CEP Clin Exp Pediatr Vol. 68, No. 5, 395–397, 2025
https://doi.org/10.3345/cep.2024.01949

Clinical note

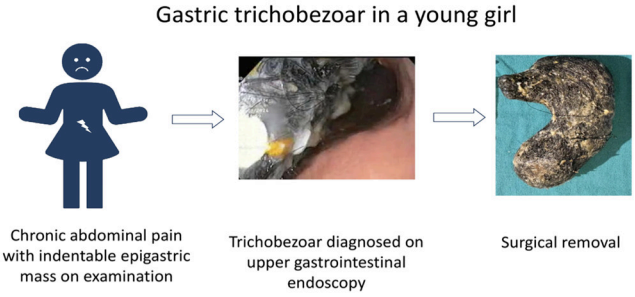
# Abdominal pain in a young girl: a twist in the tale

Upasana Ghosh, MD, DM[1], Ankit Agrawal, MD, DM[1], Umesh Shukla, MD, DM[1], Vikas Jain, MD, DM[1], Deeksha Bhalla, MD[2]

[1]Department of Pediatric Gastroenterology, Post Graduate Institute of Child Health, Noida, Uttar Pradesh, India; [2]Department of Radiodiagnosis, Post Graduate Institute of Child Health, Noida, Uttar Pradesh, India

## Key message

- Chronic abdominal pain caused by a gastric trichobezoar is extremely rare among children.
- An indentable epigastric mass is characteristic and upper gastrointestinal endoscopy is diagnostic of a gastric trichobezoar.
- Symptomatic large trichobezoars usually require surgery.
- Neuropsychiatric disorders are often associated with gastric trichobezoar, making a psychiatric evaluation of paramount importance.




**Graphical abstract**

## Introduction

A bezoar is an aggregate of undigestible materials, typically made of hair, vegetable matter, or foreign materials, found in the gastrointestinal tract. The word "bezoar" is derived from the Arabic word "bazahr" meaning antidote. Bezoars were initially discovered as hardened masses found in the stomach and intestines of ruminating animals and were believed to have magical powers to heal.[1] Bezoars are an uncommon cause of abdominal pain among children. The exact incidence is not known. As per a previous study, it constituted approximately 0.4% of all gastroscopies.[2] They are of 4 types: phytobezoar (vegetable fibers, skin, seeds), trichobezoar (hair and food particles), lactobezoar (milk proteins), and pharmacobezoar (medicines and food particles), of which phytobezoar is the commonest.[3] Herein, we report a young girl with chronic intermittent epigastric pain, who was diagnosed to have a gastric trichobezoar clinically, and was managed surgically. Written informed consent was taken from the parents for publication of the clinical details and clinical images of the child.

## Case report

An 8-year-old girl presented with abdominal pain for 3 months. Pain was epigastric, intermittent, and mild to moderate in intensity. There was no history of vomiting, abdominal distention, fever, or weight loss. The child was developmentally normal and well-nourished. There was patchy alopecia on the scalp. Abdominal examination revealed an epigastric indentable mass of approximate width of 10 cm with ill-defined margins. Parents revealed that the child not only had a history of trichotillomania and trichophagia but also a habit of eating soil and threads plucked from her dresses, absent-mindedly. Considering the history of trichotillomania, pica, and the presence of an indentable epigastric mass, a clinical diagnosis of gastric trichobezoar was made. Erect x-ray of the abdomen was normal. Hemogram, liver function test, and inflammatory markers were normal. Abdominal ultrasonography (USG) revealed a hyperechoic mass occupying almost the entire stomach with air foci within, accompanied by acoustic shadowing, suggestive of a gastric trichobezoar; the duodenum was normal. Upper gastrointestinal endoscopy (UGIE) was performed under sedation, which revealed the trichobezoar extending from the gastroesophageal junction, up to the pylorus (Fig. 1). The endoscope could not be negotiated across the pylorus as the bezoar was partially obstructing it. The child underwent laparotomy, an anterior gastrotomy was made, and the bezoar (15 cm × 10 cm) was retrieved in toto, there was no tail of the bezoar beyond the pylorus (Fig. 2). On psychiatric evalua-

Corresponding author: Upasana Ghosh. Department of Pediatric Gastroenterology, Post Graduate Institute of Child Health, Noida, Uttar Pradesh 201303, India
✉ Email: ghoshupasana16@gmail.com, https://orcid.org/0009-0006-2060-6132
Received: 18 December 2024, Revised: 12 February 2025, Accepted: 22 February 2025

tion, the child was diagnosed with trichotillomania. She underwent multiple sessions of cognitive behavioral therapy and has remained asymptomatic thereafter.

## Discussion

Bezoars can form anywhere in the gastrointestinal tract starting from the stomach to the rectum, the most common site is the stomach.[3] When the tail of the bezoar extends beyond the pylorus, it is called Rapunzel syndrome. As far as the etiology is concerned, there may be multiple reasons; firstly, an excessive fiber intake (persimmons, hazelnuts, coir), second, congenital gastrointestinal anomalies (e.g., duodenal web, annular pancreas), third, gastroparesis due to vagotomy due to previous gastric surgery, and lastly associated psychiatric disorders like trichotillomania, obsessive-compulsive disorder, mental retardation.[3] Symptoms depend on the site of the bezoar, most present with epigastric pain, postprandial fullness, and palpable epigastric mass, with or without features of gastric outlet obstruction. Other presentations include hematemesis due to ulceration, sub-acute intestinal obstruction, and perforation.[4,5] Examination reveals epigastric mass with indentability, also known as the Lamerton's sign.[6] Diagnosis can be made on contrast barium, USG, and confirmed on computed tomography or UGIE. The extent of the bezoar can be confirmed on computed tomography, it was not done in this patient due to financial constraints. Diagnosis is often delayed due to non-specific symptomatology. Our patient presented with epigastric abdominal pain and an epigastric mass. USG findings were typical of a gastric trichobezoar and an early diagnosis was made on UGIE. Intraoperatively, there was no

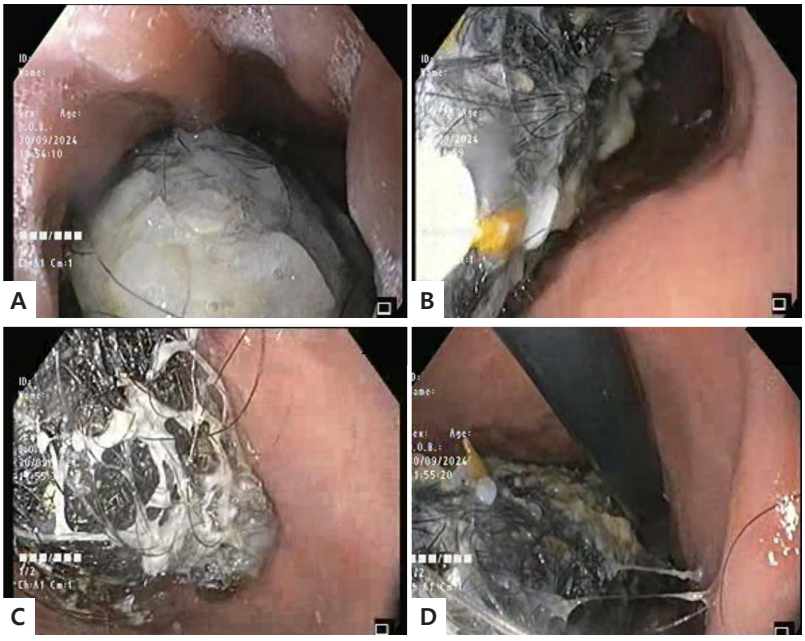



**Fig. 1.** Extent of the trichobezoar on upper gastrointestinal endoscopy. (A) At the gastroesophageal junction. (B) Body of the stomach. (C) Antrum. (D) Retroflexed view.

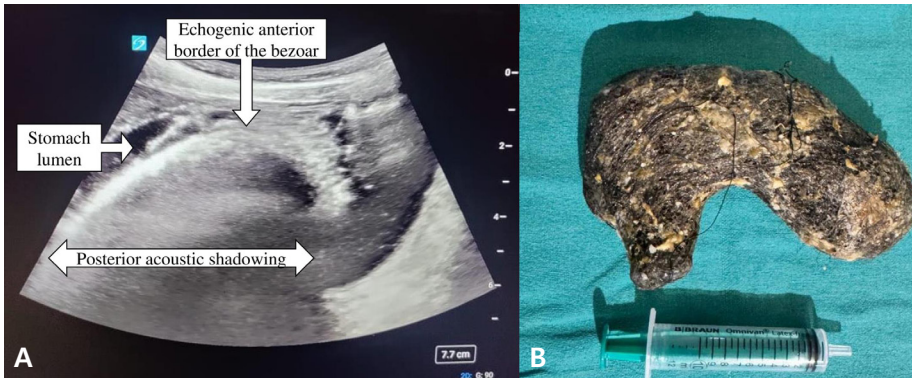



**Fig. 2.** (A) Ultrasonography showed mobile mass in the stomach with echogenic anterior border with significant posterior acoustic shadowing. (B) Surgical specimen of the gastric trichobezoar "Stomach cast."

evidence of extension into the duodenum.

Treatment is mostly surgical; there are very few reports of endoscopic removal of trichobezoar, whose success rate ranges from 5% to 30.7%.[5,7,8] Endoscopic removal can be done by fragmentation using biopsy forceps, polypectomy snares, modified lithotripters, modified needle-knife, and monopolar coagulation current and requires expertise.[2,5,7] Trichobezoars are difficult to remove endoscopically because they are usually large and resistant to enzymatic dissolution. It is difficult to fragment them due to their hardness and density; noxious fumes (generated by electrical current on the synthetic fibers in the trichobezoar) can lead to small bowel perforation.[7] This child underwent laparotomy and the whole bezoar (15 cm×10 cm) was removed from the stomach. Bezoars are commonly associated with psychiatric disorders, as in the present case. Trichophagia is seen in 5%–20% of patients with trichotillomania.[9]

Gastric bezoar associated with trichotillomania is a rare cause of chronic abdominal pain in children. An astute clinician can suspect the diagnosis based on history and characteristic indentable epigastric mass. This case report highlights the importance of clinical examination to diagnose a rare cause of chronic abdominal pain in children.

## Footnotes

Conflicts of interest: No potential conflict of interest relevant to this article was reported.

Funding: This study received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author contribution: Conceptualization: UG; Data Curation: UG, AA, DB; Formal analysis: UG, AA, US, VJ, DB; Methodology: UG, AA; Project Administartion: UG, AA; Visualization: UG, AA, US, VJ; Writing-original draft: UG, AA; Writing-review & editing: US, VJ, DB

ORCID:
Upasana Ghosh https://orcid.org/0009-0006-2060-6132
Ankit Agrawal https://orcid.org/0009-0008-4641-1426
Umesh Shukla https://orcid.org/0000-0002-4254-7448
Vikas Jain https://orcid.org/0000-0003-4564-7687
Deeksha Bhalla https://orcid.org/0000-0003-0478-6859

## Short question

Which of the following statements regarding a trichobezoar is not true?

i. It is seen in adults only.
ii. It may be associated with psychiatric disorders.
iii. Surgical removal is required in most cases.
iv. The clinical presentation includes chronic abdominal pain, intestinal obstruction.

Answer i. It is seen in adults only.

## References

1. Williams RS. The fascinating history of bezoars. Med J Aust 1986;145:613-4.
2. 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.
3. Dorterler ME, Günendi T, Çakmak M, Shermatova S. Bezoar types in children and aetiological factors affecting bezoar formation: A single-centre retrospective study. Afr J Paediatr Surg 2023;20:8-11.
4. Eng K, Kay M. Gastrointestinal bezoars: history and current treatment paradigms. Gastroenterol Hepatol (N Y) 2012;8:776-8.
5. Gorter RR, Kneepkens CM, Mattens EC, Aronson DC, Heij HA. Management of trichobezoar: case report and literature review. Pediatr Surg Int 2010;26:457-63.
6. Lamerton AJ. Trichobezoar: two case reports--a new physical sign. Am J Gastroenterol 1984;79:354-6.
7. Niță AF, Hill CJ, Lindley RM, Marven SS, Thomson MA. Human and Doll's hair in a gastric trichobezoar, endoscopic retrieval hazards. J Pediatr Gastroenterol Nutr 2020;71:163-70.
8. Lu D, Berglund B, Xia Y, Jain A, Gu Q, Ji F. Endoscopic removal of a massive trichobezoar in a pediatric patient by using a variceal ligator cap: a case report and literature review. Front Med (Lausanne) 2022;9:1020648.
9. Grant JE, Odlaug BL. Clinical characteristics of trichotillomania with trichophagia. Compr Psychiatry 2008;49:579-84.

**How to cite this article:** Ghosh U, Agrawal A, Shukla U, Jain V, Bhalla D. Abdominal pain in a young girl: a twist in the tale. Clin Exp Pediatr 2025;68:395-7.