

Laparoscopic Removal of a Gastric Trichobezoar in Adulthood: A Case Report

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Abbreviations:

AC: abdominal cavity;
CT: computed tomography;
EGD: esophagogastroduodenoscopy;
ERAS: enhanced recovery after surgery;
NSAIDs: nonsteroidal anti-inflammatory drugs;
PC: pelvic cavity;
PPIs: proton pump inhibitors;
TA: thoracic area;
VAS: visual analogue scale.

Rezumat

Îndepărtarea laparoscopică a unui tricobezoar la adult

Tricobezoarele sunt concreții de păr localizate la nivelul stomacului, asociate cu trichofagia și trichotilomania. În majoritatea cazurilor, acestea apar la femei tinere cu tulburări psihice concomitente. Tratamentul pentru această categorie de pacienți implică îndepărtarea chirurgicală a tricobezoarelor. Prezentăm cazul unei paciente în vârstă de 24 de ani care s-a plâns de greață matinală, senzație de corp străin și dureri periodice de tip tracțiune în regiunea epigastrică. Palparea a evidențiat o masă străină care ocupa regiunea epigastrică. Pacienta a fost supusă tomografiei computerizate (CT) și esofagogastroduodenoscopiei (EGD) pentru diagnosticul diferențial. Pe baza investigațiilor instrumentale, a fost stabilit diagnosticul de tricobezoar gastric. S-a efectuat gastrotomie laparoscopică pe peretele anterior al stomacului, cu extragerea tricobezoarului printr-un abord de mini-laparotomie de tip Pfannenstiel. Evoluția postoperatorie a fost favorabilă, iar pacienta a fost externată în a doua zi postoperatorie. Pentru prevenirea recidivei, s-au recomandat consult psihiatric și urmărire ambulatorie pe termen lung ca parte a tratamentului. Unicitatea acestui caz constă în prezența unui tricobezoar care a provocat un disconfort minim pe o perioadă îndelungată. Îndepărtarea laparoscopică a tricobezoarelor gastrice reprezintă o opțiune terapeutică eficientă datorită caracterului minim invaziv și recuperării postoperatorii rapide.

Cuvinte cheie: raport de caz, tricobezoar, îndepărtarea laparoscopică a tricobezoarului

Abstract

Trichobezoars are hair concretions in the stomach associated with trichophagia and trichotillomania. In most cases, they occur among young women with concomitant mental disorders. The treatment for this category of patients involves surgical removal of trichobezoars. We present a case of a 24-year-old female patient who complained of morning nausea, a sensation of a foreign body, and periodic pulling pain in the epigastric region. Palpation revealed a foreign mass that occupied the epigastric area. The patient underwent computed tomography (CT) and esophagogastroduodenoscopy (EGD) for differential diagnosis. Based on the instrumental studies, the diagnosis of a gastric

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trichobezoar was established. Laparoscopic gastrotomy was performed along the anterior wall of the stomach with removal of the trichobezoar through a Pfannenstiel-type mini-laparotomy site. The postoperative period was uneventful, and the patient was discharged on the second postoperative day. To prevent recurrence, psychiatric consultation and long-term outpatient follow-up were recommended as part of treatment. The uniqueness of this case lies in the presence of a trichobezoar that caused minimal discomfort for a long period of time. Laparoscopic removal of gastric trichobezoars represents an effective treatment option due to its minimally invasive nature and rapid postoperative recovery.

Keywords: case report, trichobezoar, laparoscopic removal of trichobezoar

Introduction

A bezoar is an indigestible mass that accumulates in the gastrointestinal tract (1). Bezoars are classified into four types: trichobezoars (caused by ingestion of hair, fur, or animal hair), lactobezoars (caused by milk curds), phytobezoars (caused by poorly digested fruit and vegetable fibers), and other types (resulting from medications, sand, or fungi) (2). One distinctive feature of trichobezoars is their frequent occurrence among young individuals with psychiatric disorders and social anxiety (3).

The manifestations of gastric bezoars may initially be asymptomatic for many years until the mass reaches a size that begins to affect the patient's well-being (4). Among the possible negative consequences of a hair concretion in the stomach are chronic anemia, nutritional disorders, gastrointestinal bleeding, peritonitis, and small bowel intussusception (5).

Treatment methods for trichobezoars include endoscopic and laparoscopic removal, laparotomy.

Case Report

A 24-year-old female patient D., with of type 1 diabetes mellitus, presented to the outpatient surgical clinic in June 2025. She reported morning nausea, a sensation of a foreign body, and periodic pulling pain in the epigastric region. Medical history revealed that the patient had suffered from trichophagia and trichotillomania since childhood.

On physical examination, palpation of the abdomen revealed a mass measuring 15 x 10 cm, slightly protruding above the anterior abdominal wall at the projection of the stomach, poorly mobile, and painless on palpation. For differential diagnosis and confirmation of the final diagnosis, the patient underwent CT of the Abdominal Cavity

(AC), Thoracic Area (TA), and Pelvic Cavity (PC).

CT findings revealed a stomach adequately distended with fluid, within which a spongy, irregularly shaped mass measuring up to 127 x 56 mm was identified. It showed no contrast enhancement (consistent with a bezoar). The gastric walls appeared normal, with no visible thickening (*Figs. 1 and 2*).

For further examination EGD was performed. Gastric findings: In the middle third of the stomach, a freely located foreign body of elongated, smooth shape measuring up to 15 x 6 cm was observed. The formation consisted of densely compacted hair strands impregnated with mucus and bile. An unsuccessful attempt to remove the trichobezoar was made.

Conclusion: foreign body (trichobezoar) of the stomach - gastric body ulcer (*Figs. 3 and 4*).

Based on the examination results, proton pump inhibitors (PPIs) were prescribed for a 3-week course.

During a follow-up consultation, the date of surgical treatment was determined, along with a list of mandatory preoperative examinations and preparation recommendations in accordance with Enhanced Recovery After Surgery (ERAS) guide-



Figure 1. Axial CT image of gastric trichobezoar

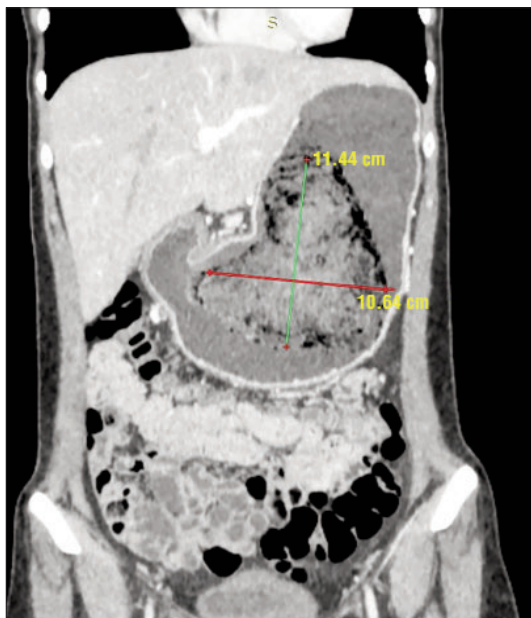


Figure 2. Coronal CT image of gastric trichobezoar

lines. The patient was electively admitted for surgical intervention. She was offered laparoscopic removal of a gastric trichobezoar with extraction through a mini-laparotomy via a Pfannenstiel-type incision. Consent was obtained both orally and in writing.

Surgical Technique

Under general anesthesia, the patient was placed in the French position. The ports were positioned as follows:

- One 10 mm trocar placed along the inferior margin of the umbilicus.
- One 10 mm trocar inserted on the right side at the level of the umbilicus along the anterior axillary line.
- One 5 mm trocar inserted on the left side of the umbilicus along the midclavicular line.

During surgery, intraoperative gastroscopy was performed to assess the access point on the anterior gastric wall and to monitor the healing of the previous pressure ulcer (the ulcer was healed) (Fig. 5).

A gastrotomy of the anterior gastric wall was performed using a monopolar hook along its midline, with an incision length of up to 10 cm (Fig. 6).

The trichobezoar has been removed from the stomach cavity and evacuated in the caudal

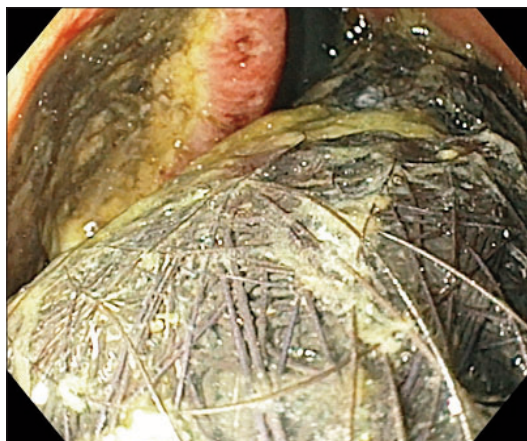


Figure 3. Gastric trichobezoar

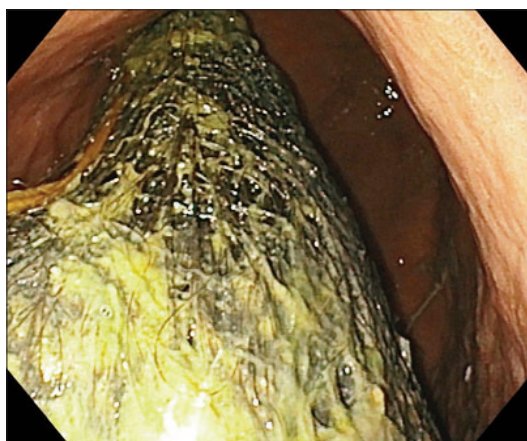


Figure 4. Gastric trichobezoar

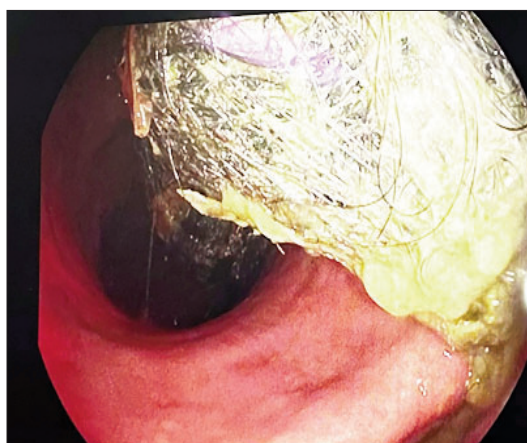


Figure 5. Intraoperative EGD

direction using an endobag to reduce the risk of peritoneal contamination and infection (Figs. 7 and 8).

For the purpose of traction and marking the direction of the linear suture, four ligature holders were placed along the line of the gastrotomy.

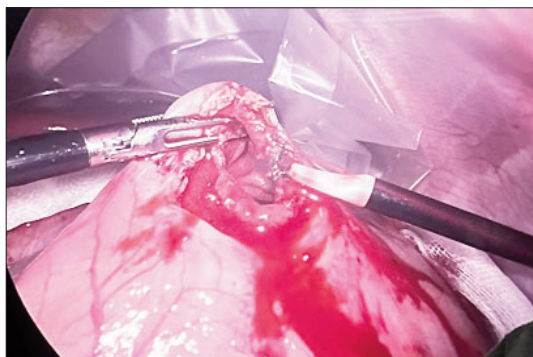


Figure 6. Laparoscopic gastrotomy

The stapler suture line was formed using an articulating reinforced linear endoscopic stapler with four black cartridges, which staple in three rows. The inner row of staples has a height of 4 mm, the middle row - 4.5 mm, and the outer rows - 5.0 mm (*Fig. 9*).

An intraoperative gastroscopy and bubble test were performed to assess the staple line. During the intraoperative endoscopic examination, the entire stapled suture line was clearly visualized, and the stomach demonstrated complete integrity without any evidence of leakage.

The specimen was extracted through an abdominal access via a Pfannenstiel-type mini-laparotomy measuring up to 6 cm in length (*Figs. 10 and 11*).

All trocar insertion sites and the Pfannenstiel-type mini-laparotomy incision were sutured in layers. A silicone drain was placed in the pelvic cavity and has been removed on the next day after surgery (*Fig. 12*).

The total duration of the surgical procedure was 110 minutes.

The patient was mobilized 4 hours after the completion of surgery. Pain intensity according to the Visual Analogue Scale (VAS) was 3 points. The early postoperative period was uneventful and free of complications. In the postoperative period, the patient received antibiotic therapy, nonsteroidal anti-inflammatory drugs (NSAIDs), and PPIs.

The patient was discharged from the hospital on the second postoperative day in satisfactory condition with noted improvement. She was provided with postoperative recommendations, including adherence to a liquid diet for 3 weeks followed by a gradual transition to solid foods, medications intake, use of protein shakes, restriction of physical activity, and psychiatric

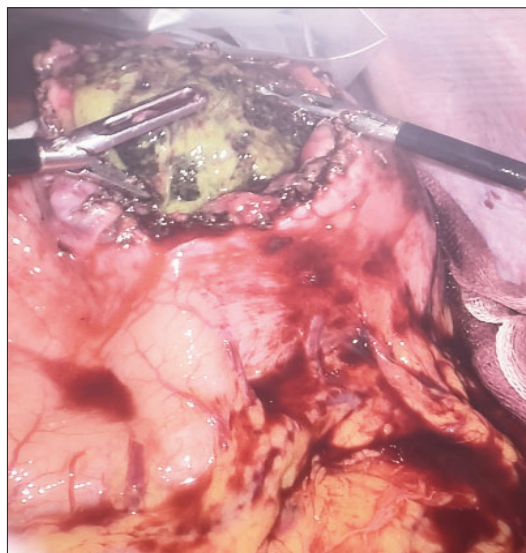


Figure 7. Removal of the trichobezoar from the gastric cavity

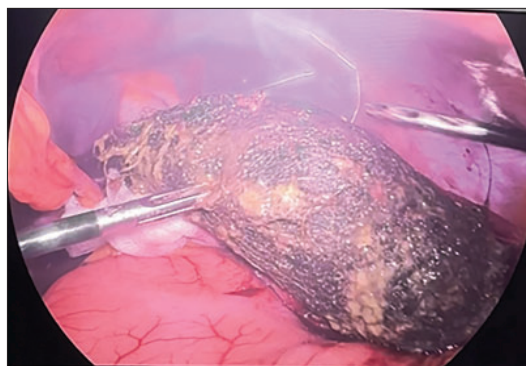


Figure 8. Evacuation of the trichobezoar into a hermetic retrieval bag

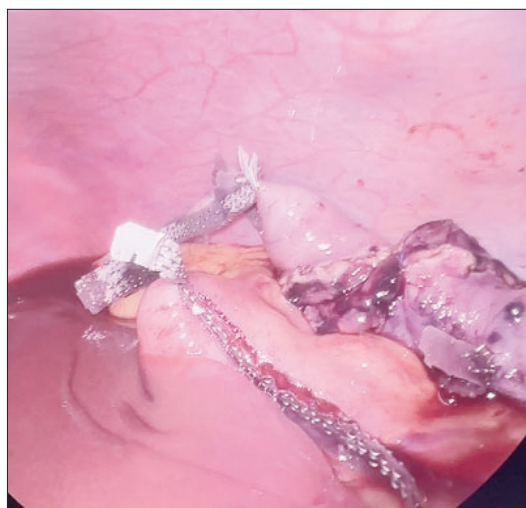


Figure 9. The formed linear stapler staple line

c o n -
s u l t a -
t i o n .



Figure 10. Trichobezoar



Figure 11. Trichobezoar

Discussion

Trichobezoars most often occur in females under 20 years old with trichophagia and trichotillomania since childhood (6). In this case, the 24-year-old patient represents an atypical presentation. Ingested hair gradually forms a dense mass, causing abdominal pain, nausea, and vomiting (7).

Endoscopy and CT remain the most reliable diagnostic tools (8), both of which confirmed a large gastric trichobezoar in this case. Unlike phytobezoars, trichobezoars are resistant to enzymatic or pharmacological dissolution and are rarely removable endoscopically (8,9). Endoscopy, though less invasive, is often ineffective due to the size and density of the mass.

Laparotomy is the standard method because of its simplicity, low complication rate, and ability to examine the gastrointestinal tract for additional pathology. Laparoscopic removal, though technically demanding, is a minimally invasive, effective alternative that provides faster recovery and better cosmetic results (10).

After removal, prognosis is favorable. Psychiatric follow-up is essential to manage trichophagia and trichotillomania, though recurrence may still occur in about 13.5% of patients (11).

Conclusion

Trichobezoar is a rare condition linked to trichotillomania and trichophagia, mainly in young women (12). This case confirms the safety and efficiency of laparoscopic removal, offering quicker recovery and less trauma than laparotomy.



Figure 12. Port placement and Pfannenstiel-type mini-laparotomy site

Timely CT and endoscopy help prevent complications such as bleeding, perforation, or obstruction. Comprehensive treatment requires cooperation between surgeons and psychiatrists to correct behavioral disorders and prevent recurrence.

Authors' Contributions

All authors contributed equally to this work.

Conflict of Interest

The authors declare no conflicts of interest related to this manuscript.

Consent for Publication

All authors read and approved the final version of the manuscript and provided their consent for publication.

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Ethical Statement

The study was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from the patient.

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