Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 16

Robotic versus Laparoscopic revision to Toupet fundoplication for failed Nissen fundoplication: A Single Center Experience.

Lorna A. Evans
evans.lorna@mayo.edu

Lorna Evans, Jorge Cornejo, Nezih Akkapulu, Steven Bowers, Enrique Elli
Department of Surgery, Mayo Clinic, Jacksonville, Florida, USA#Department of Surgery, Hacettepe University School of Medicine, Ankara, Turkey

United States of America

Nissen fundoplication is one of the most common surgical procedures to treat gastroesophageal reflux disease. However, in some cases, the procedure fails, and the patients' symptoms persist even after the surgery. The objective of this study is to document and compare the outcomes of laparoscopic and robotic approaches for the treatment of failed Nissen Fundoplication, and to evaluate the clinical outcomes after conversion to a Toupet fundoplication.
We conducted a retrospective analysis of patients who underwent robotic orlaparoscopic revision surgery for failed Nissen fundoplication and conversion to Toupet fundoplication between January 1st, 2016, and November 6th, 2023. The data collected included demographics, clinical characteristics, pre-operative workup, details about the index procedure, and peri and post-operative outcomes.
We included a total of 88 patients who were operated with either the laparoscopic approach (n=56) or the robotic-assisted approach (n=32). Mean age at surgery was 64.02 ± 11.99, and 78.4% were female. The mean operative time was 148.71 ± 53.64 minutes for the total cohort and was significantly longer in the robotic group (167.43 min, p-value = 0.012) in comparison with the laparoscopic group (138.01minp-value = 0.012). Both groups had the same mean length of hospital stay of 2 days. Post operative complications were reported in 9 (10.2%) patients. The laparoscopic group had a higher number of early readmissions (5.4%, p-value = 0.629) and bothgroups had 1 patient that required an early reintervention. At last follow-up, there was a decrease in symptoms of dysphagia and reflux for both groups, however the reduction of PPIs use was not significant.
Surgical revision for a failed Nissen fundoplication and conversion to Toupet fundoplication provides significant symptom improvement in patients with low rates of complications and recurrences. Our study shows that both robotic and laparoscopic approaches are safe and feasible and have comparable surgical and symptom outcomes.

Topic: Stomach
Abstract ID: 18

Minimally Invasive Techniques for Gastric GIST excision: Analysis of a Single Institution Experience and literature review.

Lorna A. Evans
lornaevansmd@gmail.com

Lorna Evans, Jorge Cornejo, Nafiye Celik, Steven Bowers, Enrique Elli
Department of Surgery, Mayo Clinic, Jacksonville, Florida, USA

United States of America

Gastrointestinal Stromal Tumors (GISTs) are rare neoplasms. Surgical excision, the primary treatment, aims for complete removal while preserving organ function. This study outlines our institution's gastric GIST excision techniques, emphasizing indications, advantages, and limitations.
We conducted a retrospective analysis of patients who underwent minimally invasive excision of gastric GIST between 2013 to 2023. The data collected included baseline demographics, tumor-specific data, and details about the techniques most commonly performed to excise the gastric GIST based on the location and size of the tumor.
A total of 66 patients underwent minimally invasive gastric GIST excision during the study period. There was a similar number of female and male patients. 42.4% of the patients were former smokers and 45.5% had a previous history of other types of cancer. Abdominal pain accounted for 37.9% of all preoperative symptoms. Laparoscopic surgery was performed on most of the patients, with robotic surgery being performed on a lower percentage. 56.1% of the tumors were found incidentally. Wedge resection was the most frequently performed technique with 42.4% of cases; partial gastrectomy followed with 37.9%, enucleation with 12.1%, and the transgastric approach with 7.6%. The median tumor size was 3.34 +2.74 cm.69.7% of the tumors were located in the posterior wall of the stomach and 54.5% showed an exophytic growth pattern. The spindle cell type was the most prevalent histopathology pattern, and 45.5% of the tumors had CD117 (c-kit) and CD34 immunohistochemistry positivity. Moreover, the median operative time was 137.86 + 89.86 minutes, the median length of hospital stay was 2.63 + 2.99days, and the overall recurrence rate was 1.5 %.
Minimally invasive techniques are safe and effective approaches for gastric GIST excision. They provide surgeons with options for tailoring the surgical approach based on tumor size, location, and risk factors while preserving organ function.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 21

FLIP PANOMETRY PATTERNS DO NOT DISTINGUISH OBESE PATIENTS WITH AND WITHOUT GERD, EITHER BEFORE OR AFTER BARIATRIC SURGERY

Anh D. Nguyen
anguyen630@gmail.com

Anjali Bhatt, Ambreen Merchant, Daisha Cipher, Ashton Ellison, Chanakyaram Reddy, Dan Davis, Rhonda Souza, Vani Konda, Stuart Spechler, Anh Nguyen
Texas A&M Health Science Center College of Medicine#Department of Internal Medicine, Baylor University Medical Center#College of Nursing and Health Innovation, The University of Texas at Arlington#Baylor Scott & White Center for Medical & Surgical Weight Loss Management#Center for Esophageal Diseases, Baylor University Medical Center

United States of America

Gastroesophageal reflux disease (GERD) frequently accompanies obesity, and bariatric surgery can have variable effects on GERD. Little data is available on functional lumen imaging probe (FLIP) panometry findings in obese patients with GERD and the effects of bariatric surgery on those findings. To seek FLIP metrics that might identify risks for GERD in obesity, we compared FLIP panometry patterns in obese patients with and without GERD, before and after bariatric surgery.
We identified patients in our clinical database from January 2019-September 2022 who had pH monitoring and endoscopy with FLIP performed during work-up for a first bariatric operation (pre-surgical patients), or for consideration of surgical revision after RYGB or SG that resulted in inadequate weight loss. Patients with acid exposure time (AET) >6% and/or Los Angeles C/D esophagitis were considered GERD+; those with AET <6% were deemed GERD-. GERD Health-Related Quality of Life (HRQL) and reflux symptom index (RSI) scores were recorded.
We identified 157 patients who met inclusion criteria with 64 pre-surgical (32 GERD- / 32 GERD+), 70 SG (21 GERD- / 49 GERD+), and 23 RYGB (18 GERD- / 5 GERD+) patients. GERD occurred more often in patients with SG than RYGB (70% vs 22%, $p<0.005$). In GERD+ patients, the median GERD-HRQL was 28 and RSI score was 12.5 (GERD HRQL 12/RSI 6 in GERD- patients). For all three groups, there were no significant differences in FLIP EGJ opening parameters or contractility response patterns between GERD- and GERD+ patients (Tables 1, 2).
In the presurgical, SG and RYGB groups, FLIP panometry parameters of EGJ opening and contractile response patterns did not differ significantly between GERD- and GERD+ patients. Although FLIP might provide valuable information regarding esophageal motility, it does not appear to be useful as a predictor for GERD in obese patients and patients with prior bariatric surgery.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 24

DYSPHAGIA AND CHEST PAIN ARE FREQUENT IN OBESE PATIENTS EVALUATED FOR BARIATRIC SURGERY, BUT FLIP PANOMETRY PATTERNS DO NOT PREDICT THOSE SYMPTOMS

Anh D. Nguyen
anguyen630@gmail.com

Anjali Bhatt, Ambreen Merchant, Daisha Cipher, Ashton Ellison, Chanakyaram Reddy, Dan Davis, Rhonda Souza, Vani Konda, Stuart Spechler, Anh Nguyen
Texas A&M Health Science Center College of Medicine#Department of Internal Medicine, Baylor University Medical Center#College of Nursing and Health Innovation, The University of Texas at Arlington#Center for Esophageal Diseases, Baylor University Medical Center#Baylor Scott & White Center for Medical & Surgical Weight Loss Management

United States of America

Bariatric surgery patients often experience dysphagia and chest pain, which are also frequent symptoms in obese individuals who have not had bariatric surgery. The aim of this study was to compare the frequency of dysphagia and chest pain in obese patients being evaluated for a first bariatric surgery versus those undergoing bariatric surgery revision due to inadequate weight loss. Secondarily, we assessed whether functional lumen imaging probe (FLIP) panometry contractility patterns might predict for the presence or severity of these symptoms.
We reviewed our clinical database from April 2019 to March 2023 to identify obese patients who had FLIP panometry performed, and symptom scores (Brief Esophageal Dysphagia Questionnaire (BEDQ)/Eckardt) collected during initial work-up for a first bariatric operation (pre-surgical patients) or for consideration of bariatric revision. FLIP panometry metrics were recorded.
We identified 51 presurgical, 49 sleeve gastrectomy (SG), and 37 Roux-en-Y gastric bypass (RYGB) patients. More than one-third of presurgical patients complained of dysphagia (35.3%) and/or chest pain (35.3%) (Table 1). Compared to presurgical patients, the frequency of dysphagia and chest pain was significantly higher in SG (dysphagia: 67.3%, $p<0.001$; chest pain: 59.2%, $p=0.017$) and RYGB (dysphagia: 78.3%, $p<0.001$; chest pain: 62.2%, $p=0.013$) patients. There were no significant differences in the frequency of dysphagia and chest pain between SG and RYGB patients. No significant differences were noted in FLIP esophagogastric junction (EGJ) opening parameters or BEDQ/Eckardt scores between the patients with and without dysphagia and/or chest pain within each patient group (Table 2). FLIP contractility patterns did not predict for the presence of dysphagia or chest pain.
Dysphagia and chest pain were common in obese patients before bariatric surgery, but significantly more common after SG and RYGB. FLIP contractility patterns did not predict the presence/severity of dysphagia or chest pain in obese patients before or after bariatric surgery.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 33

FLIP Measurements and Esophageal Opening Classifications in Hiatal Hernia

James Miller
jamesmil@wakehealth.edu

James Miller, Brendan Kemple, Steven Clayton
Wake Forest University School of Medicine#Medical College of Georgia

United States of America

In hiatal hernia (HH), the lower esophageal sphincter (LES) displaces above the crus, which may impact Functional Lumen Imaging Probe (FLIP) measurements at the "waist". Our data shows that, compared to Integrated Relaxation Pressure (IRP), Distensibility Index (DI) was not influenced by presence of HH. We aimed to establish if FLIP measurements and esophageal opening classifications are affected by presence and size of HH, compared to high resolution manometry (HRIM).
Patients who underwent EGD and FLIP were grouped by presence of hernia. Average DI, diameter, and opening classification were recorded. Correlation of hernia size with each metric was assessed by linear regression analysis.
DI (2.76 mm^2/mmHg) and diameter (11.05 mm) in non-hernia patients were lower than in hernia patients (3.52 mm^2/mmHg and 12.30 mm, p=0.0024, 0.0053). There was higher frequency of REO in non-hernia patients (39% to 25%, p=0.0046). In patients with REO, there was no difference in DI and diameter between patients with and without hernia (p=0.79). In patients with normal IRP, average diameter was not significantly different between patients with hernia and those without (p=0.87). In patients with abnormal IRP, diameter was significantly lower in patients without hernia (p<0.001). Of patients with hernia and elevated IRP, only 12 (16%) had confirmed LES pathology. Of patients without hernia and elevated IRP, 51 (45%) had confirmed pathology (z=-4.06, p<0.0001). Correlation coefficients between hernia size and IRP, DI, and diameter were R^2=0.0018, $4x10^{-5}$, and 0.027.
DI and diameter were not decreased in presence of hiatal hernia while IRP was elevated to pathologic range. Among patients with elevated IRP, confirmed LES pathology was less prevalent in patients with HH than those without. Frequency of REO was lower in HH population. IRP, DI, and diameter did not correlate to hernia size.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 35

Recurrence Rates in ZPOEM vs. Endoscopic Septotomy for Zenker's Diverticulum: Evidence from a Latin-American Center

Alejandro Nieponice
anieponi@ffavaloro.org

David Solinas, Mauricio Ramirez, Nicole Miraglia, Hugo Delle Donne, Fabio Nachman, Alejandro Nieponice
Fundacion Favaloro

Argentina

The management of Zenker's Diverticulum (ZD) has undergone significant evolution. In recent years, there has been a notable shift favoring endoscopic treatment over traditional open surgical methods. Z-POEM has recently gained attention but the optimal endoscopic technique remains a topic of debate. The aim of this study is to compare recurrent dysphagia rates between Z-POEM and Standard Endoscopic Septotomy (SES).
This observational cohort study has 51 patients who underwent endoscopic treatment at a referral center in Argentina between January 2018 and December 2022. The patients were analyzed in two groups based on the treatment modality: Z-POEM(Fig 1.) vs SES.
Diverticulum size was measured by endoscopy before the procedure. Dysphagia was assessed by anamnesis, any presence of dysphagia was carefully noted and considered as a significant indicator for recurrence. Esophagogastroduodenoscopy (EGD) was conducted routinely at 6 months or earlier and supplemented by an esophagogram if there were any symptoms present. Informed consent was obtained from all patients.
29 total patients underwent Z-POEM and 24 endoscopic septotomy.
Mean follow-up for the ZPOEM group was (12.9 months, SD = 6.2) vs. SES group was (M = 25.3 months, SD = 14.4). Diverticulum size was (M = 3.7, SD = 0.82) for ZPOEM vs (M = 3.8, SD = 0.91) for septotomy.
Recurrent dysphagia was present in 10% (3/29) of ZPOEM group vs. 33% (8/24) in the SES group. Fisher exact test yielding a p-value = 0.0498 (CI = 95%). EGD and esophagogram correlated with reported dysphagia.
This study shows association between treatment technique and recurrent dysphagia. Z-POEM appears to offer advantages over septotomy in reducing the risk of recurrence. Further randomized studies are required to verify this trend.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 37

Favorable Symptomatic Results Following Magnetic Sphincter Augmentation in Patients with Barrett's Esophagus

Reginald Bell
reg@iersurgery.com

Reginald Bell, Rachel Heidrick, Kathrine Osborn, F.P. 'Tripp' Buckley, John Lipham, Mark Shachner Institute of Esophageal and Reflux Surgery#Johnson & Johnson#University of Texas Austin#University of Southern California#South Florida Surgical Specialists

United States of America

Patients with intractable GERD and Barrett's esophagus (BE) are candidates for antireflux procedures including fundoplication and magnetic sphincter augmentation (MSA). MSA is an accepted technique to treat GERD symptoms. As initial studies excluded patients with Barrett's esophagus there is a paucity of data regarding its success in managing GERD symptoms in patients with Barrett's esophagus. This study reports symptomatic outcomes in patients with BE who have undergone MSA
The AFS QIP is a quality improvement data collection which utilizes the same data collection system as the IRB-approved Registry of Outcomes of Antireflux Surgery (ROARS). With appropriate exemption for data analysis by the xxx IRB, patients with Barrett's esophagus undergoing MSA were culled from both systems and comprise the basis for this report. Changes in GERD-HRQL were the primary endpoint and were analyzed using two-tailed statistics and are reported with (range)[stddev] or {IQR} as appropriate.
148 patients with Barrett's esophagus undergoing MSA with baseline and postoperative GERD-HRQL scores were identified. Mean age was 58 (17-83) yrs, 45% female. Visible Barrett's mucosa was> 1cm in 43%, < 1cm in 33%, and unrecorded length in 24%.
Median baseline GERD-HRQL was 24 {16-32}. At a median follow-up of 2.9 (.33-6.9) {1.9-4.1} years, GERD-HRQL improved to 5.5 {3-11}, $p<0.0001$, Figure 1. Improvement in GERD-HRQL score was seen in 91% of patients, and 77% improved by > 50%. There was no significant difference in outcomes by length of Barrett's. MSA bead size was 16 in 38%, 15 in 25%, 17 in 21%, 14 in 14%, and unknown in 2%.
MSA significantly improved GERD-HRQL in patients with Barrett's esophagus at a median of 2.9 years. These findings indicate that magnetic sphincter augmentation may be a promising treatment for GERD symptoms in this patient population.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 39

Investigating the relationship between patient anxiety and depression with gastroesophageal reflux disease symptoms utilizing the Hospital Anxiety and Depression Scale and the Registry of Outcomes from Antireflux Surgery questionnaire

Crista E Horton
chorton@browardhealth.org

Crista Horton, Stacey Tannenbaum, Brooke Heyer, Kaitlyn Pearl, Megan Rodwell, Mark Shachner
Broward Health Coral Springs#NOVA Southeastern College of Osteopathic Medicine

United States of America

Gastroesophageal reflux disease (GERD) is a chronic disease that contributes to decreased health-related quality of life (HRQL). Anxiety or depression may additionally complicate HRQL and surgical success. This study aims to determine the effects of preoperative anxiety and depression on patients with GERD to maximize HRQL and other outcomes.
This was a retrospective and prospective cohort study of patients undergoing treatment for GERD from July 2023 through April 2024. All patients from a single surgeon's practice were considered for the study. Patients completed Registry of Outcomes from Antireflux Surgery (ROARS) questionnaires including preoperative HRQL, regurgitation, dysphagia scores, gaseousness and bloating (gas/bloat) and Hospital Anxiety and Depression Scale (HADS). Pearson's correlation and two-sided student's t-test evaluated the correlation between preoperative HADS and ROARS scores. Chi-Square tests were used to assess relationships between categorical variables.
The mean age of the sample (n=109) was 61.3 years (SD=13.6). Anxiety scores revealed a moderate correlation with regurgitation (r=0.292, p=0.005), a weak correlation with HRQL (r=0.261, p=0.012) and gas/bloat (r=0.251, p=0.016), and no correlation with dysphagia (r=0.070, p=0.506). For depression scores, there was a weak correlation with regurgitation (r=0.220, p=0.035) and gas/bloat (r=0.236, p=0.024), and no correlation with dysphagia (r=0.125, p=0.234) or HRQL (r=0.155, p=0.142). Combining anxiety and depression scales exposed a moderate correlation with regurgitation (r=0.280, p = 0.004), HRQL (r=0.221, p=0.026), and gas/bloat (r=0.263, p=0.007), and no correlation with dysphagia (r=0.193, p=0.049).
Preoperative anxiety and depression correlate with GERD symptomatology including regurgitation, HRQL, and gaseousness/bloating but not dysphagia. It is unclear if anxiety and depression increase GERD symptoms or vice versa. Further investigation may delineate if preoperative anxiety or depression and are associated with worse outcomes after antireflux surgery.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 40

Magnetic sphincter augmentation ameliorates gastroesophageal reflux disease symptoms and improves quality of life in patients over age 65

Crista E Horton
chorton@browardhealth.org

Crista Horton, Stacey Tannenbaum, Neethu Matthew, Megan Rodwell, Mark Shachner
Broward Health Coral Springs#NOVA Southeastern College of Osteopathic Medicine

United States of America

Gastroesophageal reflux disease (GERD) has known symptoms of dysphagia, regurgitation, and decreased health-related quality of life (HRQL). Patients failing medical management may require surgery. Magnetic sphincter augmentation (LINX) insertion is proven to be safe, however, scant evidence exists for patients aged 65 years and older.
This is a retrospective cohort study (n=98) of patients with LINX insertion (October 2016 through September 2022). Registry of Outcomes from Antireflux Surgery (ROARS) was used to measure GERD symptomatology preoperatively and postoperatively at 3-6 months and one or more years (1+yrs) in patients <65 and ≥65 years. Two-sided student's t-tests were used to compare GERD symptoms between age groups. Chi-square tests were used to assess categorical variables.
Forty-two patients were <65 (42.9%) and 56 were ≥65 (57.1%). Fifty-five patients had hiatal hernias (HH) 3-5 cm (56.1%) while 43 patients had HH >5 cm (43.9%). Patients ≥65 had significantly more HH containing ≥¼ stomach than those <65 (42.9% versus 19.0%, P=0.044). Preoperatively, patients <65 versus ≥65 had significantly more regurgitation (mean=14.6 versus 10.3; P=0.015) and HRQL (mean=24.9 versus 16.6; P=0.001), while postoperatively, there were no significant symptom differences between age groups at 3-6 months or 1+yrs. Patients <65 had improved dysphagia from preoperatively (mean=3.9) to 3-6 months (mean=1.0; P=0.001) but not from preoperative (mean=3.0) to 1+yrs (mean=1.8; P=0.097) while those ≥65 had no significant improvement in dysphagia preoperatively to either postoperative timepoints [(preoperative mean=2.9 and 3-6 months mean=1.3; P=0.091) and (preoperative mean=2.5 and 1+yrs mean=2.0; P=0.441)]. Regurgitation and HRQL improved for all patients at both timepoints (P<0.001 for all).
LINX is beneficial among GERD patients ≥65, with significant improvements found in postoperative symptoms at 3-6 months and 1+yrs. Postoperative improvements are not significantly different based on age, thus, LINX can safely be used in older adults.

Topic: Stomach
Abstract ID: 44

Small Bowel & Colon Delays: A Hidden Factor in Gastroparesis?

Michael Cline
clinem2@ccf.org

Jack Loesch, Eyad Hamza, Cynthia Funk, Michael Cline
Cleveland Clinic Foundation, Digestive Disease Institute

United States of America

Gastroparesis is estimated to affect up to 1.8% of the global population [1]. This condition is primarily diagnosed based on symptoms, often supplemented by confirming delayed gastric emptying (GE) through emptying tests. However, both symptom diagnosis and emptying tests have limitations. This study aims to analyze the prevalence of lower gastrointestinal (GI) and multi-region GI dysmotility within a confirmed gastroparetic population.
We conducted a retrospective review of over 3000 patients who completed a wireless motility capsule (WMC) study at Cleveland Clinic from December 2010 to January 2024. All patients had a positive delayed GE test using 4-hour scintigraphy. Using the cutoff times to determine regional delays [i.e. >5 hours for Gastric Emptying Time (GET), >6 hours for SBTT (Small Bowel Transit Time), and >59 hours for Colonic Transit Time (CTT)] [2], we determined the prevalence of GI dysmotility subtypes.
60.0% of patients retested with a normal GE result. 29.7% of the total cohort had a normal retest, with no delay in any GI region. 30.4% experienced isolated delays in small bowel and/or colonic regions but did not have any stomach emptying delay. 18.3% of patients experienced isolated gastric delay (solely stomach emptying issues), while 21.7% had delays in the stomach and at least one other region (small bowel, colon, or both). In total, 81.7% of the patients analyzed had a non-specific GE delay, under an intake diagnosis of Gastroparesis.
All patients analyzed were confirmed gastroparetic via prior GE tests but showed diverse regional delays. GE tests may conceal broader bowel delays, possibly overlapping with gastroparesis symptoms. Delays in the small bowel and colon could affect GE results, influencing gastroparesis diagnosis. Further investigation beyond GE alone is crucial for accurate diagnosis.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 45

Foregut Forecasting: Exploring the Effects of Rural Location, Social Vulnerability, and Distressed Community Index on Surgical Outcomes

Krysta M Sutyak
krysta.sutyak@unmc.edu

Krysta Sutyak, Yuqian Tian, Andrew Eski, Grace Volk, Ivy Haskins
University of Nebraska Medical Center

USA

Improved surgical outcomes in foregut surgery are observed at high-volume centers, which are primarily located in metropolitan areas. We aim to identify social, geographic, and economic disparities within our community, define our catchment area, and compare outcomes between risk groups.
A retrospective study of adult patients who underwent benign esophageal surgery at a Midwest esophageal center from 2020-2023 was performed. Patient demographics, zip code, referral information, diagnostic presentation, operative details, and postoperative outcomes were collected. 30-day complications (composite) and the need for emergency procedures based on the Distressed Community Index (DC), Social Vulnerability Index (SVI), distance from the hospital, and Rural vs Urban classification were compared using Mann-Whitney-U or Fisher's Exact.
143 patients were included; 63% were female with a median age of 63 (IQR 52-71). Patients came from 95 zip codes, 65 cities, and 45 counties. Rural or urban clusters composed 51%, with a median distance to the hospital of 20 miles (IQR 11-110). Distressed, At-Risk, or Mid-Tier DCIs were seen in 43% of patients, while 47% had a high or medium-high SVI (Figure 1). The composite complication was seen in 20% of patients with 2 early reoperations, 5 operative, 4 endoscopic, and 1 interventional radiology intervention within 30-days, 3 surgical site infections, 10 cardiorespiratory complications, and 2 urinary tract infections. There was no difference based on DCI (p= 0.19), degree rural (p=0.99), SVI (p=0.53), or distance (p= 0.83). 10.5% of patients required an emergency operation, which did not differ by DCI (p=0.58), degree rural (p=0.58), SVI (p=0.41), or distance (p=0.74).
Nearly half of our patient population comes from areas at risk for high social vulnerability and economic depression. Socioeconomic disadvantage does not appear to negatively impact care for benign esophageal diseases; however, further investigation is needed, given the low occurrence rate of emergency operations and postoperative morbidity.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 47

The AFS Endoscopic Classification of Esophago-gastric Junction Integrity Is Superior to the Hill Classification in Terms of Inter-observer Variability

Stefano Siboni
stesibo@gmail.com

Stefano Siboni, Marco Sozzi, Andrea Lovece, Pamela Milito, Pierfrancesco Visaggi, Matteo Ghisa, Michele Puricelli, Vito Annese, Giuseppe Dell'Anna, Guglielmo Albertini Petroni, Ivan Kristo, Martin Riegler, Lorenzo Cusmai, Veronica Lazzari, Tommaso Panici
IRCCS Policlinico San Donato, Division of General and Emergency Surgery#University of Pisa - Division of Gastroenterology#University of Padua - Division of Gastroenterology, Department of Surgical, Oncological and Gastroenterological Sciences, #IRCCS Policlinico San Donato, division of General and Emergency Surgery, University of Pavia - Department of Internal Medicine and Therapeutics,#IRCCS Policlinico San Donato - Division of Gastroenterology and Endoscopy, IRCCS Ospedale San Raffaele - Division of Gastroenterology and Digestive Endoscopy #IRCCS Policlinico San Donato - Division of Gastroenterology and Endoscopy#Medizinische Universität, Wien - Upper-GI-Service#Reflux & Health Care, Wien#Cernusco sul Naviglio Hospital - Division of General Surgery#IRCCS Ospedale San Raffaele - Division of Gastroenterology and Digestive Endoscopy #University of Campania-Vanvitelli - Division of General, Mini-Invasive and Bariatric Surgery

Italy

Esophagogastric junction (EGJ) disruption is the single main anatomical factor causing gastroesophageal reflux disease (GERD). During endoscopy, the EGJ is traditionally assessed by means of the Hill classification, but this scoring system has a high inter-observer variability.
The American Foregut Society (AFS) classification of EGJ integrity introduced a standardized technique for the assessment of the EGJ and its superiority over the Hill classification in predicting GERD has already been demonstrated.
Aim of this study is to evaluate the inter-observer variability of the AFS and Hill classifications among physicians with different expertise in foregut pathology.
A set of video clips of EGJ endoscopic assessment following the AFS protocol performed by expert endoscopists was prospectively collected. The deidentified clips were sent to gastroenterologists and surgeons routinely performing endoscopy. The axial hiatal hernia length was provided, given the impossibility to achieve a precise measurement from the videoclip. The Hill and AFS grades were assessed by participants and collected. Fleiss' kappa was run to determine the agreement for the different classification systems.
A total of 21 endoscopists (10 gastroenterologists and 11 surgeons) were enrolled. Mean age was 36 years, mean years of foregut clinical experience 8.3 years. Among them, 8 were familiar with the AFS classification, while 13 were beginners. The agreement in the evaluation of the Hill classification was fair (κ=0.349, >p><0.001), while in the AFS classification was moderate (κ=0.522, >p><0.001). Agreement in the evaluation of the AFS classification was good (κ=0.652, >p><0.001) among physicians familiar with the scoring system and moderate among new users (κ=0.470, >p><0.001). No differences were found in terms of years of experience.
The AFS classification had lower inter-observer variability as compared with the Hill classification. A routine use of the AFS classification could further improve its standardization among physicians of any level of experience.

Topic: Bariatrics as it relates to Foregut disease
Abstract ID: 49

The Risk for Revision: Identification of Preoperative Patient Characteristics to Inform a Model Predicting Risk of Revisional Bariatric Surgery

Alaina M Zappas
alaina.zappas@unchealth.unc.edu

Alaina Zappas, Chris Agala, Joshua Billings, Timothy Farrell, Maggie Hodges
Department of Surgery, University of North Carolina, Chapel Hill, NC#Department of Surgery, University of Colorado Anschutz Medical Campus, Aurora, CO

United States

By 2030, 50% of the US population is predicted to be obese (body mass index >30kg/m2). While only 1% of eligible patients undergo index bariatric surgery, the number of revisional bariatric surgeries is increasing. The risk of revisional bariatric surgery for gastroesophageal reflux disease (GERD) may be increased in patients after sleeve gastrectomy (SG). We sought to understand the risk of revisional bariatric surgery related to GERD using pre-operatively identified patient characteristics.
A retrospective cohort study was performed using the IBM MarketScan Commercial Claims and Encounters database. Patients >18 years old with BMI >30 who underwent sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB) between 2010–2022 were included. A bivariate analysis examined the odds of revisional bariatric surgery 30-days to 3-years after index surgery. Examined characteristics included GERD, Barrett's esophagus, proton pump inhibitor/H2 receptor antagonist use, peptic stricture, esophagitis, hiatal hernia, dysphagia, esophageal dysmotility, eosinophilic esophagitis, and delayed gastric emptying. Patients with previous bariatric surgery (excluding gastric band placement), previous gastric surgery, peptic ulcer disease, or less than 3 years of follow-up were excluded.
A total of 64,569 patients met cohort definitions: 41,850 (64.8%) SG, 22,247 (34.5%) RYGB, and 472 (0.7%) BPD-DS. Median age was 45 years (IQR 38-52). Revisions occurred in 1,462 patients; 1.5% after SG, 3.6% after RYGB, and 5.1% after BPD-DS. Revision after SG was increased in patients with a history of a prior gastric band (OR3.23[2.19-4.76];p<0.01), female sex (OR2.04[1.61-2.58];p<0.01), esophagitis (OR1.70[1.36-2.14];p<0.01), dysphagia (OR1.66[1.33-2.08];p<0.01), delayed gastric emptying (OR1.61[1.28-2.04];p<0.01), GERD (OR1.34[1.13-1.59];p<0/01), use of PPI/H2RAs (OR1.49[1.14-1.95];p<0.01), achalasia (OR4.23[1.53-11.66];p<0.01), esophageal dysmotility (OR1.94[1.06-3.54];p=0.03), and hiatal hernia (OR1.16[0.99-1.36];p=0.07).
Ten pre-operative patient characteristics are associated with an increased 3-year risk of revision after SG. These patient characteristics will be further used to develop a clinical risk calculator quantifying the 3-year risk of revision related to GERD following SG.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 51

High-Resolution Manometry Features Can Segregate Non-Severe from Severe Gastro-Esophageal Reflux Disease

Marco Sozzi
marcosozzi92@gmail.com

Marco Sozzi, Stefano Siboni, Pierfrancesco Visaggi, Benjamin Rogers, Anthony Hobson, Brian Louie, Yeong Lee, Salvatore Tolone, Ivan Kristo, Elisa Marabotto, Jordan Haworth, Megan Ivy, Andrea Lovece, Dimitrios Theodorou, Tania Triantafyllou, Chiara Facchi
IRCCS Policlinico San Donato-University of Milan, Italy - Division of General and Emergency Surgery#University of Pisa, Italy - Division of Gastroenterology#Washington University School of Medicine, St. Louis, MO, USA - Division of Gastroenterology#The Functional Gut Clinic, London, United Kingdom #Swedish Medical Center, Digestive Health Institute, Seattle, WA, USA - Division of Thoracic Surgery#Universiti Sains Malaysia, Kota Bharu, Malaysia - School of Medical Sciences and GI Function and Motility Unit#University of Campania Vanvitelli, Naples, Italy - Division of General, Mini-Invasive and Bariatric Surgery#Medizinische Universität, Wien, Austria - Upper-GI-Service#IRCCS Policlinico San Martino, Genoa, Italy - Gastroenterology Unit#University of Athens School of Medicine, Greece - Foregut Surgery Unit#University School of Medicine, Jikei, Japan - Department of Surgery#Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy - Gastroenterology and Endoscopy unit#University of Padua, Padua, Italy - Division of Gastroenterology, Department of Surgical, Oncological and Gastroenterological Sciences

Italy

Gastro-esophageal reflux disease (GERD) is a multifactorial disease with different grades of anti-reflux barrier impairment. Precise pathophysiologic evaluation can identify patients with actionable GERD. The Milan Score (MS), a novel high-resolution manometry (HRM) metric, provides risk rate for GERD. Aim of this study is to assess its ability to identify higher grades of anti-reflux barrier disruption discriminating non-severe from severe GERD.
A prospectively collected multicenter database of patients undergoing HRM and pH-study for GERD symptoms was queried. Non-severe GERD was defined as AET 6-12%, DeMeester score 14.72-50 or grade B esophagitis, while severe GERD as AET>12%, DeMeester score>50, grade C-D esophagitis or Barrett's esophagus. Demographic and clinical data were compared. The MS integrates parameters associated with GERD (ineffective esophageal motility, EGJ-CI, EGJ morphology and straight leg raise maneuver response). Risk rates have been classified into six categories, from extremely unlikely to extremely likely. A cumulative odds ordinal logistic regression was run to determine the independent HRM variables on severe GERD.The association between the Milan Score and adjunctive MII-pH evidence for pathologic GERD (>80 reflux episodes, MNBI<1500W, reflux-symptom association) and any criteria of severe GERD was assessed.
Among 603 patients (median age 49.9 years, median BMI 25.3 Kg/m^2, 50.5% males), 124 (20.6%) had non-severe and 142 (23.5%) severe GERD. Table 1 shows demographic and clinical characteristics. On univariate analysis, presence and size of hiatal hernia, MS and MS categories were significantly different among the groups. On ordinal logistic regression, hiatal hernia size and MS category were independent predictors of severe GERD (Table 2). A significantly higher MS was found in adjunctive MII-pH evidence of GERD (Figure) and in any criteria of severe GERD.
Hiatal hernia size and MS are independent factors associated with severe GERD. The MS is significantly higher in patients with severe GERD and Lyon 2.0 adjunctive MII-pH metrics.

Topic: Endoscopic Foregut Surgery (including Endobariatrics)
Abstract ID: 52

ENDOSCOPIC VACUUM THERAPY IS NON-INFERIOR TO SELF-EXPANDING METAL STENT FOR ANASTOMOTIC LEAKAGE AFTER ESOPHAGEAL AND GASTRIC RESECTION FOR CANCER

Stefano Siboni
stesibo@gmail.com

Lorenzo Cusmai, Stefano Siboni, Marco Sozzi, Andrea Lovece, Pamela Milito, Eleonora Vico, Giuseppe Tartaglia, Roberta De Maron, Federico Tonini, Pietro Fusella, Daniele Bernardi, Emanuele Asti
IRCCS Policlinico San Donato-University of Milan, Italy - Division of General and Emergency Surgery

Italy

Although improvements in surgical technique and peri-operative management, anastomotic leak remains the most fearful complications after esophageal and gastric resections, with a mortality of 20%. Self-expandable metal stents (SEMS) have always been considered the gold standard of treatment. However, endoscopic vacuum therapy (EVT) has gained popularity, given its capability to provide drainage of extra-luminal collections and augment mucosal perfusion.
The aim of our study is to assess the non-inferiority of EVT compared to SEMS in terms of clinical success in the treatment of anastomotic leaks after esophageal and gastric resections.
An observational study was performed at our center. Patients who underwent esophageal resection and total gastrectomy between March 2012 to March 2024 were included. All the patients with anastomotic leaks treated with SEMS or EVT were identified. The endoscopic treatment was performed according to operator's choice. The EVT was applied intra- or extra-luminally according to the size of the leak and replaced every 3 to 4 days. Technical and clinical success rate, mortality, duration of treatment and hospital length of stay were assessed.
A total of 45 patients (median age 67 years, median body mass index (BMI) 24.4 Kg/m^2, 73.3% males), met the inclusion criteria. SEMS was used in 21 patients, while EVT in 24. The groups were similar in terms of demographic and oncological variables, but type of operation was significantly different (Table 1). Clinical success was achieved in 90.5% in the SEMS group and in 91.7% in the EVT group (p=0.982), while mortality rate was 23.8% vs. 8.3% (p=0.225). Duration of the treatment was significantly shorter in the EVT group (22 vs. 32 days, p=0.029) but hospital length of stay was similar (p=0.855) (Table 2).
Endoscopic treatment with EVT is non inferior to SEMS in terms of clinical success and is associated with a shorter duration of treatment.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 55

The Milan Score: A New Manometric Tool To Evaluate The Efficacy Of Laparoscopic Antireflux Surgery

Marco Sozzi
marcosozzi92@gmail.com

Marco Sozzi, Stefano Siboni, Lorenzo Cusmai, Andrea Lovece, Daniele Bernardi, Emanuele Asti
IRCCS Policlinico San Donato

Italy

High resolution manometry (HRM) has been proven able to describe the pathophysiological pathway leading to gastroesophageal reflux disease (GERD). Recently, a new manometric tool, the Milan Score (MS), has been introduced and validated to evaluate the risk of pathologic GERD, defined as Acid Exposure Time (AET) >6% at pH-study. Aim of this study is to validate this score in the post-operative assessment after laparoscopic antireflux surgery (LARS).
All patients who underwent HRM after LARS between October 2020 and May 2023 were included. The MS was calculated assessing four manometric variables: esophagogastric junction (EGJ) type, EGJ contractile integral (EGJ-CI), ineffective esophageal motility (IEM) and response to the straight leg raise (SLR) maneuver. The MS was pathologic if ≥137 (risk of GERD ≥50%). The risk of GERD was categorized into six classes, according to the score. The MS was compared with validated questionnaires for reflux symptoms, including GERD Questionnaire (GERD-Q), GERD Health-Related Quality of Life (GERD-HRQL) and Reflux Symptom Index (RSI), and with postoperative endoscopy findings.
A total of 160 patients were included (63% males, age: 53 years, time from surgery: 30 months). Surgical techniques included magnetic sphincter augmentation in 54% of patients, Toupet fundoplication in 29% and Nissen or Dor fundoplication in 17%. The proportion of patients with MS ≥137 among those with pathologic questionnaires was 73% for GERD-Q ($p<0.001$), 75% for GERD-HRQL ($p<0.001$) and 78% for RSI ($p<0.001$). The rate of pathologic questionnaires increased for higher MSs. A MS ≥137 was related to recurrent hiatal hernia (23%, $p=0.046$) and esophagitis (21%, $p=0.007$) at endoscopy. Clinical and manometric outcomes were similar among different surgical techniques.
The MS is an efficient tool to evaluate the efficacy of LARS, representing an easy and feasible assessment of surgical outcomes and providing an objective evaluation of the antireflux barrier after surgery.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 60

Magnetic Sphincter Augmentation for Gastroesophageal Reflux Disease: Implications of sizing technique and device selection on safety outcomes using the LINX Reflux Management System.

Kari Loing
kloing@its.jnj.com

Kari Loing, Reginald Bell, Marc Antonetti, Jeffrey Yenchar, Richard Englehardt, Peter Janu, Brian Louie, John Lipham, William Richards, Jonathan Levy, James Speicher, Brian Hodgens, Shanu Kothari, Kyle Perry, Nikolai Bildzukewicz, Paula Veldhuis, Jörg Tom
Ethicon Clinical Affairs, Cincinnati, OH#Institute of Esophageal and Reflux Surgery, Lone Tree, CO#Lexington Medical Center, West Columbia, SC#Fairfield Medical Center, Lancaster, OH#Bariatric Medical Institute of Texas, San Antonio, TX#Fox Valley Surgical Specialists, Appleton, WI#Swedish Medical Center, Seattle, WA#Keck Medical Center of USC, Los Angeles, CA#University of South Alabama, Mobile, AL#University of Michigan Health-Sparrow Hospital, Lansing, MI#East Carolina University Medical Center, Greenville, NC#Prisma Health Upstate, Greenville, SC#Prisma Health, Greenville, SC#The Ohio State University, Columbus, OH#St. Jude Medical Center, Fullerton, CA#Ethicon Medical Affairs, Cincinnati, OH

United States of America

In magnetic sphincter augmentation (MSA), a minimally invasive option for patients with gastroesophageal reflux disease, erosion and LINX removal are of primary clinical concern. Reported rates of erosion and removal vary in literature from 0-4% (median 0%) and 0-16% (median 5.4%) respectively. One contributing factor may be size determination with smaller sized devices potentially causing compression. The relationship between the visualized fit of the sizing tool around the esophagus, tool readout in “bead” size, and final size selection was explored.
We aimed to examine sizing technique and device selection for patients who underwent MSA with LINX and whose data is contained within the RETHINK REFLUX Registry. Surgeons in this long-term prospective safety study completed a sizing survey; responses and clinical registry data were analyzed for potential correlation between device size selection and rates of removal and erosion.
A total of 338 subjects were implanted with LINX between 2020-2023 at US participating hospitals. Survey replies were received from 65.6% (21/32) of surgeons representing 70.1% of subjects. Most surgeons (91%) reported measuring with no compression. A majority of subjects 72.6% (164/226) received a device size consistent with the tool readout. Upsizing occurred in 1.8% (+1 bead size), 10.2% (+2), 14.6% (+3) and 0.9% (+4). Sizes implanted (n=338) were 13-bead (5.6%), 14-(20.4%), 15-(29.6%), 16-(25.7%) and 17-(18.9%). No erosions were reported. The overall explant rate in this cohort was 5.6% (19/338). Removals were skewed toward smaller sizes: 13-bead (26.3%), 14-(10.1%), 15-(6.0%), 16-(1.1%) and 17-(0%). The primary reason for explant was dysphagia 73.7% (14/19).
Surgeons employed a non-compressive fit most frequently with a majority of subjects receiving a size consistent with the tool readout. Implant size was distributed toward larger devices with explants trending higher in smaller sizes. No erosions were observed. Further inquiry into potential causative factors of explants is warranted.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 62

Dupilumab Efficacy and Safety up to 52 Weeks in Adult and Adolescent Patients With Eosinophilic Esophagitis: Results From Parts B and C of the Randomized, Placebo-Controlled, Three-Part, Phase 3 LIBERTY EoE TREET Study

Evan S Dellon
evan_dellon@med.unc.edu

Evan Dellon, Marc Rothenberg, Margaret Collins, Ikuo Hirano, Mirna Chehade, Alfredo Lucendo, Jonathan Spergel, Xian Sun, Jennifer Hamilton, Paula Dakin, Elizabeth Laws, Jennifer Maloney, Lila Glotfelty, Allen Radin
University of North Carolina School of Medicine, Chapel Hill, NC, USA#Cincinnati Children's Hospital Medical Center and University of Cincinnati College of Medicine, Cincinnati, OH, USA#Northwestern University Feinberg School of Medicine, Chicago, IL, USA#Mount Sinai Center for Eosinophilic Disorders, Icahn School of Medicine at Mount Sinai, New York, NY, USA#Hospital General de Tomelloso, Tomelloso, Spain#Children's Hospital of Philadelphia, Perelman School of Medicine at University of Pennsylvania, Philadelphia, PA, USA#Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA#Sanofi, Bridgewater, NJ, USA

United States of America

In Parts A and B of the 3-part phase 3 LIBERTY EoE TREET study (NCT03633617), dupilumab 300 mg weekly (qw) vs placebo demonstrated significant efficacy and acceptable safety up to 24 weeks in adults and adolescents with eosinophilic esophagitis (EoE). Here we present results from patients who completed Part B and continued to Part C, which assessed efficacy and safety of dupilumab up to 52 weeks in a larger number of patients.
Part B co-primary endpoints were proportion of patients achieving peak esophageal intraepithelial eosinophil (eos) count ≤6 eos/high-power field (hpf) and absolute change from Part B baseline in Dysphagia Symptom Score (DSQ) score at Week 24. Secondary endpoints included absolute change from Part B baseline in total EoE-Endoscopic Reference Score (EoE-EREFS). In Part C, all endpoints were assessed at Week 52 as secondary endpoints. Safety was also assessed.
At Week 52 of Part C, 84.6% of patients in the dupilumab/dupilumab and 67.6% of patients in the placebo/dupilumab groups achieved peak eos count of ≤6 eos/hpf and mean (SD) absolute change from Part B baseline in DSQ score was −30.26 (15.39) and −27.25 (11.46) in the dupilumab/dupilumab and placebo/dupilumab groups (Table). Compared to Part B baseline, EoE-EREFS total score and endoscopic inflammatory and remodeling subscores were reduced in the dupilumab/dupilumab and placebo/dupilumab groups at Week 52 (Figure). Dupilumab safety was consistent with the known dupilumab safety profile.
Dupilumab qw showed persistent improvements in histologic, symptomatic, and endoscopic features of EoE up to 52 weeks. Placebo patients from Part B who received dupilumab in Part C showed similar efficacy to dupilumab qw patients of Part B.

Topic: Stomach
Abstract ID: 64

Hiatal Hernia Repair Revision: Determining the Metabolic Threshold

Jay Shah
jayshah@usf.edu

Jay Shah, Prakash Vasanthakumar, Nina Alesna, Samer Ganam, Paige DeBlieux, Adam Wilensky, Joseph Sujka, Christopher DuCoin
USF Morsani College of Medicine#USF Department of Surgery#UT Southwestern Medical Center Department of Surgery#University of Nevada, Las Vegas Department of Surgery

United States of America

Revision of hiatal hernia repair (HHR) is a challenging surgical procedure. Deciding when to offer surgery is equally complex, especially for patients with metabolic conditions like Type 2 Diabetes Mellitus (T2DM) and obesity. Uncontrolled T2DM increases post-operative risks, namely hypoglycemia and poor wound healing, while severe obesity raises hernia recurrence concerns. This study aims to use a survey to determine the clinical thinking employed by surgeons in counseling patients with metabolic conditions.
A survey consisting of ten clinical vignettes, each with distinct symptoms and surgical outcomes, was created. Responders were asked when they elected to opt in or out of HHR revision and/or surgical techniques (e.g. at what HbA1c they would elect to not perform surgery on a patient with a hiatal hernia requiring repair, etc.) based on the vignette. The survey was created using Qualtrics, distributed via email, and analyzed using Microsoft Excel.
When faced with a patient requiring HHR revision with an HbA1c of 11.3, 72.2% of respondents declined to perform the procedure until the patient's diabetes was controlled, while 27.8% offered surgical management. When asked at what HbA1c they would refuse to do surgery, the surgeons' average was 9.3. When asked to treat a symptomatic hiatal hernia in an obese patient with a failed HHR, 41.9% elected to revise the HHR with gastropexy, while 19.4% elected to just revise the HHR, 25.7% elected to defer, and 12.9% opted for a subtotal gastrectomy. The average BMI cutoff to perform an HHR revision was 42.24.
This study underscores the diverse decision-making process among surgeons regarding HHR revision for patients with metabolic conditions. While some lean toward conservative approaches, others consider patient characteristics, emphasizing the need for personalized management in metabolic disorder patients.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 66

Early vs Late Endoscopic Management of Bleeding Esophageal Varices : A United States Nationwide Study

Raj H Patel
rajharshadkumar.patel@stmaryhealthcare.org

Raj Patel, Charmy Parikh, Jalpan Patel, Ishani Patel, Vatsal Patel
St. Mary Medical Center#Mercy Catholic Medical Center#NHL Municipal Medical College

United States of America

Acute esophageal variceal bleeding, a severe complication of cirrhosis due to portal hypertension, remains highly lethal. Approximately 30% of patients with esophageal varices experience bleeding within the first year after diagnosis. Despite advancements in treatment, mortality remains elevated at 15%-20% among cirrhotic patients. Endoscopic interventions such as banding, sclerotherapy, or cyanoacrylate glue application, following initial stabilization, are standard approaches. Our study aims to analyze factors and outcomes related to early (0-24 hours) versus late (>24 hours) endoscopic management of bleeding esophageal varices.

A retrospective observational cohort study was performed using the National Inpatient Sample (NIS) database for all hospitalizations with a discharge diagnosis of esophageal varices with hemorrhage from 2016 to 2020. The primary outcome was in-hospital death, and secondary outcomes included Race, Mean Hospitalization Cost, Hospital region, AKI, Blood transfusion, Aspiration Pneumonia, TIPS, need for Intubation, Sepsis and Disposition to Skilled Nursing Facility (SNF).

We identified 221,440 variceal bleeding cases, with 67.12% being male. In-hospital mortality was 5.53% for early endoscopy, rising to 18.65% after 72 hours. Late endoscopic management correlated with higher sepsis (OR: 2.525, 95% CI: 2.295 - 2.777) and AKI (OR: 1.606, 95% CI: 1.501 - 1.719) risks. Hospitals in the Northeast (OR: 1.229, 95% CI: 1.133 - 1.332) and non-white patients (OR: 1.174, 95% CI: 1.107 - 1.244) were more likely to delay endoscopy. Weekend admissions saw more Day 2 (33.64%) than Day 1 (24.02%) endoscopic interventions.

Delayed endoscopic treatment links to higher in-patient mortality, increased hospitalization costs, elevated AKI and sepsis rates, and more SNF discharges. Northeastern hospitals, non-white patients, and weekend admissions show higher predilection for delays in “real world” U.S. clinical practice.

Topic: Bariatrics as it relates to Foregut disease
Abstract ID: 67

Medical Management of Marginal Ulcers: A Systematic Review

Stefanie Schaeffer
sschaeffer3@kumc.edu

Stefanie Schaeffer, Jennifer McAllaster
University of Kansas Medical Center

United States

Marginal ulcers (MU) occur in up to 25% of patients following gastric bypass surgery. Treatment includes medical, endoscopic, or surgical management, but healing time and medical management is variable in the literature. We aim to describe the healing time of marginal ulcers with medical management in adult patients who have undergone gastric bypass surgery.
A literature search of PubMed, Embase, and the Cochran Database was conducted. Studies that involved medical management of MU were included. Descriptive statistics were calculated for all variables. Continuous variables were standardized to create common units of measurement, facilitating the aggregation of estimates. New percentage variables were created to calculate descriptive statistics. All analyses were conducted using R (version 4.2.2).
Nine studies performed in seven countries were included with a total of 1,414 patients. Included studies comprised of case controls (3), cohort studies (5), and clinical trials (1). The mean number of patients with MU in each study was 78.6. In all studies, patients were treated with a proton pump inhibitor (PPI), and in 5 studies patients were treated with a combination of PPI and sucralfate. Only one study had a primary aim of healing time and showed faster healing time when PPI capsules were open (91d vs 342d). The average duration of medical management across all studies was 3.5 months (range 1.8 to 6 months). Seven studies documented resolution on endoscopy with an average healing time of 5 months (range 2 to 12 months).
Medical management of MU with a PPI and sucralfate is effective with an average healing time of 5 months. The duration, dosing, and form of medication were different among studies. Further investigation into the optimal medical regimen will expedite MU healing.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 68

Gender, Racial and Socioeconomic Disparities in the Prevalence of Barrett's Esophagus : A Scope through National Inpatient Database

Charmy Parikh
charmyparikh18@gmail.com

Raj Patel, Charmy Parikh, Ishani Patel, Jalpan Patel
St. Mary Medical Center#Mercy Catholic Medical Center

United States of America

Barrett's esophagus (BE) denotes the transition from normal squamous to columnar epithelium in the esophagus. While often symptomless, BE significantly elevates the risk of esophageal adenocarcinoma, often diagnosed late with grim prognosis. Early intervention, however, yields favorable outcomes, including successful eradication. Our study aims to explore gender, racial, and socioeconomic disparities in BE prevalence and factors contributing to dysplasia.

Our study employed data from the National Inpatient Sample (NIS) database to investigate adult patients admitted with Barrett's Esophagus from 2016 to 2020. We applied relevant ICD-10 codes to identify cases of BE and BE with dysplasia. Multivariate analysis was conducted using SAS 9.4 software with focus on logistic regression model with covariates including age, gender, socioeconomic status, race and BE-associated comorbidities was adopted.
Out of 609,890 individuals with diagnosis of Barrett's Esophagus, 13,945 were diagnosed with BE with dysplastic changes. BE predominantly affected individuals aged 65-84 years (53.04%), males (59.44%), and white population (88.95%). Medicare served as the primary payer for majority (66.61%) of affected individuals, with an average hospitalization cost of $15,014.48 USD. Prevalence was notably higher in southern states (30.35%) of the USA and was consistent across all socioeconomic classes. Male gender (OR: 1.518, 95% CI: 1.455 - 1.583), low socioeconomic status (OR: 1.109, 95% CI: 1.059 - 1.162), smoking (OR: 1.183, 95% CI: 1.137 - 1.230), and obesity (OR: 1.133, 95% CI: 1.077 - 1.191) were all associated with an increased risk of dysplastic changes.
Our study spotlights higher Barrett's Esophagus (BE) prevalence among those over 65, white, male, and residing in southern US states. Socioeconomic status did not notably affect BE prevalence but influenced dysplasia risk, especially when combined with smoking, obesity, and male gender. Proactive surveillance, especially for high-risk demographics like males, smokers, obese individuals, and those within lower socioeconomic status, is advocated for management.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 70

GASTRIC SLEEVE WITH PARTIAL FUNDOPLICATION AUGMENTS ESOPHAGOGASTRIC JUNCTION PRESSURE IN RESPONSE TO GASTRIC DISTENSION IN AN EX-VIVO PORCINE PREPARATION

Robert H Lee
rlee8@hs.uci.edu

Ninh Nguyen, Robert Lee, Khương An, Huu Nguyen, Ravinder Mittal
University of California Irvine#Binh Dan Hospital, Ho Chi Minh City, Vietnam#University of California San Diego

United States of America

Conventional Sleeve Gastrectomy (cSG) patients can experience Gastroesophageal Reflux after surgery. A Modified SG (mSG) with partial fundus preservation and mSG with partial fundoplication (mSG+PF) have been proposed as alternatives. Our aim was to examine the impact of mSG+PF on the esophagogastric (EGJ) junction response to gastric distension in an >ex-vivo> model.
Porcine esophagus, stomach and duodenum were used. The duodenal opening was closed, and gastric distension was performed using infusion of air and saline into the stomach. A high-resolution esophageal manometry impedance catheter captured pressures and reflux events. Data were recorded under following conditions: 1) cSG 2) mSG without PF 3) mSG + PF (Fig 1). EGJ pressure was measured 10 sec prior to, and then during distension using the e-sleeve method.
With cSG distension, air rapidly flowed across the EGJ leading to lower gastric pressures compared with other models (Fig 2). Pre-distension EGJ pressures were similar among groups. After distension, the EGJ response was augmented in only the mSG+PF. This was clearly seen at 10 mmHg distension with a median EGJ pressure of 32.8 mmHg in the mSG+PF vs 5.9 mmHg in the cSG group ($p<0.001$). There was no increase in EGJ pressure in the mSG without PF (Fig 2). The saline volume required to induce reflux was significantly higher in the mSG+PF model (1500 mL) compared to cSG (105 mL, $p=0.004$). The saline threshold was not higher in the mSG without PF model (410 mL, $p=0.111$).

mSG+PF produces a rise in the EGJ pressure response to gastric distension that is not seen with mSG without PF. Since the responses were observed >ex-vivo>, they can only be explained by mechanical effect of PF on the EGJ, and not on neural influences. The results suggest that mSG+PF may be the most physiologically effective method for cSG-related reflux.

Topic: Endoscopic Foregut Surgery (including Endobariatrics)
Abstract ID: 71

Metabolic effects of DJBS in Obesity: a systematic review and updated meta-analysis

Raj H Patel
rajharshadkumar.patel@stmaryhealthcare.org

Raj Patel, Charmy Parikh, Yug Patel, Dev Desai, Maurya Patel
St.Mary Medical Center#Mercy Catholic Medical Center#Smt. NHL Municipal Medical College#Albert Einstein Medical College

United States of America

According to a recent report from WHO, obesity rates among adults have been on a constant rise leading to 1 in 8 individuals being overweight or obese worldwide divulging it as an epidemic. Surgical intervention is the gold standard for treating extreme obesity. An alternative to surgery is the Duodenal-jejunal bypass sleeve (DJBS) which is implanted using endoscopy and fluoroscopy. Our study aims to assess the efficacy of DJBS, using a comprehensive review of current research and analysis of pertinent outcomes.
A comprehensive literature search was conducted across multiple databases utilizing specific keywords to identify relevant studies. Following PRISMA guidelines, a total of 9 studies and 518 patients were selected. Key outcome variables, namely %Total Body Weight Loss (%TWL), %Estimated Weight Loss (%EWL), HbA1C levels, and total cholesterol levels, were assessed across the DJBS intervention group. The Standardized Mean Difference was employed as the statistical measure to evaluate and illustrate the efficacy and outcomes of the interventions.
For analysis, a heterogeneity threshold of over 50% was guided using a random-effects model. The DJBS intervention demonstrated positive effect on weight loss with a mean difference (MD) of 6.15 (95% CI: 4.45 to 7.84) in %TWL and MD of 12.84 (95% CI: 8.33 to 17.35) in %EWL compared to the Control group. When compared to the Baseline, DJBS exhibited a significant decrease in HbA1C with a MD of -1.14 (95% CI: -1.68 to -0.59) and Total Cholesterol levels (mg/dl), showing a MD of -35.09 (95% CI: -38.95 to -31.23).
In summary, our study highlights the EndoBarrier (DJBS) as a notable option for obesity control. DJBS not only resulted in significant weight loss but also improved metabolic profile when compared to standard treatments and the baseline. These successful outcomes support its use as a powerful therapeutic strategy in combating the worldwide obesity challenge.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 72

Predictive factors of gastroesophageal reflux disease in post-POEM achalasia patients

Tsz Pui Lee
tszpui03@connect.hku.hk

Tsz Pui Lee, Steven Tsang, Simon Ying-Kit Law, Ian Yu-Hong Wong, Fion Siu-Yin Chan, Claudia Lai-Yin Wong, Kwan-Kit Chan, Tsz-Ting Law
Department of Surgery, School of Clinical Medicine, LKS Faculty of Medicine, The University of Hong Kong

Hong Kong

Peroral endoscopic myotomy (POEM) is considered one of the first line definitive treatments of achalasia. However, POEM is associated with a markedly elevated risk of post-operative GERD. This is a local cohort study which aims to identify pre-operative and intraoperative predictive factors which indicate high risk of post-operative GERD.
Clinical data was collected from patients who underwent POEM at Queen Mary Hospital between May 2013 and October 2023. Patient's baseline characteristics (Table 1) and Eckardt questionnaires were collected alongside objective assessment data including EGD, HRM and barium esophagram. Intra-operative EndoFLIP and myotomy data were also collected. Univariate and multivariate logistic analysis were performed to identify predictive factors for subjective and objective GERD, the definitions of which are in line with Lyon Consensus 2.0.
A total of 53 patients underwent POEM. At 6 months post-POEM, 89.1% of patients achieved favorable outcomes (Eckardt score <3), the subjective GERD rate was 34.0% while the objective GERD rate was 35.7%. At 3-months post POEM, 54.0% of patients regularly consumed PPIs. This decreased to 29.4% at 5 years post-POEM, where all patients regularly consuming PPIs experienced at least moderate symptomatic improvement (Figure 1). 1 patient (1.9%) underwent surgical fundoplication due to ineffective management by PPIs.
No parameters assessed were significant on multivariate analysis. For objective GERD at 6 months post-POEM, the post-myotomy EGJ-DI measured by 40ml balloon EndoFLIP was significantly different on univariate analysis (5.6 vs 3.8mm^2/mmHg, p=0.014) but not on multivariate analysis. Intra-operative factors such as myotomy orientation (p=0.694) and full/partial thickness myotomy (p=0.492) were not significant on univariate analysis.
The rate of objective GERD is higher than subjective GERD, which is compatible with existing knowledge. PPIs are generally effective for management of post-POEM GERD symptoms, although a small proportion of patients require further surgical intervention. No factors independently predict post-POEM GERD risk.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 73

Access to Surgical Foregut Care: Wait Times Between Rural and Urban Communities

Krysta M Sutyak
Krysta.sutyak@unmc.edu

Krysta Sutyak, Yuqian Tian, Andrew Eski, Grace Volk, Ivy Haskins
University of Nebraska Medical Center

United States

Patients with benign esophageal diseases typically require multiple tests prior to surgical intervention. Preoperative work-up can require significant coordination of care. Diminished access to care can lead to prolonged wait times and presentation at increased severity, especially for rural populations. Within our patient population, we aim to outline differences in referral patterns and wait times based on home location.
A retrospective study of adult patients who underwent surgery for achalasia, hiatal hernia, or GERD at a Midwest esophageal center from September 2020- December 2023 was performed. Demographics, zip code, referral information, diagnostic presentation and severity, time from referral to consult, and time from consult to surgery were collected. The severity and duration of symptoms and time for access to care were compared based on distance from the hospital and classification as rural (<2,500), urban cluster (<49,999), or urban (>50,000) utilizing Mann-Whitney-U, Fischer's Exact, and Kruskal-Wallis.
143 patients were included; 63% were female with a median age of 63 (IQR 52-71). 60% had a primary diagnosis of hiatal hernia, 31% of GERD, and 8% achalasia. 47% of patients reported symptoms daily, 23% weekly, and 8% with every meal. Symptoms were present for greater than one year in 73% of patients. Severity at presentation or duration of symptoms did not differ by rural vs urban (p=0.72, p=0.48) or distance (miles) to the hospital (p=0.75, p=0.9). Patients from urban communities saw gastroenterology prior to referral for surgery more commonly (57%) than patients living in rural areas (38%) (p=.01). Time to access of surgical care varied between rural and urban communities (Table 1).
Patients in rural communities are more often referred to surgery rather than gastroenterology for evaluation of their esophageal symptoms, which shortens their time to surgery. This pattern, as a crucial access point for these patients, warrants further investigation.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 74

An Update on Same Day Discharge for Patients Undergoing Minimally Invasive Heller Myotomy

Cynthia Janet Susai
csusai@alamedahealthsystem.org

Cynthia Susai, Jonathan Svahn
University of California, San Francisco - East Bay#Kaiser Permanente Northern California - Kaiser Oakland

United States

Enhanced Recovery after Surgery (ERAS) protocols have revolutionized care and length of stay after laparoscopic procedures. Same-day surgery for foregut operations, such as minimally invasive Heller myotomy (MI-Heller) is now increasingly more common. We report an update on our experience performing MI-Heller operations on an outpatient basis.
A retrospective review of a prospectively maintained single-surgeon database of consecutive MI-Heller cases planned for same day discharge. MI-Heller cases include both laparoscopic and robotic Heller myotomies. Patients were started on clear liquids in post-anesthesia recovery unit (PACU). They were scheduled for follow up phone calls on post operative day one. The primary outcome studied was length of stay and secondary outcomes were complications and readmissions.
We identified 151 consecutive MI-Hellers. Of these, 83% (126/151) patients were discharged successfully on POD 0, and 15.9% (24/151) were discharged on POD 1. The complication rate was 1.3% (2/151), with one new-onset atrial fibrillation necessitating admission until POD 5, and one leak necessitating readmission and nonoperative management. The most common reasons for delayed discharge were patient preference (37.5%, 9/24), surgeon discretion (20.8%, 5/24), and emesis or aspiration (20.8%, 5/24). The rate of successful discharge on POD 0 has increased from 55.3% for the first quartile of patients to 89.5%, 97.4%, and 94.6% for the second, third, and fourth quartiles respectively. Factors for improved success include preoperative patient education, education of perioperative staff, and a standardized ERAS regimen with virtual follow up.
Outpatient management of patients with Minimally Invasive Heller myotomy is feasible and safe. Initiating ERAS protocols for MI-Heller patients in addition to education both for patients and all perioperative staff was critical to achieving a high success rate of same day discharge for MI-Heller.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 77

Histopathologic Endpoints in Children With Eosinophilic Esophagitis Improved With Dupilumab Treatment: Results From Week 52 of the Phase 3 EOE Kids Trial

Margaret H. Collins
Margaret.Collins@cchmc.org

Margaret Collins, Marc Rothenberg, Diana Lerner, Robert Pesek, Navneet Virk Hundal, Ruiqi Liu, Jennifer Maloney, Raolat Abdulai, Lila Glotfelty, Allen Radin
Division of Pathology and Laboratory Medicine, Department of Pediatrics, Cincinnati Children's Hospital Medical Center and University of Cincinnati College of Medicine, Cincinnati, OH, USA#Division of Allergy and Immunology, Department of Pediatrics, Cincinnati Children's Hospital Medical Center and University of Cincinnati College of Medicine, Cincinnati, OH, USA#Department of Pediatrics, Section of Gastroenterology, Hepatology, and Nutrition, Medical College of Wisconsin, Milwaukee, WI, USA#Division of Allergy/Immunology, Department of Pediatrics, University of Arkansas for Medical Sciences and Arkansas Children's Hospital, Little Rock, AR, USA#Department of Pediatric Gastroenterology, Harvard Medical School, Massachusetts General Hospital for Children, Boston, MA, USA#Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA#Sanofi, Bridgewater, NJ, USA

United States of America

Eosinophilic esophagitis (EoE) is a chronic, progressive, type 2 inflammatory disease. Pathologic changes in esophageal tissue in EoE can be assessed by measuring peak intraepithelial eosinophil count (PEC) and using the validated EoE Histologic Scoring System (EoE-HSS). The EoE-HSS measures severity of changes (grade) and extent of pathology (stage) of 8 components. Dupilumab blocks key drivers of type 2 inflammation and is approved in EoE for patients aged ≥1 year weighing ≥15 kg in the US, and patients aged ≥12 years weighing ≥40 kg in the EU. This analysis assessed histopathologic endpoints for dupilumab vs placebo in pediatric patients aged 1 to 11 years with active EoE in the Phase 3 EoE KIDS trial (NCT04394351).

This analysis included patients who were randomized to a weight-tiered, higher-exposure (HE) dupilumab dose or placebo and completed the 16-week Part A period, and patients who received dupilumab HE (continued or switched from placebo at Week [W]16) to W52 during Part B. PEC (eos/hpf) and EoE-HSS grade/stage scores were assessed at W16 and W52.

At W16, higher proportions of patients achieved ≤1, ≤6, and <15 eos/hpf with dupilumab HE vs placebo (24.3% vs 0%, 67.6% vs 2.9%, and 83.8% vs 2.9%, respectively). Greater improvements in total and individual component EoE-HSS grade/stage scores were observed for dupilumab HE vs placebo (table). At W52, effects on outcomes were maintained with continued dupilumab, and improvements were similar in patients switching to dupilumab HE from placebo. The safety profile of dupilumab was consistent with the overall known safety profile.

Over 52 weeks, dupilumab HE improved PEC and EoE-HSS grade/stage scores. Similar improvements occurred in patients switching from placebo to dupilumab HE at W16. These data showed that dupilumab HE had a broad, favorable effect on esophageal histopathologic abnormalities in children with EoE.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 78

Follow-up of 158 patients with gastroesophageal reflux disease managed by an emerging technology: A retrospective chart review at two years

Thorsten G Lehmann
thorsten.lehmann@gmx.de

Thorsten Lehmann, Moustafa Elshafei
Klinikum Friedrichshafen, Department of Visceral Surgery, Friedrichshafen, Germany#Klinik für Allgemein-, Viszeral- und Minimal Invasive Chirurgie, Krankenhaus Nordwest, Frankfurt, Germany

Germany

Gastroesophageal reflux disease (GERD) is conventionally managed by proton pump inhibitor (PPI) medical therapy and anti-reflux surgery in selected cases. However, both options frequently result in a burden of unmet needs, such as medication irresponsiveness and postoperative adverse events (AEs), respectively. We present clinical outcomes of 158 reflux patients treated with the RefluxStop implant, an emerging technology, in Germany. Between July 2021 and November 2023, 158 patients underwent the RefluxStop procedure. Outcome measures included GERD Health-Related Quality of Life (GERD-HRQL) score, PPI usage, and postoperative AEs.
Baseline characteristics included age 49.3±13.3 years, male 51.3%, body mass index 27.1±4.5 kg/m^2, large hiatal hernia (>3 cm) 22.2%, esophagitis 44.3%, and Barrett's esophagus 10.1%. At 20±7-month follow-up, median GERD-HRQL score decreased by 90.9% (>p><.001) from a baseline of 22 (IQR 19-31.5) to 2 (IQR 0-4). PPI usage decreased by 96.4% (>p><.001) to 3.6% (n=110) from a baseline of 96.5% (n=118). All preoperative dysphagia (n=18) resolved following surgery, however, mild new-onset dysphagia presented in five patients (3.2%) but resolved without dilation. Recurrence of hiatal hernia occurred in 1.3% (n=2) of patients from suturing the fundic pouch in which the device was placed too tightly. One of these patients was subsequently treated with Toupet fundoplication.
The safety and effectiveness of RefluxStop in our study adds to a growing body of evidence supporting the promise of this new technology. RefluxStop provides significant improvement in quality of life and PPI use with a low rate of AEs, even in difficult-to-treat patients, such as those with large hiatal hernia. Further validation is required with ongoing study.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 79

Surgical Treatment of Gastroesophageal Reflux Disease with the RefluxStop Device: Clinical Outcomes at 1 Year

Moustafa Elshafei
elshafei.moustafa@khnw.de

Moustafa Elshafei
Klinik für Allgemein-, Viszeral- und Minimal Invasive Chirurgie, Krankenhaus Nordwest

Germany

RefluxStop is a novel surgical therapy for gastroesophageal reflux disease (GERD) that reestablishes the angle of His and maintains the lower esophageal sphincter intraabdominally while avoiding esophageal compression or encirclement to minimize adverse effects, such as dysphagia.
Twenty-eight patients underwent surgery (June 2022 - November 2023); their records were reviewed retrospectively. Effectiveness was assessed using GERD-HRQL (GERD Health-Related Quality of Life) scores, GERD-HRQL heartburn and regurgitation subscores, as well as PPI use. Dysphagia, odynophagia, and patient satisfaction were also evaluated.
Patient demographics (n=28) included age 47.5±13.1 years, 67.9% female, BMI 27.3±4.1 kg/m^2, hiatal hernia size 3.4±0.8 cm, large hernia (>3 cm) 35.7%, esophagitis grade C 14.3%, and Barrett's esophagus 3.6%. At a median (IQR) follow-up of 12 (3-12) months, total GERD-HRQL score decreased by 86.7% from 39.1±8.7 at baseline to 5.2±2.7 at follow-up. Median (IQR) total GERD-HRQL score decreased by 90% from a baseline of 40 (30-46.5) to 4 (3.5-8) at follow-up. Heartburn and regurgitation subscores decreased from a median (IQR) of 18 (13-22.5) and 12.5 (10-15) to 2 (1-3) and 2 (0.5-3) at follow-up, respectively, signifying elimination of heartburn and regurgitation in all patients. Ten patients reported dysphagia (score >2) at baseline; all had complete resolution at follow-up (>p>=0.007 chi-squared). Four patients reported odynophagia (score >2) at baseline; none had odynophagia at follow-up. Satisfaction with treatment was reported in 96.4% of patients. Most (96.4%) patients had been using PPIs preoperatively with 92.9% discontinuing following RefluxStop surgery. No esophageal dilatation, hiatal hernia recurrence, device migration, or reoperation occurred.
RefluxStop surgery provided considerable improvement in GERD symptoms without new-onset dysphagia, a high level of patient satisfaction (96.4%), and allowed for discontinuation of PPIs. Further evaluation is required to validate the excellent safety and effectiveness results depicted in this cohort of 28 patients.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 83

The tissue systems pathology test guides risk-aligned management decisions in patients with non-dysplastic Barrett's esophagus

Rebecca J Critchley-Thorne
rthorne@castlebiosciences.com

Daniel Tseng, Jeffrey Watkins, Sabrina Drexel, Sarah Sokol-Borrelli, Rebecca Critchley-Thorne
Northwest Minimally Invasive Surgery#Castle Biosciences, Inc

United States of America

Management strategies that rely on clinical factors and pathology diagnoses for Barrett's esophagus (BE) have limited ability to identify patients at high-risk for developing esophageal adenocarcinoma (EAC). The tissue systems pathology test (TissueCypher, TSP-9) is clinically validated to provide BE patients with objective risk stratification for the development of high-grade dysplasia (HGD)/EAC within 5 years. This study aimed to determine how TSP-9 results guide clinical management decisions in patients with non-dysplastic BE (NDBE).

The TSP-9 test was ordered consecutively for 14 patients during clinical care. The test reports a probability for progression to HGD/EAC within 5 years through risk class (low, intermediate, or high) and risk score (0-10). Clinical management decisions before and after receiving TSP-9 results and clinicopathologic data were abstracted from health records to assess management patterns. The physician was surveyed to evaluate the impact of TSP-9 results on confidence in their management decisions.

The mean age of patients was 58 (range 27-81) years, five patients were male, and all patients had a diagnosis of NDBE. The TSP-9 test scored 10 patients low-risk, 3 intermediate-risk, and 1 high-risk. The TSP-9 results changed management decisions in 21% of patients, resulting in upstaging of care to endoscopic eradication therapy (EET), anti-reflux surgery, and increased surveillance frequency. Clinical management plans were aligned with TSP-9 risk results in 86% of patients, and there was a significant association between management decisions and risk class (P = 0.01099). The TSP-9 results increased the physician's confidence in their management plan for 93% of patients.

TSP-9 provided clinically actionable information for patients resulting in the upstaging of care for patients at high/intermediate risk to EET, which is highly effective at eradicating BE and preventing EAC. These results demonstrate that TSP-9 can guide risk-aligned management to improve health outcomes for patients with BE.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 84

Examining the Capability of a Large Language Model Artificial Intelligence-Chatbot in Providing Accurate, Comprehensive and Readable Responses to Questions About Achalasia

Ashley Tran
ashley.tran@med.usc.edu

Ashley Tran, Aarav Grover, Katie Galvin, Jamil Samaan, Amrit Kamboj, John Lipham, Luke Putnam
Keck School of Medicine of USC#Cedars Sinai Medical Center

United States

Achalasia is a rare condition characterized by impaired relaxation of the lower esophageal sphincter and aperistalsis for which multiple diagnostic and therapeutic modalities exist. ChatGPT, an artificial-intelligence (AI)-powered large language model, has been previously shown to have utility as a patient resource in multiple fields. This study aims to evaluate the quality of ChatGPT-generated responses to patient questions about achalasia.
Frequently asked questions (FAQs) regarding achalasia were compiled from top-rated health institutions and a popular Facebook support group. ChatGPT-4 was prompted to generate responses to FAQs and to simplify the initial response to improve readability. Both initial and simplified responses were independently graded by two foregut surgeons and a gastroenterologist resolved disagreements in grading. The grading scale for initial responses included the following: (1) comprehensive, (2) correct but inadequate, (3) some correct and some incorrect, and (4) completely incorrect. The accuracy and comprehensiveness of simplified responses was then compared relative to initial responses using the following grading scale: (1) less accurate/comprehensive, (2) equally accurate/comprehensive, and (3) more accurate/comprehensive. The readability of both responses was evaluated using validated readability formulas.
A total of 59 FAQs were compiled. 55/59 (93%) of the initial responses were graded as “comprehensive”. Compared to the initial responses, 55/59 (93%) of the simplified responses were deemed equally accurate and 50/59 (90%) were graded as equally comprehensive. The model significantly improved the readability of initial responses from college-graduate reading level to 8^{th} – 12^{th} grade reading level for simplified responses ($p<0.001$).
ChatGPT provided comprehensive and accurate responses to the majority of questions related to achalasia. The model also significantly improved the readability of responses while maintaining both accuracy and comprehensiveness. ChatGPT may be useful for patients as an adjunctive source of health information regarding achalasia in addition to care from healthcare professionals.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 86

Robotic Intra-abdominal Modified Belsey Mark IV for the treatment of GERD following Sleeve Gastrectomy

Steven Tamesis
steventamesis@gmail.com

Steven Tamesis, Gary Gecelter, George DeNoto
St Francis Hospital and Heart Center - Catholic Health

United States of America

Gastroesophageal Reflux Disease (GERD) is a major concern following sleeve gastrectomy. Options are limited for patients refractory to oral anti-acid agents and who do not desire or cannot tolerate a LINX procedure or Roux-en-Y esophagojejunostomy. The robotic intra-abdominal modified Belsey Mark IV fundoplication is a novel approach for the treatment of GERD for this subset of patients.
Patients with GERD following sleeve gastrectomy or GERD prior to sleeve gastrectomy were offered this procedure. The patients with GERD following sleeve gastrectomy underwent a robotic intra-abdominal modified Belsey Mark IV procedure as a separate intervention while patients with GERD prior to sleeve gastrectomy underwent the procedure at the time of their bariatric procedure. Fundoplication was performed by creating either a single layer or double layer invagination of the anterior and lateral aspect of the sleeve gastrectomy along the gastric staple line, resulting in a 180-220 degree wrap.
In total, 10 patients underwent robotic intra-abdominal modified Belsey Mark IV fundoplication. Two patients were lost to follow-up and were excluded from the study. Complete resolution of GERD off anti-acid therapy was reported by 5 patients (63%). Immediate post-operative dysphagia (dysphagia within 6 months) was reported by 4 patients (50%) while persistent post-operative dysphagia (dysphagia after 6 months) was reported by 2 patients (25%). Patients who reported persistent dysphagia were treated with esophagogastroduodenoscopy (EGD) and balloon dilation, with moderate to complete resolution of symptoms. There were no post-operative leaks in the patients who underwent robotic intra-abdominal modified Belsey Mark IV fundoplication at the time of sleeve gastrectomy.
Robotic intra-abdominal modified Belsey Mark IV fundoplication following sleeve gastrectomy or at the time of sleeve gastrectomy is a novel approach to the management of GERD. Additional studies are required to assess the viability of this approach.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 87

Platelet-Rich Plasma in Large Paraesophageal Hernia Repair – Analysis of 1 year data

Ashley Tran
ashley.tran@med.usc.edu

Ashley Tran, Luke Putnam, Lucy Harvey, Katie Galvin, Caitlin Houghton, John Lipham
Keck School of Medicine of USC

United States

Hiatal hernia recurrence is the Achilles heel of antireflux surgery and is common after paraesophageal hernia (PEH) repair which may in part be due to weak connective tissue in the hiatus. Autologous platelet-rich plasma (PRP) has been shown to promote wound healing in numerous surgical fields due to its abundance of growth factors essential to the proliferative phase of wound healing. A randomized trial is underway examining the efficacy of PRP in hiatal hernia repair; here, we present short-term outcomes from the trial.
Patients with large (≥5cm) PEH were randomly assigned to control (no PRP) or treatment (PRP) groups. An analysis was conducted for the initial 20 patients, 10 control and 10 treatment, for whom 1 year follow-up data was available. Data regarding patient demographics and preoperative characteristics, intraoperative data, and postoperative outcomes, including GERD-HRQL score and instances of hernia recurrence, were compared. There were no significant differences in preoperative characteristics between groups. There was also no significant difference in median operative times between the control and treatment groups (88 min vs 82 min, p=0.381). Neither group experienced intraoperative or 30-day postoperative complications. GERD-HRQL scores were similar between control and treatment patients at 6 months (2.3±2.8 vs 6.4±5.4, p=0.304) and 1 year (3.7±4.7 vs 5.6±6.5, p=0.649). While recurrence rates were three times less common in the treatment arm, this was not statistically significant (30% vs 10%, p=0.582).
Application of PRP in PEH repair is feasible, safe, and takes minimal time to perform. Short term data demonstrates a reduction in hernia recurrence after PRP, but this has not reached statistical significance. Recruitment of additional centers and ongoing data analysis may help to determine whether PRP is an effective adjunct to PEH repair to decrease hiatal hernia recurrence rates.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 89

Eosinophilic Esophagitis Is Highly Unlikely To Be Diagnosed In Patients With Dysphagia And A Visually Normal Esophagus

Ahmun Zafar
ahmunzafar@gmail.com

Ahmun Zafar, Daniela Jodorkovsky, Michael Smith
Icahn School of Medicine at Mount Sinai, Mount Sinai Morningside and West Hospitals#Icahn School of Medicine at Mount Sinai, Mount Sinai Center for GI Physiology and Motility

United States of America

Eosinophilic esophagitis (EoE) is a chronic, immune-mediated esophageal disorder. Characteristic endoscopic findings of EoE include abnormalities such as rings, furrows, edema, and white exudates, though diagnosis requires histologic confirmation of eosinophil-rich inflammation. In patients with normal endoscopy, the prevalence of EoE is unclear. A recent meta-analysis found normal endoscopic findings in 17% of EoE patients, and only 7% in the prospective studies. The American Society for Gastrointestinal Endoscopy advises esophageal biopsies when EoE is suspected, regardless of endoscopic findings. This study assesses EoE prevalence in the absence of classic endoscopic EoE abnormalities.
Patients undergoing endoscopy for the indication of dysphagia who had proximal and distal esophageal biopsies taken at a single tertiary care center between 2/2018 and 5/2024 were considered for analysis. Demographic, endoscopic, and histologic data were collected, along with quantitative reflux testing results within six months of endoscopy.
Of 2030 patients meeting inclusion criteria, 175 had a normal esophageal endoscopic appearance and underwent proximal and distal biopsies. A total of 67 patients (38.2%) underwent reflux testing, of which 25 (37%) were abnormal. Only one patient had 15 eosinophils/hpf, isolated to the distal esophagus. While this finding met histologic criteria for EoE, quantitative reflux testing confirmed excess distal esophageal acid exposure (7.7%), suggesting reflux-mediated eosinophilia.
No patients in this dysphagia cohort with a normal-appearing esophagus were diagnosed with EoE after review of all available data. The only patient meeting histologic criteria for EoE was believed to have distal eosinophilia resulting from excess gastro-esophageal reflux. The absence of EoE in this cohort should prompt reconsideration of whether to perform routine biopsies when the esophagus is visually normal, as well as whether quantitative reflux testing should be recommended. Further studies should be performed to clarify the role of quantitative reflux testing in patients with dysphagia and a normal esophageal endoscopic appearance.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 92

Patient outcomes of robot-assisted laparoscopic hiatal hernia repair with mesh vs primary suture repair

Amir H Kaboodrangi
amirkaboodrangi@gmail.com

Amir Kaboodrangi, Isabella Cook, Stacey Tannenbaum, Megan Rodwell, Mark Shachner
Broward Health#Dr. Kiran C. Patel College of Osteopathic Medicine at Nova Southeastern University#South Florida Reflux Center

United States of America

The use of mesh in large hiatal hernia (HH) repairs has recently gained popularity despite mixed evidence about its superiority over suture cruroplasty technique. This study investigates the outcome of patients after robot-assisted laparoscopic HH repair with synthetic absorbable C-shaped mesh versus no mesh.
A retrospective (11/1/2022-12/14/2022) and prospective (12/15/2022-9/11/2024) study of patients undergoing large (>3cm) HH repair were classified by mesh versus no mesh. Self-reported patient outcomes using Registry of Outcomes from Anti-reflux Surgery (ROARS) questionnaire was taken preoperatively, 3, and 6 months postoperatively. Scores were categorized into dysphagia, regurgitation, health-related quality-of-life (HRQL), satisfaction, and proton pump inhibitor (PPI) use.
A total of 41 patients met eligibility criteria (mesh=20; no mesh=21). The majority (75.6%) were females, mean age was 65.0years (SD=12.5), and mean BMI was 28.0kg/m^2 (SD=3.5). There was no significant difference for dysphagia between mesh and no mesh groups at 3 months (mean=1.30[2.03] vs. 0.48[0.87]; P=0.106) or 6 months (mean=1.0[1.75] vs. 0.53[1.13]; P=0.398). There was no significant difference for regurgitation between groups at 3 months (1.80[3.53] vs. 1.29[2.90]; P=0.613) but was a significantly higher regurgitation score for mesh at 6 months (mean=3.07[4.50] vs. 0.27[1.03]; P=0.037). For HRQL there was no significant difference between groups at 3 months (mean=4.00[6.2] vs. 3.76[6.4]; P=0.613). HRQL score for mesh trended non-significantly higher at 6 months (mean=5.36[1.73] vs. 1.76[2.8]; P=0.087). At 3 and 6 months there were no statistical differences in satisfaction (85.0% vs. 95.2%; P=0.343) and (100% vs. 100%; P>0.99), respectively, or in PPI usage at 3 months (25% vs. 33.3%; P=0.734) and 6 months (50.0% vs. 33.3%; P=0.462).
Patients reported significantly worse outcomes for regurgitation with vs. without mesh at 6 months, reflecting worse postoperative HRQL trend. All other measures were not different between groups at both times. Long-term follow-up is necessary before providing any clinical recommendations.

Topic: Esophagus benign - gerd, achalasia, motility
Abstract ID: 94

Quantifying Changes at the Hiatus at Different Timepoints During a Concomitant Hiatal Hernia Repair with Endoscopic Fundoplication (c-TIF) Procedure Using EndoFLIP

Brian Hodgens
brian.hodgens@prismahealth.org

Brian Hodgens, Isaac Korver, George Godwin, Marvin Rhodes, Shanu Kothari
Prisma Health-Upstate

United States

The concomitant hiatal hernia repair with endoscopic fundoplication (c-TIF) is an effective anti-reflux procedure that addresses the hiatus and the gastro-esophageal flap valve for patients with GERD. Both the hiatal hernia repair and fundoplication contribute to creating the anti-reflux barrier and previous studies have quantified this with manometry during surgery. Endoscopic impedance planimetry (EndoFLIP) has emerged as a tool to quantify changes at the distal esophagus during surgery and this allows for the potential to tailor hiatal closure and fundoplications accordingly.
A prospectively maintained anti-reflux database was queried to identify patients who underwent a c-TIF procedure with EndoFLIP measurements taken at three time points during surgery; after hiatal dissection, after crural repair, and after TIF. EndoFLIP measurements were the diameter (mm) and distensibility index (DI) and were taken at each interval using 40cc and 50cc fill volumes. The values were compiled and analyzed using Student's paired t-test.
Twenty-four patients were included in the study. All patients had EndoFLIP measurements at the three intervals of the c-TIF. There was a significant decrease in mean diameter and DI after hiatal closure at both volumes. After the TIF, the mean diameter and DI increased at both volumes. Comparing the post-dissection measurements to the post-TIF measurements, there remains a significant decrease in diameter and DI at 40cc volume but not at 50cc volume.
This study quantifies the changes that occur during a c-TIF procedure and highlight the contribution of each step to the final outcome. The crural closure produces a higher mean decrease in the EndoFLIP measurements and the TIF increases these values after completion. This supports the value of hernia repair to anti-reflux surgery and the flap valve mechanism as the key role of the fundoplication. Obtaining long term follow up will help identify ideal parameters to tailor a c-TIF operation.

Topic: Endoscopic Foregut Surgery (including Endobariatrics)
Abstract ID: 97

Pre-Operative Botulinum Toxin Injections Prolong Operative Times and Increase Incidence of Mucosal Injury during Per-Oral Endoscopic Myotomy for Medically-Refractory Achalasia

Robert M. MacGregor
m.macgregor@wustl.edu

Robert MacGregor, Michael Awad
Washington University School of Medicine

United States of America

Per-oral endoscopic myotomy (POEM) has become the gold-standard surgical treatment for medically-refractory achalasia. Despite this, patients often undergo interventions such as dilation and botulinum toxin (botox) injection prior to surgical intervention. This may be associated with increased fibrosis of the esophageal submucosa, increasing the difficulty of POEMs. We sought to compare the peri-operative clinical outcomes of patients undergoing POEM who had prior botox injections to those who did not.
A prospective, IRB-approved database was maintained for all POEMs performed by a single surgeon at a tertiary academic hospital from 2012-2023. A retrospective review of patients undergoing POEM for achalasia was performed. The patients were divided into two groups: pre-operative botox and no botox injections. Outcome measures included: operative time, presence of full-thickness mucosal injury, re-operation within 30 days, and 30-day mortality.
A total of 411 patients were analyzed. The mean age was 53±19.1 years, BMI 26.8±12.8 kg/m^2, symptom duration 55.3±26.4 months, and Eckardt score 6.6±2.8. 141 patients (34.2%) underwent botox injections prior to their POEM. Patients who underwent botox injections prior to POEM had significantly longer operative times (80.5±27.9 vs 45.1±12.4 min, $p<0.001$) and increased rate of full-thickness mucosal injuries (6.4% vs 0.2% $p<0.001$), compared to patients who did not receive botox. There was no 30-day mortality or re-operations within 30 days throughout the entire study cohort.
In one of the largest POEM case series reported to date, there was a significant increase in operative time and rate of full-thickness mucosal injury in the patients who received botox injections. Though there were no differences in requirement of re-operation or 30-day mortality between the two groups, this study did show prior botox injections may increase the difficulty of POEM. Therefore, pre-operative botox injections should be limited to patients who are not otherwise surgical candidates.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 98

Jejunostomy Tube Complications in Esophageal Cancer Patients Based on Placement Timing

Hope Conrad
hconrad@arizona.edu

Hope Conrad, Shamele Battan-Wraith, Timothy Harris, Kevin Wang, Anthony Maltagliati, Kayla Iannarelli, Michael Lada, Stephanie Worrell
University of Arizona Department of Surgery#University of Rochester Division of Thoracic and Foregut Surgery

United States

Esophageal cancer patients are at high risk for malignancy-related malnutrition. Jejunostomy tube placement is regularly performed in this patient population to provide nutritional support. Jejunostomy complications are common but are typically manageable in the outpatient setting. However, the degree of complications range in severity. The purpose of this paper is to describe jejunostomy complications and patient outcomes based on placement timing.

This is a retrospective review of a database maintained by two academic hospital systems from 2005-2023. Esophageal cancer patients who underwent esophagectomy and received a jejunostomy tube during their treatment were included. Multi-institutional IRB approval was obtained for this study.

A total of 148 patients met inclusion criteria. Of these patients, 79% (117) were male and the mean age was 63. Early jejunostomy placement occurred in 38 patients and routine jejunostomy placement at the time of esophagectomy occurred in 110 patients. Patients who received early jejunostomy placement were more likely to have symptoms related to their esophageal cancer (p=0.028). All patients who had early jejunostomy placement completed neoadjuvant chemoradiotherapy compared to 78% completion in patients with routine placement (p=0.006). There were no differences in surgical outcomes between groups.

When examining jejunostomy complications, there were no differences in complication rates between groups. The most common complication was dislodgement/removal (35). A total of 8 readmissions were required for jejunostomy-related complications.

Early jejunostomy placement, particularly in symptomatic patients, may increase neoadjuvant therapy completion rates. There are no differences in surgical outcomes or complication rates when comparing early and routine jejunostomy placement in patients who undergo esophagectomy for esophageal cancer. Most jejunostomy complications did not warrant inpatient admission, and creating an efficient outpatient management program for this patient population may be a way to better manage complications.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 101

CLINICAL EVALUATION OF CRYOBALLOON ABLATION FOR BARRETTS OESOPHAGUS: A UK FIRST MULTI-CENTRE EXPERIENCE

Nasar Aslam
nasar.aslam@nhs.net

Nasar Aslam, Julian Gertner, Giannis Ioannidis, Margaret Duku, James Britton, Yeng Ang, Vinay Sehgal
University College London Hospitals #Cleveland Clinic London#Northern Care Alliance

United Kingdom of Great Britain and Northern Ireland

The Cryoballoon Focal Ablation System (CbFAS) (Pentax Medical Inc) is an innovative device designed for the endoscopic ablation of Barrett's-related neoplasia. This system has been shown to provide advantages such as reduced stricture rates and improved patient tolerance compared to the conventional standard of care, radiofrequency ablation (RFA). We report early outcomes from a prospective UK first multi-centre registry of consecutive patients who underwent Cryoablation for the endoscopic eradication (EET) of Barrett's-related neoplasia.

Patients were prospectively enrolled from two referral centres for Barrett's Oesophagus (BE). Inclusion criteria included patients with a BE segment no longer than 5cm with histologically-proven dysplasia on biopsy or endoscopic resection specimens suitable for EET. Secondary outcomes included the number of ablations, adverse events, device malfunction, stricture rate, patient tolerance, and endoscopist satisfaction which was evaluated using a 10-point Likert scale (1=poor, 10=excellent).

Between January 2020 and December 2023, a total of 16 patients (35 treatment sessions) were treated. The median BE length was C0M2. Complete eradication of BE was achieved in 89% (8/9) of patients who had completed treatment. No instances of device malfunction or intraoperative adverse events were recorded. A stricture rate of 12.5% (2/16) was observed, both of which were successfully managed through endoscopic dilatation. All patients were recorded as tolerating the procedure well with sedation. The median endoscopist satisfaction score was 9 (+/- 2.4) with only one recorded instance of difficulty attributed to balloon positioning.

These preliminary results from the UK cryoablation registry suggest that cryoablation with the CbFAS is a safe and effective therapy for BE-related dysplasia. The stricture rate appears to be comparable to that observed with RFA and similar studies. With the planned enrolment of further centres and suitable patients, this registry will further enhance our understanding of the long-term efficacy and safety profile of cryoablation using the CbFAS.

Topic: New technologies
Abstract ID: 103

CLOSURE OF OESOPHAGEAL DEFECTS USING THE VACSTENT DEVICE: INITIAL INSIGHTS FROM THE LARGEST UK CASE SERIES

Nasar Aslam
nasar.aslam@nhs.net

Nasar Aslam, Julian Gertner, Giannis Ioannidis, Omer Ahmad, David Graham, Joshua Maguire, Margaret Duku, Borzoueh Mohammadi, Matthew Banks, Sally Thorpe, Yassar Qureshi, Rami Sweis, Vinay Sehgal
University College London Hospitals #Cleveland Clinic London

United Kingdom of Great Britain and Northern Ireland

Vacuum therapy is a well understood and established surgical therapy to promote wound healing. Endoscopic Vacuum Therapy (EVT) utilises these principles to help in the management of transmural oesophageal defects which often require prolonged hospitalisation and artificial nutrition. The VACstent GI™ (MicroTech) device synergistically incorporates the advantages of a temporary fully covered oesophageal stent while concurrently employing EVT.
A single-centre prospective case series describing the outcomes for patients with transmural oesophageal defects treated with the VACstent GI™ device.
All procedures were performed with propofol sedation and fluoroscopic guidance. The VACstent GI™ was exchanged every 5-7 days until endoscopic closure. A contrast study was used to confirm closure after which oral nutrition was restarted.
The primary outcome was clinical success, defined as the endoscopic and radiological evidence of defect closure. Secondary outcomes included number of stent exchanges, technical success and the adverse event (AE) rate.
The VACstent GI™ device was used for five patients between October 2023 and January 2024. Three patients had post-operative leaks with two having iatrogenic perforations. Mean patient age was 68 years (3/5 male). The clinical success rate was 100% with a technical success rate of 100% and a median defect closure time of 13 (± 6.6) days. A median number of 1 stent exchange was required. The median defect size was 8mm (± 6.2). There were no reported AEs. All patients were able to successfully resume oral nutrition.
This case series illustrates the safety and efficacy of the VACstent for the treatment of transmural oesophageal defects. This is typically a challenging cohort of patients to treat and to our knowledge represents the largest UK case series. Collecting data on a larger and more diverse patient series will further clarify the potential of the VACstent device and build upon the exciting results we have demonstrated to date.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 104

Predictors of Postoperative Endoscopic Dilation After Esophagectomy for Esophageal Adenocarcinoma

Hope Conrad
hconrad@arizona.edu

Hope Conrad, Kayla Iannarelli, Kevin Wang, Tony Maltagliati, Shamele Battan-Wraith, Tim Harris, Michal Lada, Stephanie Worrell
University of Arizona Department of Surgery#University of Rochester

United States

Esophagectomy remains a complex operation with high rates of peri-operative morbidity and mortality. Even after initial recovery, persistent dysphagia after esophagectomy may require patients to seek endoscopic dilation. We hypothesize that are predictive clinical factors that could identify those who would need a future endoscopic intervention.
This is a retrospective review of a database maintained by two academic hospital systems from 2005-2023. Patients with esophageal adenocarcinoma who underwent esophagectomy were included in this study. Patients requiring postoperative endoscopic dilation were compared to patients without postoperative endoscopic dilation. Patient and oncologic characteristics were compared between groups. Multi-institutional IRB approval was obtained for this study.
A total of 286 patients met inclusion criteria, of which 24 (8%) patients required postoperative endoscopic dilation and 262 patients did not require postoperative endoscopic intervention. In the dilation group, median age was 61.3 and 4.17% (1/24) were female. Patients who required dilation more often received neoadjuvant chemoradiation, but this did not reach statistical significance. (70.83% vs 56.11%, p=0.16).
Postoperative dilation is uncommon following esophagectomy. Neoadjuvant chemoradiation may be associated with increased need for postoperative endoscopic dilation, but future studies are needed for more statistical power.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 105

Predicting Early Recurrence in Esophageal Cancer Patients Treated with Esophagectomy

Hope Conrad
hconrad@arizona.edu

Hope Conrad, Tim Harris, Kayla Iannarelli, Kevin Wang, Shamele Battan-Wraith, Anthony Maltagliati, Michal Lada, Stephanie Worrell
University of Arizona Department of Surgery#University of Rochester Division of Thoracic and Foregut Surgery

United States

Esophageal cancer remains one of the mostly deadly cancers with a low overall survival despite multimodality therapy. We hypothesize that there are predictive clinical factors associated with early cancer recurrence in esophageal cancer patients.
This is a retrospective review of a database maintained by two academic hospital systems from 2005-2023. Patients with esophageal cancer who received neoadjuvant chemotherapy and radiation followed by esophagectomy were included in this study. Patients who did not experience cancer recurrence were compared to patients who experienced cancer recurrence within 6 month. Groups were compared based on clinical and oncologic characteristics. Multi-institutional IRB approval was obtained for this study.
A total of 191 patients met inclusion criteria for the study, of which 150 patients (79%) did not have cancer recurrence and 41 patients (21%) had recurrence within 6 months. In the early recurrence group, median age was 58 and 20% were female. Median time between surgery and recurrence was 114 days. Patients with early recurrence had higher rates of perineural invasion (13.3% vs 26.8%, p=0.038), lymphovascular invasion (51.2% vs 27.3%, p=0.004), and positive margins at resection (22% vs 6.7%, p=0.004). Patients with early recurrence more frequently completed neoadjuvant chemoradiation (92.7% vs 54%, p<0.001).
Factors such as perineural and lymphovascular invasion as well as positive resection margins may be predictors of early recurrence in patients with esophageal cancer. Interestingly, patients who had early recurrence may have received more neoadjuvant chemoradiation than their counterparts.

Topic: Esophagus neoplasia (Barrett's, Cancer)
Abstract ID: 107

Predictive Factors in Esophageal Cancer Patients Who Experience Recurrence after Complete Pathologic Response

Hope Conrad
hconrad@arizona.edu

Hope Conrad, Kevin Wang, Kayla Iannarelli, Shamele Battan-Wraith, Anthony Maltagliati, Tim Harris, Michal Lada, Stephanie Worrell
University of Arizona Department of Surgery#University of Rochester Division of Thoracic and Foregut Surgery

United States

Esophageal cancer is associated with high rates of morbidity and mortality. Even in cases of complete pathologic response after treatment with neoadjuvant chemoradiation and surgical resection, patients can experience cancer recurrence. The purpose of this study is to analyze recurrence patterns in patients with cancer recurrence after complete pathologic response.
This is a retrospective review of a database maintained by two academic hospital systems from 2005-2023. Patients with esophageal cancer who received neoadjuvant chemotherapy and radiation followed by esophagectomy were included in this study. Patients who were found to have complete pathologic response were compared based on cancer recurrence. Groups were compared based on clinical and oncologic characteristics. Multi-institutional IRB approval was obtained for this study.
A total of 32 patients met inclusion criteria, of which 18.75% (6) experienced cancer recurrence. In the recurrence group, median age was 67.3 and 16.67% (1) of patients were female. Patients who had recurrence had a median of 74 days between neoadjuvant therapy and surgery compared to 55.5 days in patients without recurrence, p=0.02. Median time between surgery and recurrence was 202.5 days. Overall mortality was 50% in the recurrence group compared to 0% in the non-recurrence group. Recurrence occurred locally as well as in distant locations.
Esophageal cancer patients who experienced recurrence after complete pathologic response had significantly longer times between neoadjuvant therapy and surgery compared to patients who did not have recurrence.

Topic: International
Abstract ID: 109

3D Printing the Invisible: Turning Stomach Volumetrics into Tangible Models

Diego Romani
diego.romani.p@upch.pe

Diego Romani, Harold Guerrero, Luis Poggi
CIFCAD - Centro de Investigación de Cirugía y Fisiología del Aparato Digestivo

Peru

For years, traditional imaging techniques have offered valuable insights, but they often fall short in providing a complete and tangible understanding of complex anatomical changes. With the advent of 3D printing technology, we now have the opportunity to materialize these reconstructions, creating precise, physical models of the stomach. This innovative approach has numerous applications in medicine, including enhancing surgical planning, improving diagnostic accuracy, and facilitating better patient education. This study aims to explore the practical implementation of 3D volumetric reconstruction and 3D printing in creating detailed stomach models, thereby advancing both medical practice and patient care.
Images were acquired using upper CT scan after ingestion of effervescent salts. DICOM images were processed using 3D reconstruction software with SLICER 3D in order to create detailed volumetric reconstructions of the stomach. These digital reconstructions were then exported in STL format to a 3D printing software. The 3D printing process was carried out using an Elegoo Saturn 2 printer, known for its high precision and resolution in producing intricate anatomical models.
The virtual 3D models were successfully printed using the Elegoo Saturn 2 printer. Despite the time-consuming nature of the process, typically taking 6 to 8 hours to complete, the printer accurately captured the angles, axes, narrow passages, and overall morphology of the stomach models. The materialization of these models can be observed in Figure 1. Furthermore, Figure 2 demonstrates the identical volumetric reconstruction compared to the tangible model, highlighting the precision and fidelity achieved through the 3D printing process.
3D-printed anatomical stomach models are feasible and valuable for patient education and healthcare professional training, enhancing understanding and discussions of surgical procedures