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Case Report

Bezoars: diagnosis, management, and potential complications in patients with psychiatric disorders

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ABSTRACT

Word "bezoar" comes from Persian "pâdzahr," which means "antidote," since, in ancient times, it was believed that bezoar could cure and nullify effects of all poisons. In medical context, bezoar is the term used for conglomerates of undigested material that accumulate in de gastrointestinal tract. Case of 60-year-old female patient with repeated episodes of intestinal obstruction associated with digestive tract bleeding. She presented to emergency department with severe abdominal pain and intolerance to oral route. Computed tomography identified hypodense image suggestive of a oreign body in the small bowel lumen. During laparotomy, stone-like mass of approximately 3×5 cm was found at level of jejuno-ileal junction, 80 cm from Treitz ligament, with presence of an intestinal flange that conditions rotation of the intestinal loop on its axis. Intestinal obstruction due to bezoar is uncommon in adult patients, and symptoms are usually non-specific. It requires a high index of suspicion and effective screening for trichotillomania. In such cases, imaging studies such as tomography help to establish the diagnosis.

Keywords: Bezoar, Tricobezoar, Trichotillomania, Obstruction, Melena

INTRODUCTION

Bezoar is the term used for the accumulation of indigestible material in the gastrointestinal tract, whether food particles or foreign bodies that were intentionally or accidentally ingested.[1,2] They can have different compositions, such as fibers, seeds, vegetables, hair, and medication.[2,3] Bezoars can be asymptomatic or present with a variety of gastrointestinal symptoms, mainly pain, feeding intolerance, early satiety, nausea, vomiting, and rarely, with complications such as digestive hemorrhage, occlusion, and perforation.[1,3]

Computed tomography is the best radiologic modality to demonstrate the size and configuration of the bezoar. The diagnosis is confirmed by endoscopy, which has the advantage of being both diagnostic and therapeutic.[9]

Treatment options range from medical management with laxatives, chemical dissolution to surgical management by endoscopy, open, laparoscopic or robotic surgery, depending on the type of bezoar.[1,2,8,9]

Trichobezoar is rare condition seen almost exclusively in young women with certain psychiatric disorders.[4,5] This type of bezoar is resistant to enzymatic degradation and endoscopic fragmentation, so surgery is treatment of choice. Psychiatric treatment is also necessary to prevent recurrences.[9]

CASE REPORT

A 60-year-old female patient with arterial hypertension for 6 years being treated with enalapril and

hypothyroidism diagnosed 2 years ago and treated with levothyroxine. She had a surgical history of hysterectomy for uterine fibroids and left inguinal repair on three occasions for recurrent inguinal hernia.

Her current symptoms began one month before admission with gradual onset of continuous abdominal pain of variable intensity located in hypogastrium, accompanied by abdominal distension, feeling of fullness and rejection of oral route. She self-medicated with analgesics without improvement. Admitted to emergency room due to exacerbation of symptoms associated with constipation. She initially diagnosed with intestinal occlusion syndrome and received conservative management with nasogastric tube, fluid resuscitation, and analgesics. She presented clinical improvement and imaging studies were requested for diagnostic complementation; however, patient requested voluntary discharge.

She returned due to persistence and progression of symptoms, adding melena. On physical examination, the patient was in poor general condition, dehydrated and pale, with a distended abdomen that was tympanic on percussion, intense pain in the hypogastrium, no palpable masses, and no signs of peritoneal irritation.

In her laboratory studies, a hemoglobin level of 7.5 g/dL was observed. A simple X-ray of the abdomen showed multiple fluid levels, and a simple and contrasted tomography of the abdomen was performed, which reported a hypodense image suggestive of a foreign body in the lumen of the small bowel (Figure 1). Given the tomographic findings, the patient was questioned again in search of pica behaviors, positives for hair and plastic.

After initial resuscitation, the patient underwent surgical treatment (laparotomy), in which an intraluminal mass of stony consistency of approximately 3×5 cm found at the jejuno-ileal junction 80 cm from the Treitz ligament and rotation of the intestinal loop on its axis, adhered to the prosthetic material in left inguinal plasty site. Intestinal segment with intraluminal trichobezoar (Figure 2 and 3) was resected, followed by entero-entero anastomosis.

Figure 1: Axial section of CT-scan of hypodense image suggestive of foreign body in lumen of small bowel (Red arrow).

Figure 2: Segment of small intestine, with intraluminal bezoar.

Figure 3: Trichobezoar, founded in the lumen of the small bowel, after surgical extraction.

During the post-surgical period, she did not develop complications and was discharged seven days after the surgical event, tolerating the oral route with the presence of evacuations of normal characteristics and good hydration status.

DISCUSSION

Bezoar is the term used for the accumulation of indigestible material in the gastrointestinal tract, whether food particles or foreign bodies that were intentionally or accidentally ingested.[1,2] They can have different compositions, such as fibers, seeds, vegetables (phytobezoars), hair (trichobezoars), and medication (pharmacobezoars).[2,3]

Trichobezoar is a rare disorder with an incidence of less than 1% of the general population, almost exclusively seen in young females (90% of the cases).[1,2,4,5] The risk factors include psychiatric disorders like trichophagia, obsessive-compulsive disorder, and anorexia nervosa. The most common risk factors are pica, behavioral disturbances in young girls, psychiatric illness,

intellectual disability, low socioeconomic status, poor educational status, and parental neglect in young children.[2,3]

Trichotillomania involves pulling the hair to the point of alopecia and is mainly performed on the scalp, although eyelashes, eyebrows, and the axilla are all susceptible. 30% of these patients will also engage in trichophagia, and of those that do, only 1% will eventually develop a trichobezoar that requires surgical extraction.[6]

The impaired grinding mechanism of the stomach and migrating motor complexes have been implicated as pathogenic causes of bezoars, but the composition of ingested material can also play a role in their formation.[2,7]

Patients are often asymptomatic or have a gradual onset of symptoms over years. Hair is found in more than half of the cases of bezoar, with a predilection for the stomach, and can extend or migrate to the duodenum and even beyond the angle of Treitz.[7,8] The symptoms are generated by the mass effect and vary according to the location. Non-nutritious substances occasionally accumulate in the stomach and block the pyloric sphincter, presenting with feeding intolerance, early satiety, nausea, vomiting, abdominal pain, and weight loss. Rarely, the material accumulates in the colon, causing a colonic bezoar, which then presents with constipation, straining on defecation, painful defecation, vomiting, and abdominal pain.[1,7] Other manifestations that are mentioned are epigastric discomfort, iron-deficiency anemia, and, in relation to trichotillomania, we can observe mechanical alopecia.[7]

In some cases, complications such as digestive hemorrhage, occlusion, and perforation reveal the disease.[8] Symptoms related to gastrointestinal bleeding, such as hematemesis, bloody or tarry stool, anemia, and fainting, are the result of the development of ulceration in the mucosa due to necrosis induced by the bezoar. Regarding the latter, most reviewed literature agrees that gastrointestinal bleeding is a rare sign associated with trichobezoar, however, some case reviews report bleeding as the second most frequent symptom, after abdominal pain.[9] Physical examination is usually unremarkable, sometimes a large mass may be palpable, and they may have signs of abdominal obstruction.[1,7]

Abdominal radiographs or CT scans can show a bezoar as a mass or filling defect within the gastrointestinal tract. Computed tomography is a better radiological modality to demonstrate the size and configuration of the bezoar and can differentiate it from gastrointestinal tumors.[6] Magnetic resonance imaging does not show benefits over tomography. Diagnosis is confirmed by endoscopy, which can demonstrate a complex mass of hair inside the stomach and detect other complications such as inflammation and gastric ulcers. Additionally, it has the advantage of being diagnostic and therapeutic.[6-8]

Medical treatment can be chosen in the case of phytobezoar or xylobeszoar by chemical dissolution with cellulose, papain, acetylcysteine and soda. Effective chemical dissolution with Coca-Cola® has been reported.[2,5,7] In contrast, trichobezoars are resistant to enzymatic degradation. Endoscopic fragmentation is generally ineffective due to the high density of the hair conglomerate. A review of 40 reported trichobezoar cases found that endoscopic removal was successful in only two cases, while the other cases required laparotomy or laparoscopic surgery.[9] The majority of trichobezoars reported in the literature have been treated through midline laparotomy.[2]

It is important to refer these patients to the psychiatry clinic to manage possible depression or eating disorders.[8] Any associated iron deficiency must be corrected with oral or parenteral supplements.[1]

CONCLUSION

It is important to considering bezoars as a possible diagnosis in patients with gastrointestinal symptoms and psychiatric disorders such as pica and trichotillomania. The potential complications of misdiagnosis, such as obstruction, perforation, and bleeding of the gastrointestinal tract, underscore the need for prompt and accurate diagnosis.

The use of imaging studies like tomography and endoscopy is essential in achieving an accurate diagnosis and determining the appropriate treatment plan. However, the low success rate of endoscopic extraction in trichobezoars indicates the need for alternative approaches, such as laparotomy or laparoscopic surgery. Overall, highlights the importance of awareness and timely intervention in managing bezoars, particularly in patients with underlying psychiatric disorders.

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