Received: 26 January 2022 | Revised: 13 March 2022 | Accepted: 14 March 2022

DOI: 10.1002/ccr3.5653

CASE REPORT

Clinical Case Reports Open Access WILEY

Gastric trichobezoar: An uncommon cause of epigastric pain: A case report

Rahma Daoud[1,2] | **Ahmed Tlili**[1,3] | **Sami Fendri**[1,2] | **Amira Akrout**[1,2] | **Aymen Trigui**[1,2] | **Salah Boujelbene**[1,2]

[1]Faculty of Medicine of Sfax, University of Sfax, Sfax, Tunisia

[2]Departement of Surgery, Habib Bourguiba Hospital, Sfax, Tunisia

[3]Departement of Surgery, University Hospital, Gabes, Tunisia

Correspondence
Rahma Daoud, Department of Surgery, Habib Bourguiba Hospital, Sfax, Tunisia.
Email: rahmadaoud90@yahoo.fr

Funding information
None

Abstract

Trichobezoars are foreign and indigestible materials in the gastrointestinal tract and are usually found in psychiatric females, who often deny eating their own hair, but also at situations of gastric dysmotility and prior gastric surgery. Although rare, gastric trichobezoar should not be forgotten as a differential diagnosis in females presenting with vague epigastric pain. Its treatment well in time will prevent complications.

KEYWORDS

bezoar, gastrotomy, stomach, trichophagia

1 | INTRODUCTION

Bezoars are collections of non-digestible foreign material that usually accumulates in stomach and can extend to small bowel.[1,2] They are concretions of hair that are unusual and found in young females with psychiatric history, who often have trichotillomania or trichophagia.[3,4] One third of patients with trichophagia develop trichobezoars. This condition has been well described in the surgical literature, but less reported in psychiatry.[4] Other risk factors for the formation of bezoars are represented by all states of gastric dysmotility such as diabetes mellitus gastroparesis, previous gastric surgery and vagotomies, neurologic conditions, peptic ulcer disease, gastric cancer, and hypothyroidism. Trichobezoar is a rare medico-surgical condition. They represent a prevalence that ranges between 0.4% and 0.6% in different case series.[1,5]

Clinical manifestations can have serious symptoms revealing complications like hematemesis or small bowel occlusion. However, they can be asymptomatic and discovering by endoscopy.[1,6] Diagnosis and treatment depend on clinical manifestations. Asymptomatic or minimally symptomatic forms are generally diagnosed and treated by endoscopy and this includes endoscopic removal or fragmentation with the help of Coca-Cola lavages, while complicated forms are diagnosed by abdominal CT and required surgical treatment.[6]

We report here a case of gastric trichobezoar, which is highlighting the salient features of diagnosis, treatment, and prognosis.

2 | CASES REPORT

An 18-years-old female patient with 4-year history of trichophagia presented with epigastralgia for 6 months and a progressive loss of appetite for 4 months as chief complaints. The patient was pale. Abdominal examination found a well-defined, smooth, and hard intrabdominal lump of 8 × 10 cm in the epigastric region. Palpation found a large, firm mobile epigastric mass that was minimally tender and moving well with respiration.

Contrast-enhanced computed tomography (CT) scan of the abdomen showed the presence of a large gastric mass with internal air loculi involving the entire stomach with extension into the duodenum but not into the jejunum, suggestive of gastric trichobezoar (Figure 1).

The upper endoscopy confirmed the diagnosis showing a trichobezoar, involving almost the entire capacity of the stomach, extending from the distal esophagus into the duodenum (Figure 2). The endoscopy extraction attempt was unsuccessful.

Based on the above findings, we decided to perform surgery for the trichobezoar. It was removed by upper midline exploratory laparotomy with anterior gastrotomy (Figure 3). A giant trichobezoar was removed through the anterior gastrotomy along with its tail (Figure 3). Gastric mucosa inspection did not show any signs of complication. The mass measured 24 × 16 cm (Figure 4).

Postoperatively, the patient recovered well, was allowed orally on the 3rd postoperative day, and was discharged in satisfactory condition on the 5th post-op day. A psychiatric evaluation diagnosed her with an adjustment disorder. She was assigned to a psychiatric follow-up to avoid recurrences.

3 | DISCUSSION

Trichobezoar is a rare clinical condition of the gastrointestinal tract, which consists on the abnormal presence of indigestible materials (fibers, hair, etc.) especially in the stomach more than the rest of the digestive tract.[1-4] It was first reported in 1779 on autopsy of a patient who died from gastric perforation. Five types of bezoars are known to cause gastric obstruction: phytobezoars (vegetable origin), trichobezoars (composed mainly of hair), lactobezors which are unique to premature infants (aggregation of the milk proteins contained in artificial feeding products, favored by the immaturity of the digestive tract), pharmacobezoar (mixed medicine bezoars), and food bolus bezoars. Phytobezoars are the most common and more developed when some factors are present like delayed gastric, gastrointestinal dysmotility, endocrine diseases, diabetes emptying, or previous gastric surgery.[1] Trichobezoars are less common than phytobezoars but are more frequently seen in young people especially with psychiatric illnesses[7,8] Factors associated with the formation of trichobezoar include female gender, mental retardation, the excessive ingestion of food or non-food substances, and an underlying behavioral disorder leading to pica.[1] In some cases, however, the trichobezoar extends through the pylorus into jejunum, ileum, or even colon. This condition, called Rapunzel syndrome, was first described by Vaughan et al. in 1968[2,9].

The presentation of trichobezoar is multiple and varies from asymptomatic or chronic recurrent abdominal pain to sub-acute or acute gastric obstruction.[3] Gastric perforation may, rarely, be present.[10] Bezoars can manifest with abdominal pain, early satiety, nausea/vomiting, intestinal obstruction, weight loss, erosive gastritis and esophagitis, ulcerations leading to bleeding and/or perforation.[2] Rarely intussusceptions can happen.[11] An abdominal mass remains the commonest presenting sign.[8] In our case, there was also an upper palpable intraabdominal lump, moving well with respiration.

Firm or hard masses in the abdomen are usually suspected as malignant processes, especially in elderly and in adults. Trichobezoar should be always considered as a differential diagnosis in young females with history of psychiatric illnesses and the ingestion of hair or complain of, an epigastric mass, weight loss, and epigastric pain.[2]

Endoscopy usually makes the diagnosis showing the hair mass, which appears black due to denaturing of the hair proteins by the acid. The most common diagnostic tool used in the literature is a CT scan, with an image showing an intraluminal ovoid heterogeneous mass with interspersed gas which is typical, but the CT is used especially to highlight other locations.[12,13]

Management options include endoscopic removal, laparoscopic removal, or laparotomy removal. The optimal therapy combines minimal invasiveness with optimal efficacy. Among non-invasive procedures, endoscopic fragmentation or aspiration is the best alternative, and should be preferred to surgical treatment except for complicated cases in which gastrointestinal perforation or small bowel occlusion has developed.[13,14] However, it has some limits. In fact, the removal of all fragments requires the necessity

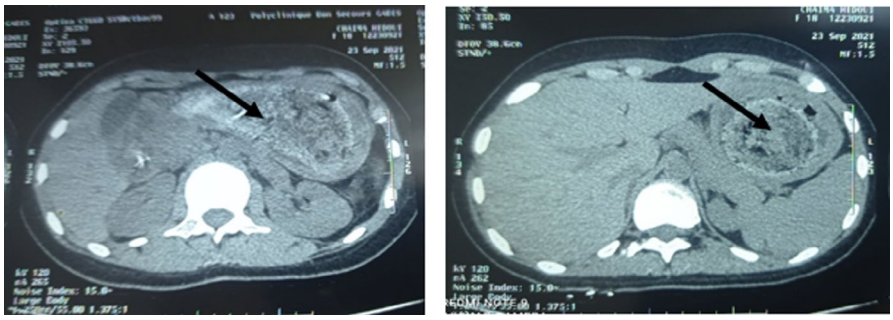

FIGURE 1 CT Scan showing trichobezoar (arrow) occupying the extent of the stomach

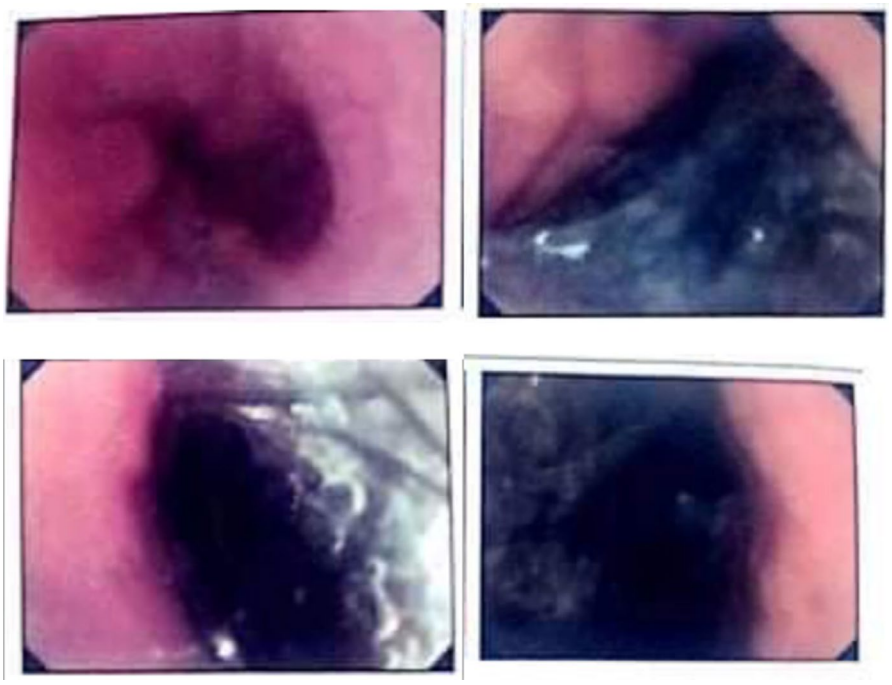

FIGURE 2 Endoscopy showing trichobezoar extending through stomach

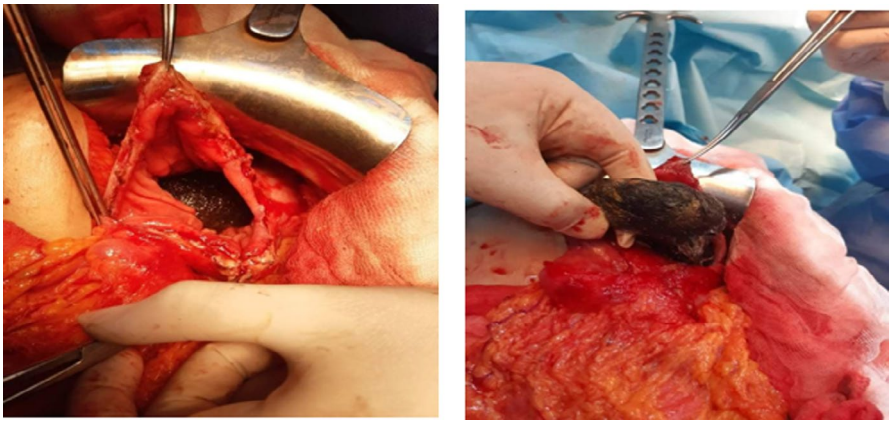

FIGURE 3 Hair ball occupying the whole stomach and during the act of removal

of repeated introduction of the endoscope, esophagitis, pressure ulceration, and even esophageal perforation.[14,15] In addition, fragments of a large trichobezoar might migrate after repeated manipulation through the pylorus, causing intestinal obstruction further distally.[14] Gorter et al. in a retrospective review of 108 cases of trichobezoars evaluated the variable treatments tried in these cases; it was noted that whereas only 5% of attempted endoscopic removals were successful (small trichobezoars can respond to endoscopy removal with mechanical and laser fragmentation techniques and vigorous lavage), and 75% of attempted laparoscopic surgical extractions were successful. However, laparotomy with gastrotomy was 99% successful and thus favored as their best management of choice.[14] We can, then, consider laparoscopy inferior to laparotomy for the treatment of trichobezoar. We also managed our case by laparotomy and anterior gastrotomy. Medical treatment such as enzyme therapy with acetylcysteine, cellulase, or papain may be tried in small bezoars, medicational bezoars, or gastric lactobezoars in preterm babies, but usually ineffective in big and large bezoars or those presenting with complications. Consequently, nonoperative treatments, although attractive by their noninvasiveness, are rarely used because of high failure rates.[2,13]

After trichobezoar removal, prognosis is good, if habitual trichophagia control psychiatric therapy is successful. That's why post-surgery psychiatric consultation is very important for trichophagia. However, the recurrence rate of trichobezoars is 13.5% despite preventive measures.[1]

4 | CONCLUSION

Gastric bezoars are a rare condition which could be sometimes life-threatening if left untreated. Although rare, trichobezoars should not be forgotten as a differential diagnosis in young females presenting with epigastric lump and chronic epigastric pain. Diagnosis can be easily made with

FIGURE 4 Specimen

endoscopy. CT is important to highlight other locations. Several means for therapeutic management are present. Its treatment well in time will prevent complications. A psychiatric evaluation is helpful in preventing recurrences.

ACKNOWLEDGEMENT
None declared.

CONFLICT OF INTEREST
None declared.

AUTHOR CONTRIBUTIONS
R. Daoud conceived the idea for the document and contributed to the writing and editing of the manuscript. A. Tlili contributed to the writing and editing of the manuscript. S. Fendri reviewed and edited the manuscript. A. Akrout reviewed and edited the manuscript. A. Trigui contributed to the literature review, manuscript writing, editing, and review of the manuscript. All authors read and approved the final manuscript.

ETHICAL APPROVAL
Personal data have been respected.

CONSENT
Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

DATA AVAILABILITY STATEMENT
Personal data of the patient were respected. No data are available for this submission.

ORCID
Rahma Daoud https://orcid.org/0000-0003-0610-4719

REFERENCES
1. Ugenti I, Travaglio E, Lagouvardou E, Caputi Iambrenghi O, Martines G. Successful endoscopic treatment of gastric phytobezoar: a case report. *Int J Surg Case Rep*. 2017;37:45-47.
2. Dixit A, Raza MA, Tiwari R. Gastric trichobezoar with rapunzel syndrome: a case report. *J Clin Diagn Res*. 2016;10(2):PD10-PD11.
3. Sinha AK, Vaghela MM, Kumar B, Kumar P. Pediatric gastric-trichobezoars with acute life threatening and undifferentiated elective bipolar clinical presentations. *J Pediatr Surg Case Rep*. 2017;16:5-7.
4. Al-Janabi IS, Al-Sharbaty MA, Al-Sharbati MM, Al-Sharifi LA, Ouhtit A. Unusualtrichobezoar of the stomach and the intestine: a case report. *J Med Case Rep*. 2014;8:79.
5. Mihai C, Mihai B, Drug V, Cijevschi PC. Gastric bezoars–diagnostic and therapeutic challenges. *J Gastrointestin Liver Dis*. 2013;22:109-112.
6. Iwamuro M, Okada H, Matsueda K, Inaba T, Kusumoto C, Imagawa A. Review of the diagnosis and management of gastrointestinal bezoars. *World J Gastrointest Endosc*. 2015;7:336-345.
7. Duke DC, Keeley ML, Geffken GR, Storch EA. Trichotillomania: a current review. *Clin Psychol Rev*. 2010;30:181-193. doi:10.1016/j.cpr.2009.10.008
8. Gonuguntla V, Joshi D-D. Rapunzel syndrome: a comprehensive review of an unusual case of trichobezoar. *Clin Med Res*. 2009;7(3):99-102.
9. Finale E, Franceschini P, Danesino C, Barbaglia M, Guala A. Rapunzel syndrome: how to orient the diagnosis. *Pediatr Rep*. 2018;10(2):7689.
10. Mehta MH, Patel RV. Intussusception & intestinal perforations caused by multiple trichobezoars. *J Pediatr Surg*. 1992;27(9):1234-1235.
11. Prasanna BK, Balakrishnan A, Kumar P. Rapunzel syndrome: a rare presentation with multiple small intestinal intussusceptions. *World J Gastrointest Surg*. 2013;5(10):282-284.
12. De Melio J, Debrouwere T, Herman M. Trichobezoar. *J Belg Soc Radiol*. 2021;105(1):31.
13. Mewa Kinoo S, Singh B. Gastric trichobezoar: an enduring intrigue. *Case Rep Gastrointest Med*. 2012;2012:136963.
14. Gorter RR, Kneepkens CMF, Mattens ECJL, Aronson DC, Heij HA. Management of trichobezoar: case report and literature review. *Pediatr Surg Int*. 2010;26(5):457-463.
15. Kanetaka K, Azuma T, Ito S, et al. Two-channel method for retrieval of gastric trichobezoar: report of a case. *J Pediatr Surg*. 2003;38:1-2.

How to cite this article: Daoud R, Tlili A, Fendri S, Akrout A, Trigui A, Boujelbene S. Gastric trichobezoar: An uncommon cause of epigastric pain: A case report. *Clin Case Rep*. 2022;10:e05653. doi:10.1002/ccr3.5653