Sarcopenia, a reduction in muscle mass, has been considered a preoperative risk factor for complications after esophagectomy while impaired perfusion of the gastric conduit has been associated with anastomotic leaks. The aim of this study was to stratify patients by their risk of anastomotic leak following esophagectomy using morphomic factors and quantitative assessment of gastric conduit perfusion.

Patients who underwent an esophagectomy with a cervical anastomosis and gastric conduit from 2015–2021 were included. Preoperative CT scans were processed using semiautomated algorithms (MATLAB; MathWorks, MA). Indocyanine green perfusion was assessed intraoperatively (SPY elite; Stryker, MI). Sarcopenia was defined using skeletal muscle area (Martin’s criteria). Decreased subcutaneous fat, decreased bone mineral density, and impaired conduit perfusion were defined as below the cutoff value from the ROC curve. The morphomic index was determined using the number of decreased morphomic factors present (0–3). The Fisher exact test, the Mann–Whitney U test, and multivariable logistic regression were used to make statistical comparisons.

140 patients with both perfusion and morphomic data were evaluated (Leak n = 27; No leak n = 113). Decreased subcutaneous fat, decreased bone mineral density, and impaired gastric conduit perfusion were associated with an anastomotic leak (p = 0.041, 0.017, and 0.010). Neoadjuvant chemoradiation was significantly more common in the leak group (p = 0.048). On multivariable analysis, a higher morphomic Index and impaired gastric perfusion were risk factors for anastomotic leak. The incidence of anastomotic leaks with a high morphomic index (2 or 3) and impaired gastric perfusion was 40.6% compared to 9.4% with a low morphomic index and without impaired gastric perfusion (p = 0.006).

Impaired gastric conduit perfusion and decreased preoperative subcutaneous fat area, bone mineral density, and skeletal muscle area, likely surrogates for increased frailty and poor nutritional status, were associated with an increased risk of anastomotic leaks especially when multiple morphomic factors were simultaneously decreased. These findings may be useful in risk stratification and intraoperative decision making in patients undergoing esophagectomy.

290. ANALYTIC MORPHOMIC INDEX AND QUANTITATIVE GASTRIC PERFUSION ASSESSMENT FOR RISK STRATIFICATION OF ANASTOMOTIC LEAKS FOLLOWING ESOPHAGECTOMY

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which pathological diagnosis was esophageal leiomyoma. CT showed wall thickening in the lower esophagus with a maximal esophageal diameter of 8 cm.

Giant esophageal tumor enucleation with antireflux fundoplication was performed using both laparoscopy and thoracoscopy. The tumor expanded circumferential shape with the longitudinal extent of approximately 8 cm. After tumor enucleation, the esophageal mucosa was circumferentially exposed from the level of the azygos vein to the esophagogastric junction without the muscle layer. The esophageal mucosal injury occurred in 3 places, which were repaired by primary closure using absorbable threads. The operation time was 827 minutes and the loss of blood was 230 mL. The specimen was 160 g, and the final pathological diagnosis was leiomyoma. Postoperative course was not eventful.

We experienced a case of enucleation for a giant esophageal circumferential submucosal tumor. Enucleation may be considered a possible treatment strategy to avoid esophagectomy even for a giant circumferential tumor especially in young patients.

The results of the JCOG1109 trial indicate that the standard preoperative neoadjuvant therapy is Docetaxel-cisplatin-fluorouracil (DCF) combined chemotherapy. However, appropriate preoperative treatment for borderline resectable cases is still controversial. Preoperative CF-RT therapy with more substantial local control continues to be an option for tumors with a high risk of invading adjacent organs.

The study participants were 163 cT3 locally advanced thoracic esophageal cancer patients who underwent preoperative CF-RT therapy followed by radical esophagectomy. The patients were partitioned into 58 borderline resectable cases (cT3.5 group) and 105 resectable cases (cT3 group). We compared the clinicopathological features, surgical results, and survival between the two groups to verify the effectiveness of preoperative CF-RT therapy for cT3.5 cases.

Borderline resectable esophageal cancer (cT3.5) treated with preoperative CF-RT therapy showed a comparable survival rate even though the pCR rate was lower than that of resectable esophageal cancer (cT3). Preoperative CF-RT therapy may still be a promising treatment for locally advanced thoracic esophageal cancer with suspected invasion of adjacent organs.

The important points in esophageogastric anastomosis after esophagectomy are ensuring blood flow at the tip of the gastric tube and releasing tension at the anastomotic site. The biggest drawback of the retrosternal route is the narrow space behind the sternoclavicular joint at the thoracic inlet, which increases the risk of anastomotic leakage and stenosis.

We note the following three points during anastomosis. (1) Confirm the blood flow of the gastric tube using ICG fluorescence method. (2) Insert circular stapler from the side wall of the gastric tube and be careful not to put tension on the wall of the gastric tube. (3) Adjust the length of the residual esophagus so that the anastomatic site is not located behind the sternoclavicular joint that can cause anastomotic leakage and stenosis.

Of the 132 cases of subtotal esophagectomy for esophageal cancer performed in our department from January 2017 to March 2022, 94 cases underwent retrosternal reconstruction. There are 66 and 28 cases, respectively, before and after the procedure revision in November 2020. Improvement was observed in the incidence of anastomotic leakage which decreased from 43.9% to 10.7%, and the incidence of anastomotic stenosis which decreased from 34.8% to 17.9%.

It is suggested that securing blood flow at the tip of the gastric tube, releasing the tension at the anastomotic site, and adjusting the anastomatic site not to be located behind the sternoclavicular joint may reduce anastomotic leakage and stenosis in the retrosternal esophageogastric anastomosis after esophagectomy.

294. AN UNUSUAL CASE OF EPIPHRENIC DIVERTICULUM COEXISTING WITHIN ESOPHAGEAL LEIOMYOMA

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Oesophageal leiomyoma and epiphrenic diverticulum are two rare entities to be simultaneously occurring together. The preoperative diagnosis in such coexisting conditions is often difficult and leiomyoma is mostly an incidental finding. Till date there is no evidence of the pathogenesis that if the diverticulum causes leiomyoma or vice versa? We report a case of 32-year-old male with no known co-morbidities, previous history of accidental kerosene oil intake 7 months ago, with dysphagia and retrosternal burning pain since 4 weeks with no history of documented weight loss. General physical and systemic examinations were unremarkable.

Contrast studies showed left sided epiphrenic diverticulum. CECT was suggestive of traction diverticulum. Endoscopy showed a large diverticulum on left side of esophagus 38 cm from incisors. On laparoscopy a mass extending to GEJ was appreciated and patient underwent laparoscopic assisted transhiatal esophagectomy and esophageogastric anastomosis with feeding jejunostomy. Postoperatively a mass of 15 x 8 cm was arising from distal oesophagus histopathology of which came out to be a leiomyoma. On POD ‘0’ patient developed Rt sided pneumothorax for which chest intubation was done. Repeat contrast studies showed a patent anastomosis and patient was discharged home.

A careful history, thorough investigations, and surgeon’s awareness of possible synchronous disease processes helps in the management of such patients.

295. BILATERAL VOCAL CORD PARALYSIS AFTER HYPOPHYSPAYEAL CERVICAL ESOPHAGEAL ESD—AN UNRECOGNISED RARE COMPLICATION

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This is a video showing ESD performed for recurrent early cervical esophageal squamous cell carcinoma in close proximity to the pharynx. The procedure was completed smoothly with en-bloc resection. However, patient developed vocal cord paralysis requiring temporary tracheostomy. It is postulated that vocal cord paralysis was caused by posterior cricoarytenoid muscle injury. This important muscle is the only laryngeal muscle that opens the vocal folds, and will lead to potential airway compromise if injured. There hasn’t been any report of vocal cord paralysis after cervical esophageal ESD,