AMERICAN JOURNAL OF DIAGNOSTIC IMAGING
2024; 10(3): 65-68.
10.5455/ajdi.20240428012530

WisdomGale

CASE REPORT

Open Access

Acute intestinal obstruction on gastric and ileal bezoar: A case report

Otmane Soussi, Salma Moussaoui, Aicha El Ouali, Houria Tabakh, Abdellatif Siwane, Najwa Touil, Omar Kacimi, Nabil Chikhaoui

Emergency Unit of Radiology, Ibn Rochd University Hospital Center, Casablanca, Morocco

ABSTRACT

Trichobezoar is the presence of tangled hairs in the digestive lumen. It occurs in young children and adults, mostly females, with psychic disorders. Clinical symptoms may evolve chronically or be revealed by a complication such as digestive obstruction. The investigation is based essentially on a fibroscopy and a CT scan. Treatment is mainly surgical, combined with post-operative psychological care. We report the case of a 17-year-old girl referred to the emergency department for acute intestinal obstruction. Abdominopelvic CT confirmed the organic nature of a small bowel obstruction on trichobezoar. The patient underwent a median laparotomy and was referred for psychological follow-up.

ARTICLE HISTORY

Received April 28, 2024
Accepted July 24, 2024
Published July 30, 2024

KEYWORDS

Acute intestinal obstruction; trichobezoar; CT scan; psychic disorders

Introduction

Acute intestinal obstructions are defined by a complete and persistent interruption of the progression of digestive contents, which may be functional or organic in origin. Organic obstructions result from mechanical obstruction by an endoluminal, parietal, or extrinsic process [1]. They represent a major digestive emergency. Bezoar intestinal obstruction is a rare pathology, occurring mainly in psychologically disturbed adolescents [2].

Case Report

A 17-year-old girl, with no particular pathological history, who had failed her baccalaureate exam 6 months ago, consulted the emergency department for generalized abdominal pain associated with nausea and vomiting. An interrogatory examination revealed a notion of cessation of matter and gas that had been evolving for 2 days.

On clinical examination, the patient was conscious, hemodynamically respiratory stable, and apyretic. The abdomen was distended, tender to palpation, and tympanic on percussion, with no defensiveness. The hernial orifices were free.

An abdominal CT scan, performed with and without iodinated contrast, showed distension of the small intestine at 35 mm in diameter upstream of a transitional level located at the level of the last ileal loop. Intraluminal material was noted in the ileum (downstream of the distension with a transitional level) and in the stomach, heterodense, made up of interposed dense concentric structures and air spaces, surrounded by a dense membrane, with no detectable enhancement. There were no signs of digestive distress or perforation (Fig. 1). In view of this radiological appearance and the presence of psychic disturbance in the patient, the diagnosis of mechanical small bowel obstruction on trichobezoar was made, and the patient was referred to the operating room.

Surgical exploration confirmed the presence of two trichobezoars at the gastric level and at the level of the last ileal loop (Fig. 2). The post-operative course was uneventful, and the patient was referred for psychological care.

Discussion

The term "bezoar" refers to the presence of a non-digestible foreign body in the gastrointestinal tract. Trichobezoars are hair, lactobezoars are milk products (in infants breastfed), phytobezoars are plant fibers (occurring in 75% of cases following digestive surgery [3]), and pharmacobezoars are drug substances [4]. Trichobezoar is a rare condition, accounting for 0.15% of digestive foreign bodies

Contact Otmane Soussi otmanesoussi@gmail.com Emergency Unit of Radiology, Ibn Rochd University Hospital Center, Casablanca, Morocco.

© The Author(s) 2024. Open Access. This article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).
http://creativecommons.org/licenses/by/4.0/

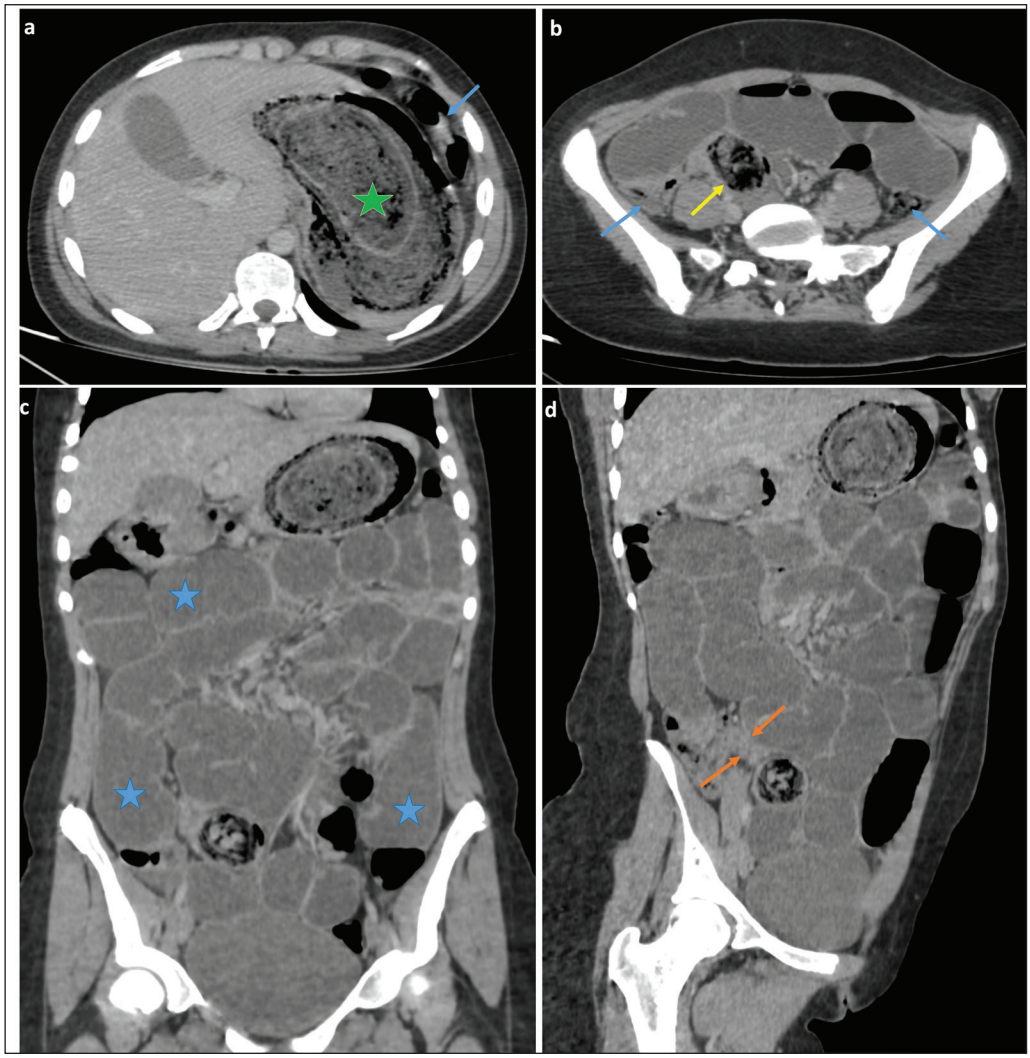


Figure 1. Abdominal CT scan with iodinated PDC injection in axial (a and b), coronal (c) and oblique sagittal sections.

and 55% of all bezoars. It predominates in females and often occurs in children, adolescents, or young adults with mental impairments or psychic disorders [2,5]. Ingestion of the hairs causes them to curl, forming a mesh on which food is agglomerated, creating an intragastric mass that can prolapse through the pylorus [4]. A particular form is Rapunzel's syndrome, defined by a long cord of trichobezoar extending from the stomach to the last ileal loop or even to the cecum [6], which can lead to pancreatitis through obstruction of the ampulla of Vater [7].

Clinical symptoms are nonspecific and include chronic abdominal pain, epigastric mass, nausea, and vomiting. Weight loss and iron-deficiency anemia may result from digestive hemorrhage caused by irritation of the digestive mucosa [4,8].

Fibroscopy is the gold-standard diagnostic test. It visualizes the agglomerate of hairs forming an endo-luminal mass and sometimes enables the extraction of small trichobezoars [7]. Abdominal radiography helps in the diagnosis of digestive occlusions but provides little information on the cause; the detection of bezoars on standard radiography was 18% in the series by Ripollés T. et al. [3] and 10% in the series by Verstanding et al. [9]. Ultrasound can reveal a curvilinear hyperechoic band generating a posterior shadow cone in 25% of cases [7] and is particularly useful in eliminating a tumoral cause in the presence of an epigastric mass [4]. Ultrasound exploration is often hampered by the presence of digestive gas or by the deep position of the small intestines, especially in cases of digestive obstruction, and has a low sensitivity for the detection of multiple bezoars [3]. Differential diagnoses in ultrasonography are lithiasis (migration of gallstones, etc.) and fecal impaction (most often in the colon).



Figure 2. Per-operative captures showing the trichobezoars after extraction and the transitional level of the final ileal loop.

A CT scan can be used to determine the location and number of bezoars, as well as the presence of occlusion and its complications; it reveals a well-limited, oval, intra-luminal mass with air bubbles trapped in the interstices, creating an inhomogeneous marbled appearance, which may be covered by a thin, dense wall corresponding to a gelatinous membrane formed by gastric secretions [10]. Bezoar detection can be improved by modifying the gray level (from 40 HU to −100 HU) on the image processing console [3].

Complications include digestive perforation and mechanical obstruction [7]. Mechanical obstruction accounts for 0.4%–4% of all digestive obstructions, and the presence of a gastric obstruction on a bezoar must be followed by a search for another site (gastric and/or gastric); the study by Ripollés T. et al. [3] demonstrated the presence of a concomitant gastric bezoar in 53% of cases of gastric bezoar. The most frequent site of digestive obstruction on bezoar is the terminal ileum, followed by the jejunum, and then anastomotic sites after digestive surgery [10]. Other complications include acute intestinal intussusception and ulcerative bleeding [11].

The mainstay of treatment is surgery, based on extraction after gastrotomy and/or enterotomy. Endoscopic removal is only possible for small gastric bezoars and runs the risk of esophageal damage and failure to recognize another distal location [8]. Enzymatic dissolution is possible for phytobezoars but ineffective for trichobezoars, which may therefore delay management [4,8].

Conclusion

Trichobezoars-related small bowel obstruction is an uncommon condition that mostly affects adolescents and young adults with psychological disorders. CT scans are the modality of choice; they provide a positive diagnosis, determine the location and number of bezoars, and identify signs of digestive distress.

References

1. Adamou H, Magagi IA, Habou O, Magagi A, Maazou H, Adamou M, et al. Etiologies et pronostic des occlusions intestinales aigues mécaniques à l'Hôpital National de Zinder: étude transversale sur 171 patients. Pan Afr Med J [Internet] 2016 [cité 11 oct 2023]; 24:248. Available via http://www.panafrican-med-journal.com/content/article/24/248/full/
2. L'aarje A, Elhattabi K, Lefryekh R, Fadil A, Khaiz D, Berrada S, et al. Trichobézoard gastroduodénal et grêlique. La Presse Médicale févr 2016; 45(2):2659.
3. Ripollés T, García-Aguayo J, Martínez MJ, Gil P. Gastrointestinal bezoars: sonographic and CT characteristics. Am J Roentgenol 2001; 177(1):659.

4. Alouini R, Allani M, Arfaoui D, Arbi N, Tlili-Graiess K. Trichobézoard gastro-duodéno-jéjunal. La Presse Méd 2005; 34(16):1178–9.
5. Moujahid M, Ziadi T, Ennafae I, Kechna H, Ouzzad O, El Kandry S. Un cas de trichobezoard gastrique. Pan Afr Med J [Internet] 26 oct 2011 [cité 11 oct 2023]; 9(1):19. Available via http://www.ajol.info/index.php/pamj/article/view/71194
6. Lopes LR, Oliveira PSP, Pracucho EM, Camargo MA, Coelho Neto JDS, Andreollo NA. The rapunzel syndrome: an unusual trichobezoar presentation. Case Rep Med 2010; 2010:13.
7. Ousadden A, Mazaz K, Mellouki I, Taleb KA. Le trichobézoard gastrique : une observation. Ann Chirurg 2004; 129(4):23740.
8. Roche C, Guye E, Coinde E, Galambrun C, Glastre C, Halabi M, et al. Trichobézoard : à propos de 5 observations. Arch Pédiatr 2005; 12(11):160812.
9. Verstandig AG, Klin B, Bloom RA, Hadas I, Libson E. Small bowel phytobezoars: detection with radiography. Radiology 1989; 172(3):7057.
10. Wang PY. Bezoar-induced small bowel obstruction: clinical characteristics and diagnostic value of multi-slice spiral computed tomography. WJG 2015; 21(33):9774.
11. Mouffak A, Salam S, Fahl A, Chbani K, Laoudiyi D, Ouzidane L. Cause rare d'occlusion mécanique chez l'enfant: à propos d'un cas. Pan Afr Med J 2021 Jan 21; 38:71.