

Standardized thoracoscopic esophagectomy for thoracic esophageal carcinoma in the left lateral decubitus position under artificial pneumothorax is slightly more difficult to dissect the middle and lower mediastinum than in prone position, but it is possible to operate the upper mediastinum with good visual field. In salvage surgery after definitive chemoradiotherapy, it is difficult to complete the operation only by thoroscopic surgery, and it is thought that sometimes small thoracotomy can be performed safely and reliably.

**Methods:** If this procedure is considered feasible, start with thoracoscopic surgery. If it is decided that the procedure cannot be completed, add a small thoracotomy of about 10–15 cm to allow one hand. Thoracoscopy not only reduced invasiveness, shared detailed anatomy, but also improved operability by taping the esophagus and ensured emergency safety.

**Results:** This standardized procedure is applied to salvage surgery after definitive chemoradiotherapy from January 2016 to March 2019. Thoracoscopic surgery was performed in 14 of the 27 cases (52%). Thoracoscopic surgery was completed in 10 cases and small thoracotomy was used in 4 cases. There are no serious complications such as bleeding.

**Conclusion:** Starting surgery with a thoracoscopy and adding small thoracotomy as appropriate can share the advantages of thoracotomy and thoracoscopic surgery. This technique has the advantage that it can be easily converted to thoracotomy even in an emergency, and is considered to be superior to advanced cancer.

**Video:** [https://www.dropbox.com/sh/47jcqu3palpsfv/AAC4PvReWDP\\_WPBkJufxWU3da?dl=0](https://www.dropbox.com/sh/47jcqu3palpsfv/AAC4PvReWDP_WPBkJufxWU3da?dl=0).

## 224 A RETROSPECTIVE CASE-CONTROL STUDY ASSESSING THE CLINICAL AND ENDOSCOPIC CHARACTERISTICS OF EOSINOPHILIC ESOPHAGITIS IN JAPAN

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Eosinophilic esophagitis (EoE) is an allergy-associated clinicopathologic condition gaining an increasing amount of recognition in various areas of the world. While the clinical definition and characteristics may differ depending on country and region, sufficient studies have not yet been performed in Japan. To assess the prevalence of EoE among the Japanese population and the clinical features and the prognosis associated with the disease.

**Methods:** Medical data from January 2012 to October 2018 was gathered from nine Japanese clinical institutes. EoE, defined as more than 15 intraepithelial eosinophils per high power field, was determined based on esophageal biopsies. Clinical and endoscopic patterns in the cases with EoE were investigated and compared with 186 age- and sex-matched controls. We also analyzed the treatment and prognosis of an individual patient.

**Results:** From 130,013 upper endoscopic examinations, 66 cases of EoE were identified (0.051%; mean age: 45.2 years (range 7–79); 45 males). Patients with EoE had more symptoms (69.7 vs. 10.8%;  $P < 0.01$ ) such as dysphagia and food impaction, and more allergies (63.6 vs. 23.7%;  $P < 0.01$ ) compared with the controls. The prevalence of atrophic gastritis was lower in EoE patients than in the controls (20.0% vs. 33.3%). In 55 patients analyzed, 32 patients (78.0%) received proton pump inhibitors with or without swallowed topical corticosteroids. During the follow-up period (mean 23 months), no patient got worse regarding clinical and endoscopic findings.

**Conclusion:** The prevalence of EoE in the Japanese population was 0.051% which was comparable with previous reports in Japan. Male predominance, a history of allergies, and the absence of *Helicobacter pylori* infection might

be risk factors for EoE. Our study also indicated that the prognosis of EoE might be relatively good in Japanese populations.

## 235 5-YEAR FOLLOW-UP OF A PROSPECTIVE CLINICAL TRIAL OF AN ENDOSCOPIC FULL-THICKNESS PPLICATION DEVICE (GERDX™) FOR THE TREATMENT OF GERD

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The gold-standard in the operative treatment of gastroesophageal reflux disease (GERD) is the laparoscopic fundoplication. Alternatively, endoscopic devices to rebuild the gastroesophageal valve were invented. The aim of our study is to assess the improvement of GERD symptoms and quality of life in patients five years after the endoscopic full-thickness plication with the GERDX™ device.

**Methods:** Between 2013 and 2016 a prospective trial was implemented with forty patients and an endoscopic plication due to reflux symptoms with a pathologic workup for GERD. Limitation for the use of GERDX™ was a 2 cm hiatal hernia. Follow-up workup was done with high resolution manometry (HRM), 24 h-pH-impedance-catheter gastroscopy and questionnaires for quality of life (GIQLI) and reflux-symptoms (SCL).

**Results:** Median follow-up time was 57 months (36–74 months). There was a significant improvement of the DeMeester score, GIQLI and SCL between pre- and postoperative values in short-term as well as long-term follow-up. At least 55% of patients were assessed as failure of the plication device due to redo operations with laparoscopic fundoplication in 25% and/or necessary PPI use for GERD symptoms (40%). There is no pre- and postoperative significant difference in quality of life or reflux scores between successful and failed endoplications, but patients with laparoscopic redo operations showed significant higher DeMeester scores before and after endoscopic treatment.

**Conclusion:** There is a higher failure rate to the endoscopic full-thickness plication than to the laparoscopic fundoplication. A small group of well selected patients is eligible for the endoscopic GERDX™ device. In case of therapeutic failure a classic laparoscopic redo fundoplication is possible under more challenging operative conditions.

## 238 SERUM ALBUMIN EARLY DECREASE IS AN INDEPENDENT PREDICTOR OF MAJOR COMPLICATIONS AFTER ONCOLOGICAL ESOPHAGECTOMY; RESULTS FROM A LARGE EUROPEAN SERIES

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The predictive value of postoperative albuminemia decrease ( $\Delta$ Alb) has been increasingly evidenced in different types of major surgery but data on esophagectomy remain scarce. This study aimed to assess the predictive value of  $\Delta$ Alb for adverse short-term outcomes after oncological esophagectomy.

**Methods:** Retrospective analysis of an international multicentric cohort of patients undergoing oncological esophagectomy between 2006–2017. Patients with missing pre- and postoperative albumin values were excluded from the analysis. Primary endpoint was postoperative morbidity according to Clavien classification. Secondary endpoints were Comprehensive Complication Index (CCI) and length of hospital stay (LoS).

**Results:** A total of 1046 patients were analyzed. Major complications were reported in 363 (34.7%) patients. Albuminemia showed a rapid postoperative decrease on postoperative day 1 (POD1) ( $\Delta$ Alb POD1) with a median value of 11 g/L. ROC curve analysis determined a cut-off of 11 g/L for the prediction of overall complications. Patients with  $\Delta$ Alb POD1  $\geq$  11 g/L showed increased overall complications ( $p = 0.004$ ), major complications ( $p = 0.009$ ) and CCI ( $p = 0.006$ ) while LoS was comparable ( $p = 0.099$ ). On multivariable analysis,  $\Delta$ Alb POD1  $\geq$  11 g/L was an independent predictor of overall (OR: