

Topic: Esophagus neoplasia (Barrett's, Cancer)

Abstract ID: 42

**Combined oesophageal and airway stenting for malignant oesophageal strictures: the UK's largest tertiary centre experience and development of a novel algorithm**

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Malignant oesophageal strictures can cause airway compromise and fistula formation. Combined oesophageal and airway stenting is a potential treatment yet no guidelines exist. This study aims to describe the outcomes of same-session oesophageal and airway endoscopic stenting for malignant strictures and propose an algorithm for intervention. A retrospective study on patients undergoing same-session gastroenterology (GI) and respiratory endoscopy at University College London Hospital, 2019-2023. All procedures were with anaesthetic-led propofol sedation. Endoscopic decision making was based on pre-procedure multidisciplinary team meeting (MDM) and intra-procedure clinical assessment. Data collected included malignancy type, luminal narrowing, complications, and mortality. 26 patients were identified. Mean age was 63 years. Cancer type was oesophageal (81%) or lung (19%). The most common referral indication was dysphagia (42%); airway compromise was often seen on imaging (65%). Stent insertion was oesophageal only (35%), airway only (19%) and dual (27%). Airway stenting was common (80%) if airway stenosis was >50%. No airway stenting occurred if stenosis was <50%. After oesophageal stenting, repeat bronchoscopy showed increased airway stenosis in 4 patients (25%). The only intraoperative complication was one oesophageal perforation. New tracheoesophageal fistula was the most common post-intervention complication (15%). Median time from malignancy diagnosis to death was 7.9 weeks.

We present the first algorithm (Figure 1) for endoscopic stenting in patients with malignant oesophageal stricture and airway involvement. We suggest upper GI and respiratory MDM to plan same-session endoscopy with decision-making framed by patient-centred goals given their poor prognosis.

Topic: Endoscopic Foregut Surgery (including Endobariatrics)

Abstract ID: 48

## **TRANSORAL SEPTOTOMY VERSUS Z-POEM IN THE TREATMENT OF ZENKER DIVERTICULUM: A MULTICENTER CASE-MATCHED COMPARATIVE STUDY**

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Transoral septotomy has traditionally been considered the favored minimally invasive approach for Zenker Diverticulum (ZD). Third space endoscopy has gained popularity, becoming a valid treatment in ZD (Z-POEM). The gold-standard treatment of ZD is still debated. We designed a case-matched study with the aim of comparing the Z-POEM with traction-assisted stapler Transoral Septotomy (TS) as first line treatment for ZD. Consecutive patients undergoing treatment for ZD between 2015-2022 were enrolled in two high-volume centers, one with extensive experience with TS and one with Z-POEM. Previously treated ZD were excluded. Barium-swallow and endoscopy were performed before and after surgery. Symptoms were assessed using a dedicated ZD questionnaire (Symptom Score, SS). TS and Z-POEM were performed following settled techniques. The two groups were matched by age, sex, septum length and symptom duration, using a one-to-one nearest neighbor approach. Treatment failure was defined when the post-operative SS was higher than the 10<sup>th</sup> percentile of the preoperative SS or when a subsequent retreatment was needed.

After matching, 26 patients in the TS group and 26 in the Z-POEM group were enrolled. Clinical and demographic data were similar between the groups. The procedures were successfully completed in all patients. TS required a shorter operative time compared to the Z-POEM ( $p < 0.001$ ) (Table). One leakage was detected in the Z-POEM group while one mucosal tear was detected in the TS group, both treated conservatively with fasting and enteral nutrition. Intraoperative complications were also detected in 3 patients in the Z-POEM group, while none in the TS group ( $p = 0.23$ ). At a median follow-up (TS=39 months, Z-POEM=60 months), a successful outcome was achieved in 96.2% in both groups. Z-POEM is comparable to TS in terms of feasibility and successful outcome in the mid-term follow-up. TS provides a trend towards a lower rate of intraoperative complications and shorter operative time.

Topic: International  
Abstract ID: 100

## **Self-Dilatation for the Management of Refractory Benign Oesophageal Strictures: Outcomes from the Largest European Tertiary Centre Experience to Date**

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Benign oesophageal strictures are commonly encountered in endoscopy and often effectively managed with endoscopic dilatation. However, up to 40% of patients develop refractory benign oesophageal strictures (RBES), necessitating frequent endoscopic intervention that is often challenging, poses a greater risk of complication and negatively impacts quality of life. Oesophageal self-dilatation (SD) offers an alternative treatment that potentially reduces hospital visits while enhancing patient autonomy.

We retrospectively reviewed the records of patients with RBES (n=43) who were referred for SD to our centre between 2013 and 2024. The primary outcomes were the endoscopic dilatation-free interval (EDFI) and number of endoscopic procedures performed within 12 months of starting SD. Secondary outcomes included technical success rate, improvement in the Dakkak Bennett dysphagia score, and complications.

41/43 patients (median age 57 years) with various RBES aetiologies (32% peptic, 19.5% post-radiation, 12% post-surgical, 11.6% post-endoscopic resection, 24.9% other) and locations (24.4% proximal, 29.3% middle, 34.1% lower, 12.2% multi-segment) successfully learned SD. The median follow-up was 23.2 months. The median EDFI increased from 68.5 (IQR 41-106) to 161 (IQR 121-279) days ( $P<0.001$ ) while endoscopic interventions decreased from 7 (4.7-10) to 1 (0.75-3) ( $P<0.001$ ) within 12 months before and after SD, respectively. The all-time EDFI was 405 days (130-705). Median dysphagia score improved from 2 at baseline to 0 after SD. One patient experienced clinically significant haematemesis and one presumed SD-related oesophageal perforation.

To our knowledge, we have described the largest European case series of oesophageal SD that has been published to date. Oesophageal SD appears to be an effective, well-tolerated, and safe approach in managing patients with RBES providing a viable alternative to conventional endoscopic interventions. However, the occurrence of adverse events highlights the importance of careful patient selection and ongoing monitoring. Further research is warranted to validate these findings and identify predictive factors for treatment success.

Topic: Esophagus benign - gerd, achalasia, motility  
Abstract ID: 96

## **SAFETY AND QUALITY-OF-LIFE OUTCOMES FOLLOWING SURGERY WITH THE REFLUXSTOP DEVICE FOR GASTROESOPHAGEAL REFLUX DISEASE: POOLED 1-YEAR DATA FROM TWO LARGE HOSPITALS**

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The RefluxStop implant is an inactive medical device offering an alternative to standard antireflux surgery such as laparoscopic fundoplication. Two hospitals in Switzerland were among the first to adopt this surgery after early trial data demonstrated safety and effectiveness in the first ever patient cohort. We present the pooled 1-year data of RefluxStop surgery at our institutions to demonstrate the performance of this procedure. The surgery was performed as part of routine clinical practice at two hospitals between September 2018 and August 2023. The laparoscopic surgical procedure involves, in addition to implantation of the device, hiatal hernia reduction and crural repair, restoration of the angle of His, and a limited (90-110°) esophagogastroroplasty. The device is implanted using a dedicated deployment tool and invaginated in a pouch on the outside of the gastric fundus, a construct that keeps the lower esophageal sphincter and angle of His reconstruction >in situ<. Data were collected retrospectively from medical records and pooled for analysis to afford a larger sample. Safety outcomes included perioperative adverse events (AEs) and quality of life was assessed using the Gastroesophageal Reflux Disease Health-Related Quality of Life (GERD-HRQL) questionnaire. A total of 121 patients underwent surgery during the study period. Baseline characteristics are shown in Table 1. Notably, this group of patients had severe symptoms, esophageal dysmotility (60.3%), Barrett's esophagus (27.3%), and large hiatal hernia >3 cm (46.3%). Total GERD-HRQL score decreased by a median (IQR) of 90.5% (81.4-100%) at 1 year compared to baseline. Perioperative AEs are presented in Table 2. These data support the safety, with few predictable AEs, and excellent effectiveness (i.e., GERD-HRQL score reduction) of this procedure in difficult-to-treat patients, as evidenced by this pooled cohort with a substantial proportion of abnormal esophageal motility (60.3%) and large hiatal hernia (46.3%) patients.

Topic: Esophagus neoplasia (Barrett's, Cancer)

Abstract ID: 81

**TissueCypher is the strongest independent predictor of progression in patients with Barrett's esophagus**

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Clinicopathologic factors (e.g. age, sex, dysplasia grade) traditionally have been used to predict the risk of neoplastic progression in Barrett's esophagus (BE). Multiple studies have shown that adding the tissue systems pathology test (TissueCypher, TSP-9) to clinicopathologic factors significantly improves neoplastic risk stratification in BE patients. This study took a different tack, evaluating whether adding routinely available clinicopathologic factors can improve TSP-9 performance in predicting risk of progression to high-grade dysplasia (HGD) and esophageal adenocarcinoma (EAC).

TSP-9 risk results, age, sex, segment length, hiatal hernia, and original pathology diagnosis [non-dysplastic BE (NDBE), indefinite for dysplasia (IND), or low-grade dysplasia (LGD)] from 5 clinical studies were analyzed. Data from 683 patients was randomized to a training set for model development and a validation set. Cox modeling was used to build multivariable models. Akaike Information Criterion (AIC), negative predictive values (NPV), and positive predictive values (PPV) were used to assess predictive performance.

Patients were median age 61.7 (range 19.3-88) years, 540 (79%) were male, 370 (54.2%) NDBE, 71 (10.4%) IND and 242 (35.4%) LGD (Table 1). In all patients (NDBE, IND and LGD), cross-validation identified TSP-9, sex, and hiatal hernia as significant predictors of progression, while in patients with NDBE TSP-9 was the only significant predictor of progression. In the training set, AIC analysis showed that the highest performing predictor was based on TSP-9 alone; inclusion of clinicopathologic factors actually >increased< error in predicting progression to HGD/EAC (Fig. 1A and B). Similar results were observed in the validation set where integration of clinicopathologic factors with TSP-9 did not increase the NPV and PPV in predicting progression in patients with NDBE, IND or LGD (Fig. 1C and D). Addition of clinicopathologic factors does not improve the predictive performance of TSP-9. TSP-9 alone is the best predictor of neoplastic progression in BE.

Topic: Bariatrics as it relates to Foregut disease

**Abstract ID: 65**

**Outcomes of Modified Laparoscopic Sleeve Gastrectomy with Toupet Fundoplication in Patients with Severe Obesity and Gastroesophageal Reflux Disease**

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Patients with severe obesity and gastroesophageal disease (GERD) have better GERD outcomes with Roux-en-Y gastric bypass (LRYGB) compared to sleeve gastrectomy (LSG). However, some patients with GERD may have a contraindication or not desire LRYGB. Thus, modifications to LSG to include an anti-reflux procedure may decrease post-LSG GERD rates and allow offering LSG to patients with GERD. We reviewed outcomes of patients with GERD that underwent a modified LSG with Toupet Fundoplication.

Retrospective review of prospective collected data of consecutive patients with GERD that underwent a standardized modified LSG with Toupet Fundoplication. Outcomes studied were perioperative, endoscopic and available pH monitoring (Bravo) data, GERD HQRL and percent excess BMI loss (%EBMIL).

24 patients underwent surgery from 3/2021 to 2/2024. 22 had a relative contra-indication to LRYGB and 2 did not want a LRYGB. 22 patients were female, mean age 46(range 22-65), mean BMI 44 kg/m<sup>2</sup>(range 37-52). All patients had GERD symptoms pre-op (GERD HQRL Mean 23.8, range 18-34), all had EGD, 10 with hiatal hernia (mean length 3 cm, range 2-5cm), 10 any esophagitis, 15 had Pre-op Bravo (abnormal in all, mean score 32.6, range 16-63). No leaks or deaths occurred. One patient was re-operated to relief dysphagia related to crural closure. At an average follow-up of 16 months (range 3-37, available in 23 patients), GERD HQRL decreased significantly (Mean 4.2, range 18-34, p<0.01), 7 had postop EGD (no mucosal injury), 7 had postop Bravo [decreased(n=2) or normal(n=5), mean score 9.9, range 1.9-25.4]. %EBMIL was 44% (range 20-77).

A modified Laparoscopic Sleeve Gastrectomy with Toupet Fundoplication appears to be safe and provide for improved GERD outcomes. It has the potential to serve as an alternative to patients with GERD that may have a contra-indication or don't desire a LRYGB. However, longer-term weight loss and GERD outcomes are still under scrutiny.

Topic: New technologies

Abstract ID: 54

**Prospective Outcomes for Innovative Surgical Approach to Complex Paraesophageal Hernias: Posterior Rectus Sheath Flap for Hiatal Augmentation (PoRSHA)**

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Despite the use of various surgical techniques and implants, even in the hands of highly experienced foregut surgeons recurrence rates after repair of complex and large paraesophageal hernias (PEH) remain as high as 40-50%. To overcome these limitations, we developed a novel robotic surgical repair using autologous rectus sheath fascia (~8cm wide) as a vascularized flap to reconstruct the diaphragmatic defect. This approach uses the strength of the patient's own abdominal wall to repair PEH by harvesting a posterior rectus sheath flap for hiatal augmentation (PoRSHA).

This is a prospective observational study of consecutive patients with large or recurrent PEH undergoing repair using PoRSHA. All patients were evaluated with routine esophagram at 6 months and 2 years after surgery. Additionally, all patients had clinical evaluation of symptoms and exam at 1 month, 6 months and annually after surgery.

We safely and successfully performed PoRSHA in 40 patients with type III (n=19), type IV (n=10) or recurrent (n=11) PEH. Of these patients, 75% were women with a mean age of 67.9 years and mean BMI of 27.9. Adjunct techniques used in this series included relaxing incisions (n=4) and Collis gastroplasty (n=3). At an average follow up of 15 months there were two small radiologic recurrences <3cm. No patients experienced abdominal wall eventration or hernia at the donor site. Two patients were lost to follow up. The only major morbidity in this cohort, was an intraoperative tension pneumothorax that developed secondary to the flap.

The use of PoRSHA is safe and feasible with promising short-term results for complex PEH repairs. While five-year outcomes are necessary, at two years radiologic recurrence rates are superior to current techniques for the repair of these challenging hiatal defects.

Topic: Esophagus benign - gerd, achalasia, motility  
Abstract ID: 53

## The High-Resolution Manometry Milan Score Is Non-Inferior to Acid Exposure Time and DeMeester score to Predict Response to Anti-Reflux Surgery

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Italy

The recently developed and validated high-resolution manometry (HRM) metric termed the Milan Score (MS) integrates four HRM variables related to gastro-esophageal reflux disease (GERD) (ineffective esophageal motility, esophago-gastric junction (EGJ) morphology, EGJ contractile integral and straight leg raise maneuver response) to quantify risk for definitive reflux. The aim of this study is to evaluate the ability of the Milan Score to predict treatment outcome after anti-reflux surgery (ARS).

A prospectively collected multicenter database of patients who underwent HRM and pH-metry for GERD symptoms was prospectively collected. A  $MS \geq 137$  (risk rate 50%), an  $AET > 6\%$  and a DeMeester score  $> 14.72$  were considered positive for GERD. Good outcome was considered a decrease in GERD-Q at the follow-up. The three methods were compared using the McNemar test to determine the non-inferiority of the Milan Score in comparison with the AET and DeMeester score. Receiver operating characteristics (ROC) analysis was performed using Milan Score, AET and DeMeester score in determining improvement in GERD-Q.

Among 157 patients enrolled (median age 48 years, median body mass index (BMI) 24.6  $\text{Kg/m}^2$ , 47% males), 67 (42.7%) had a positive MS, 59 of which (88.1%) had a pathologic AET. Demographic and clinical and characteristics are shown in Table 1. ARS was offered to 45 subjects and it was more effective in patients with pathologic MS, AET and DeMeester score ( $p < 0.001$ , Figure 1). A non-pathologic Milan Score failed to predict good treatment response in 4.4% of the patients. The Milan Score was non-inferior to AET ( $p = 0.130$ ) and DeMeester score ( $p = 0.091$ ). ROC analysis showed an area under the curve of 0.790 for MS, 0.715 for AET and 0.714 for DeMeester Score.

The Milan Score is non-inferior to the AET and DeMeester score in predicting response to ARS and could therefore help to identify GERD patients who could benefit from surgery.