



Case Report

Gastric Perforation Secondary to Trichobezoar: A Surgical Emergency

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ABSTRACT

Trichobezoar is a clinical condition where hair accumulates in the gastrointestinal tract. Patients with trichobezoar present with a history of nausea, pain, vomiting, and occasionally with signs of acute abdomen. We report a case of trichobezoar that presented with gastric perforation and peritonitis which required laparotomy and longitudinal gastrotomy for evacuation of the trichobezoar.

Keywords: Bezoar, Rapunzel syndrome, Trichobezoar, Trichotillomania, Gastric perforation

INTRODUCTION

Trichobezoar is a bunch of hair within the gastrointestinal tract. It results from trichotillomania, which is an underlying psychiatric illness, precisely an impulse control disorder as part of the diagnostic and statistical manual of mental disorders IV psychiatric classification.^[1] Typically, females 10–19 years of age present with repetitive, irresistible urges to pull out and swallow their hair; these impulse control disorders are known as trichotillomania and trichophagia, respectively. Trichotillomania is a rare condition with a prevalence rate of around 0.06–4%.^[2] A few patients present with an abdominal emergency such as signs of small bowel obstruction where the trichobezoar extends into the jejunum, ileum, or even the colon; this was first described by Vaughan *et al.* in 1968 and termed as Rapunzel syndrome.^[3] Attending physicians dealing with emergencies should be aware of this condition. Here, we report a case of trichobezoar presenting with gastric perforation and peritonitis.

CASE REPORT

A 30-year-old female presented with severe abdominal pain for 3 days with non-bilious vomiting. There was no record of prior psychiatric illness or previous abdominal surgery and no history of smoking or tobacco chewing. On examination, she was febrile at 39.5°C. Her blood pressure, pulse rate, and respiratory rate were 90/65 mmHg, 130 beats/min, and 30 breaths/min. The upper abdomen was distended with guarding and board-like rigidity. Bowel sounds were absent. Laboratory studies reveal severe anemia: Hb 3.4 g/dl and low serum albumin: 2.5 g/dl. Serum creatinine was 0.9 mg/dl; Prothrombin time: 12 s, activated partial thromboplastin time: 35 s, and international normalised ratio: 1.2 were all within normal range.

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X-ray abdomen showed free gas under the right diaphragm [Figure 1]. Ultrasonography revealed fluid-filled dilated small bowel with free fluid in the abdomen. The patient received a blood transfusion, IV antibiotics, and other supportive medication before surgery for optimization. On midline laparotomy, a grossly distended intestine was encountered. Gastric perforation at the lesser curvature (<5 mm in diameter) with firm intraluminal gastric content was observed [Figure 2]. Around 10 cm of longitudinal gastrotomy along the long axis of the stomach was made, well away from the perforation site, and a tuft of hair extending to the proximal jejunum was removed [Figure 3]. The gastric perforation and gastrotomy were closed with interrupted polyglactin 910 2-0 suture. The small bowel was traced distally to rule out any detached hairball fragment. After thorough peritoneal lavage, the midline incision was closed using a nylon 1-0 suture. The patient was discharged on the 7th postoperative day without any adverse event. She was counseled and advised against maladaptive behavior.

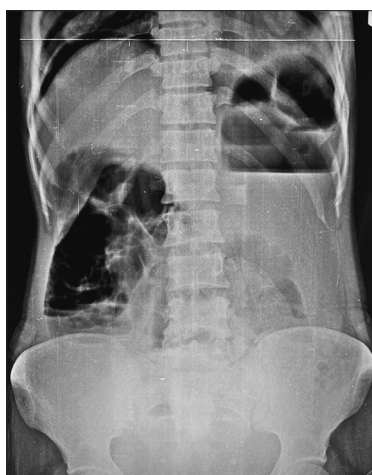


Figure 1: Radiograph showed free gas under the right diaphragm.



Figure 2: Trichobezoar extending up to jejunum.

DISCUSSION

The majority of patients present with obstructive symptoms or acute abdomen following the severity of trichobezoar. In this case, the patient presented with acute abdomen with signs of peritonitis and sepsis. A large voluminous trichobezoar may hamper the blood supply of the mucosa and continuous pressure may lead to ulceration and eventually gastric perforation.^[4] The literature also records rare presentations such as protein-losing enteropathy, obstructive jaundice, intussusception, pancreatitis, and death.^[5,6] In this case, the patient was severely anemic, and detailed post-operative history revealed a long-standing underlying behavioral abnormality, upper abdominal lump, early satiety, and vomiting. Trichobezoar is a differential diagnosis in young females presenting with epigastric mass, early satiety, vomiting, weight loss, and epigastric pain.

In this case, preliminary investigation with X-ray abdomen revealed gas under the diaphragm and USG abdomen showed generalized bowel dilatation with echogenic fluid in the peritoneal cavity. As the emergent surgical intervention was planned, a CT scan of the abdomen was not performed. CT of the abdomen is more sensitive than USG for detection of trichobezoar though upper GI endoscopy is the best diagnostic tool for patients with suspected intra-luminal gastric mass.^[7] In this case, pre-operative detection of trichobezoar could have helped to establish the cause of gastric perforation and could further help in counseling and perioperative management of the patient.

The literature has discussed different methods of trichobezoar removal, such as laparotomy versus minimal invasive techniques that include endoscopy and laparoscopic procedures.^[8-10] Laparotomy is favored in handling significant gastric content, preventing gastric spillage, and

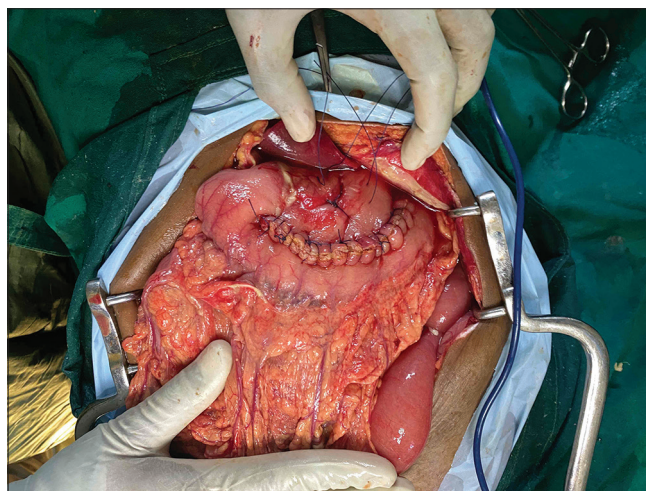


Figure 3: Closed longitudinal gastrotomy with gastric perforation closure in progress.

avoiding fragmentation of the hairball that could lead to distal satellites causing intestinal obstruction. In this case, gastric perforation was at the lesser curvature. An additional separate longitudinal gastrotomy along the long axis of the stomach was made rather than extending from the ulcer base since it could interfere with vascularity of the area and cause poor healing. The patient recovered without significant complications and was discharged on the 7th post-operative day.

Trichobezoar might be associated with other mental illnesses such as anxiety, depression, and anorexia nervosa, requiring extensive psychiatric therapy. Initially, the patient denied ingesting her hair, but after counseling and appropriate assurance of benefit, she admitted her odd behavior of both trichotillomania and trichophagia. Behavioral therapy was added to remedy both conditions.

CONCLUSION

Trichobezoar should be considered one of the differential diagnoses in gastric perforation in young females presenting with gastric mass. Pre-operative diagnosis of trichobezoar requires a high index of suspicion. CT scan of the abdomen may help to establish a diagnosis in a patient with acute abdomen. A longitudinal gastrotomy is preferred for evacuation of the trichobezoar. Post-operative behavior modification is essential for the prevention of relapse.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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