

## APPROACH TO GASTRIC VOLVO WITH GASTROPEXY BY VIDEOLAPAROSCOPIC GASTROSTOMY: CASE REPORT

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**Abstract:** Introduction: Gastric volvulus is a condition in which the stomach rotates abnormally, causing negative repercussions for transit through the gastrointestinal tract. Whether idiopathic or congenital, its cause can result in acute or chronic manifestations. Case report: female patient, 64 years old, with eructations and regurgitation of solids and liquids for 2 years, diagnosed with gastric volvulus, underwent laparoscopic surgery with Nissen gastric fundoplication and gastropexy with a temporary gastrostomy tube to prevent recurrence. Conclusion: it is extremely important to include techniques that may result in a lower chance of recurrence of the condition and consequently new approaches, improving the patient's prognosis and length of stay in hospital.

**Keywords:** Gastric Volvo. Gastropexy. Gastrostomy.

## INTRODUCTION

Gastric volvulus is defined by an abnormal rotation of the stomach through its own axis, be it organoaxial, mesenteroaxial or in combination. This movement will have repercussions on the flow of the gastrointestinal tract. It is a statistically less common condition than intestinal volvulus, and may have an idiopathic etiology, generally associated with defects of the gastric ligaments (gastrocolic, gastrohepatic, gastrophrenic and gastroduodenal), which favors the approximation of the cardia and pylorus when the stomach is full, accounting for  $\frac{2}{3}$  of cases or a congenital origin, formed by anatomical abnormalities that cause abnormal movement of the stomach, the most common being a paraesophageal hernia. It may be related to Bochdalek hernia in children. Its manifestations can occur acutely through Borchard's triad, in up to 70% of cases, which is characterized by pain in the epigastric region, vomiting without

externalizing the contents and difficulty or inability to pass a nasoenteral tube, as well as chronically, which generally evolves with nonspecific symptoms, such as dysphagia. Its diagnostic investigation involves tests such as chest and abdominal radiography, which will make it possible to visualize the intrathoracic stomach with an air-fluid level, generally in the retrocardiac portion, since many volvulus are associated with paraesophageal hernia. If intra-abdominal, gastric distension with air-fluid level will be seen. To facilitate the identification of volvulus, we can use barium contrast on the x-ray, thus being able to visualize an abnormal flow and torsion in the stomach. Computed tomography and magnetic resonance imaging can also be requested, allowing the visualization of signs of both thoracic and abdominal gastric torsion. They are commonly used in cases where the patient, for some reason, cannot receive contrast. Furthermore, we can use ultrasound, in places where previous exams are not available, despite its low specificity, as well as upper digestive endoscopy to investigate differential diagnoses or associated abnormalities. When it comes to differential diagnoses, it is important to take into consideration, diseases such as: esophageal reflux disease, peptic ulcers, esophageal cancer, esophageal motility diseases, esophageal diverticulum, gastric cancer and gastroparesis. Management in cases of gastric volvulus is essentially surgical. In situations of acute manifestation, surgery must be emergency due to the possibility of gastric necrosis and progression to abdominal sepsis and cardiovascular collapse. In general, a hiato-plasty is performed, along with a partial fundoplication and a gastropexy. There are still no studies that satisfactorily clarify whether there is a superiority between laparotomy or laparoscopy in acute conditions, and endoscopy can also be used in more serious cases with a percutaneous gastrostomy to fix

the stomach. Chronic conditions are treated with elective surgeries, the majority of which are via laparoscopy. It is extremely important to highlight that advances in the diagnosis of gastric volvulus have brought a substantial drop in mortality rates, which currently range between 15-20% in acute cases and 13% in chronic cases. Post-operatively, it is important to maintain gastric decompression until adequate gastrointestinal flow is confirmed. Accordingly, respiratory physiotherapy and early ambulation are factors that contribute to a better prognosis.

### CASE PRESENTATION

Female patient, 64 years old, hypertensive, arrives at the digestive system surgery outpatient clinic of the Adult Health Clinic with eructations, choking and regurgitation of both solids and liquids for 2 years. He still reports reflux symptoms for many years, but cannot identify the start date. Undergoing treatment with proton pump inhibitors at double doses for 2 months, but without success. He brought to the consultation an upper digestive endoscopy report carried out 70 days ago, which showed a gastric esophageal transition 8cm from the diaphragmatic clamping, mild enanthematous gastritis of the antrum and an enlarged hiatus with a herniated gastric fundus. Accordingly, the biopsy revealed mild chronic gastritis and the absence of H. Pilory bacteria. Using losartan 50mg, hydrochlorothiazide in the morning, clonazepam 2mg at night, omeprazole 20mg daily and sertraline 25mg daily. She has had previous total hysterectomy surgeries 20 years ago and tubal ligation. The procedure applied was to take her to the endocrinology clinic, request Esophagus-stomach-duodenography (EED), laboratory tests, chest x-ray and exercise test, in addition to issuing an AIH to perform a surgical procedure. Returns to the outpatient clinic after 49 days with a DSE

report indicating a sliding hiatal hernia with intrathoracic gastric fundus and esophageal motor disorder. Awaiting authorization from AIH to carry out the procedure. The patient underwent laparoscopic surgery, in which a very wide diaphragmatic hiatus was visualized, associated with a large hiatus hernia with the gastric body and fundus and part of the intrathoracic omentum. Adhesion lysis and minor curvature and greater curvature were performed with Nissen gastric fundoplication and gastropexy with a videolaparoscopic gastrostomy tube, in order to avoid recurrences due to massive esophageal hiatal hernia with partial gastric volvulus. She had a good evolution with acceptance of the soft diet, diuresis, flatus and ejections present and was discharged from hospital on the 5th post-operative day with a physical examination showing good general condition, hydrated, flushed, afebrile, anicteric and acyanotic, flaccid abdomen, painless and noisy. hydroaerials present. She was advised to eat a soft diet, use prescribed medications and return to the outpatient clinic after a week. Patient goes to the office on the 11th POD, reports that around the 9th POD he developed a large amount of gastric liquid coming out through the GTT Foley probe ostium, being pulled a day ago and with symptom improvement on the day of the consultation. Regarding the physical examination, she presented a flaccid abdomen, painless on palpation and with the presence of erythema. The surgical wound was clean, dry and with little serous content on GTT gauze. The approach applied was to start a mild oral diet, return after 30 days, as well as a barrier cream. In a subsequent outpatient consultation, the patient reports improvement in secretion output through the GTT ostium, maintains good acceptance of the diet and unchanged bowel habits. On physical examination, the abdomen is flaccid,

depressible and has improved erythema, the surgical wound is clean and dry, and there is little serous fluid leaking from the GTT. Given these satisfactory results, she was advised to return in 3 months to have the GTT tube removed. In a consultation held on 11/09/21, she only complained of pain in surgical incisions, but without heartburn or dysphagia. She requested EDA, ultrasound and laboratory tests, in addition to medical advice. After 111 days, she returned to the outpatient clinic with satisfactory evolution and mild dysphagia, in addition to carrying a report from the last EDA, which shows well-coupled diaphragmatic clamping and continent fundoplication. In the last consultation carried out in June 2021, she reported no complaints or complications other than occasional mild dysphagia.

## DISCUSSION

Gastric volvulus is a condition that is statistically less common than in other regions of the gastrointestinal tract. In most cases, its cause is closely linked to hiatal hernia, and it may also be related to defects in the gastric ligaments. Its presence, both acutely and chronically, can lead to dysphagia, pain in the epigastric region, among others, and can even progress to necrosis and subsequent sepsis. Exams are commonly carried out to rule out possible differential diagnoses, such as radiography of the esophagus, stomach and duodenum with barium contrast (EED) and upper digestive endoscopy, just as we can use computed tomography or magnetic resonance imaging when the patient, for some reason cannot receive contrast. Treatment is based on surgery, preferably videolaparoscopic, in chronic conditions in which it is possible to

perform an elective procedure, in which a hiatoplasty, a partial fundoplication and a gastropexy are performed to fix the stomach, aiming to overcome the ligament weakness present in these cases. The case report described presents a peculiar surgical approach in the face of chronic gastric volvulus in a patient with a Bochdalek hernia, a congenital pathology, more common in children, which is caused by a defect in the posterolateral diaphragmatic foramen. A Foley GTT probe was included videolaparoscopically in addition to the Nissen fundoplication. In this case, there was no hiatoplasty due to the impossibility of approaching the hiatus as it was a Boechat hernia and not a paraesophageal hernia. The patient had a very satisfactory evolution, being discharged from hospital on the 5th post-operative day, good acceptance of the oral diet, good bowel habits and removal of the Foley catheter 4 months after the surgical procedure. To date, she has not shown any signs suggestive of possible recurrence.

## CONCLUSION

It is extremely important that the surgeon bears in mind that each case is unique and his conduct must be based on techniques that bring increasing safety to the patient, keeping an eye on new studies and possible new approaches in the face of increasingly challenging cases. The inclusion of this temporary gastronomy tube has proven to be increasingly efficient in cases of more severe failures of both the gastric ligaments and the diaphragmatic foramen, as is the case of the patient in question, who had a Bochdalek hernia, an uncommon condition at that age.

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