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Scientific letter

Intermittent gastroesophageal prolapse after a Nissen funduplication treated with Hill gastropexy

Prolapso gastroesofagico intermitente despues de una funduplicatura de Nissen tratado con gastropexia de Hill

Intussusception is a rare cause of intestinal obstruction. It can be anterograde, in which an intestinal segment is invaginated into a distal segment, or retrograde, in which the distal segment is introduced into a proximal segment. The most frequent locations are the small intestine and colon, with invagination of the stomach into the lumen of the distal oesophagus being exceptional, and with few cases published in the scientific literature.

We present the case of a 75-year-old man, with a history of peripheral arterial disease, gastric ulcer and laparoscopic surgery for hiatal hernia and gastroesophageal reflux with subsequent reintervention (Nissen fundoplication) 10 years previously. For two months he had been reporting self-limited and recurrent episodes of dysphagia for solids and liquids that caused retrosternal discomfort, nausea and some sporadic vomiting, without digestive bleeding or weight loss. He took proton pump inhibitors (PPIs) as needed and denied symptoms of gastroesophageal reflux (GER).

Physical examination was normal with a body mass index (BMI) of 25.5 kg/m^2 and well consolidated wounds from previous laparoscopy. The patient rejected oesophageal manometry-pHmetry due to previous bad experiences. Since many years had passed without symptoms of GER and dysphagia was reported as the dominant symptom, a gastroscopy was performed directly without a prior barium study. In the upper gastrointestinal endoscopy, no mass was seen, with normal oesophageal mucosa, motility and morphology in the proximal and middle third. At the distal level, gastric prolapse was observed through competent fundoplication (Fig. 1), which disappeared and appeared with peristalsis and did not prevent the passage of the endoscope to the stomach, where appearance was normal. Computed tomography (CT) revealed post-surgical changes from the fundoplication without other significant changes.

Due to persistent symptoms despite medical treatment, laparoscopic surgery was decided. There were intense adhesions, a 3 cm hiatal defect without herniation into the mediastinum of the fundoplication that presented a partial separation of the ends (1 cm), four non-absorbable fixation points on the right side of the plication to the right diaphragmatic crus and two stichtes of attachment of the left side to the diaphragm. Reinforcement of the fundoplication, release of the right side and a Hill gastropexy were performed fixing the proximal gastric body to the pre-aortic fascia (Fig. 2).

The patient was discharged 24 hours after admission, with good general condition and oral tolerance. After three months of follow-up, the patient was asymptomatic with no new episodes of dysphagia and with good oral tolerance.

In 1983, Sugawaet et al., observed gastric intussusception in 10% of gastroscopies performed on patients with upper

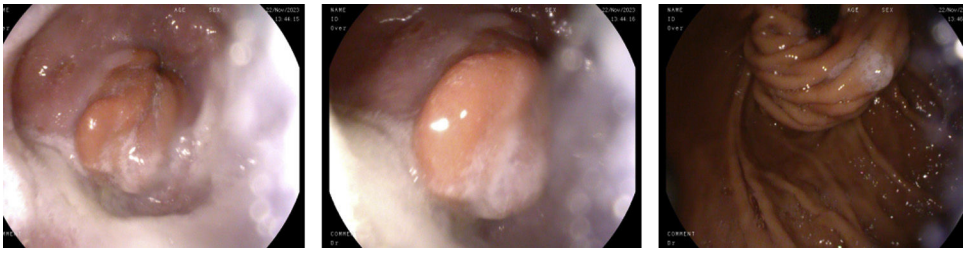

Fig. 1 – Upper digestive endoscopy showing prolapse of the gastric mucosa in the distal oesophagus.

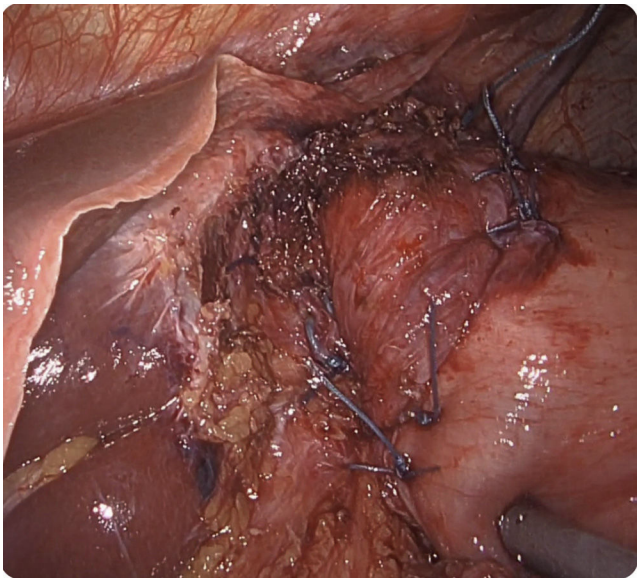

Fig. 2 – Laparoscopic image of the Nissen-type fundoplication and Hill gastropexy reinforcement.

gastrointestinal bleeding.[1] In the same year, Bessonet et al., described postemetic cardiogastropathy in which gastroesophageal prolapse, Mallory-Weiss syndrome and spontaneous oesophageal perforation (Boerhaave syndrome) were progressive states resulting from the same dysfunction produced by a sudden and sustained increase in abdominal pressure, and contraction of the abdominal wall muscles accompanied by retrograde gastric peristalsis.[2]

In the largest published series of gastroesophageal intussusception with 43 patients, Gowenet et al., identified the following risk factors: eating disorders, alcoholism, congenital duodenal obstructions (Ladd's bands, intestinal malrotation of superior mesenteric artery syndrome), physical exertion, disease gastroduodenal ulcer, oesophagitis and hyperemesis gravidarum.[2]

Gastric intussusception has also been described in patients with achalasia treated with a Heller cardiomyotomy,[3,4] or a peroral endoscopic myotomy (POEM).[5,6] Other pathogenic factors described are hiatal hernia,[7] abnormal relaxation of the lower oesophageal sphincter,[3] and weak fixation of the stomach to other organs due to the presence of lax and redundant ligaments[8,9] However, there is only one reported case of intussusception after a Nissen-type fundoplication in a paediatric patient.[9] In our case, the only factors potentially related to retrograde gastric intussusception were gastroduodenal peptic disease and excessive fixation of the right side of the plication to the right crus.

There is no difference in incidence by sex, although in women it has been observed at older ages and with higher BMI. The most common clinical presentation is epigastric pain, dysphagia, and even upper gastrointestinal bleeding, which may be preceded by nausea or prior vomiting.[7,9] Sometimes it can be confused with an ischaemic coronary condition.[2] The usual diagnostic technique is upper gastrointestinal endoscopy. In our case, the symptoms were mild, but with recurrent episodes. Since there were no signs of GER and the endoscopy showed a competent fundoplication, there was no insistence on performing oesophageal manometry and pHmetry, which the patient refused.

Treatment is controversial. In oligosymptomatic patients in the initial phase, conservative treatment can be chosen, modifying lifestyle habits, weight loss, PPIs and prokinetics.[2,10] On occasions, endoscopic resolution is achieved.[10] When there is no response to medical treatment or there are acute complications, surgery must be performed. Although thoracotomy approaches have been described,[7] the most common is laparoscopic. In this case it was considered appropriate to reduce the excessive fixation to the right crus, close the hiatus and fix the gastric body with a Hill gastropexy. Although uncommon, the primary use of this technique is in patients with GER after a vertical gastrectomy or gastric bypass and in paediatric patients with gastric volvulus. In our case it was a valid option with a favourable initial result, with the patient being asymptomatic after three months of follow-up.

Conflict of interests

None.

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