Laparoscopic trashiatal esophagectomy with gastric lift for complex esophageal stricture. A case report

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Case Report

General Surgery

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Background
Esophageal stricture is the abnormal narrowing of the esophageal lumen, of variable etiology, clinical manifestations with timely identification is important to initiate the diagnostic/therapeutic approach that requires endoscopy, biopsies, progressive esophageal dilations. Complex strictures are asymmetric, with diameter ≤ 12 mm, do not allow the pass of an endoscope, and are usually candidates for surgical management by laparoscopic transhiatal esophagectomy, which has good results with lower rate of complications and early incorporation of daily activities.

Keywords: Esophageal stricture, esophagectomy.

Esophageal stricture is the abnormal narrowing of the esophageal lumen, associated with dysphagia, weight loss, odynophagia commonly, is a complication associated with variable etiology, which requires careful evaluation and individualized treatment. Therefore, a careful clinical history is important to evaluate the underlying causes, since stricture may be due to inflammation, fibrosis or neoplasia involving the esophagus and often causing mucosal/submucosal damage.

Its epidemiology is of low prevalence, affecting between 1.1/10,000 people, the incidence rate has increased in recent years due to the increase in endoscopic and diagnostic techniques that are performed more frequently, especially in patients with GERD, hiatal hernia, previous dysphagia, peptic ulcer and alcohol intake

Emphasis should be placed on symptoms, severity of symptoms and important signs. There are clinical classifications that define the severity of dysphagia such as the clinical scale of DOSS, Campora, DRS that encompass the degree, the level of clinical involvement, from mild dysphagia to solids, dysphagia to liquids and severe dysphagia both. Weight loss is associated with clear inability to ingest food, with progressive malnutrition directly affecting the various medical/surgical management discussed below.

Esophageal strictures are divided according to their etiology, according to their degree of stricture: For medical purposes they are divided into benign and malignant strictures (Table 1). Simple strictures are symmetric and concentric, with a diameter ≥ 12 mm and easily allow passage of a diagnostic endoscope. Complex strictures are those that do not meet one or more of the above characteristics, i.e.: they are asymmetric, with diameter ≤ 12 mm, do not allow passage of a diagnostic endoscope and/or do not respond to management with progressive esophageal dilations.

There are currently several diagnostic / therapeutic techniques, it is important both for the approach and for the staged management of esophageal stricture, with an initial evaluation, we use endoscopy with biopsy, identify the complexity and degree of stricture, with a biopsy indicating the etiology of the same, in patients with benign stricture progressive management is chosen based on esophageal dilatations with selection of type of dilator either mechanical, balloon, esophageal stent. Surgical management is reserved for benign complex strictures (failure of previous dilatations) and partial or complete esophagectomy with reconstruction with gastric lift is indicated.

Surgical management reserved for selected cases, consists of a laparoscopic esophagectomy, there is the open approach and laparoscopy, the latter with the advantage of less days of hospital stay, less postoperative pain, less blood loss, less pleuropulmonary complications. Laparoscopic esophagectomy with transhiatal gastric lift reconstruction is a useful technique, allowing the

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Benign strictures	Malignant strictures
Peptic stricture	Squamous cell carcinoma
Schatzki ring	Adenocarcinoma
Webs	Extrinsic compression (e.g. malignant mediastinal lymph node, lung cancer)
Postsurgical anastomosis	
Caustic injury	
Radiation injury	
Eosinophilic esophagitis	
Extrinsic compression (e.g. vascular compression)	

Table 1. Causes of esophageal strictures.

continuation of gastrointestinal transit, with associated surgical techniques such as pyloroplasty and the initiation of early enteral diet with feeding jejunostomy. The aim of this article is the report of a rare case: Complex esophageal stricture and its treatment by laparoscopic esophagectomy with transhiatal approach with gastric ascent.

Case report

This is a 73 year old male with a history of positive alcoholism and smoking since his youth, without surgical or chronic degenerative history prior to the current picture, with manometry is performed where stenosis is detected, with multiple unsuccessful attempts of esophageal dilatation with balloon, high endoscopy with biopsy is indicated where it reports: Dilated esophagus, with food debris, complex stricture at 30 cm of incisors covered by squamous epithelium with tortuous capillaries, the stricture is advanced and measures 3 cm in length. Stomach with thickened folds, a biopsy was taken (Figure 1). The patient was referred to our service for complex esophageal stricture and was a candidate for surgical management, performing transhiatal laparoscopic esophagectomy with gastric ascent, with mechanical laterolateral esophago-gastroanastomosis (cervical approach) with pyloroplasty and feeding jejunostomy (Figure 3-5) (

Histopathology report indicates anatomical and histological changes compatible with achalasia with pseudoepitheliomatous hyperplasia in the lower third of the esophagus with foci of low-grade esophageal squamous intraepithelial neoplasia, acute ulcerated esophagitis with hemorrhage of the submucosa with 4 of 4 lymph nodes, peri esophageal with mixed hyperplasia, negative to malignancy (figure 2).

Discussion

Complex esophageal stricture, a candidate for surgical management with a minimally invasive approach, requires a long learning curve and high-level surgical training. It has been demonstrated a quick return to daily life, with less post-surgical pain, shorter hospital stay, lower risk of surgical site infection, less bleeding after surgery compared to the open approach. Likewise, it requires multidisciplinary management for an adequate medical-surgical management: trained surgeons, endoscopists,

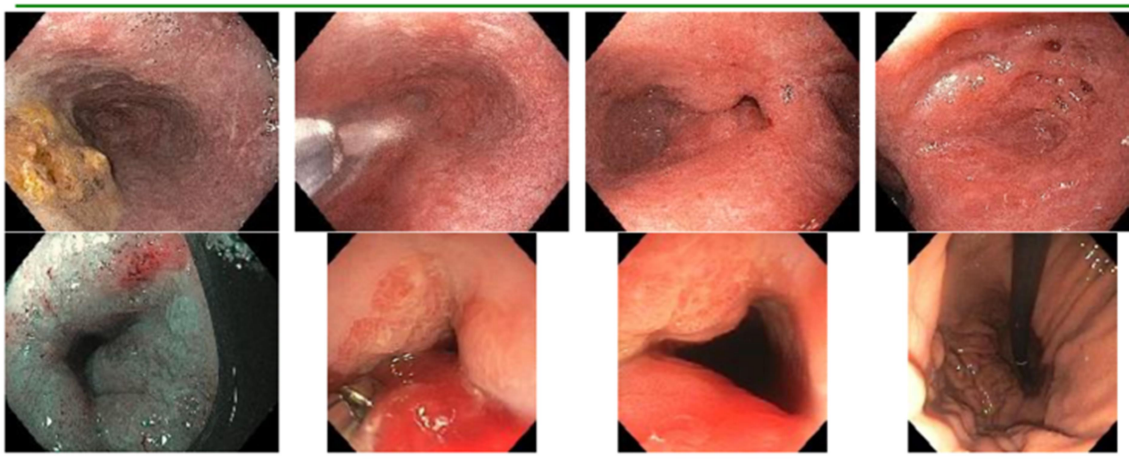

Figure 1. The stricture is advanced and measures 3 cm in length

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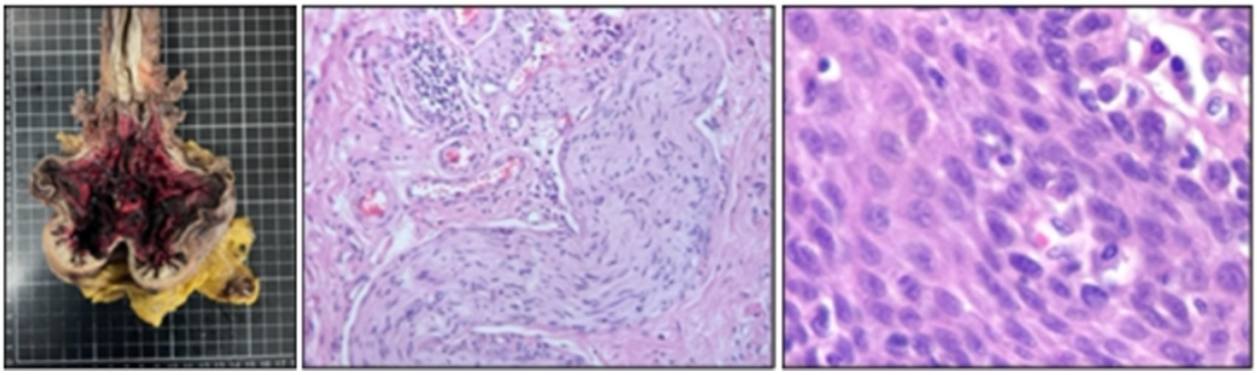

Figure 2. Histology: Low-grade esophageal squamous intraepithelial neoplasia

internists, anesthesiologists, intensivists, nurses, etc.

It should be emphasized that the laparoscopic versus open approach, especially with a transhiatal approach, allows identification and visualization of mediastinal structures (pleura, pericardium, lung, vagus nerve), with a minimally invasive dissection, avoiding vascular disruption with major bleeding compared to the wide dissection performed manually to esophageal mobilization in open surgery.

It is important to take into account post-surgical complications such as atelectasis, pleuropulmonary syndromes, anastomotic leakage, mediastinitis, surgical reintervention. Strict cardio-pneumomonitoring should always be taken into account, ideally in post-surgical management and should ideally be carried out in an intermediate or intensive care unit, with the aim of early detection of these complications and their timely management.

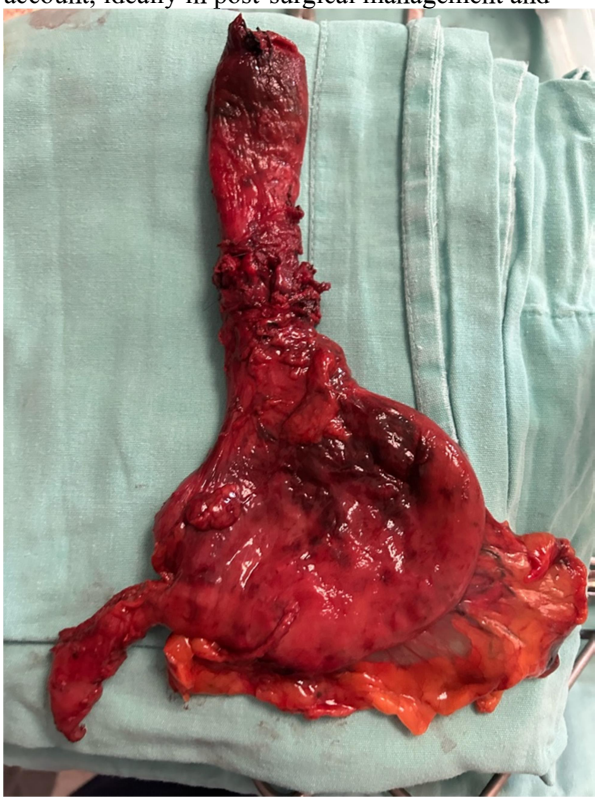

Figure 3. Resection of esophagus and stomach.

Conclusion

Complex esophageal stricture is currently a rare entity, surgical management is a viable option, so the laparoscopic transhiatal approach is the procedure of choice because of its low morbidity and mortality and good results. In addition, it offers the benefits of minimally invasive surgery, greater incorporation to daily activities, less surgical site infection, pleuropulmonary complications and shorter hospital stay. Pyloroplasty allows early gastric emptying and jejunostomy favors early initiation of enteral diet.

Figure 4. Removal of the piece by umbilical working port.

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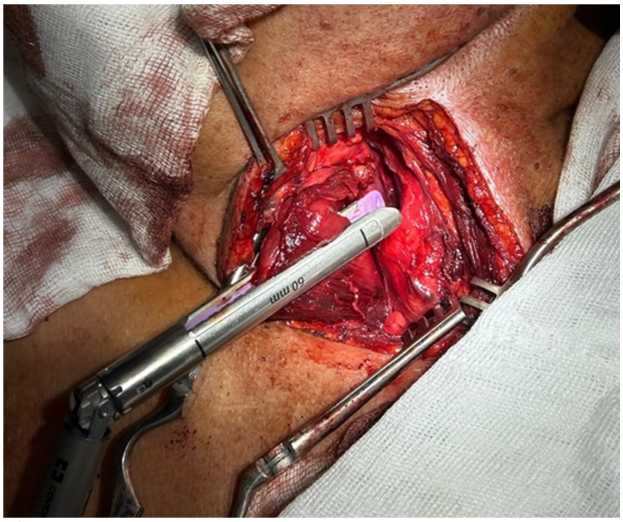

Figure 5. Anterior cervical approach, with dissection of the esophagus.

Conflicts of interests

There are no conflicts of interest.

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