

Methods: This was a large single university retrospective study evaluating the effect on cleansing adequacy associated with changing the predominant inpt purgative from PM dosed 4L polyethylene glycol-electrolyte solution (PEG-ELS) to split (PM/AM) dose 2L PEG-ELS. Data was collected from 2 periods, P1 (10/2009-09/2010) when the single formulary purgative was 4L PEG-ELS (GoLYTELY®), and P2 (07/2011-01/2012) 8 months after addition to the formulary of 2L PEG-ELS (MoviPrep®), recommended as a split. Data was collected using Thomas Jefferson University (TJU) EMR, billing records, and hospital charts. A modified Aronchick scale was used to assess cleansing (good, excellent = adequate; fair, poor, inadequate = inadequate). Colonoscopies cancelled for incomplete purgation were considered inadequate. Activity level assessment (up ad lib, ambulate, bedrest/bedchair), assistance level (independent, partial assistance, full assistance), and Braden score (numeric scale for risk of sacral decubitus) were determined by nursing staff. Assessments 1-2 days before colonoscopy were used; when scores conflicted the higher function score was utilized. This study analyzed all pts in P1 and P2, with the primary outcome to identify specific pt characteristics affecting preparation adequacy (adequate vs. inadequate), and secondarily those affecting colonoscopy completion and need to repeat colonoscopy. The main analyses for these outcomes were based on multiple logistic regression that controlled for age and sex; other possible confounding factors were included if p<0.10. The study was approved by TJU IRB.

Results: 495 pts were screened, 160 excluded, and 335 analyzed (P1=171, P2=164). Adequate preparation was significantly less likely in patients with anxiety or depression (OR = 0.44, p= 0.004) and in those needing assistance (partial or full assistance: OR = 0.57, p=0.031). Colonoscopy completion was lower as activity assessment declined (OR = 0.72 for ambulate vs. up ad lib, OR = 0.18 for bedrest/bedchair vs. up ad lib, global p=0.001). A repeat colonoscopy was significantly more likely with an activity assessment other than up ad lib (OR = 3.16 ambulate vs. up ad lib; OR = 3.06 bedrest/chair vs. up ad lib, global p=0.027). Repeat colonoscopy was also more likely if taking opioids (OR = 2.42, p=0.010).

Conclusion: Functional assessments by nursing of activity level and need for assistance, a diagnosis of anxiety or depression, and use of narcotics are important for assessing risk for inadequate cleansing, incomplete colonoscopy, and the need for repeat colonoscopy in inpatients.

K. Endoscopy

Extra Info: Salix Pharmaceuticals, Inc.

Commercial Products or Services: Yes

Financial Relationships: Yes

Extra Info: Dr. David Kastenberg - Salix Pharmaceuticals, Inc: Consultant, Grant/Research support. No financial investment.
Robert Frankel: ACG Non-Member
Rebecca Matro: ACG Member
Brendan O'Hare: ACG Member
Steven Krawitz: ACG Non-Member
Rachael Grosso: ACG Non-Member
Alexis Sharpe: ACG Non-Member
Constantine Daskalakis: ACG Non-Member
David Kastenberg: ACG Member

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(no table selected)

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: This is a "spin off" from the same study with another subset of data reported in abstract 1745071
Shin'ichi Takahashi: [No Comments]
Gastric mucosal blood flow and the role of proton pump inhibitors in Gastric Antral Vascular Ectasia (GAVE)

Bezawit Tekola

University Of Virginia Healthsystem

United States

Purpose: GAVE is characterized endoscopically as radial hyperemic stria in the antrum and histologically as a proliferation of superficial capillaries and fibromuscular hyperplasia. The etiology is uncertain, but antral mucosal ischemia with reactive neovascularization has been proposed as a possible mechanism. The effect of proton pump inhibitors (PPI) on mucosal blood flow, a common form of therapy in GAVE patients, has not been investigated in this setting. As a prelude to a therapeutic trial, we aimed to measure gastric antral (GA) and gastric body (GB) mucosal blood flow using an endoscopic Laser Doppler Flow probe in GAVE patients, treated vs untreated with PPI compared to control subjects.

Methods: We studied 25 patients with endoscopic and histological GAVE and 9 controls. Measures of each region were obtained in triplicate for an average of 30 seconds at each point location. Blood flow and perfusion with this device is measured as ‘Perfusion Units (PU)’ defined as 1/250 of the perfusion value in Motility Standard with respect to a reference standard. Serum gastrin and hemoglobin were measured.

Results: Among GAVE patients, 17(68%) had known, stable cirrhosis, 20 (80%) had diabetes and 3 (12%) had unknown diabetic status. Average BMI in patients was 32. Fifteen subjects were on PPI therapy at endoscopy, and 10 were not. In GAVE patients, the mean GA blood flow was 117.7 (+/-33.2) PU and the GB was 165.5 (+/-55.1) PU. While in the controls, mean GA blood flow was 160.6 (+/-72.3) PU and the GB was 190.7 (+/-50.8) PU. Although there was a trend toward reduced GA blood flow, there was no difference between GA or GB blood flow between GAVE patients vs controls (p=0.14) and (p=0.12) respectively, using the Wilcoxon sign rank test. GAVE patients, however, had significantly different blood flows between their GA and GB, p< 0.001 when compared to controls (p=0.32). The mean GA and GB blood flows in GAVE patients on PPI were 114.3 (+/-26.5) PU and 166.3 (+/-65.8) PU, respectively. Those not on PPI had flows of 123.0 (+/-42.3) in the GA and 164.0 (+/-33.9) in the GB. GAVE patients on PPI had more significant blood flow difference between their antrum and body (p=0.004) than those not on PPI (p=0.04) with reduced antral flows. Control patients on PPI had a similar flow difference; with decreased antral flow but without statistical significance (p=0.32).

Conclusion: Our results indicate that GAVE patients have a flow differential between the antrum and body that is not evident in controls. We speculate that this may be related to microvascular ischemia in the antrum. PPI therapy may accentuate this flow difference. Further studies are warranted to understand the physiology of mucosal blood flow in GAVE and the effect of PPI therapy.
Figure. The length of PEG (l=long, s=short) tube and incidence of diarrhea.

IMAGE CAPTION: Figure. The length of PEG (l=long, s=short) tube and incidence of diarrhea.

(no table selected)

AVERAGE SCORE: 6.75

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Poor study design. To support the authors conclusion that long PEG tubes are associated with chronic diarrhea a case control study would have been required. The authors report that a large proportion of NH patients with chronic diarrhea had long PEG tubes. However this may also be the case in patients without chronic diarrhea. This cannot be determined from this report.
Shin’ichi Takahashi: [No Comments]
Enteroscopic Evaluation of Small Bowel Pathology in Patients with Chronic Kidney Disease and Obstructive Gastrointestinal Bleeding

Danny Issa

Fairview Hospital, United States

Purpose: Patients with chronic kidney disease (CKD) are known to have an increased risk for gastrointestinal (GI) complications. Despite that upper GI lesions have been known to be a major cause of clinical bleeding in CKD in previous studies, obscure GI bleeding (OGIB) is still common in CKD, which can cause significant morbidity and mortality. Data concerning small bowel pathology in relation to OGIB in CKD are very rare and the significance of small bowel pathology in CKD is unknown.

Methods: We used video small bowel capsule endoscopy (VCE) and balloon-assisted enteroscopy (BAE) to investigate OGIB in patients with CKD in a US tertiary referral academic medical center. OGIB was defined according to the American Gastroenterological Association position statement. 72 patients with CKD stage III, IV, and V, based on the classification of National Kidney Foundation, who presented with OGIB and underwent enteroscopy (VCE and/or BAE) from 2004 to 2012, were recruited for the study. Clinical information including duration of CKD, medication use, and Charlson Comorbidity Index (CCI), laboratory data, and enteroscopic findings were analyzed. Comparisons of continuous variables were conducted by using analysis of variance and the Kruskal-Wallis test with multiple comparisons being corrected by using Bonferroni's method when appropriate.

Results: Upon presentation of OGIB, the mean duration of CKD was 60 months. Among these 72 patients (42 in CKD stage III, 11 in CKD stage IV, 19 in CKD stage V), there were 44 males (61.1%) and 28 females (38.9%) with a mean (±sd) age of 70.1 (±10.1) years. Age, race, duration of CKD and dialysis, status of renal transplant, and CCI scores were significantly associated with CKD stages. Angiodysplasias were the most common abnormal finding (69.4%) identified during enteroscopy. Most of the vascular ectasias were small and multiple. Angiodysplasias were mostly located in the jejunum (73.3%). Other less common small bowel mucosal abnormalities found during enteroscopy included mucosal erythema, erosions, ulcers, and polyps. There was no relationship between abnormal small bowel findings and CKD stages including status of dialysis.

Conclusion: Angiodysplasias in the small bowel are common in the patients with CKD presenting with OGIB. These are mostly commonly located in jejunum. The abnormal enteroscopic findings are unrelated to CKD stages.

CURRENT CATEGORY: K. Endoscopy

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>:

Chung-Jyi Tsai : ACG Member
Danny Issa : ACG Non-Member
Mohamad Hanouneh : ACG Non-Member
Narayanan Menon : ACG Member
Madhusudhan Sanaka : ACG Member
John Vargo : ACG Member

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AVERAGE SCORE: 4
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
ABSTRACT BODY:

Purpose: To evaluate parental delivery and understanding of key elements of the informed consent (IC) process for adolescents undergoing common endoscopic procedures.

Methods: Parents of youth aged 13-17 undergoing endoscopies were recruited for the IC process at a pediatric tertiary care center. After signing of the surgical IC on the day of the procedure, parents underwent a brief structured interview addressing key elements in the IC process as defined by the Centers for Medicare and Medicaid Services (CMS) including: a) name and understanding of the procedure for which IC is being given, b) review of the anticipated benefits of the procedure, c) review of the material risks of the procedure, d) alternatives, and e) that trainees may be performing the procedure under the supervision of the responsible practitioner.

Results: Fifty-four parents were recruited. Youth undergoing endoscopic procedures were 15 (13,17) [Median (IQR)] years and 65% female. Parents were 47 (42,51) years, 87% female, and 26% Hispanic, 61% Caucasian, 4% African American, 2% Asian American, and 7% Native American. Eight physicians performed 31 EGD, 20 EGD with colonoscopy, 2 EGD with colonoscopy and capsule endoscopy, and 1 EGD with flexible sigmoidoscopy.

98% of parents underwent the IC process in their preferred language. Parents were able on average to identify 46% of procedure characteristics (i.e. that a scope would be used and where it would be placed, and that biopsies and photographs would be taken). 3.7% of parents did not know what procedure their child was having. Proximity of the clinic visit to performance of the endoscopic procedure did appear to affect parental familiarity with procedure information. Alternatives, procedure complications and what would happen in the event of a complication were not discussed with parents prior to their signing the consent form on the day of the procedure. Only 9% of parents whose child’s procedure was performed by trainees reported knowledge of trainee participation.

Fifty-three (98%) parents underwent the IC process with their physician at a prior clinic visit, which occurred 41 (21,84) days prior to the procedure. While IC was not formally obtained (by signature), risks (47%), benefits (47%), and alternatives (25%) were documented as having been discussed at the visit.

Only 24% of parents received 4 out of the 5 CMS key elements of the IC process and most of this information was received at the clinic visit prior to the day of the procedure.

Conclusion: We demonstrate suboptimal sharing of information during the IC process on the day of procedure and/or at the prior clinic visit. There is variation in practice and thus opportunity for quality improvement to improve the IC process.

CURRENT CATEGORY: K. Endoscopy
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>: Jeremy Chang : ACG Non-Member
Sherry Zhang : ACG Non-Member
AVERAGE SCORE: 5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Unclear whether the study was aimed at assessing the quality of the IC process by the practitioner or barriers to understanding by parents. Findings may reflect flaws in the IC process particular to this institution. |Shin'ichi Takahashi: [No Comments]
Purpose: Percutaneous endoscopic gastrostomy (PEG) and jejunostomy (PEJ) tubes are commonly used as a means to provide nutritional support, but tube placement is not always successful, and other approaches may need to be employed. Reasons for failed tube placement and means of subsequent successful placement have not been well described. We aimed to identify factors that predict failure of endoscopic placement of PEG or PEJ tubes, and to determine means of successful subsequent placement.

Methods: We performed a retrospective chart review of all patients at a single tertiary referral center who underwent PEG, PEJ or combination PEG/PEJ tube placement for nutritional support between October 1996 and November 2010. Demographic and clinical data were collected.

Results: Among 3251 patients referred for endoscopic tube placement in the study period, 50 (1.5%) patients experienced failure of placement (PEG = 20 [40%], PEJ = 28 [56%], combination PEG/PEJ = 2 [4%], see table). Mean age of patients was 57 years (range 19 to 85 years), with 70% men. Seventy percent had a history of prior abdominal surgery. There were 44 of the 50 patients (88%) who had failed tube placement due to technical reasons, with the remainder due to hemodynamic instability (4 patients) and patient intolerance (2 patients). Thirteen different providers performed procedures that failed due to technical reasons. Thirty-nine (78%) patients underwent subsequent attempt of tube placement; of these, all were placed successfully, and were performed by Surgery, Gastroenterology and Interventional Radiology in 49%, 41% and 10% of patients, respectively.

Conclusion: Overall, technical difficulty was the most common reason for failure of percutaneous endoscopic tube placement. The majority of patients had prior abdominal surgery. Based on local expertise, successful re-attempt at placement of a percutaneous enteral feeding tube can be achieved by an endoscopic or surgical approach in most cases.

<table>
<thead>
<tr>
<th>Mean Age (years)</th>
<th>History of Surgery, N (%)</th>
<th>Radiation Exposure, N (%)</th>
<th>Reason for Failure, N (%)</th>
<th>Successful Placement, N (%)</th>
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<tbody>
<tr>
<td>57</td>
<td>70</td>
<td>40</td>
<td>56</td>
<td>4</td>
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<tr>
<td>Procedure</td>
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<td>Hemodynamic</td>
<td>Tolerance</td>
<td>Technical</td>
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<tr>
<td>PEJ (N=28)</td>
<td>61</td>
<td>19 (68)</td>
<td>8 (29)</td>
<td>24 (86)</td>
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<td>.</td>
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<td>Hemodynamic</td>
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<td>Tolerance</td>
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<td>PEG (N=20)</td>
<td>52</td>
<td>15 (75)</td>
<td>3 (15)</td>
<td>Technical</td>
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<td>Tolerance</td>
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<tr>
<td>PEG/PEJ (N=2)</td>
<td>68</td>
<td>1 (50)</td>
<td>0 (0)</td>
<td>Technical</td>
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PEG=Percutaneous endoscopic gastrostomy
PEJ=Percutaneous endoscopic jejunostomy
GI=Gastroenterology
IR=Interventional radiology

**TABLE TITLE:**

**AVERAGE SCORE:** 4.75

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Large number of patients. Details regarding cause of technical failures (e.g. failed transillumination, altered anatomy etc.) would have been useful.
Shin'ichi Takahashi: [No Comments]
Purpose: The insertion phase of colonoscopy can be labor intensive for the endoscopist and can result in excessive looping with risk of discomfort and complications for the patient. Recently, a new colonoscope has been developed incorporating passive bending and high force transmission technology (CF-HQ190L, Olympus America Inc) which may assist in faster navigation of colonoscope to the cecum.

Aim: To compare the cecal intubation times with a colonoscope equipped with passive bending and high force transmission technology (CF-HQ190L) to that with a colonoscope without these features (180 series - CF-H180AL).

Methods: This is a post hoc analysis of two prospective randomized controlled trials conducted at 3 tertiary referral centers comparing the 180 and 190 series Olympus colonoscopes for characterization of polyp histology. The primary and secondary outcomes of these studies have been reported earlier. Subjects were randomized 1:1 to 180 or 190 colonoscopy, stratified based on indication of colonoscopy. Time of insertion from anus to cecum was recorded with a stop watch including maneuvers such as changing the subject’s position, application of pressure, suctioning of fluid or cleansing of the colonic mucosa. Polyps were not removed during the insertion phase.

Results: 11 endoscopists with varying levels of experience participated and enrolled a total of 1427 subjects evaluated and 1080 met all inclusion criteria. The cecum was reached in all but 3 patients (1 failure in 190 and 2 failures in 180), thus 1077 completed all study procedures: 534 in the 190 series arm and 543 in the 180 series arm. The mean age (62.5 vs 62.2 years), gender (males 77.2% vs 77.7%) in 180 vs 190 respectively; race, indication of colonoscopy, quality of bowel preparation were similar between the two groups. The mean time ± SD for cecal intubation was 6.0 ± 4.0 minutes in the 180 arm vs 5.3 ± 3.5 minutes in the 190 arm (p = 0.005). The median cecal intubation time was 5.0 minutes vs 4.0 minutes in the 180 and 190 arms respectively (p = 0.0067) with the range being 1 – 27 minutes and 1 to 25 minutes respectively. Eight of 11 endoscopists had shorter cecal intubation times with the 190 series colonoscope and improved intubation time was seen among endoscopes with all levels of experience.

Conclusion: Incorporation of passive bending and high force transmission technology to the latest generation colonoscope results in faster cecal intubation times. Further studies are warranted to evaluate the benefits of these innovations on sedation requirements, and patient satisfaction.
<table>
<thead>
<tr>
<th>Cecal Intubation Time</th>
<th>180 series</th>
<th>190 series</th>
<th>P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>6.0±4.0</td>
<td>5.3±3.5</td>
<td>0.0053</td>
</tr>
<tr>
<td>Mean±SD</td>
<td>5.0</td>
<td>4.0</td>
<td>0.0067</td>
</tr>
<tr>
<td>Median</td>
<td>6.0</td>
<td>6.2±4.2</td>
<td>0.0067</td>
</tr>
<tr>
<td>&lt; 5,000 Colonoscopies</td>
<td>6.7±4.4</td>
<td>6.0</td>
<td>0.3832</td>
</tr>
<tr>
<td>Mean</td>
<td>6.0</td>
<td>4.6±3.1</td>
<td>0.2863</td>
</tr>
<tr>
<td>Median</td>
<td>4.0</td>
<td>5.0</td>
<td>0.0591</td>
</tr>
<tr>
<td>5,000 - 9,999 Colonos</td>
<td>5.2±3.7</td>
<td>4.6±3.1</td>
<td>0.0591</td>
</tr>
<tr>
<td>Mean</td>
<td>4.0</td>
<td>5.0</td>
<td>0.0878</td>
</tr>
<tr>
<td>Median</td>
<td>4.0</td>
<td>5.0</td>
<td>0.0878</td>
</tr>
<tr>
<td>&gt;10,000 Colonoscopies</td>
<td>6.2±3.7</td>
<td>5.6±3.1</td>
<td>0.0753</td>
</tr>
<tr>
<td>Mean</td>
<td>5.0</td>
<td>5.0</td>
<td>0.1184</td>
</tr>
<tr>
<td>Median</td>
<td>5.0</td>
<td>5.0</td>
<td>0.1184</td>
</tr>
</tbody>
</table>

*Two-sample t-test used to calculate p value for Mean. Nonparametric Wilcoxon-Mann-Whitney test used to calculate p value for Median.

**TABLE TITLE:** Cecal Intubation Times; overall, by experience level

**AVERAGE SCORE:** 2.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
Purpose: Current clinical practices necessitate routine colonoscopies for patients with inflammatory bowel diseases (IBD). Many practitioners offer IBD patients monitored anesthesia care (MAC) with propofol to provide a deeper level of sedation, but these services are not readily available in all medical facilities and augment medical costs. The aim of this study was to identify predictive factors resulting in the administration of high doses of moderate sedation (HDS) so that practitioners could better identify patients who might benefit the most from MAC.

Methods: We performed a cross-sectional study including consecutive patients with Crohn’s disease (CD) or ulcerative colitis (UC) who underwent a first colonoscopy at Jackson Memorial Hospital (Miami, FL) between January of 2001 and January of 2013. In the medical facility, all colonoscopies are scheduled with moderate sedation (midazolam and meperidine); MAC is only utilized when previous endoscopic procedures have been unsuccessful with moderate sedation where the desired level of sedation has not been achieved or if the patient has significant co-morbidities warranting the additional monitoring by anesthesia staff. Variables considered were demographics, IBD phenotype, IBD medications, use of anti-depressants and benzodiazepines, laboratory values and surgical history. The primary outcome was the administration of HDS defined as ≥8mg of midazolam and/or ≥150mg of meperidine. The secondary outcome was premature cessation of the procedure due to inability to achieve adequate sedation.

Results: The baseline characteristics of the 171 patients included are shown in Table 1. The mean time of procedure was 34 minutes (SD:14). 22 (12.8%) of patients required HDS; the colonoscopy was terminated prematurely in 2 cases (1.1%). The mean doses of midazolam and meperidine used were 4.5 (SD: 1.7) and 60 (SD:21) mg respectively. There was a significant and proportional association between younger age and HDS (ROC: 0.7, p=0.01). No association between body mass (ROC: 0.6, p=0.2) or duration of IBD (ROC: 0.5, p=0.9) was observed. Categorical variables significantly associated with HDS included male gender, age <40 years and the prescription of biologic medications for IBD (Table 2). Trends toward HDS were observed for patients with colonic CD.

Conclusion: While moderate sedation for colonoscopy is a viable option for most patients with IBD, young males may benefit from MAC, avoiding potential complications. Patients receiving biologic agents were also identified as a subgroup which required higher sedation, likely representing patients with more aggressive disease. Further research into patient preference and the associated costs with competing methods of anesthesia are warranted.
### Table 1: Baseline characteristics of the study population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender (n,%)</td>
<td>80 (47)</td>
</tr>
<tr>
<td>Age (mean,SD)</td>
<td>42 (15)</td>
</tr>
<tr>
<td>Body mass index (mean,SD)</td>
<td>26 (5)</td>
</tr>
<tr>
<td>C-Reactive protein (mean,SD)</td>
<td>3 (5)</td>
</tr>
<tr>
<td>History of IBD surgery (n,%)</td>
<td>24 (15)</td>
</tr>
</tbody>
</table>

#### MEDICATION USED BY THE STUDY POPULATION

<table>
<thead>
<tr>
<th>Medication</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminosalycilates (n,%)</td>
<td>112 (70)</td>
</tr>
<tr>
<td>Corticosteroids (n,%)</td>
<td>69 (43)</td>
</tr>
<tr>
<td>Azathioprine/6MP (n,%)</td>
<td>38 (24)</td>
</tr>
<tr>
<td>Biologic agent (n,%)</td>
<td>31 (19)</td>
</tr>
<tr>
<td>Benzodiazepine (n,%)</td>
<td>20 (12)</td>
</tr>
<tr>
<td>Antidepressant and benzodiazepine (n,%)</td>
<td>9 (6)</td>
</tr>
</tbody>
</table>

#### CROHN'S DISEASE PHENOTYPE

<table>
<thead>
<tr>
<th>Disease</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ileal disease (n,%)</td>
<td>17 (14)</td>
</tr>
<tr>
<td>Ileo-colonic (n,%)</td>
<td>20 (17)</td>
</tr>
<tr>
<td>Colonic (n,%)</td>
<td>12 (10)</td>
</tr>
<tr>
<td>Penetrating disease (n,%)</td>
<td>19 (16)</td>
</tr>
<tr>
<td>Strictures (n,%)</td>
<td>24 (20)</td>
</tr>
<tr>
<td>Peri-anal disease (n,%)</td>
<td>19 (16)</td>
</tr>
</tbody>
</table>

#### ULCERATIVE COLITIS PHENOTYPE

<table>
<thead>
<tr>
<th>Disease</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proctitis (n,%)</td>
<td>10 (8)</td>
</tr>
<tr>
<td>Left colon involvement (n,%)</td>
<td>28 (23)</td>
</tr>
<tr>
<td>Variable</td>
<td>OR</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Male gender</td>
<td>2.6</td>
</tr>
<tr>
<td>Age &lt; 40 years</td>
<td>3.4</td>
</tr>
<tr>
<td>Diagnosis of ulcerative colitis</td>
<td>0.4</td>
</tr>
<tr>
<td>On aminosalicylates</td>
<td>0.6</td>
</tr>
<tr>
<td>On corticosteroids</td>
<td>1.1</td>
</tr>
<tr>
<td>On immunomodulator</td>
<td>2.0</td>
</tr>
<tr>
<td>On biologics</td>
<td>2.9</td>
</tr>
<tr>
<td>On antidepressant</td>
<td>1.1</td>
</tr>
<tr>
<td>On benzodiazepine</td>
<td>0.7</td>
</tr>
<tr>
<td>History of depression</td>
<td>0.8</td>
</tr>
<tr>
<td>History of anxiety</td>
<td>2.0</td>
</tr>
<tr>
<td>Ileal Crohn's disease</td>
<td>1.9</td>
</tr>
<tr>
<td>Ileo-colonic Crohn's disease</td>
<td>2.2</td>
</tr>
<tr>
<td>Colonic Crohn's disease</td>
<td>3.4</td>
</tr>
<tr>
<td>Presence of strictures</td>
<td>0.8</td>
</tr>
<tr>
<td>Ulcerative colitis with pan-colitis</td>
<td>0.4</td>
</tr>
</tbody>
</table>

* are statistically significant

**TABLE TITLE:** Table 1: Baseline characteristics of the study population
Table 2: Association between the HDS and study variables

**AVERAGE SCORE:** 4

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Purpose: Current surveillance recommendations for colonoscopies are based on size and pathological analysis of polyps. However, studies have suggested that clinical management is not affected for polyps $\leq 5$mm in size if pathological analysis is omitted. This strategy of discarding diminutive polyps can represent a potential improvement in cost effectiveness in surveillance colonoscopies.

The aim of our study was to assess the effectiveness of discarding diminutive polyps without performing a pathological analysis and its impact on surveillance interval recommendations.

Methods: Retrospective analysis of 439 consecutive colonoscopies performed in November and December 2011 at a Satellite location of a tertiary care medical center.

Results: 439 colonoscopies were performed in November and December of 2011 at the satellite location. Those performed for screening or surveillance i.e. for personal or family history of colon cancer were included in the study. Exclusion criteria were poor bowel prep, incomplete or aborted colonoscopies and indications other than screening or surveillance. 163 patients were found to have polyps. Of these, 105 colonoscopies were for screening and 58 were performed for surveillance. 9 patients who underwent colonoscopies had family history of colon cancer. 259 polyps were found in patients who underwent colonoscopy for screening or had a family history of colon cancer. 89 diminutive polyps i.e. those $\leq 5$mm were found in patients who underwent surveillance colonoscopies. All polyps found during screening colonoscopies or found in patients with family history were sent for pathological analysis by the performing physician. For the purpose of our analysis, diminutive polyps found at surveillance colonoscopies were then presumed discarded and intervals predicted prior to pathological analysis were compared with recommended followup intervals as per guidelines. A concordance rate of 100% was found in both the intervals for followup colonoscopies. Cost of pathological analysis is based on number of jars sent. In our study, the presumed discarded polyps were sent in 41 jars-a potential. For these colonoscopies this would result in a significant cost savings. Resect and discard strategy can result in cost savings in surveillance colonoscopies without any impact on followup interval recommendations.

Conclusion: Discarding those diminutive polyps found at surveillance colonoscopies without performing pathological analysis had no impact on surveillance interval recommendations. This can represent an avenue for cost effectiveness in surveillance colonoscopies.

AVERAGE SCORE: 4.5
Purpose: Optimal bowel preparation is an essential factor to improve visualization and to increase the yield of colonoscopy. Bowel preparation for colonoscopy in hospitalized patients has been anecdotally found to be suboptimal compared to outpatients. Suboptimal bowel preparation can increase the risk of missing adenomas, lead to longer cecal intubation time and increase the health care cost due to the need for repeating colonoscopy. This study investigated the impact of demographic and clinical factors on the quality of bowel preparation in hospitalized patients.

Methods: This is retrospective observational study. We included adult patients who underwent in patient colonoscopy during a one year period (2012) at our institution. Patients with incomplete data and patients who underwent emergency colonoscopy were excluded. Outpatient bowel preps over the same time frame and with similar demographics was used a control group. We compared the quality of bowel preparation between inpatients and outpatients. Data about demographics, co-morbidities and relevant clinical data were collected and analyzed. SAS software was used for statistical analysis.

Results: 552 patients were included in the study [254 inpatients (IP) and 298 outpatients (OP)]. The mean age of the group was 63.1 years and 53.6 % were female. Suboptimal bowel prep was found in 51.2% of inpatients versus 34.6% of outpatients (P 0.0001). Among the IP group by univariate analysis, Caucasians were found to have a more adequate bowel preparation compared to African Americans (Odd ratio- 6.763, P value-0.033). However this was not significant on multivariate logistic regression analysis. Other factors like age, BMI, co- morbidities were not significantly associated with the quality of bowel preparation. In the OP group, age, sex, race, BMI and co morbid medical illness were not significantly associated with poor bowel preparation.

Conclusion: This study found that hospitalized patients undergoing bowel prep for colonoscopy had significantly suboptimal preps compared to the outpatient group. Patient demographics and co-morbidities were not significant predictors of the quality of bowel prep between the two groups. The factors leading to more sub optimal bowel preps in a hospitalized setting needs to be recognized and studied in order to improve colonoscopy outcomes.
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Similar abstracts 17444405, 1745574, 1745071 on inpatient colonoscopy prep. In this study, no predictor was identified.
Shin'ichi Takahashi: [No Comments]
Purpose: The role of urgent colonoscopy in lower gastrointestinal bleeding (LGIB) remains controversial. Population based studies on LGIB outcomes are lacking. We sort to investigate the impact of timing of colonoscopy on outcomes of patients with LGIB.

Methods: In this cross-sectional study using the Nationwide Inpatient Sample 2010, International Classification of Diseases, the 9th revision, codes identified patients with lower gastrointestinal bleeding who underwent colonoscopy. The main outcome measurements were in-hospital mortality, length of stay and hospitalization charges in patients who underwent early colonoscopy (< 24 hours) or delayed (> 24 hours).

Results: A total of 58,926 discharges with LGIB were identified; 22,420 had a colonoscopy performed during the hospitalization. 8617 patients had colonoscopy performed within 24 hours (early colonoscopy), and 13,803 had colonoscopy performed after 24 hours (delayed colonoscopy). There was no difference in mortality in patients with LGIB who had early vs. delayed colonoscopy (0.4% vs. 0.4%, p=0.46). However, patients who had early colonoscopy had a shorter length of hospital stay (3.2 vs. 4.8 days, p<0.001), decreased requirement for blood transfusion (34% vs. 41.3%, p<0.001) and lower hospitalization charges. ($23,982 vs. $30,792, p<0.001) On multivariate analysis, timing of colonoscopy did not impact mortality (adjusted odds ratio (aOR), 1.3; 95% confidence interval [CI], 0.8-2.0). On multivariate analysis, delayed colonoscopy was associated with increase in length of hospital stay by 1.6 days and increase in hospitalization charges by $6,968.

Conclusion: Early colonoscopy within 24 hours is associated with decreased length of stay and hospitalization charges in patients with LGIB.
Stavros Stavropoulos: Utility of pCLE to assess completeness of EMR of flat colonic lesions has been reported. In this study there was a small number of patients and there was no systematic comparison of post resection margins by HD WL (eg Kudo pit pattern), pCLE and then biopsy. This would have resulted in quantitative data on Se, Sp, Accuracy of HD WL vs pCLE. Shin'ichi Takahashi: [No Comments]
Purpose: To determine whether exposure to ambient music increases the adenoma detection rate (ADR) amongst endoscopists leading to better prevention of colorectal cancer.

Methods: The effect of Mozart's music on improvement in visuo-spatial ability, popularly termed the “Mozart effect”, has been a topic of discussion amongst researchers. A recent study conducted on colonoscopy simulator training showed that performance in colonoscopy is positively correlated with visuo-spatial ability. We conducted a single blinded randomized controlled trial at the Digestive Diseases Center (DDC) at the Memorial Hermann Hospital. Music of five genres (Mozart, Classical – NOT Mozart, Pop, Rhythm and Blues, Rock) was played during screening colonoscopies. The primary endpoint of ADR for each music genre was compared. Secondary endpoints including age, gender, endoscopist, colonoscopy withdrawal time, bowel prep quality were also recorded.

Results: We compared 375 screening colonoscopies. The overall unadjusted effect of music on ADR showed no significant difference with an odds ratio and 95% confidence interval (OR-95% CI) of 0.77 (0.51 -1.16) and p-value of 0.22 when compared to no ambient music. When adjusted for age, gender, endoscopist, withdrawal time, and prep quality, there continued to be no significant difference. When the various music genres (Mozart, Classical – NOT Mozart, Pop, Rhythm and Blues, Rock) were compared, Pop music showed a significant negative effect on ADR with an OR-95% CI of 0.42 (0.19-0.95) and p-value of 0.037. The other music genres showed no significant effect on ADR. The overall ADR for the DDC improved from 34.20% pre-study to 43.73% during the study.

Conclusion: Our study showed that ambient music had no significant effect on ADR when compared to no ambient music. The genre of pop music had an adverse effect on ADR. Other genres (Mozart, Classical – NOT Mozart, Rhythm and Blues, Rock) showed no significant effect on ADR. Further studies will need to be conducted to determine whether these results hold true with larger study groups. In addition, the overall ADR improved from 34.20% pre-study to 43.73% during the study. This suggests that endoscopist ADRs may increase when they know their rates are being monitored.
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Well done study. Of uncertain broader clinical value esp. given negative findings.
Shin'ichi Takahashi: [No Comments]
Purpose: Both porfimer sodium photodynamic therapy (Ps-PDT) and radiofrequency ablation (RFA) are effective endoscopic ablation modalities used to eradicate esophageal intestinal metaplasia with or without dysplasia/neoplasia among patients with Barrett’s Esophagus (BE). The aim of this study is to compare the time to recurrence of intestinal metaplasia and dysplasia between PDT and RFA among patients with BE.

Methods: This was a retrospective, observational study using a large database of patients treated with Ps-PDT and RFA in a tertiary referral center. Information collected included age, gender, race, history of smoking, histology of statin use, NSAID use, previous treatments, length of Barrett's segment, date of follow-up visit, procedures and biopsy results. The primary endpoint of this study was the recurrence of IM among patients who achieved complete remission of IM (CRIM). We used Kaplan-Meier analysis, Wilcoxon rank sum test and Cox proportional hazards regression models to assess and compare time to recurrence of IM and dysplasia between PDT and RFA.

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. 77% (n=180) of patients achieved remission of IM. After a median follow-up time of 14.3 months, the rate of recurrence was similar among patients with RFA compared to PDT (36.4% vs. 48.1%). There was no significant difference in the likelihood of experiencing disease recurrence following normal biopsy between PDT and RFA patients in either single variable analysis (RR: 1.44, P=0.15) or multivariable analysis (RR: 1.26, P=0.42). Kaplan-Meier curves for time to recurrence of intestinal metaplasia/neoplasia for PDT and RFA is shown in Figure 1. In these patients who experienced freedom from dysplasia, the risk of recurrence of dysplasia did not differ significantly between the two treatment groups in single variable analysis (RR: 1.15, P=0.63) or multivariable analysis (RR: 1.09, P=0.78).

Conclusion: Among patient with BE, there was no significant difference in disease recurrence between patients treated with RFA compared to Ps-PDT when controlling of age, gender, race, BE length, baseline histology, and use of NSAIDs or statins.
Fig 1: Kaplan-Meier curves for time to recurrence of intestinal metaplasia/neoplasia

**IMAGE CAPTION**: Fig 1: Kaplan-Meier curves for time to recurrence of intestinal metaplasia/neoplasia

(no table selected)

**AVERAGE SCORE**: 4

**REVIEWER FLAGS**: (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION**: None

**REVIEWER COMMENTS**:

ABSTRACT BODY:

Purpose: Investigation of the clinical characteristics, diagnosis, treatment and prognosis of eosinophilic gastroenteritis to further understand EG.

Methods: Method: Analyzed 16 cases of EG treated at the 1st Hospital of Jilin University between 2008 and 2012. The patients were cleared with other allergic, infectious diseases. The general physical conditions, clinical manifestation, lab results, endoscopic and pathological features, as well as treatment and prognosis were analyzed retrospectively.

Results: 1) The disease affected both male and female without a significant preference between sex (male 9, female 7). The age of the patients was between 9 and 40, with 62.5% younger than 20 years old. 2) The course of the disease lasted 10 days to 8 years, with 75% lasted less than 1 month (12 cases). 3) There were 10 cases of mucosal EG, presented with abdominal pain, diarrhea. There were 3 cases of subserosal EG, presented with abdominal pain and bloating. There were 3 cases of compound EG, presented with abdominal pain, diarrhea, ascites, with one bowel obstruction. All types can have nausea, vomiting, fever, etc. 4) all patients had peripheral hypereosinophilia (45.8%±20.1%, predominantly mature cells). 5) The eosinophil counts in bone marrow were significantly increased in all 14 patients that underwent bone marrow aspiration (37.2%±8.6%).6) All 6 of ascites were excudate with eosinophils consisting 26.7%-54.2% of the WBC count. 7) All patients underwent endoscopy, with 3 cases showed erythematos, erosion, superficial ulcerative changes of the mucosa; 3 cases showed hyperplasia; 8 cases showed normal features. Multiple spots biopsy showed significant eosinophilic infiltration. 8) Corticosteroid treatment for one week results in quick relief of the symptoms and decrease of the peripheral eosinophil counts (t=-4.63,P<0.05).

Conclusion: EG shows higher incidence in children and young adults. The course of disease is acute and short. The clinical manifestations and endoscopic features are non-specific, which could easily lead to misdiagnosis. But prognosis is excellent with proper treatments. Peripheral blood cell count, bone marrow aspiration and ascites aspiration cell count, most importantly biopsy during endoscopy are the keys for accurate diagnosis.

CURRENT CATEGORY: K. Endoscopy

AUTH DESIG: ACG Membership Status <font color="red">*</font>:
Yuqin Li : ACG Non-Member
Wu Shuang : ACG Non-Member
Tongyu Tang : ACG Non-Member
Wang Dan : ACG Non-Member
Libo Wang : ACG Non-Member
Hong Xu : ACG Non-Member
(No Image Selected)

AVERAGE SCORE: 5

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Significant number of patients with this rare disorder. Descriptive case series without major new insights.
Shin'ichi Takahashi: [No Comments]
Purpose: Porfimer sodium photodynamic therapy (Ps-PDT) has been used to eradicate Barrett's dysplasia and neoplasia as an alternative to esophagectomy. The aim of this study was to assess the outcomes after Ps-PDT in patients with Barrett's esophagus with high grade dysplasia (HGD) or adenocarcinoma (ACA).

Methods: This was a retrospective, observational study using large Ps-PDT database in a tertiary referral center. We reviewed the medical records of 136 patients (85 HGD; 51 ACA) with a median age of 73 (13% females). They were referred to our tertiary care center for PDT between 2001 and 2012. Initial evaluation included computed tomography and endosonography. Follow up endoscopy was performed 4 to 6 weeks after PDT with ablation of any residual Barrett's mucosa using argon plasma coagulation (APC). Patients were then followed thereafter every three to six months with computed tomography, endosonography and endoscopic surveillance with every 1-2 cm biopsies from the treated area.

Results: The median follow up period was 15 months (range, 2 - 125 months). Eighteen of 136 patients underwent endoscopic mucosal resection (EMR) for nodular glandular mucosa prior to Ps-PDT. Ps-PDT was the only ablation treatment utilized in 28/136 patients. Of these patients, 12/28 (43%) achieved complete remission of intestinal metaplasia (CRIM). The other 7/28 patients had their histopathology downgraded after Ps-PDT. Nine other patients underwent Ps-PDT as palliative treatment for locally advanced neoplasia. One patient was lost for follow up immediately after PDT. Thirty out of 51 ACA patients (60%) achieved CRIM while 62/85 HGD patients (73%) achieved CRIM. The rate of recurrence of HGD was 10% (9/85) while that of ACA was 11% (6/50). Additional endoscopic therapy was required in a subset of patients including 14 patients who underwent EMR for persistent nodular disease after Ps-PDT and 41 patients treated with RFA for persistent or recurrent cases of BE. Complications after Ps-PDT included symptomatic strictures requiring endoscopic dilation in 43% (58 patients), while 7 patients had severe photosensitivity reactions.

Conclusion: Overall, 83% of patients with esophageal HGD and ACA were successfully ablated or downgraded by Ps-PDT, either as a sole treatment or followed by focal ablation using argon plasma coagulation. These treatments were associated with a low rate of disease recurrence. Notable complications persist after Ps-PDT, however, including strictures and cutaneous photosensitivity reactions. However, Ps-PDT remains an important endoscopic, minimally invasive treatment alternative to esophageal resection surgery for patients with Barrett’s dysplasia and neoplasia.
Herbert Wolfsen : ACG Member
(No Image Selected)
(no table selected)

**AVERAGE SCORE:** 4.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]|Vanessa Shami: [No Comments]|Stavros Stavropoulos: Limited follow-up (mean 15 months). Given the high incidence of strictures and photosensitivity, utility of PDT is uncertain given the wide adoption of RFA which does not share these AEs. |Shin'ichi Takahashi: [No Comments]
ABSTRACT BODY:

Purpose: Many patients requiring gastrostomy placement have co-existent bacterial colonization. The aim of this study was to assess for the association of these infections with gastrostomy complications and post procedural survival.

Methods: The charts of all patients who received a PEG performed at Hines VA from 3/1997 to 12/2008 were reviewed. MRSA status, PEG complication rates, and mortality data were obtained through 2009. A Peg complication was defined as any consult to GI related to the PEG tube post placement. Mortality rates post PEG placement for patients who were MRSA+ and negative were compared via Kaplan Meier plots.

Results: 615 PEGs were performed during the study period of which 230 were found to be MRSA+. 156 Gastrostomy complications were reported in the entire cohort with 70 of these noted in the MRSA+ group. The overall complication rate of the MRSA- group was 25.8% with a complication rate of 39% in the MRSA+ group. A patient’s MRSA status was associated with an increased all cause complication rates. (p value=0.0006) Mortality rates were additionally reviewed with survival curves as below showing significantly reduced life expectancy post procedure based on MRSA+ status.

Conclusion: There is a marked reduction in life expectancy associated with MRSA+ status prior to PEG placement. There is also a significant association of gastrostomy complications with MRSA+ status. Increased vigilance for complications in this population is warranted.
ABSTRACT BODY:
Purpose: There is limited data on colonic lesions found during retrograde double-balloon enteroscopy (DBE) following a negative colonoscopy in patients with obscure gastrointestinal bleeding (GIB). This study evaluates the location of colonic angioectasias and the location and size of colonic polyps found incidentally at retrograde DBE in patients with obscure GIB.
Methods: We did a retrospective chart review on all patients undergoing retrograde DBE for obscure GIB between 2008-2012. The median days from colonoscopy to DBE were 12.89 days. Lesions are defined as polyps and angioectasias not seen at colonoscopy.
Results: 136 patients, 56 women (41.18%) with a median age of 65.5 and 80 men (58.82%) with a median age of 59.4 are reported. DBE detected lesions not seen on colonoscopy in 35 patients (25.74%). 27 patients (19.85%) had polyps and 8 patients had angioectasias (5.88%). Of the polyps found, the largest percentage were found in the cecum (12, 44.44%), followed by the sigmoid (7, 25.93%), transverse colon (4, 14.81%), ascending colon (3, 11.11%), and descending colon (1, 3.70%). The median size of all polyps was 0.5 cm, with a range of 0.5-1.5 cm. Of the angioectasias, 6 were in the cecum (75.00%), and 1 angioectasia was found in the sigmoid and transverse colon (12.5% each).
Conclusion: Retrograde DBE following negative colonoscopy detects significant number of clinically relevant colonic lesions in patients with obscure GIB. Most lesions were detected in the cecum and sigmoid colon. This data suggests that careful re-examination of the colon with particular attention to the cecum and sigmoid colon at retrograde DBE is warranted.
Purpose: Gastric antral vascular ectasia (GAVE) is a known cause of gastrointestinal bleeding and chronic iron deficiency anemia. Endoscopic therapy with argon plasma coagulation (APC) is widely used for treatment of GAVE, but a majority of patients continue to require repeated blood transfusions and multiple endoscopic procedures (refractory GAVE). We describe our experience with the use of radiofrequency ablation (RFA) therapy in treating patients with refractory GAVE.

Methods: Prospective case series of 7 patients with refractory GAVE who were treated with RFA (HALO90 ULTRA Ablation Catheter System; Covidien, GI Solutions, Sunnyvale, CA).

Results: 7 patients (one male, six females, mean age of 69 years, range 56-82) underwent RFA for treatment of refractory GAVE (12 total procedures). All of the patients had previously undergone endoscopic therapy with APC. 4 (57%) of the 7 required multiple RFA treatments. Average pre- and post-procedural hemoglobin were 9.3 (SD 0.78) and 10.16 (SD 1.72) (p>0.05), respectively. 2 (29%) of the 7 patients required post-procedural transfusions.

Conclusion: Radiofrequency ablation is an effective alternative to APC for treatment of GAVE refractory to previous endoscopic therapy. 5 (71%) of 7 patients are transfusion-free after the RFA treatment. Further studies are needed to identify which subset of patients will benefit the most with RFA treatment.
Old plastic stent noted at the papilla

**IMAGE CAPTION:** Old plastic stent noted at the papilla

(no table selected)

**AVERAGE SCORE:** 8

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
Purpose: In the US, up to 60% of patients suffer with GERD. Unfortunately, the “gold standard” for the diagnosis of gastroesophageal reflux disease (GERD) is still lacking, and the sensitivity of 24-hour pH monitoring for diagnosing NERD is unsatisfactory. Recent technological advances make the evaluation of the integrity of esophageal mucosa possible. Previous studies using confocal endoscope have demonstrated esophageal mucosal breaks and interpapillary loops (IPCLs) in patients with gastroesophageal reflux disease. pCLE is a newly developed endoscopic technique that allows the observation of living cells, tissue as well as vascular networks of the mucosal layer in the gastrointestinal tract during ongoing endoscopy. The highly magnified images (1 micron resolution) of the gastrointestinal tract mucosa can permit real-time histological analysis of the site during endoscopy. Therefore, pCLE can provide precise assessment of the esophageal squamous epithelial cells and IPCLs without the need of biopsy. We investigated the use of pCLE for in-vivo evaluation of the micro alterations of the esophagus not observed by standard endoscopy in patients with NERD.

Methods: A total of 19 patients with long standing reflux undergoing standard high definition upper endoscopy to evaluate for esophagitis. Eleven patients were diagnosed with NERD by the absence of endoscopic mucosal breaks. At the time of endoscopy 2.5cc of 10% fluorescein was injected. The confocal probe was placed and optical biopsies obtained within 2 cm above the gastroesophageal junction (GEJ). Histologic specimens were also randomly obtained within 2 cm of GEJ. Transmission Electron Microscopy was performed in 7 patients. The endomicroscopy images were interpreted by 2 experienced endoscopists.

Results: See Table 1- Demographics, Table 2-Endomicroscopic Findings.

Conclusion: This is the first pilot study examining the utility of probe based confocal endomicroscopy in the setting of NERD. The intercellular spaces and IPCL size were found to be largest in esophagitis group. They are also larger in NERD patients in comparison to the normal patients. pCLE could potentially provide a in-vivo diagnosis via “optical biopsy”. It may be useful for evaluating microalterations of the esophagus in real time and assist the diagnosis of NERD. It could also be used as a marker to demonstrate therapeutic response for tissue healing in NERD patient and define the abnormalities at the microscopic level during endoscopy in pH negative and proton pump inhibitor unresponsive patients. Further prospective study with a larger cohort is warranted.
### Demographics

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<th></th>
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<th>PPI</th>
<th>Hiatal Hernia (n)</th>
<th>Microscopic esophagitis (n)</th>
<th>Sex M/F (n)</th>
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<tr>
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<td>3</td>
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<td>1/2</td>
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<tr>
<td>NERD</td>
<td>11</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>5/6</td>
</tr>
<tr>
<td>Endoscopic esophagitis</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>4/1</td>
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</table>

### Endomicroscopic Findings

<table>
<thead>
<tr>
<th></th>
<th>IPCL size (Mean /range um)</th>
<th>Fluorescein leak</th>
<th>Size of intercellular channels / DIS (mean /range, um)</th>
<th>Reflux disease questionnaire (score)</th>
<th>pH study</th>
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<tbody>
<tr>
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<td>15.1 (14.5-17)</td>
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<td>2.5 (1.4-3.5)</td>
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<tr>
<td>NERD</td>
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<td>4.8 (1.2-7.9)</td>
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<td>Endoscopic esophagitis</td>
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<td>3</td>
<td>6.53 (5.1-9)</td>
<td>&gt;10</td>
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**TABLE TITLE:** Demographics

Endomicroscopic Findings

**AVERAGE SCORE:** 5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: No control group. Therefore, conclusion about findings in NERD being different than in normals is not supported here. Also insufficient data provided for the NERD patients other than "long standing reflux". No pH data, no GERD score, no PPI use/response. No statement provided on how PPIs were managed prior to EGD with pCLE. (?) Discontinuation for sufficient length of time to allow detection of the subtle histologic findings"
Shin'ichi Takahashi: [No Comments]
ABSTRACT BODY:

Purpose: In an attempt to make endoscopic procedures more time efficient and accurate, gastroenterologists are always trying new ideas. Our practice uses a scribe to type the finding during the procedure “real time” which we have found increases the accuracy of the case and is very time saving. This is true especially if there are many findings during a case. To push the technique further, we have taught our scribes to ‘read’ the findings off of a live HD monitor that was placed next to their computer screen. They presently read off the findings which are confirmed by the physician during and after the case is completed. We have found that the findings are now more accurate than simply typing at the end of the case, or dictating these findings into a recording device.

Methods: We conducted several endoscopic procedures under the different scenarios listed above. Time was recorded for the endoscopic procedures done with different variations of normal, using a scribe, and using a scribe and having them document the findings. To allow the setup of the monitor for the scribe a video-splitter with the video-processor allows for a small LCD/LED screen to be viewed alongside the scribe’s computer’s screen. This can be challenging but was accomplished with adaptor cables and small box video amplifiers. This allows the scribe who has been trained to be in the same procedure room and to type the findings into the medical records. They can be read out loud for verbal confirmation by the endoscopist. The goal is to allow the endoscopist to confirm findings out loud while washing her/his hands and then walk out of the procedure room to allow him to see the next patient.

Results: Refer to image.

Conclusion: For large volume endoscopists this presents an opportunity to increase volume and to increase the quality of the report. We are now working on a "drive-thru" method of documentation in which the finding is shown next to the actual procedure. When ordering fast food, you can see what you order on the screen and correct it as you proceed. The endoscopist then makes a clinical impression, which also shows up on the “menu.” Questions about the clinical data are relayed to the physician who communicates with the scribe during the procedure. At the end of the procedure the document can be viewed again on the desktop in front of the scribe and finally can be cybersigned.
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Interesting idea. A cost savings analysis would have been helpful. Unclear whether this approach would be feasible for procedures more complex than those performed at high volume ASC centers.
Shin'ichi Takahashi: [No Comments]
Purpose: Left ventricular assist devices (LVAD) have emerged as an effective way to provide hemodynamic support for patients with advanced heart failure. These devices can be used as a bridge to heart transplantation and also as end stage therapy for those ineligible for transplant. However, these devices increase the risk of gastrointestinal bleeding (GIB); perhaps from a loss of Von Willebrand factor multimers. Presently, there are no formal preoperative guidelines to assess the risk of bleeding in patients receiving ventricular assist devices. Our aim is to identify factors in the preoperative assessment that will allow us to predict a patient’s risk for postoperative GI bleeding.

Methods: We employed a retrospective analysis in patients who underwent LVAD implantation at a tertiary care medical center. Medical records were reviewed and data collected on patient age, gender, type of LVAD, etiology of heart failure, comorbidities, echocardiographic measurements, hemodynamics of right heart catheterization, prior history of GI bleeding, and various pre-LVAD lab results that have been shown to be associated with perioperative mortality. Weighted prediction model was used for risk scoring, with multiple independent variables and a dependent variable scaled from 0 to 1 (percent risk of bleeding).

Results: Total of 20 patients (mean age 59.8 years, range 42-75 years; 75% men: 25% women). 40% had postoperative GIB defined as the presence of hematochezia or melena with at least a drop in hemoglobin of >2 gm/dl. On univariate analysis, preoperative BUN (p=0.004) and ejection fraction (p=0.005) were found to be statistically significant. In the multivariate regression model, only two variables reached/approached statistical significance: gender (p=0.048) and left ventricular inner dimension (p=0.065). However, the overall model failed to reach statistical significance (p=0.26).

Conclusion: Gastrointestinal bleeding occurs in a significant number of patients after LVAD implantation; however, our model was unable to identify predictive risk factors. With the addition of supplementary patient and outcomes data, the creation of a mathematical formula to predict bleeding risk promises to be both feasible and attainable.
REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Purpose: Compared to other endoscopy procedures EUS-FNA takes longer to perform and often requires real time cytology interpretation for diagnostic purposes. The ProCore Fine Needle Biopsy (FNB) was shown to establish tissue diagnosis in fewer passes.1 This could lead to decreased procedure costs and increasing efficiency in an endoscopy unit. The aim of this study is to identify EUS procedure cost saving and to estimate additional procedure revenue from improved efficiency.

Methods: Medicare outpatient fee-for-service claims data from 2011 was reviewed from 12 academic medical centers for EUS code 43242 (EGD +EUS-FNA).2 The calculated costs of EUS-FNA were then compared to calculated costs of EUS-FNB. The analysis focused on anesthesia and pathology costs associated with EUS FNA vs. EUS-FNB.

Results: A total of 2,285 procedures were performed for an average cost of $736 with total cost of $1,681,760. Average cost for cellblock was $121.33/case1 with a total cost of $277,239. If FNB with histology is used at a rate of $48/case(1), total cost is $109,680. The projected savings for all cases was $167,559. The added cost for the FNB needle was $217,075 for all procedures based on FNA needle cost of $315/case (total $719,775) and FNB needle cost of $410/case ($936,850). Anesthesia average fee per minute is $2.753. Based on a 60 minute(2,4) EUS-FNA procedure the cost is $165, with a total cost of $377,025 for all cases. If EUS-FNB procedure time decreases to 39 minutes(2,4), the average cost/case is $107.25 with a total cost of $245,066 for all procedures. The resulting total cost savings is $131,959. When comparing the cost reduction for pathology and anesthesia services and factoring increased FNB needle cost of $217,075 the net savings is $82,443 for all centers, $6,870/center. Decreasing procedure time to 39 minutes(2,4) could permit an additional 1,230 EUS-FNB cases/year. The average payment per unit of the 12 facilities of $1,122/case(2), revenue potential for the additional procedures is $1,380,060, or $115,005/center. When adding the cost saving plus additional revenue from added procedures, each center could generate an additional $121,875 in potential revenue.

Conclusion: EUS procedures requiring tissue biopsy using the ProCore FNB needle can lead to cost saving on both anesthesia and pathology services. Furthermore, decreased procedure time can lead to increased efficiency allowing for additional EUS cases. Additional studies are needed to validate this cost model.

References:
1 Paul N et al. GIE, Volume 77, Issue 5, Supp., May 2013, Page AB401
2 American Hospital Directory (AHD.com)
3 Salary.com, average annual salary for Anesthesiologist

CURRENT CATEGORY: K. Endoscopy
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: Yes
Extra Info: : Dr. Gross - Consultant
FDA Approval: No
Designed Study: Investigator
Abstract Author: Investigator
AUTH DESIG: ACG Membership Status <font color="red">*</font>:
Rabia Ali : ACG Non-Member
Adam Goodman: ACG Member
Mark Pochapin: ACG Member
Seth Gross: ACG Member
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(no table selected)

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

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Some assumptions are questionable. 33% shorter duration with EUS FNB quoted is likely due to lack of on site cytologic assessment which has important benefits. Also the cost differential between FNA needle and FNB needle of only $95 is very small and dependent on high cost calculation for FNA needles ($310).
Shin'ichi Takahashi: [No Comments]
ABSTRACT BODY:

Purpose: Mallory Weiss Tears (MWT) account for 5-10% of UGI bleeding (UGIB) cases. Little prospective data exist for outcomes in hospitalized MWT patients with UGIB with and without portal hypertension (PHTN) managed both medically and endoscopically. In patients with UGIB from MWT, our purposes were: 1) to report prevalences of different stigmata of hemorrhage (SRH) on emergency endoscopy, 2) for patients with or without PHTN, to compare efficacy & safety of different endoscopic therapies for those with major SRH & 3) to determine the effect of PHTN on 30-day outcomes.

Methods: 100 hospitalized MWT patients with severe UGIB were enrolled in prospective studies. Medical therapy included protection of the airway in patients with altered mental or respiratory status or ongoing hematemesis; transfusions, anti-emetics and acid suppression in all patients; & octreotide for PHTN patients. Endoscopic treatments of MWT with major SRH included epinephrine injection, thermal contact probes and hemoclips for patients without PHTN; & sclerotherapy &/or band ligation of adjacent varices for PHTN patients.

Results: MWT patients without PHTN (N=68) were more likely to drink alcohol & take either aspirin or Warfarin than MWT patients with PHTN (N=32). For all 100 patients, SRH were: active bleeding in 35% (6% spurting, 14% moderate active, 15% oozing), 5% non-bleeding visible vessel- NBVV, 15% adherent clot, 1% flat spot, & 44% clean lesion. 30-day rebleeding rates were not statistically significantly different in the 2 MWT groups - 18.8% with PHTN vs. 8.8% without PHTN. However, for both medical & endoscopic therapy, 30-day outcomes such as ICU days, length of hospitalization & mortality were all significantly higher in the patients with MWT & PHTN vs. those without PHTN (30-day death rate: 12.5% vs 1.5%, p< 0.018). For MWT patients treated endoscopically, 30-day rebleeding rates were similar - 18.8% PHTN vs. 16% without PHTN. However, 30-day mortality was significantly greater in the PHTN group - 18.8% with PHTN vs. 0% without PHTN. Endoscopic hemostasis was not associated with any complications such as perforation.

Conclusion: 1. SRH of MWT’s were active bleeding in 35%, adherent clot in 15%, NBVV in 5%, spot in 1%, & clean lesion in 44%. 2. Although different in patients with vs. without PHTN, endoscopic therapies were safe & effective for MWT with major SRH. 3. However, the 30 day mortality rate, ICU days, & length of hospital stay were all significantly increased for MWT patients with PHTN. (Study was supported by NIH NIDDK CURE DDRC Grant (AM 41301) & a Clinical VA Merit Review Grant).
Peter Draganov: [No Comments]

Vanessa Shami: [No Comments]

Stavros Stavropoulos: Authors do not clearly define what constitutes MWT rather than variceal bleeding in patients with portal hypertension. Treatment with banding and sclerotherapy and high 30 day mortality suggests that at least some of these patients may have had variceal bleeding rather than MWT bleeding which also raise the question of appropriateness of using stigmata developed for ulcer bleeding in this clinical scenario.

Shin'ichi Takahashi: [No Comments]
Purpose: The Institute of Medicine notes that guidelines summarize current research to create a safer medical system. While older studies recommended antibiotic prophylaxis prior to endoscopy, the AHA revised their guidelines in 2007 recommending against prophylaxis. Similarly, the ASGE updated their guidelines in 2008 recommending against antibiotics, and in 2009 regarding antiplatelets prior to endoscopy.

Methods: An IRB approved survey was developed from the ASGE guidelines for antibiotic/antiplatelet before endoscopy. Primary care and medicine subspecialist including attendings and housestaff were surveyed regarding their familiarity with current guidelines using a Likert scale from 1-5. Twelve scenarios were presented, asking subjects to recommend for or against antibiotics/antiplatelet agents before endoscopy. Statistical analysis was performed using SPSS version 17.0.

Results: A total of 941 surveys were administered. 12 were excluded after they declined to participate or had an email auto away response during the survey period. Eighty percent (n=740/929) of those surveyed responded (attendings n=357, housestaff n=383). See table 1 for a breakdown of survey questions and responses. The average Likert score assessing familiarity with current guidelines was 2.5. On average, respondents answered 67% (8/12) of the questions correctly (Attendings 65% and Housestaff 68%). Only 5% of respondents answered all the questions correctly. When broken down by specialty, Gastroenterologists reported an average Likert score of 3.9 answering 81% of questions correctly. In contrast, primary care physicians (internal medicine, family medicine, and geriatrics) answered 62% of questions correctly. When broken down by year of graduation from medical school before and after 2007, both groups averaged 67%. Responses were similar when broken down by location of medical school (US or foreign) or presence of board certification.

Conclusion: Despite risks associated with antibiotics prophylaxis, physicians are not adhering to current guidelines. Interventions are needed to improve compliance with current guidelines. Further studies are necessary to assess how to improve the safety of open access endoscopy.
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin’ichi Takahashi: [No Comments]
Purpose: Patients with significant gastrointestinal bleeding (GIB) require intensive monitoring including frequent venipuncture for evaluation of the hemoglobin level. Masimo® noninvasive hemoglobin (SpHb) is a pulse oximetry device that determines the hemoglobin concentration from spectrophotometry, allowing measurement of hemoglobin continuously and non-invasively. SpHb was clinically validated in patients undergoing a variety of procedures and different settings. However, the accuracy for measuring hemoglobin has been inconsistent. Thus the utility and applicability of SpHb in clinical practice remains unknown. The goal of the present study is to assess the accuracy of SpHb in patients with GIB undergoing urgent endoscopy and colonoscopy.

Methods: The protocol was approved by the Institutional Review Board. Written informed consent was obtained from all patients. Patients admitted to NYHQ between 2012-2013 with a significant GIB requiring urgent endoscopy were eligible. The SpHb device was placed on the patient’s index finger for 5 minutes and 3 readings were obtained. The average reading compared to the hemoglobin obtained with a CBC. The results were then analyzed using the Pearson correlation coefficient and Intraclass correlation.

Results: A total of 15 patients were included in the study, 8 male and 7 female, with a mean age of 68. The difference in hemoglobin levels between SpHb and CBC was variable, ranging from 0-5.5g /dL, with an average of 1.1 g/dl (p=0.01). The Pearson correlation coefficient was 0.53. The intraclass correlation (ICC), a measure of reliability was 0.42.

Conclusion: In this preliminary study, SpHb was not accurate enough to replace standard hemoglobin monitoring in patients with GIB undergoing endoscopy. Further studies with a larger cohort may be warranted.
Bland & Altman plot with method and mean difference

 Bild & Altman plot

 IMAGE CAPTION: Bland & Altman plot with method and mean difference Bland & Altman plot

(no table selected)

AVERAGE SCORE: 5

REVIEWER FLAGS: (none)

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin’ichi Takahashi: [No Comments]
ABSTRACT BODY:
Purpose: Gastrointestinal graft versus host disease (GI-GVHD) is a leading cause of morbidity and mortality in allogenic bone marrow transplantation. The best diagnostic endoscopic site for GI-GVHD is debatable. We report our experience at our institution with these patients in terms of importance of endoscopic evaluation in patients with suspected GVHD and best diagnostic approach in making the diagnosis.
Methods: Each patient (N=235) who underwent allogenic bone marrow transplantation (BMT) at our institution from 2000-2011 were enrolled in this retrospective study. Demographics, type of transplant, indication for endoscopy, endoscopic findings, site and results of biopsy were reported. Endoscopic findings of GI-GVHD were defined as sloughing of the mucosa, while histological evidence of GI-GVHD was made only if apoptotic bodies were seen in the crypt epithelium of the specimen.
Results: Of the 222 subjects, 111 patients (mean age 53.74 ± 12.92 yrs; 55% male) underwent either Esophagogastroduodenoscopy (65%), colonoscopy (74%) or both 48%. The mean time from transplantation was 166 ± 142 days. 64% underwent bone marrow transplantation with the remaining 36% having a peripheral blood stem cell transplant. The most common presenting symptoms in patients with suspected GVHD were nausea and vomiting (41%) and diarrhea (45%). Histological evidence of GVHD was identified in 56/111 (49%) of the transplant patients. The sensitivity for diagnosing GVHD was 68% for both rectosigmoid and upper endoscopic biopsies. The mortality associated with complications related to GI-GVHD was 24/111 (21%).
Conclusion: Histological evidence of GVHD was found in 49% of the BMT patients who underwent endoscopic evaluation. A large percentage of patients with biopsy proven GVHD initially presented with GI symptoms such as nausea, vomiting, and diarrhea; therefore, the presence of such symptoms is highly suggestive of underlying pathology and warrants an endoscopic evaluation. Rectosigmoid and upper endoscopic biopsies are equally sensitive in the diagnosis of acute GI GVHD.
CURRENT CATEGORY: K. Endoscopy
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>: 
Ibrahim Abdullah : ACG Non-Member
Ayad Alkhatib : ACG Non-Member
Chetan Mittal : ACG Non-Member
Muaz Qayum : ACG Non-Member
Usama Qayum : ACG Non-Member
Sarah Arnold : ACG Non-Member
Syed Hassan : ACG Non-Member
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AVERAGE SCORE: 4.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Unclear what the "gold standard" for diagnosis was that allowed calculation of Se, Sp Acc etc. Also it is unclear how the decision was taken to perform EGD or sigmoidoscopy in each pt as it appears that some pts had one or the other procedure. Therefore the objective indicated in the title was not fully assessed. Optimally, all pts should have had EGD and sigmoidoscopy with biopsies to assess what is the optimal selection of procedure and biopsy site.
Shin'ichi Takahashi: [No Comments]
Endoscopic ultrasound (EUS) with tissue sampling is accurate in the diagnosis and sub-classification of gastrointestinal spindle cell neoplasms.

**Purpose:** Spindle cell neoplasms (SSN) presenting in the gastrointestinal tract encompass gastrointestinal stromal tumors (GIST), Schwannomas and leiomyomas. Of these, only GIST have malignant potential. It is therefore important to correctly diagnose and sub-classify SSN. While endoscopic ultrasound (EUS) provides detailed image characteristics, which are very specific for SSN, sub-classification requires tissue sampling. This can be accomplished through EUS-guided fine needle aspiration (FNA) or core biopsy (CB). Tissue samples have to be sufficient to enable immunohistochemistry (IHC) to arrive at a specific diagnosis.

The aim of our study was to assess the yield of EUS with tissue sampling in the diagnosis and sub-classification of SSN.

**Methods:** We retrospectively reviewed all patients who underwent EUS for evaluation of a subepithelial lesion at our institution for the last 9 years. Endosonographic characteristics and results from EUS-biopsies were reviewed for ability to diagnose SSN and to perform IHC for subclassification into GIST, leiomyoma and Schwannoma.

**Results:** A total of 316 patients underwent 377 EUS procedures for evaluation of subepithelial masses. Of those 149 patients were suspected to have SSN based on EUS findings and underwent a total of 184 EUS procedures. Locations of these lesions were esophagus (n=33), gastroesophageal junction (n=10), stomach (n=89), duodenum (n=10), and colorectum (n=7). A total of 160 attempts at acquiring tissue were done, 66 with CB alone, 14 with FNA alone, 54 with FNA and CB and 26 with tunnel biopsies or endoscopic resection with or without EUS guided biopsies. In 13 patients a diagnosis other than SSN was made. Of the remaining 136 patients, tissue sampling was non-diagnostic in 16 (11.8%) and diagnostic of SSN in 120 (88.2%). Tissue was sufficient for accurate subclassification in 102 patients (75%; obtained via by CB alone in 55, FNA alone in 6, FNA and CB in 27 and tunnel biopsies or endoscopic resection in 14 patients). Diagnosis was GIST in 62, leiomyoma in 43 and Schwannoma in 7 patients.

**Conclusion:** If SSN is suspected by endosonographic criteria, endoscopic tissue sampling confirms the diagnosis in the majority of cases and enables accurate sub-classification. EUS-guided CB may be particularly helpful in obtaining adequate specimens.
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Multiple published series have demonstrated similar results
Shin'ichi Takahashi: [No Comments]
Purpose: Poor bowel preparation leads to a need for repeated colonoscopy procedures, with resultant increased length of stays and health care costs. Few investigators have assessed these outcomes in hospitalized patients. Given these considerations, we sought to examine the prognosticating value of several key clinical variables on the likelihood of inpatient poor bowel preparation for colonoscopy.

Methods: The records of consecutive patients who underwent colonoscopy at our institution between January 1, 2006 and December 31, 2011 during hospitalization were retrospectively extracted from a dedicated electronic digestive endoscopic institutional database (Endoworks, Olympus, Center Valley, PA). Six individuals independently reviewed hospital charts with 10% of all entered data audited for validation by a separate data entry associate. Univariable and multivariable analyses using logistic regression were carried out assessing clinical variables assumed to possibly be predictive of a poor colonic preparation including gender, use of narcotics, heavy medication burden, comorbidities, history of previous abdominal surgery, marital status, patient with diabetes or a neurological disorder such as stroke, hemiplegia or dementia, as well as product used for bowel preparation and whether or not the bowel regimen was given as split or standard dose as well as time of endoscopy. Data collection and analyses were undertaken following approval and institutional oversight by the Institutional Review Board for the Protection of Human Subjects.

Results: Overall, 244 charts of patients undergoing colonoscopy during a hospitalization were assessed. Of those, 83 (34%) patients had poor bowel preparation. During endoscopic examination, the cecum was reached in 193 patients (79.1%). The mean age of the patients was 66 years, 133 were men (54.5%). In univariable analyses, the only clinical variable associated with a poor bowel preparation was advancing age (OR=1.03, CI 1.01 to 1.05, p=0.002). In multivariable logistic regression analyses, it remained independently and significantly predictive (OR=1.026, CI 1.006 to 1.045 p=0.008).

Conclusion: In this retrospective cohort analysis, age was found to be the only independent significant predictor of poor bowel preparation amongst hospitalized patients. Further studies are required to help identify and correct factors causing poor bowel preparation in the admitted patient.
AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: 4 other submitted abstracts assessed this issue with variable results. Splitting comorbidities into multiple variables including stroke/dementia as separate variable may have resulted in failure to demonstrate that comorbid disease limiting functional status of the patient and thus ability to adequately prep for colonoscopy predicts poor prep.
Shin'ichi Takahashi: [No Comments]
Purpose: Many submucosal injection solutions have been studied for use in endoscopic mucosal resection (EMR) without a standard measure to compare these agents for superiority. Particularly of interest is which agents provide the best lifting ability, prolonged tissue elevation, and optimal barrier to avoid thermal injury to the serosal layer, thus preventing perforation. The aim of this comparative study is to evaluate for a superior agent that can be used in EMR to avoid thermal injury.

Methods: A comparative study of 3 different solutions for EMR using an ex vivo porcine colon model. The injectants were evaluated using a novel Polypectomy Evaluation Platform designed to compare the ability of various solutions to dissipate heat. An additional platform was fashioned to monitor the lifting ability of the different solutions over time. A total of 180 submucosal cushions were performed in fresh ex vivo porcine colons with normal saline (N =60), hydroxypropyl methylcellulose (HPMC) (N=60), and 12.5gm (25%) albumin (N=60).

Results: The rate of temperature change was least in the HPMC group (0.1952 °F/sec ) over the saline group (0.6544 °F/sec), and 25% Albumin group (0.4705 °F/sec). The dispersion rate was superior in the HPMC group (0.1573 mm/min), compared to the saline group (0.1589 mm/min) and the 25% albumin group (0.2069 mm/min).

Conclusion: Here we propose the utility of two bench-top devices designed specifically for standardizing the evaluation of various injection agents used in performing advanced endoscopic resections. With our novel polypectomy and dispersion analysis platforms, HPMC was the superior injectant over normal saline and 25% albumin.
Novel polypectomy evaluation platform designed to evaluate the ability of various solutions to prevent thermal injury.

**IMAGE CAPTION:** Novel polypectomy evaluation platform designed to evaluate the ability of various solutions to prevent thermal injury. Custom designed platform used to examine the ability to maintain the height of a submucosal fluid cushion.

(No table selected)

**AVERAGE SCORE:** 4.5

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**

Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Multiple other studies have used various methods of assessment for the physical characteristics of injection solutions. A novel idea is the measurement of heat dissipation but it is unclear that this parameter correlates with decreased incidence of perforation or full thickness injury to the GI wall. Shin'ichi Takahashi: [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

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Appears to be another version of abstract 1746316.
Shin'ichi Takahashi: [No Comments]
Purpose: Persistently leaking gastrocutaneous fistula (GCF) may develop as a complication secondary to gastrostomy tubes. GCF’s have been conventionally managed surgically. Endoscopic closure techniques have shown limited success. In this prospective study we have evaluated the efficacy of OTSC’s in management of chronic GCFs.

Methods: This prospective observational study enrolled patients with persistently leaking GCF’s as a complication of gastrostomy tube. As per protocol, patients were initially managed by NPO, acid suppression and antibiotics (in case of suspicion of infection) for 3 days in an attempt for spontaneous closure. If there was persistent leakage an endoscopy was performed to access the gastric stoma of the fistula. Endoscopic closure using OTSC (Ovesco, gc type 12/6) was planned if the fistula was determined unlikely to heal spontaneously based on the endoscopist’s assessment. The suctioning technique was used to deploy the OTSC in all cases. An endoscopic gastrostomy tube was placed at a new healthy site in all cases and feeding was started in 24 hours. All subjects were followed for recurrence of leakage at the GCF site.

Results: Eight consecutive cases with GCF were enrolled into the study. Mean age of study subjects was 84.7 years. Five patients had cellulitis at GCF stoma site. Three patients had prior failed attempts for endoscopic fistula closure using standard clips. Clinical success rate for GCF closure using OTSC was 7/8 (87.5%). Six patients needed single OTSC for GCF closure. One patient had recurrence of leakage from the site after one month, from a small gastric stoma defect adjacent to a previous OTSC. This was managed with placement of an additional OTSC. Another patient had persistent leakage after OTSC placement and repeat attempt of applying OTSC was unsuccessful because of extensive fibrosis. No technical difficulties or complications were experienced. None of the patients with successful closure had leakage from GCF until the end of follow up (range 1 to 17 weeks).

Conclusion: Over The Scope Clips (OTSC) have an excellent success rate for closure of gastrocutaneous fistulas in selected cases. Successful endoscopic closure is likely to prevent morbidity associated with surgical procedure and length of hospital stay.
AVERAGE SCORE: 5.25
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Treading familiar ground covered in other studies. Relatively limited follow-up to confirm long term closure.
Shin'ichi Takahashi: [No Comments]
Purpose: Gastric Antral Vascular Ectasia (GAVE) and Portal Hypertensive Gastropathy (PHG) can have overlapping features on white light (WL) endoscopy. Biopsy is diagnostic however, it can be problematic in the setting of underlying coagulopathy or thrombocytopenia.

Aims: To prospectively evaluate the utility of virtual chromoendoscopy (VC) as opposed to conventional WL in differentiating GAVE from PHG in patients with chronic liver disease (CLD) using H&E and immunohistochemical stains as gold standard.

Methods: This is a prospective study at Saint Louis University Hospital. We recruited patients with CLD and endoscopic findings consistent with GAVE or PHG. For each patient, diagnosis was made under white light, then I-scan modes of imaging. Biopsies underwent H&E staining, then additional immunohistochemical staining if the diagnosis was in doubt.

Results: 12 patients were included (7 males) with mean age of 58 and a mean MELD of 11.4. GAVE was diagnosed in two patients and PHG in 11 patients. Immunohistochemical stains were performed on 5 cases of PHG and 1 case of GAVE but did not change the original H&E diagnosis.

Our findings are outlined in the tables below:

Conclusion: Our study suggests that VC maybe more sensitive and specific than WL in diagnosing GAVE and PHG. PHG is often misdiagnosed as striped GAVE on white light endoscopy.

<table>
<thead>
<tr>
<th>Diagnosis (Number of patients)</th>
<th>GAVE on I-scan (4)</th>
<th>PHG on I-scan (9)</th>
<th>GAVE on WL (7)</th>
<th>PHG on WL (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>100%</td>
<td>81.8%</td>
<td>100%</td>
<td>54.5%</td>
</tr>
<tr>
<td>Specificity</td>
<td>81.8%</td>
<td>100%</td>
<td>54.5%</td>
<td>100%</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Negative predictive value</td>
<td>100%</td>
<td>50%</td>
<td>100%</td>
<td>28.5%</td>
</tr>
<tr>
<td>Positive predictive value</td>
<td>50%</td>
<td>100%</td>
<td>28.5%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**GAVE and PHG on white light endoscopy compared to pathology P>0.05**

<table>
<thead>
<tr>
<th>White light diagnosis</th>
<th>GAVE on pathology</th>
<th>PHG on pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punctate GAVE</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Striped GAVE</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>PHG</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

**TABLE TITLE:**
GAVE and PHG on white light endoscopy compared to pathology P>0.05

**AVERAGE SCORE:** 5.25

**REVIEWER FLAGS:** (none)

**REVIEWER RECOMMENDATION CODE DESCRIPTION:** None

**REVIEWER COMMENTS:**
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Criteria used to distinguish GAVE and PHG are not defined. Total number of pts appears to be 13 not 12 as stated in the beginning of results.
Shin'ichi Takahashi: [No Comments]
**Purpose:** POEM is the first NOTES procedure that appears poised to replace its surgical counterpart, Heller myotomy. In 2009 we performed the first POEM outside of Japan and first worldwide by a gastroenterologist. This study reports POEM outcomes from our 4-year prospective series with mean follow-up of 12.5 months. This is the largest single operator series by a gastroenterologist worldwide, with likely the largest number of post POEM patients (pts) assessed by objective tests for emptying and reflux, and a large proportion of challenging pts.

**Methods:** Prospective IRB study including achalasia pts ≥18 years old without contraindication to POEM. Primary outcome: decrease in the Eckardt score to ≤ 3. Secondary outcomes: Adverse events (AEs), post POEM lower esophageal sphincter (LES) pressure, reflux symptoms, pH study, timed barium.

**Results:** 66 achalasia pts had POEM from 10/2009-4/2013. Mean age 52 (18-93), 11% > 80 years, 42% prior treatment (tx) [4 pneumatic dilation (PD), 10 suboptimal balloon dilation, 11 Botox, 3 Heller], 11 sigmoid. Mean esophageal diameter 5.3cm (2.1-13.5), 8 pts stage III (6-8cm), 12 pts stage IV (>8cm/sigmoidization), 17 (26%) with severe comorbidities (ASA class III). Clinical success in 97% (64/66), 96% (54/56), 96% (47/49), 93% (27/29) of pts with minimum follow-up of 1, 3, 6 & 12 months, respectively. Two early pts (#3, #5) had tx failure (score>3) & underwent “salvage” PD with excellent sustained results (score 1). Significant decreases in Eckardt score (7.9 to 0.2; P<0.0001) and LES pressure (42.5 to 15.4 mmHg; P<0.0001) in 56 pts with clinical success. 100% & >50% emptying at 5 minutes on timed barium in 22/26 & 25/26 pts, respectively. No significant AEs: No deaths, no aborted POEMs or conversions, no ICU stay, no hospital stay>5 days, no surgical or IR interventions, no blood transfusions, and no POEM related readmissions. Minor technical AEs: mucosal flap injury 18 (27%), pneumoperitoneum requiring needle decompression 7 (10%), 1 small pneumothorax due to inadvertent air insufflation managed conservatively without chest tube. Reflux symptoms: 58% none, 27% rarely, 4% few times/week, 11% daily; well controlled medically. On follow-up EGD, 10/33 (30%) had erosive esophagitis (EE), 12/33 (36%) positive pH study (including the 10 EE pts).

**Conclusion:** At a mean follow-up of over a year, POEM remains safe and effective even with inclusion of significant numbers of pts with severe achalasia (stage III/IV), advanced age, severe comorbidities and prior failed tx. We report likely the largest number of POEM pts with objective reflux and emptying tests. In contrast to subjective assessments, on objective tests, GERD appears to be at least as common as after Heller myotomy with fundoplication.
David Friedel : ACG Non-Member
Kumkum Patel : ACG Member
Vischal Ghevariya : ACG Non-Member
James Grendell : ACG Non-Member
(No Image Selected)
(no table selected)

AVERAGE SCORE: 1.33

REVIEWER FLAGS: Stavros Stavropoulos - Conflict of Interest: 1

REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: [No Comments]
Shin'ichi Takahashi: [No Comments]
Purpose: To describe endoscopic ultrasound (EUS) practice patterns and related health care utilization using a large population-based sample.

Methods: Patterns of EUS from 2003 to 2011 were determined using Ontario Health Insurance Program, Ontario Cancer Registry and Canadian Institute for Health Information administrative databases. EUS procedures were determined using physician billing data. Patient, endoscopist and institutional characteristics were examined as well as EUS-related endoscopic, surgical and radiological health care utilization.

Results: A total of 9,084 EUS procedures were identified. The number EUS procedures increased annually from 119 in 2003 to 2,190 in 2011. The proportion of EUS procedures that included fine needle aspiration (FNA) continuously increased from 9% in 2003 to 40% in 2011. Mean patient age at first EUS (n=8,010) was 61 years (standard deviation 14 years) and 48% were female. 12% of persons undergoing their first EUS lived in rural areas. There were no differences in the number of EUS procedures among socioeconomic groups based on neighbourhood income quintile. 81% of EUS procedures were performed by male endoscopists, 95% by gastroenterologists and 3% by thoracic surgeons. In 2011, 12 out of 16 (75%) were gastroenterologists and 3 (19%) were thoracic surgeons. The mean endoscopist EUS volume at the time of each patient’s first EUS procedure was 170 per year. 70% of EUS procedures were performed in a regional cancer centre and 60% in an academic institution. The most common diagnoses associated with first EUS procedures include cancer of the pancreas (8%), rectum (7%) and esophagus (5%) as well as diseases of the pancreas (18%), rectum (5%) and biliary system (5%). Within 3 months prior to EUS, 6% patients underwent a gastroscopy, 16% colonoscopy, 19% abdominal CT and 11% abdominal MRI. Within 3 months post-EUS, 10% of patients had an abdominal CT abdomen and 7% abdominal MRI. 16% of patients had an ERCP 3 months before or after their first EUS. Within 6 months after their first EUS, 4% of patients underwent esophageal, 5% stomach, 6% rectal, 5% pancreatic and 2% biliary surgery.

Conclusion: This is the first population-based study to examine EUS practice patterns and related health care utilization using health administrative data. As the number and complexity of EUS procedures increases, regional needs, EUS accessibility and healthcare utilization will need to be further studied to guide healthcare resource allocation.
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: Interesting study but probably less applicable in the US
Shin'ichi Takahashi: [No Comments]
Non-bleeding indications for inpatient colonoscopy

Syed Mahmood

Department of Medicine, Massachusetts General Hospital

United States

Purpose: Multiple studies, including our own center’s data, have shown that inpatient colonoscopy preparation is challenging and associated with a higher complication rate as compared to outpatients. We examined non-bleeding indications for inpatient colonoscopy to determine benefit of proceeding with such procedures vs. rescheduling to outpatient.

Methods: Cross sectional study at a tertiary teaching hospital. Database comprised of 430 hospitalized patients undergoing inpatient colonoscopy (spanning a period of 10 months). Secondary analysis looking at indications for inpatient colonoscopy. Excluded ‘travel cases’ and sigmoidoscopies.

Results: Data shows that 35% inpatients had non-bleeding indications for colonoscopy. 10% of all patients underwent colonoscopy for diarrhea. 4% of all patients had ‘abnormal CT’ as an indication. 3% of all patients underwent colonoscopy to ‘screen for malignancy/high risk surveillance/weight loss.’ The remainder of non-bleeding indications (total of 18% of all inpatients) included Inflammatory Bowel Disease, bacteremia of unknown origin, constipation, pre-operative evaluation, abdominal pain, constipation and ‘not listed.’

Conclusion: Published data has already shown that inpatient colonoscopy is a more challenging procedure than its outpatient counterpart. Our analysis suggests that many inpatient colonoscopies could potentially be rescheduled to the outpatient setting, avoiding prolongation of hospitalization, potential hazard of complications and reduction in cost. Subsequent analysis will focus on financial benefit to the healthcare system of having non-urgent colonoscopy rescheduled as outpatient.

K. Endoscopy

Oral or Poster

No

No

Investigator

No

Investigator

Syed Mahmood : ACG Non-Member
Emily Campbell : ACG Non-Member
James Richter : ACG Member
(No Image Selected)

5.25

None

None

No Comments]

Vanessa Shami: [No Comments]]
Stavros Stavropoulos: Reasons for which colonoscopy was not deferred to outpatient setting are not listed. Many of these procedures may have had legitimate reasons to be performed in the inpatient setting (e.g. planned reinstitution of anticoagulation prior to discharge, planned surgery during the admission, comorbidities that would have required readmission after outpt colonoscopy, poor functional status that would have made it unlikely for the pt to complete the prep as outpt etc.]

Takahashi: [No Comments]
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>*:
Adey Hasan : ACG Non-Member
Aaysha Kapila : ACG Non-Member
John Litchfield : ACG Member
Atif Saleem : ACG Member
Ravindra Murthy : ACG Member
Mark Young : ACG Member
(No Image Selected)
(no table selected)

AVERAGE SCORE: 7.75
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Single case report with no formal review of the literature.|Shin'ichi Takahashi: [No Comments]
Purpose: Most UGI SETs are GISTs, potentially malignant tumors. Many guidelines recommend surgery for suspected GISTs ≥2 cm and endoscopic surveillance of those <2cm. This approach creates a large burden of surgery and endoscopy for small SETs the majority of which are low risk. This situation motivated endoscopists, mostly from Asia, to use ESD to "enucleate" muscularis propria (MP) based SETs. However, such enucleation may leave microscopic residual tumor within the MP. Recently, pioneering Asian centers reported two endoscopic techniques that achieve R0 en bloc resection of MP-based SETs: Submucosal Tunnel Endoscopic Resection (STER)- an offshoot of POEM utilizing the submucosal tunnel method to ensure secure closure of the full-thickness defect in the wall of the GI tract, and endoscopic full-thickness resection (EFTR)-direct full thickness resection with closure of the defect with clips or sutures. We report possibly the first series of EFTR and STER in the US.

Methods: Procedures were performed from 4/2012-5/2013. Lesion location/size, knives, anesthesia, ASA class, length of procedure, closure technique, histologic diagnosis, adverse events (AEs), and length of stay (LOS) were retrieved from a prospectively maintained database.

Results: 14 resections (12 EFTRs, 2 STERs) were performed (all procedures but one by one operator, SNS, a gastroenterologist with extensive POEM and ESD experience; one procedure was performed by PZ as part of a live course at our institution). Mean age 61 (44-83). ASA Class I 14%, II 64%, III 22%. Anesthesia: General 4/14, propofol 10/14. Specialized ESD knives used in all cases (IT2, Hybrid, Hook). SET location: 1 esophagus, 1 GE junction, 10 stomach, 1 sigmoid colon, 1 rectum. 8 GISTs, 4 leiomyomas, 1 schwannoma, 1 leiomyosarcoma. Mean size 25mm (12-55). Mean resection time 72 minutes (21-170). Closure: endoclips 7/14, endoscopic suturing 4/14, both 3/14. All patients were admitted mainly for observation. Mean LOS 1.8 days (1-3). Complete en bloc resection was achieved in all cases. One minor AE (venting of capnoperitoneum).

Conclusion: Unlike traditional ESD, EFTR and STER achieve en bloc R0 resection of moderately sized MP-based SETs. We present the first series of such cases in the US. The excellent outcomes probably reflect our extensive experience with POEM, advanced closure techniques, and ESD for SETs. EFTR and STER represent a NOTES alternative to laparoscopic wedge resection. Advantages include: 1. Incision-less approach 2. "Wedge" resection of SETs at locations where laparoscopic "wedge" resection is challenging or impossible such as the GE junction, esophagus and gastric cardia 3. definitive diagnosis and complete resection obviating any further endoscopic surveillance for low risk lesions.
Rani Modayil : ACG Member
Pinghong Zhou : ACG Non-Member
Kumkum Patel : ACG Member
Inna Gulkar : ACG Non-Member
Thomas Coppola : ACG Member
Maurico Zapiach : ACG Non-Member
Collin Brathwaite : ACG Non-Member
David Friedel : ACG Non-Member
James Grendell : ACG Non-Member

(No Image Selected)
(no table selected)

AVERAGE SCORE: 3
REVIEWER FLAGS: Stavros Stavropoulos - Conflict of Interest: 1
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
ABSTRACT BODY:

**Purpose:** Optimal bowel preparation is an essential factor to improve visualization and to increase the yield of colonoscopy. Bowel preparation for colonoscopy in hospitalized patients has been anecdotally found to be suboptimal compared to outpatients. Suboptimal bowel preparation can increase the risk of missing adenomas, lead to longer cecal intubation time and increase the health care cost due to the need for repeating colonoscopy. This study investigated the impact of demographic and clinical factors on the quality of bowel preparation in hospitalized patients.

**Methods:** This is retrospective observational study. We included adult patients who underwent in patient colonoscopy during a one year period (2012) at our institution. Patients with incomplete data and patients who underwent emergency colonoscopy were excluded. Outpatient bowel preps over the same time frame and with similar demographics was used a control group. We compared the quality of bowel preparation between inpatients and outpatients. Data about demographics, co-morbidities and relevant clinical data were collected and analyzed. SAS software was used for statistical analysis.

**Results:** 552 patients were included in the study [254 inpatients (IP) and 298 outpatients (OP)]. The mean age of the group was 63.1years and 53.6 % were female. Suboptimal bowel prep was found in 51.2% of inpatients versus 34.6% of outpatients (P 0.0001). Among the IP group by univariate analysis, Caucasians were found to have a more adequate bowel preparation compared to African Americans (Odd ratio- 6.763, P value-0.033). However this was not significant on multivariate logistic regression analysis. Other factors like age, BMI, co- morbidities were not significantly associated with the quality of bowel preparation. In the OP group, age, sex, race, BMI and co morbid medical illness were not significantly associated with poor bowel preparation.

**Conclusion:** This study found that hospitalized patients undergoing bowel prep for colonoscopy had significantly suboptimal preps compared to the outpatient group. Patient demographics and co-morbidities were not significant predictors of the quality of bowel prep between the two groups. The factors leading to more suboptimal bowel preps in a hospitalized setting needs to be recognized and studied in order to improve colonoscopy outcomes.
REVIEWER RECOMMENDATION CODE DESCRIPTION: None

REVIEWER COMMENTS:
Purpose: To define the effectiveness of endoscopic approach for gangliocytic paraganglioma (GP) of the ampulla of Vater.

Methods: Two reviewers independently conducted a detailed literature search on major electronic databases including PubMed, Ovid Medline, Cochrane Library and Embase using MeSH terms: gangliocytic paraganglioma, neuroendocrine tumor, periampullary and duodenal neoplasm. The reference list of each article was then hand-searched. Exclusion criteria are incomplete clinical data and lack of histology. We also identified 2 cases from our institution.

Results: A total of 42 studies were scanned. We identified 28 studies (31 patients, 11 female, 20 male) with the mean age of 53 years (interquartile, 43-60), published between 1980 and 2012, to characterize natural history and response to treatments. In our series, a 54-year-old male and a 47-year-old male presented with persistent gastroesophageal reflux symptoms requiring upper endoscopy, which revealed a 20 mm and a 15 mm ampullary mass, respectively. Endoscopic ultrasonography (EUS), computer tomography (CT) and magnetic resonance imaging (MRI) showed no invasion or metastasis. Endoscopic ampullectomy was performed in both patients. In our systematic review, presenting symptoms included abdominal pain in 33%, jaundice in 24%, gastrointestinal bleeding in 18%, weight loss in 3% and pancreatitis in 3%. Interestingly, neurofibromatosis was found in 4 patients. Treatments included pancreaticoduodenectomy in 21 patients, transduodenal laparoscopic ampullectomy in 5 patients and endoscopic ampullectomy via endoscopic retrograde cholangiopancreaticography (ERCP) in 7 patients (including our series). All patients who underwent endoscopic approach had a tumor size of less than 20 mm, and no evidence of tumor invasion or metastasis on EUS, CT and MRI. The mean of tumor size was 20 mm (16-37). Among 33 patients, there were 4 patients with regional lymph node metastasis. The mean of follow up was 13 months (12-24), revealing no recurrence.

Conclusion: The majority of ampullary GP has a benign course and excellent response to excision. Our series and recent studies showed that endoscopic resection of the tumor is feasible in selected patients, with reassuring results on comprehensive evaluations, including EUS, with evidence of submucosal confinement, tumor size of less than 20 mm, and CT and MRI without evidence of metastasis, to avoid unnecessary major operation such as pancreaticoduodenectomy and its complications.

AUTH DESIGN: ACG Membership Status <font color="red">*</font>:
AVERAGE SCORE: 5.5
REVIEWER FLAGS: (none)
REVIEWER RECOMMENDATION CODE DESCRIPTION: None
REVIEWER COMMENTS:
Peter Draganov: [No Comments]
Vanessa Shami: [No Comments]
Stavros Stavropoulos: No data on completeness of resection. Weak conclusion. No background data on this rate tumor, its risk of malignant behavior and histologic risk stratification for malignant behavior. Short follow-up.
Shin'ichi Takahashi: [No Comments]