

Phytobezoars: A Rare Cause of Bowel Obstruction

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ABSTRACT

Intestinal phytobezoars are rare causes of small bowel obstruction. Treatment consists of surgical extraction by enterotomy. We report a case of small bowel obstruction on a phytobezoar in a 66-year-old woman treated by enterotomy followed by manual extraction.

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Introduction

Bezoars are aggregates or concretions of retained, undigested material that can be found anywhere along the gastrointestinal tract.

They are classified according to their composition: plant fiber bezoars are said to be phytobezoars.

Phytobezoars are the most frequently observed type and account for about 40% of the total number of bezoars reported.

They are composed of indigestible plant fibers, most often coming from pulpy fruits, orange pits, seeds, roots or leaves [1].

Phytobezoars are generally located in the stomach (78%), although up to 17% can be found in the small intestine resulting in acute intestinal obstruction [2].

Observation

A 66-year-old patient, followed for pulmonary and visceral sarcoidosis, multiple myeloma, splenectomized and cholecystectomized; admitted to the emergency room for abdominal pain, vomiting and withdrawal of materials and gases.

The clinical examination found the patient in fairly good general condition, afebrile with normal colored conjunctivae. The abdomen is distended and tender to palpation.

On digital rectal examination, the rectal ampulla is empty. The complete blood count found white blood cells at 4100 elements/mm³, hemoglobin at 7.9 g/dL, platelets at 101000 elements/mm³ and a PT at 49 percent.

The ionogram found a CRP of 98 and normal renal function.

A radiograph of the abdomen without preparation (ASP) in a standing position (fig.1), and an abdominal CT in axial section after injection of the contrast product (fig.2) are performed.

The ASP shows hydro-aeric levels of the hailstone type; central and wider than high (fig. 1).

The abdomino-pelvic computed tomography with injection of contrast product highlights a zone of disparity in caliber at the level of the right iliac fossa, a twisted ileal hazel loop with diffuse dilation upstream (33 mm maximum thickness) and hydro-aeric levels, complicated by a thickening of the digestive wall and parietal pneumatosis.

At the bone window: Multiple lytic bone lesions blowing the cortex in places involving the axial skeleton and the pelvis.

Faced with this CT appearance, the diagnosis evoked is a tumoral process with intraluminal development, a fatty content such as a lipoma or a bezoar.

The conditioning of the patient consisted in setting up a nasogastric tube, a urinary catheter, good peripheral hydration; A transfusion of 2 packed red blood cells (CG), 5 bags of fresh frozen plasma (FFP) and 5 packed platelets (CP).

The checkup: Hemoglobin at 8.8 g/dL, platelets at 150,000 elements/mm³ and a TP at 60 percent.

The patient underwent emergency surgery with a midline incision, followed by exploration of the bowel loops.

A lateral enterotomy was performed objectifying soft phytobezoars obstructing the intestinal lumen.

Anterograde bowel emptying was then performed (fig. 3).

Discussion

Bezoars can be separated into four main groups according to their composition: the most common are phytobezoars (composed of plant debris) [3].

Phytobezoars are noted in the majority of cases in men between 40 and 50 years old [3].

There are no pathognomonic clinical signs.

Symptoms are vague and not very specific: atypical abdominal pain that can be aggravated during meals, vomiting, recent weight loss [3].

In 16% of cases, their discovery is fortuitous [4].

In 2010, when analyzing the causes of occlusion by small

bowel obstruction, a phytobezoar was only found in 3.2% of cases (14 patients out of 432 cases) [5].

The unprepared abdomen shows intestinal distention with hail-like fluid levels.

The sonographic appearance is in the form of a heterogeneous intra-digestive formation, or in the form of a hyperechoic image with a posterior cone of shadow, resembling an intra-digestive calculus; But its sensitivity would be poor, around 20 to 60% [6].

In the diagnostic process, computed tomography appears as the reference examination; its sensitivity would be 97%, using the console parameters 100 and 500 HU [6].

These are the ideal visualization parameters to detect all air bubbles, whether endoluminal, parietal or intraperitoneal.

CT shows the presence of an endoluminal ovoid formation of variable size, of mixed aeric and tissue density "molded" by the intestinal walls.

In some cases, the bezoar appears tissue, without air bubbles [6].

The tomodensitometric analysis makes it possible to appreciate the signs of suffering of the small intestine and the exact topography of the obstacle.

This analysis helps the surgeon in his therapeutic decision and approach [6].

Endoscopy makes it possible to diagnose gastric bezoars in 100% of cases, but only 12% of small-arm bezoars [7].

Chemical dissolution with acetylcysteine, papain, cellulase can be considered in the case of non- or minimally symptomatic phytobezoars [4].

These techniques give probably optimistic results [4].

In addition, papain and cellulase are no longer or unavailable in medical preparation [4].

The necessary duration of this type of treatment until complete dissolution of the bezoar ranges from 1.5 to 180 days [4].

A fiber-free diet is prescribed to prevent the growth of the bezoar and also its possible recurrence [4].

Endoscopy is also a good therapeutic method when the bezoar is accessible [7].

For phytobezoars, surgery is reserved for very rare failures of medical and endoscopic treatment or complications of bezoars (occlusion, etc.) [8].

Not only does surgery not prevent recurrence, but it can aggravate or reveal gastric motor pathology and favor the formation of new bezoars [8].

Conclusion

Phytobezoars are the most frequently reported type of digestive bezoar, but remain a rare cause of acute intestinal obstruction.

Imaging and endoscopy make it possible to make a positive diagnosis, often aided by careful questioning of the patient.

In case of phytobezoars of the small intestine, the treatment is often surgical.



Fig 1. ASP showing hail-like hydro-aeric levels

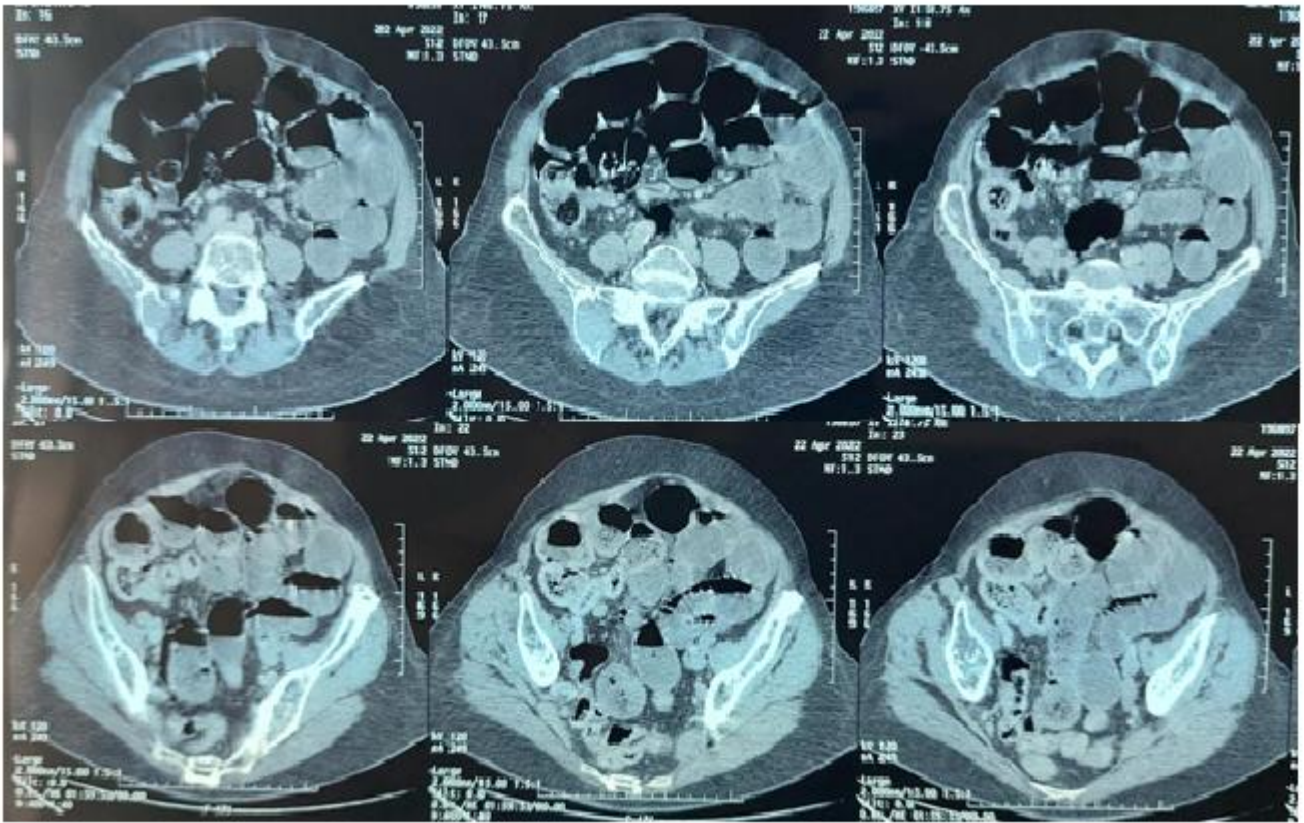


Fig 2. Abdominal CT in axial section after injection of the contrast product



Fig. 3. Enterotomy allowing the manual extraction of phytobezoars

Bibliography:

- [1] Plataras C, Sardionos N, Vlatakis S, et al. An unusual cause of small bowel obstruction in children: lentil soup bezoar. *BMJ Case Rep*. Published Online: 1 April 2014. <https://doi.org/10.1136/bcr-2013-203316>.
- [2] Tebar TC, Robles Campos R, Pailla Aricio, et al. Gastric surgery and bezoars. *Dig Dis Sci*. 1992;11:1694–1696.
- [3] Lee J. Bezoards and foreign bodies of the stomach. *Gastrointest Endosc Clin North Am*. 1996;6:605–19.
- [4] Iwamuro M, Okada H, Matsueda K, Inaba T, Kusumoto C, Imagawa A, et al. Review of the diagnosis and management of gastrointestinal bezoars. *World J Gastrointest Endosc* 2015;7:336–45.
- [5] Yakan S, Sirinocak A, Telciler KE, Teleki MT, Denecli AG. A rare cause of acute abdomen: small bowel obstruction due to phytobezoar. *Ulus Travma Acil Cerrahi Derg* 2010;16:459–63.

- [6] Rippolle's T, Garcia-Aguayo J, Martinez M, Gil P. Gastrointestinal bezoars: sonographic and CT characteristics. *AJR Am J Roentgenol* 2001;177:65–9.
- [7] Chen TY, Tiao MM, Chuang JH, Shieh CS, Huang CB. Bezoars in children: report of four cases. *J Formos Med Assoc* 2000;99:726–9.
- [8] A. Balian, K. Lamouri, A. Lebrun, C. Voican, M. Njike-Nguefang. Rare gastric pathologies (bezoar, volvulus, duplication, diverticulum, rupture). 2017 Elsevier Masson SAS. All rights reserved.