nal perforation or severe bleeding, surgical management is required[1,3,6,8].

Without treatment, the prognosis is fatal outcome at six months[4]. With treatment, the prognosis is reserved, due to the high relapse rate (30–60%)[2,4,7]. The main causes of death are surgical complications in 44% of patients[7] and chronic kidney failure in 50%[2].

To the best of our knowledge, this is the first case of a patient with GPA with GI involvement to be reported in Latin America. It is important to emphasize the relation between GPA and GI bleeding, to make the diagnosis and provide opportune treatment.

Ethical considerations

The present study complies with the current bioethical research regulations, including the protection of persons and animals, data confidentiality following the protocols of the work center regarding their publication and the preservation of patient anonymity, right to privacy, and informed consent. The authors declare that there is no personal information that can enable patient identification.

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Conflict of interest

The authors declare that there is no conflict of interest.

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Esophageal bezoar: A multidisciplinary approach☆

Bezoar esofágico: un abordaje multidisciplinario

Esophageal bezoar is a rare condition that is usually associated with structural or motility disorders[1]. Endoscopy is the main tool for diagnosis and treatment, requiring a single session or multiple sessions[1,2].

An 81-year-old man was admitted in the emergency department with dysphagia and hypersalivation after having eaten bread and fish three days prior. He had a history of diabetes mellitus, ischemic stroke, ischemic heart disease, and was in treatment with acetylsalicylic acid, metformin, pantoprazole, indapamide, and perindopril. The patient had presented with progressive dysphagia to solid food for the past few months but had not sought medical attention. Physical examination, chest X-ray, and blood test were normal.

An esophageal endoscopy was performed. The esophagus was completely obstructed by a firm, yellowish concretion, 25 cm from the incisor teeth (Figs. 1 and 2). Multiple endo-

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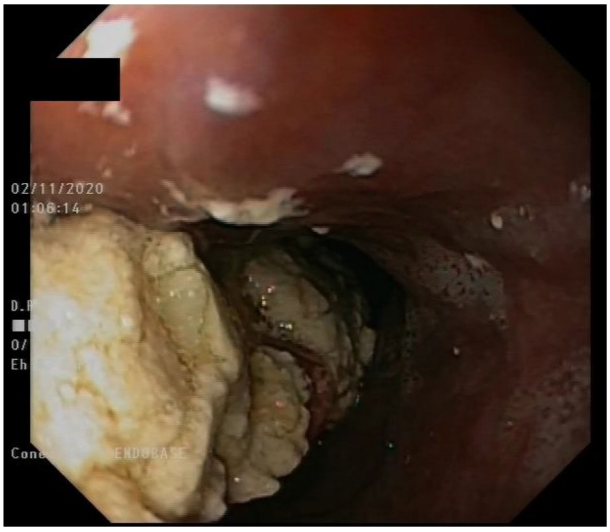

Figure 1 Endoscopic view of the proximal esophagus with food remnants that allowed passage of the endoscope.

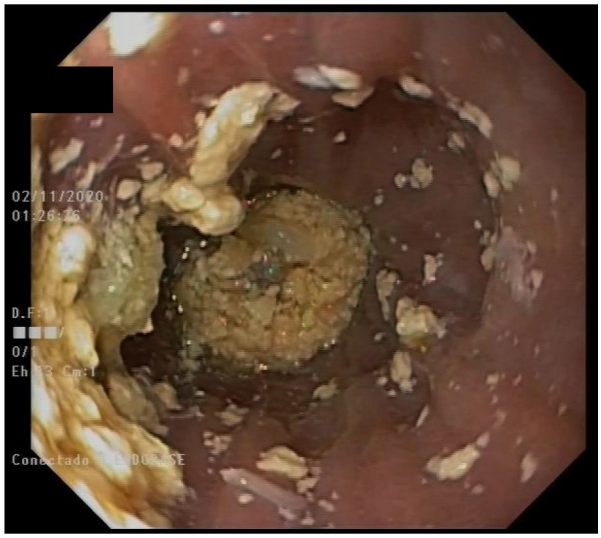

Figure 2 Endoscopic view of the yellowish bezoar causing complete esophageal obstruction.

scopic maneuvers were employed (polypectomy snare, Roth net, and forceps), but all were unsuccessful.

We proceeded to inject a carbonated soft drink (cola) into the bezoar to soften it, using the tip of a 22-Fr injector through the accessory channel of the endoscope. A tunnel, 25–40 cm from the incisor teeth, was constructed with alligator forceps, but the remaining bezoar prevented the stomach from being reached. The cola reflux had to occasionally be sucked up from the oropharynx through a tube, to avoid the risk of bronchial aspiration. Taking into account the risk of an iatrogenic event resulting from a long procedure, we decided to finish the endoscopic session and start treatment with prokinetics.

One day later, the patient was asymptomatic, so we attempted to dissolve the remaining bezoar with oral cola intake (250—1000 ml per day). Three days after the endoscopy, computerized tomography was normal.

We decided to repeat the endoscopy four days after the patient was admitted to the hospital. The esophagus had reduced peristalsis, with tertiary waves, the esophagogastric junction was permanently puckered, and no mucous alterations were found.

With high suspicion of an esophageal motility disorder, we ordered a manometry at a tertiary care center, and discharged the patient, with a crushed food diet. We asked the cardiologist if the antihypertensive treatment could be changed to a calcium antagonist, given the high suspicion of achalasia. Three months later, the patient was asymptomatic. He has since moved to another city and is continuing follow-up there.

Esophageal bezoar is a rare condition. When the initial attempts at endoscopic removal are not successful, a combined treatment should be considered. There have been reports of intra-esophageal instillation of pancreatic enzymes[3] or a cola-type carbonated soft drink, through a nasogastric tube, as treatment[1]. In the present case, mimicking the management of a gastric bezoar, we successfully used oral lavage with cola and endoscopic direct intrabezoar infusion[4]. The mechanism through which the cola dissolved the bezoar could be: mucolysis by $NaHCO_3$, acidification by carbonic acid and phosphoric acid, and destruction of the bezoar's structure by CO_2 bubbles[4,5].

In conclusion, we successfully treated a case of esophageal obstruction due to a bezoar, utilizing a combined treatment: endoscopic forceps, endoscopic injection, and oral intake of a cola-type carbonated soft drink. This method proved to be rapid, effective, and safe.

Ethical considerations

Study approval statement: Ethics approval was not required by the Ethics Committee of the *Hospital Nuestra Señora de Sonsoles*, as there is no information revealing the subject's identity.

Consent to publish statement: The authors confirm that the patient gave his written consent, permission to publish the present article.

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Author contributions

M.M.M conceived the idea, developed it, and took the lead in writing the manuscript. P.S.A provided critical feedback and helped shape the manuscript. M.P.D.A and R.V.H supervised the work. All authors discussed the results and contributed to the final manuscript.

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Gastrocutaneous fistula: Laparoscopic resolution☆

Fístula gastrocutánea: resolución laparóscopica

Chronic or persistent gastrocutaneous fistulas (GCFs) after the removal of the percutaneous gastrostomy tube are a complication that is difficult to treat, with an estimated incidence of about 4.5%.[1] The duration of gastrostomy use (> 6 months) and the resulting epithelialization of the tract are critical factors in the development of GCFs.[2–4] Even though the majority of gastrostomy sites close spontaneously in 1 to 3 months,[4] some of the fistulas become chronic. Refractory defects continuously release large volumes of gastric content that cause considerable morbidity, with known complications that include cutaneous lesions, the risk for infection, dehydration, electrolyte alteration, as well as the need for frequent dressings and ostomy bags that notably alter quality of life.

The most widespread initial strategy is conservative management to optimize healing, which includes proton pump inhibitors and somatostatin analogues for reducing gastric secretions, prokinetics for increasing gastric emptying, and post-pyloric feeding.[5] However, the biggest problem that modality entails, in the majority of cases, is the high anxiety burden, due to the time needed for closure, added to the months that have already gone by since the gastrostomy removal. Therefore, many patients seek an immediate and definitive solution. We present the case herein as a minimally invasive alternative for managing GCFs.

A 70-year-old woman, with a history of hypothyroidism, dyslipidemia, an ex-smoker, and cancer of the larynx treated through radiotherapy and chemotherapy, had to have a percutaneous gastrostomy for enteral feeding. One year and five months after its placement, the patient had to repeatedly have unscheduled consultations due to persistent peristomal leakage and ostomy replacement, together with the discomfort involved. Due to the anxiety caused, social limitations, and acceptable tolerance to oral diet, the patient decided to have the tube removed. Four months after the removal, unmanageable leakage through the ostomy opening persisted, and so the surgical approach was decided upon.

Surgical technique. The patient was placed in the Lloyd Davis position, a 2 cm infraumbilical incision was made, and a closed pneumoperitoneum was created, using a Veress needle. Three trocars were placed: a 12 mm trocar in the infraumbilical and left flank positions and a 5 mm trocar in the right flank. The gastrocutaneous tract was identified, it was resected with a blue cartridge mechanical suture shot, the fistulous remnant located on the anterior abdominal wall was extracted with an energy device, the external tube opening was then resected, through a diamond-shaped excision of the skin, and primary closure was performed with nylon 3-0 separate sutures. The procedure was technically simple, with a duration of 1 hour and 30 minutes. The patient was released on the following day.

Follow-up was carried out for three months, with no recurrence of the fistula. The patient was immediately satisfied, which is not to be underestimated in this type of condition (Fig. 1).

Even though at first surgery appears to be a more expensive alternative (due to surgery duration and the cost of the mechanical suture device) than the initial measures that are usually carried out (conservative measures, drugs, endoscopic closures, curettage and cauterization, among others), the large majority of those measures result in considerable recurrence events, and their total cost, after adding together the expense of all the procedures, can end up being higher than the cost of an initial surgical approach.

Given the above information, we conclude that the minimally invasive surgical approach for the treatment of

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