Recurrent symptoms after Heller myotomy for achalasia. A case report

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Background
Achalasia is a chronic esophageal disorder that affects the motility of the esophagus, making it difficult for aliments to pass into the stomach. It is characterized by a lack of coordination in the esophageal muscles and a lower esophageal sphincter that does not relax during swallowing. This causes dysphagia, regurgitation of aliments, a feeling of obstruction in the chest and weight loss due to decreased intake. The cause is related to the degeneration of nerve cells in the esophagus. Diagnosis is made through imaging studies and esophageal function tests. Treatment may include medications to relax the sphincter, esophageal dilation or, in severe cases, surgical management.

Keywords: Achalasia, Heller myotomy.

Case Report

General Surgery

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Achalasia is a motility disorder of the esophagus that presents with symptoms of dysphagia, regurgitation of undigested food, respiratory symptoms (nocturnal cough, recurrent aspiration, and pneumonia), chest pain, and weight loss (1), the failure to relax the lower esophageal sphincter (LES) has been identified as the cause of achalasia, resulting in impaired flow of ingested food into the stomach and subsequent stasis of food and secretions in the esophagus. Achalasia results from the disappearance of the myenteric neurons that coordinate esophageal peristalsis and LES relaxation (2). The most common form of achalasia is idiopathic achalasia, with mean incidences of 0.3–1.63 per 100 000 people per year in adults and 0.18 per 100 000 people per year in children (3-6). In adults, achalasia occurs with equal frequency in men and women, but incidence increases with age. In most studies, the mean age at diagnosis was over 50 years (7). Associations with trisomy 21, congenital hypoventilation syndrome and glucocorticoid insufficiency have been reported. Finally, there is an association with an infectious etiology with the parasite Trypanosoma cruzi causing aganglionosis of the LES in Chagas disease, prevalent in South America (8). Achalasia is often discussed with other motility disorders of the esophagus such as diffuse esophageal spasm, or nutcracker esophagus, as they share some clinical and manometric features (9-10). Untreated cases of achalasia lead to an extremely dilated esophagus forming a tortuous, sigmoidal shape. This end stage condition is known as mega esophagus and most treatment modalities are unsuccessful (11).

Case report

A 53-year-old female patient, originally and resident of Cortazar Guanajuato, denies chronic degenerative diseases. Surgical history of Heller Cardiomyotomy + Fundoplication 15 years ago. He began with symptoms of 3 months of evolution, in which he presented dysphagia when swallowing solid foods with progression to liquids, regurgitation of food and sensation of a foreign body in the chest. On physical examination, patient is conscious, oriented, cardiopulmonary without apparent ventilatory compromise, plane abdomen with no pain to the palpation, without evidence of peritoneal irritation, peristalsis present, extremities with adequate distal capillary filling. Laboratories report upon admission: Complete blood cell count: Leukocytes 6,900, Hemoglobin 12.9 g / dl, Hct 43%, Platelets 245,000. Liver and Pancreatic Function Tests: BT: 0.6 mg / dl, BD: 0.5 mg / dl, BI: 0.1 mg / dl, FA: 114.2 U / L, AST: 28 U / L, ALT: 32 U / L.

Esophagram reports: The classic 'bird's beak' appearance, esophageal dilation and absence of peristalsis **(Figure 1)**.

Panendoscopy reports: Hypopharynx structures without alterations. Esophagus with a sigmoid shape, dilated, extending from the upper third of the esophagus inside with solid food residues, normal vascularity, mucosa with linear erosions > 5 mm (not confluent at its base). Esophagogastric junction was found 44 cm from the upper dental arch coinciding with the diaphragmatic impingement.

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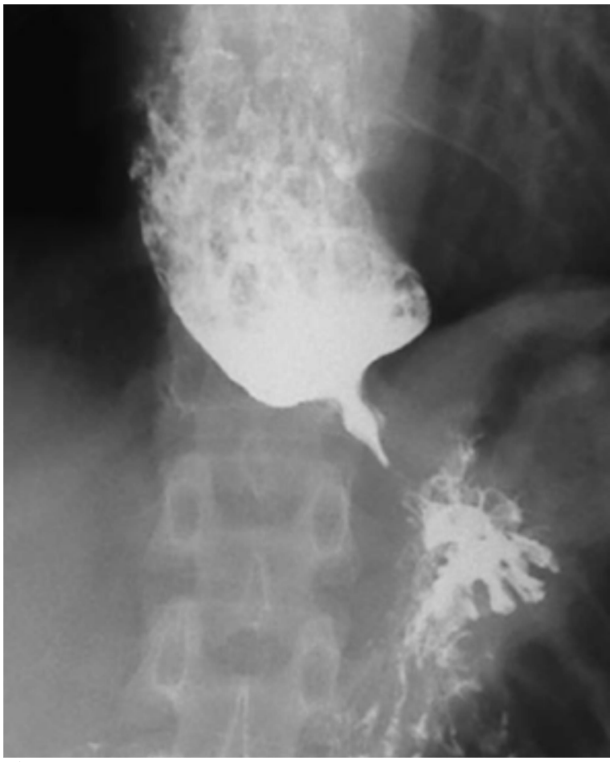

Figure 1. Classic 'bird's beak' appearance, esophageal dilation and absence of peristalsis.

Gastric chamber of normal shape, location, distensibility and vascularity, with presence of moderate mucohyaline content. The pylorus is central and without deformities, which allows the passage of the endoscope to the bulb and 2nd portion, with normal characteristics. During the retroflexion maneuver, the endoscope is observed well attached to the hiatus. The gastric mucosa was observed to be generally atrophic. In the 2nd stage, dilation is performed with a 18-20 mm pneumatic balloon **(Figure 2)**. After dilation, discreet disruption of the mucosa is observed with little self-limited bleeding.

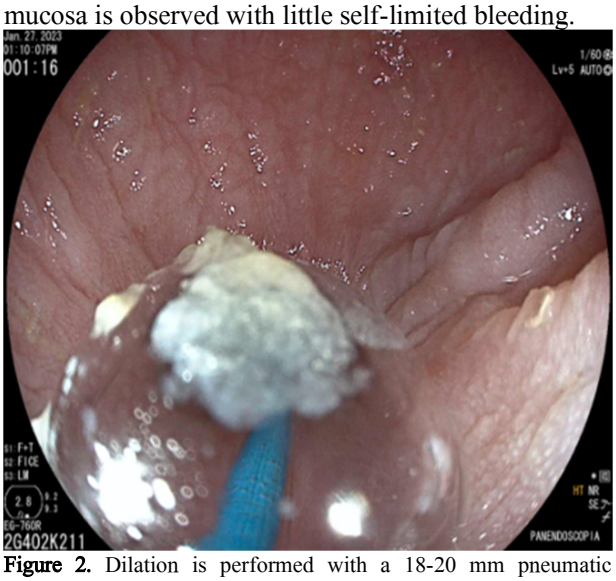

Figure 2. Dilation is performed with a 18-20 mm pneumatic balloon.

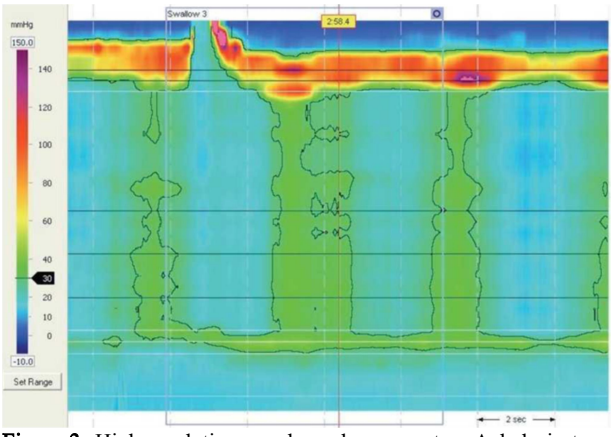

Figure 3. High-resolution esophageal manometry: Achalasia type II, normotensive lower esophageal sphincter, esophagogastric junction type I, incomplete esophageal clearance.

High-resolution esophageal manometry reports: Achalasia type II, normotensive lower esophageal sphincter, esophagogastric junction type I, incomplete esophageal clearance **(Figure 3)**.

Due to the persistent clinical symptoms and the clinical studies, the diagnosis of persistent achalasia type II was established, a Redo Heller Myotomy surgical procedure was planned, a preoperative evaluation was carried out by the internal medicine service, granting surgical risk of ASA 1, Goldman 1 , Lee 1. In the operating room the patient is placed in a supine position, an open Hasson-type approach is performed, Trocar placement: Left paramedial 12mm, Subxiphoid 5mm, Right subcostal 5mm, Left subcostal 5mm, Left flank anterior axillary line 5mm under direct vision . Dismantling of the previous laparoscopic fundoplication with a harmonic scalpel begins, the right and left diaphragmatic pillars are dissected posteriorly, the anterior vagus nerve (left) is identified, which is respected. Myotomy is performed on the anterolateral aspect of the esophagus (longitudinal and circular muscle), the myotomy continues 6cm above the esophagogastric junction,

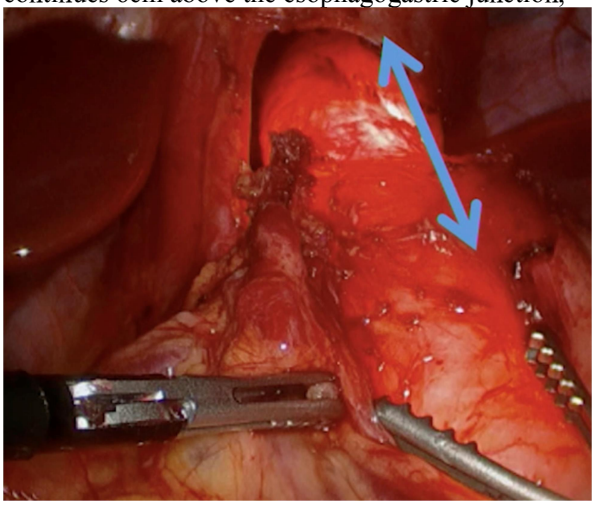

Figure 4. Continuous myotomy 6cm above the esophagogastric junction, posteriorly distal to the stomach 3cm

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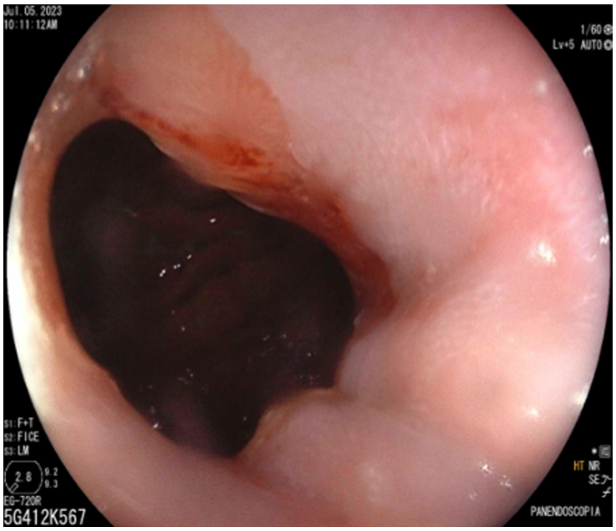

Figure 5. Competent myotomy

subsequently distal to the stomach 3cm **(Figure 4)**. Intraoperative endoscopy is performed to check the disruption of the fibers and the absence of perforation), Toupet fundoplication is performed with simple stitches with Ethibond 2-0. The diaphragmatic pillars are closed with 3 points of Ethibond 2-0, a 5/16 Penrose type drainage is placed in the esophageal hiatus, it is exteriorized by contrature on the left flank, trocars are removed under direct vision. The surgical procedure was terminated without complications or incidents, bleeding 50cc.

On the first post-surgical day, the patient was asymptomatic, tolerating oral diet, present urination, channeling gases, which is why her discharge was decided. After a month, a control panendoscopy was requested, which reported: Sigmoid esophagus with food retention, competent myotomy **(Figure 5)**, gastroesophageal union by Hill I endoscopic classification.

Discussion

The main concern about revisional therapy after failed or recurrence achalasia is the complexity of a second surgery, this mainly because it has previously been reported that the presence of adhesions, dense fibrosis, and loss of tissue planes secondary to previous HM can cause technical difficulties in approaching the gastroesophageal junction and may decrease the chance of symptom relief, and success of the procedure, especially after multiple prior interventions and in patients with megaesophagus. Although laparoscopic surgery after previous procedures in upper abdominal cavity can be complex and risky, surgical expertise can diminsh conversion rates, provide excellent clinical outcomes, and of course allow preservation of the organ.

In this clinical case a Heller miotomy REDO was performed taking into account all the possible complications, and performing a complete pre-surgical study to find a therapeutical and surgical option available for this particular case and considering the severity of the symtpoms of the patient. The success of the procedure was demonstrated with a full decrease in symptoms and excellent clinical outcomes at middle term follow up.

Conclusion

The main finding of this case report is to prove that revisional therapy after failed HM is safe and effective. The success of the surgery can be predicted by initial work up with a barium swallow study followed by upper endoscopy. Dor and Toupet fundoplication have been found to have equivalent outcomes in the short term. We prefer Toupet to Dor fundoplication because of lower failure rates and improved EGJ relaxation with similar reflux rates in patients.

Conflicts of interests

The authors declare no conflict of interest.

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