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Successful endoscopic treatment of gastric phytobezoar: A case report



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ABSTRACT

INTRODUCTION: Gastric bezoars are a rare condition associated with situations of gastric dysmotility and prior gastric surgery, though sometimes they can present without any risk factor. We describe the first successful treatment in medical literature of a large gastric bezoar in the outpatient setting through endoscopic fragmentation.

CASE PRESENTATION: A 76-year-old man was referred to our outpatient endoscopy clinic because of dyspepsia and epigastric pain. Upper GI endoscopy with a standard endoscope revealed a 10-cm-diameter gastric phytobezoar with necrotic pressure ulcer of the angulus. We fragmented the bezoar into smaller pieces, with complete dissolution and without any complication. The patient was then promptly discharged home with a medical therapy. Follow-up endoscopy at 6 months showed the total disappearance of any residual fibers.

DISCUSSION: Different types of bezoars are described in literature, of which phyto- and trichobezoars are the most frequent. They can be absolutely asymptomatic or can arise with epigastric pain, pressure ulcer bleeding, gastrointestinal perforation or small bowel obstruction. The treatment is debated though endoscopic removal or fragmentation with the help of Coca-Cola lavages has showed the best success rate. The main experiences in literature concern hospitalized patients or describe treatment techniques which require overnight stays. An effective and rapid treatment in the outpatient setting is described in our experience, without short- or long-term complications.

CONCLUSION: The endoscopic fragmentation of large gastric bezoars in the outpatient setting is safe with a good clinical course.

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1. Introduction

Bezoars are aggregates of indigestible or inedible materials that can be found in any point of the gastrointestinal tract, although they are found most frequently in the stomach. They represent a rare finding during GI endoscopy with a prevalence that ranges between 0.4 and 0.6% in different case series [1]. Different kind of bezoars has been described depending on their composition: phytobezoars, trichobezoars, lactobezoars, pharmacobezoars, paper bezoars and a variety of less frequent entities. Major risk factors for the formation of bezoars are represented by all states of gastric dysmotility such as diabetes mellitus gastroparesis, previous gastric surgery and vagotomies, neurologic conditions, peptic ulcer disease, gastric cancer and hypothyroidism. Dietary factors or psychiatric conditions can predispose to the formation of specific

kinds of bezoars like diospyrobezoars, a specific kind of phytobezoars associated with a high consumption of persimmons, or trichobezoars in young women affected by psychiatric disorders [2]. Premature infants are prone to develop lactobezoars, gastric masses formed by aggregation of the milk proteins contained in some artificial feeding products, favored by immaturity of the digestive tract [3]. Clinical manifestations can include epigastric pain, dyspepsia and vomiting. They can be asymptomatic findings during upper GI endoscopy performed for other indications, but they can also show up urgently with hematemesis or small bowel occlusion [2]. Diagnosis and treatment largely depend on presentation modality. Asymptomatic cases are generally diagnosed and treated in outpatient endoscopy settings, while small bowel obstructions require radiology diagnosis and a surgical laparoscopic/laparotomic approach. The treatment is debated, though endoscopic removal or fragmentation with the help of Coca-Cola lavages has showed the best success rate. The main experiences in literature concern hospitalized patients or describe treatment techniques which require overnight stays [4]. In our setting, we performed the procedure in an outpatient endoscopy setting, with immediate discharge and no need for second-look endoscopy.

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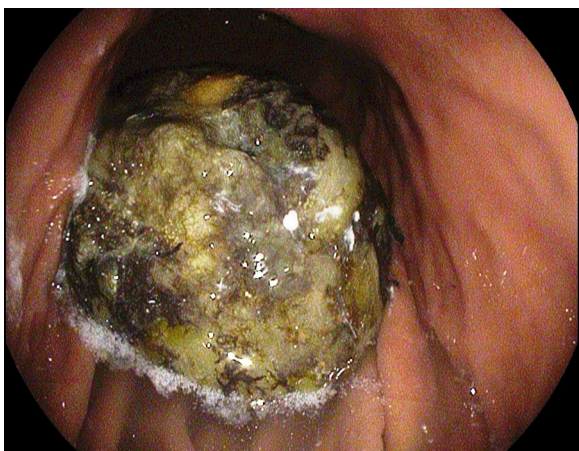


Fig. 1. Upper GI endoscopy: gastric phytobezoar.

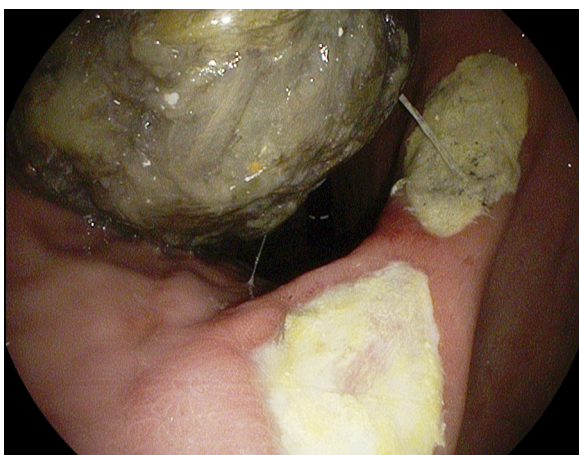


Fig. 2. Phytobezoar complication: necrotic pressure angulus ulcers.



Fig. 3. Fragmented phytobezoar: polypectomy snare was used to fragmentize the bezoar.

The work has been reported in line with the SCARE criteria [5].

2. Case presentation

In August 2016, a 76-year-old man was referred to our outpatient endoscopy clinic because of dyspepsia and epigastric pain. No particular comorbidities – except for arterial hypertension – nor a specific diet were described in his personal history. Upper GI endoscopy with a standard endoscope (Olympus GIF-Q-165) performed by an expert endoscopist revealed a 10-cm-diameter gastric phytobezoar (Fig. 1) made up of vegetable fibers with necrotic pressure ulcers of the angulus, without signs of bleeding (Fig. 2). A Los Angeles grade A esophagitis with cardial incontinence was also found as an extra finding. A 30-mm polypectomy snare was used to fragmentize the bezoar into smaller pieces (Fig. 3), with complete dissolution and without any complication. Forced lavage was then performed in order to wash out all fragments. The entire duration of the procedure was 10 min. The patient was then promptly discharged home with a medical therapy with prokinetics, proton pump inhibitors and erythromycin (500 mg × 3/day × 7 days). No hospital readmission was required and no sign of small bowel obstruction was found. Follow-up endoscopy at 6 months showed the total disappearance of any residual fibers and complete healing of pressure ulcers.

3. Discussion

Bezoars are a rare condition of the gastrointestinal tract that consists in the formation of conglomerates of inedible materials (fibers, hair, etc.) that remain trapped in the stomach (more frequently) or in the intestine. This can cause intestinal obstruction, erosive gastritis and esophagitis, pressure ulcers and bleeding. Elderly patient with causes of GI dysmotility, delayed gastric emptying, previous gastric surgery, diabetes or endocrine diseases are more likely to develop phytobezoars [6–8]. Bezoars are more frequent in certain areas or cultures with a high consumption of vegetables and fruits rich in fibers. Persimmon, the edible fruit of a species of tree called Diospyros, particularly widespread in the middle Asian countries, seems to be responsible for the development of a specific kind of phytobezoar called diospyrobezoars, which is particularly difficult to treat, since it is resistant to endoscopic fragmentation and Coca-Cola irrigations. Our patient did not show instead any of the risk factors for the development of phytobezoars. Different operative and non-operative techniques have been described in literature for the treatment of gastric phytobezoars. Administration of medications such as prokinetic agents and lytic enzymes has been described in multiple experiences: a review by Walker-Renard reported 34 cases from 1966 to 1993 in which bezoars were treated with administration of cellulase and papain [9]. The low invasiveness of the technique is nevertheless counterbalanced by the described risk of gastric ulcer, small bowel obstruction and hyperosmolar hyponatremia linked to the use of papain [10]. Cellulase is instead hardly available, since it is not a commercial product in many countries. Lavage and aspiration with large esophagogastric tubes have been described by some groups [11,12], with some failed attempts. Endoscopic fragmentation or aspiration is the best alternative among non-invasive procedures and should be preferred to surgical treatment except for complicated cases in which small bowel occlusion or GI perforation has developed. A large amount of techniques to treat bezoars by endoscopy have been described in literature: fragmentation with biopsy forceps [13], use of polypectomy snares [14], lithotripsy [15], aspiration with a large channel endoscope [16]. Large gastric bezoars frequently need time-consuming or multiple sessions to obtain a complete fragmentation of the foreign body [17]. The most effective treatment is represented by cola lavage and was initially described by Ladas et al. in 2002 on 3 patients diagnosed with gastric bezoar [18]. In a recent review (2013) of 24 papers describing 46 clinical cases, Ladas et al. reported a 91.3% success rate in the treatment of gastric bezoars either with Coca-Cola lavages alone or in association with other endoscopic procedures (fragmenta-

tion with biopsy forceps, use of polypectomy snares or mechanical lithotripsy with Dormia basket) [19]. In the same review, Ladas recommends administration of 3 l of cola in 12 h via nasogastric tube or per os and successive completion endoscopy. In 2009, in a group of 17 patients, Lee et al. described a complete dissolution with cola lavages alone in only 25% of cases while completion of mechanical treatment with lithotripsy or polypectomy snare fragmentation after Coca-Cola irrigation was effective in the treatment of 16 out of 17 patients [4]. This kind of treatment, though, requires at least 12 h to 2 months [4] and large amounts of cola before performing endoscopic fragmentation. Patients generally need an overnight stay and a control/completion endoscopy. In our setting, we casually found the bezoar in a patient with symptoms such as dyspepsia and epigastric pain, without risk factors (e.g. intestinal obstruction, pressure ulcer with bleeding signs, GI dysmotility, previous gastric surgery) and we performed the procedure in an outpatient setting with immediate discharge and no need for second-look endoscopy. The characteristics of the bezoar were favorable and it was soft enough to be disrupted without prior cola lavages. A medical therapy was sufficient to treat bezoar complications (necrotic ulcers) and to empty the stomach.

4. Conclusion

Gastric bezoars are a rare condition which could be sometimes life-threatening if left untreated. Prompt endoscopic diagnosis and treatment are the standards for the management of this disease. In patients without risk factors, an effective and rapid treatment in the outpatient setting is feasible and safe and avoids hospital stay without short- or long-term complications.

Conflicts of interest

No conflict of interest.

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Ethical approval

No Ethical approval has been given.

Consent

Written and signed consent by the patient to publish a case report has been obtained.

Author contributions

Ippazio Ugenti: study design.
Elisabetta Travaglio: interpretation, writing paper.

Elpiniki Lagouvardou: data collection.
Onofrio Caputi Iambrenghi: study design.
Gennaro Martines: study design, writing paper.

Guarantors

Gennaro Martines and Ippazio Ugenti.

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