

Gastric perforation by a trichobezoar – Case report

Mafalda Sousa Cardoso¹, Ana Catarina Rosa¹, Tiago Ferro^{1,2}, Joana Pereira³, Rui Alves³, and Isabel Brito Lança¹

¹Pediatric Service, Hospital José Joaquim Fernandes, Beja; ²Higher Institute of Health Sciences Egas Moniz, Lisbon; ³Pediatric Surgery Service, Hospital Dona Estefânia, Lisbon. Portugal

Abstract

Introduction: Bezoars are masses resulting from the ingestion and accumulation of undigested material in the gastrointestinal tract. They can be divided into trichobezoars (hair), phytobezoars (plant fibers), pharmacobezoars (drugs), and lactobezoars (cow's milk). The most common symptoms are abdominal pain, nausea, vomiting, anorexia, and weight loss. **Case report:** We report the clinical case of a 13-year-old boy with a trichobezoar that had developed over the course of several years, which resulted in gastric perforation. A surgical laparotomy was performed to remove the trichobezoar and close the gastric wall. **Discussion:** Trichobezoars can present in the form of an acute abdomen. In these situations, surgical treatment is necessary.

Keywords: Trichobezoar. Trichotillomania. Gastric perforation. Acute abdomen. Case report.

Perforación gástrica por un tricobezoar – Caso clínico

Resumo

Introdução: Os bezoares são massas resultantes da ingestão e acumulação de material não digerido no trato gastrointestinal. Podem dividir-se em tricobezoares (cabelo), fitobezoares, (fibras vegetais), farmacobezoares (fármacos) e lactobezoares (leite de vaca). Os sintomas mais frequentes são dor abdominal, náuseas, vômitos, anorexia e perda ponderal. **Relato do caso:** Relatamos um caso clínico de um rapaz de 13 anos com um tricobezoar com anos de evolução, que resultou em perfuração gástrica. Foi tratado com laparotomia cirúrgica com remoção do tricobezoar e encerramento da parede gástrica. **Discussão:** Os tricobezoares podem apresentar-se sob a forma de abdómen agudo. Nestas situações, o tratamento cirúrgico é necessário.

Palavras-chave: Tricobezoar. Tricotilomania. Perfuração gástrica. Abdómen agudo. Caso clínico.

Keypoints

What is known

- A bezoar is an accumulation of undigested material in the gastrointestinal tract.
- The most common symptoms are nausea, vomiting, and weight loss.
- Trichobezoars may cause gastric perforation and present as an acute abdomen.

What is added

- A trichobezoar may manifest symptoms only after having developed for years.
- Although more common in girls, trichobezoars occur in boys with a habit of eating hair and who, in most cases, suffer from anxiety.
- A child with a trichobezoar does not always show signs of alopecia or weight loss.

*Correspondence:

Mafalda Sousa Cardoso

E-mail: mafaldadesousacardoso@gmail.com

Received: 26-02-2024

Accepted: 18-06-2024

<https://pjp.spp.pt>

Available online: 05-07-2024

Port J Pediatr. 2024;55(4):249-252

DOI: 10.24875/PJP.24000029

2184-3333 / © 2024 Portuguese Society of Pediatrics. Published by Permayer. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Bezoars are compact masses of partially digested or undigested material that accumulates in the gastrointestinal tract. They can be divided into trichobezoars (hair), phytobezoars (plant fibres), pharmacobezoars (drugs), and lactobezoars (cow's milk). Among the various bezoars, the most common are phytobezoars. They are usually seen in elderly patients with certain risk factors, such as previous surgery of the digestive tract, especially procedures that involve the removal of part of the stomach or intestine (e.g. surgery for peptic ulcer disease or surgery for obesity), disorders that prevent the stomach from emptying food completely (e.g. diabetes, some autoimmune diseases, and mixed connective tissue disease), and taking certain medications that slow stomach contraction. Trichobezoars occur most often in young females who have mental health disorders, and who chew and swallow their own hair¹.

In this pathology, the initial gastrointestinal symptoms are usually nonspecific. More rarely, complications can occur, such as iron deficiency anemia resulting from chronic bleeding due to ulcerations of the gastric mucosa, protein-losing enteropathy, intestinal obstruction, perforation or invagination, acute appendicitis, obstructive jaundice, or acute pancreatitis.

Case report

A 13-year-old male, Tanner stage 4, presented to the emergency room at Beja Hospital, reporting abdominal pain, nausea, anorexia, and a feeling of gastric fullness over the past two to three days. He denied vomiting, gastrointestinal transit abnormalities, or weight loss. The patient also reported no recent immunizations and no recent travels. In terms of his personal history, he underwent an appendectomy at the age of five for which the surgical specimen showed no signs of appendicitis. There was no history of psychiatric illness.

Upon physical examination, he exhibited short hair with no areas of alopecia. His gait was tilted to the right for pain relief. Abdominal examination revealed a distended abdomen, widespread pain, with guarding and signs of peritoneal irritation. Due to the tensing of the abdominal wall muscles, no masses or organomegaly could be felt. In regard to laboratory testing, the patient did not have anemia (Hb 14.1 g/dL), but had mild leukocytosis (10,400/L) with neutrophilia (60%) and a CRP of 0.20 mg/dL.

A standing abdominal X-ray was performed, revealing air-fluid levels. Two enemas were administered with no effect. As ultrasound was unavailable at Beja Hospital that night, an abdominal CT scan was ordered,



Figure 1. Abdominal CT scan showing a “voluminous mass in the gastric region measuring 20 cm x 8 cm”.

which identified a “voluminous mass in the gastric region, measuring 20 cm, with a laminated appearance, filled and surrounded by air bubbles, suggestive of a hair cluster” (Fig. 1). Upon further questioning, the patient confirmed the ingestion of hair over several years. He was transferred to Dona Estefânia Hospital with the suspicion of a large trichobezoar.

Attempts to extract the trichobezoar through upper gastrointestinal endoscopy were unsuccessful. Consequently, the patient underwent laparotomy, during which the bulky trichobezoar was removed and the gastric wall perforation caused by the size of the trichobezoar was closed (Figs. 2-4). The patient completed a seven-day course of cefuroxime and metronidazole intravenously.

Discussion

Trichobezoars are rare in pediatric age. Around 90% of instances are observed in females, primarily during adolescence, and are frequently linked with psychiatric comorbidity. In this particular case, we have a boy with hair-eating habits practiced in private and without parental awareness. Despite the absence of weight loss or alopecia, the initial presentation of a trichobezoar may be an acute abdomen resulting from a gastric perforation caused by the size of the bezoar. The CT scan played a crucial role in hypothesizing the diagnosis¹.

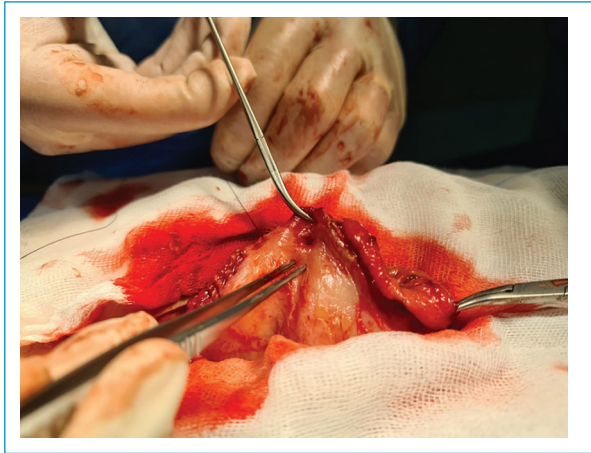


Figure 2. Anterior gastric wall perforation.



Figure 4. Gastric bezoar.



Figure 3. Gastric bezoar.

Whenever feasible, conservative treatment for bezoars is recommended. The preferred method is endoscopy, which not only serves as a diagnostic tool but also offers therapeutic benefits. However, endoscopy is typically reserved for small or medium-sized bezoars with no complications. Enzymatic dissolution with cellulase has proven to be ineffective in the case of trichobezoars. For large bezoars, surgical treatment through laparotomy becomes necessary².

Referring the child to pedopsychiatry is imperative, as these behaviors may persist, and the adolescent requires treatment for the underlying condition, such as generalized anxiety³.

Previous presentations

23º Congresso Nacional de Pediatria (Poster com Discussão) - PD200 “Perfuração gástrica por tricobezoar com anos de evolução”.

Authors' contribution

Mafalda Sousa Cardoso: Conception and design of the study, report, review, or another type of work; Acquisition of data either from patients, research studies, or literature; Drafting the article. Ana Catarina da Silva Branquinho Rosa: Acquisition of data either from patients, research studies, or literature; Critical review of the manuscript for important intellectual content. Tiago Ferro: Acquisition of data either from patients, research studies, or literature; Analysis or interpretation of data from patients, research results, or literature search; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work. Joana Queirós Pereira: Agreement to be accountable for the accuracy or integrity of the work. Rui Alves: Agreement to be accountable for the accuracy or integrity of the work. Isabel Brito Lorga: Conception and design of the study, report, review, or another type of work; Acquisition of data either from patients, research studies, or literature; Analysis or interpretation of data from patients, research results, or literature search; Drafting the article; Critical review of the manuscript for important intellectual content; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work.

Funding

None.

Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained approval from the Ethics Committee for analysis and publication of routinely acquired clinical data and informed consent was not required for this retrospective observational study.

Use of artificial intelligence for generating text. The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

References

1. Caldeira T, Costa C, Sousa P, Rodrigues F. Gastric trichobezoar: About a clinical case. PPJ. 2003; 34(6):425-427.
2. Caiazzo P, Lascio P, Crocoli A, Prete I. The Rapunzel syndrome. Report of a case. G. Chir. 2016; 37(2): 90-94/
3. Paschos KA, Chatzigeorgiadis A. Pathophysiological and clinical aspects of the diagnosis and treatment of bezoars. Ann Gastroenterol. 2019;32(3):224-232.