

Case Report

Case presentation on a rare cause of small bowel obstruction- trichobezoar: a case report

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ABSTRACT

Trichobezoars are concretions of swallowed hairs retained within the digestive tract, most commonly stomach. Most common in young females and with psychiatric illness. Trichobezoar may be a cause of acute abdomen when it is complicated with acute obstruction or perforation. In this report we present a case of young girl who presented as an acute obstruction due to two large ileal trichobezoars.

Keywords: Trichobezoars, Small bowel obstruction, Rapunzel syndrome, Trichotillomania

INTRODUCTION

Bezoars are collection of nondigestible materials, usually of vegetables origin (phytobezoar) or hairs (trichobezoar).¹ The term bezoar derives from the Arabic word 'Badzehr', which means antidote.² Rapunzel syndrome is extension of trichobezoars into small bowels. This condition is more common in young adult females having trichotillomania (compulsive plucking of hairs).³ This condition is more common in patients having psychological disorders such as depression or anxiety and low-self-esteem.⁴

Symptoms of trichobezoar include early satiety, nausea, pain, vomiting, weight loss.¹ After ingestion human hair resists both digestion and peristalsis, and accumulates between the mucosal folds of the stomach. Continuous ingestion of hair over a period of time leads to the impaction of hair together with mucus and food, causing the formation of a trichobezoar. Most of the time it is gastric and its continuous extension into small bowel is called as Rapunzel syndrome which was first described by Vaughan et al in 1968.⁵ Complications include erosion of gastric mucosa, obstruction or perforation and septic

shock. Patient may present as acute abdomen and emergency exploration may be needed.

CASE REPORT

16 years old Indian female presented to casualty with complains of acute onset pain in abdomen since 2 days, distension of abdomen since 2 days, bilious vomiting since 1 day and high grade fever since 1 day. Patient was the only child for her parents and pampered very much by parents with short temper and restlessness. Patient was underweight and underdeveloped for her age and pale. Her mother gave history of early satiety and failure to gain weight since childhood. Patient did not have any significant medical or surgical past history.

On admission patient was dehydrated and restless with pulse rate of 130/min and blood pressure of 90/60 mmHg. Per abdomen findings revealed distension of abdomen with tenderness present at umbilical region and epigastric region. Abdominal guarding and rigidity was absent. Bowel sounds were hyperperistaltic. Per rectal examination showed empty rectum.

Patient was resuscitated with IV fluids kept NBM and Ryle's tube insertion and Foleys catheterization was done. Her routine labs were all normal except for hypalbuminaemia (Hb 13.3 g%, 14.6 U/l, platelet count 180, creatinine 0.8, direct bilirubin 0.1 and total 0.9, serum albumin 3.1 and total protein 5.2, serum sodium 3.52 and serum potassium 138.2. X-ray abdomen standing showed multiple air fluid levels s/o acute intestinal obstruction and ultrasonography of abdomen and pelvis showed dilated bowel loops with to and fro peristalsis s/o acute bowel obstruction. Contrast enhanced CT (abdomen and pelvis) showed moderately dilated stomach, duodenum, jejunum and proximal ileum s/o small bowel obstruction secondary to inflammatory stricture. Decision of emergency exploratory laparotomy was made and patient posted. Intraoperatively there was no evidence of stricture on thorough examination of bowel but two trichobezoars found at proximal ileum and one trichobezoar found in stomach. Excision of ileal trichobezoars was done by enterotomy and gastric trichobezoar was removed by gastrotomy. Post-operative period was uneventful and bowel movements returned to normal on post op day 2, patient started with enteral nutrition on day 5 and patient was discharged on post op day 7.

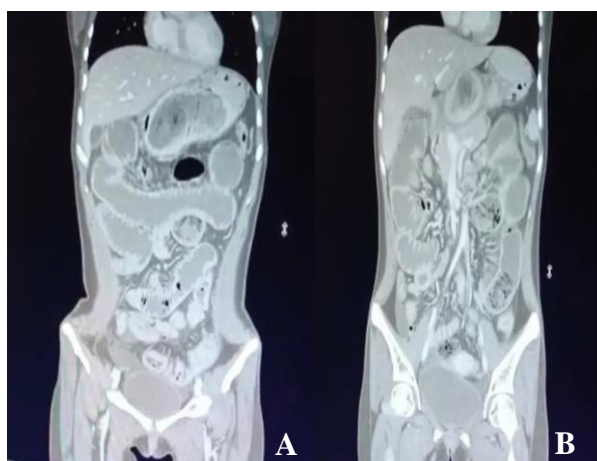


Figure 1: CECT showing trichobezoars in stomach and proximal ileum with small bowel obstruction (A) abdomen; and (B) pelvis.



Figure 2: Delivery of trichobezoar by enterotomy and gastrotomy.



Figure 3: Specimen showing large gastric trichobezoar and two smaller ileal trichobezoars.

DISCUSSION

Trichobezoar is a Greek word trich, which means hair, 'Bezoars' are collections of indigestible material that accumulate in the GI tract and are most often located in the stomach.⁶ Trichobezoars is usually seen in adolescent girls, often with an underlying psychiatric or social problem.⁴ Swain first described trichobezoar while conducting an autopsy in 1854.⁷ The evolution of gastric trichobezoar is still not fully understood. Hair strands because of their slippery surface, escape peristaltic propulsion and are retained in the folds of the gastric mucosa. The hairball lies dormant and the trichobezoar continues to grow in size and weight due to the incessant ingestion of hair. They consist of an aggregation of hair and foodstuff and are black regardless of the patient's hair color, because of the chemical reaction of hair with gastric acid.⁸ Once the bezoar extends from the stomach into the jejunum or further on, it is referred to as 'Rapunzel syndrome', which was first described in 1968 by Vaughan et al.⁹

Symptoms include abdominal bloating, nausea and vomiting, early satiety, post-prandial fullness, halitosis, anorexia, dysphagia and weight loss. Individuals with altered gastrointestinal anatomy and/or motility are at increased risk for developing bezoar.¹⁰ More severe manifestations of this entity depend on trichobezoar location. Trichobezoar should be included in differential diagnosis in young females with nonspecific epigastric pain, fatigue, weight loss, and epigastric mass.¹¹ Gastric erosion and ulceration may lead to bleeding or perforation. A large trichobezoar may lead to gastric outlet obstruction.^{12,13}

Intestinal obstruction in the terminal ileum is uncommon and may cause ischemia and perforation.^{14,15} Most commonly, bezoars produce obstructive symptoms, but they may cause ulceration and bleeding.¹⁶ Overall, gastrointestinal obstruction has been documented in 26% of the patients, and peritonitis in 18%.¹⁷

The diagnosis of a gastric trichobezoar can be confirmed by radiography or endoscopy. Plain films of the abdomen may reveal amorphous, granular, calcified, or whirlpool-like configurations of solid and gaseous material within the stomach.¹⁸ Barium studies may differentiate small-bowel obstruction caused by adhesions from obstruction secondary to a trichobezoar.¹¹ Endoscopy is also valuable when the diagnosis of gastric mass is unclear. When endoscopic removal is attempted, possible migration of fragments through the pylorus and subsequent intestinal obstruction must be considered.¹¹ Ultrasound provides no pathognomonic signs, but a hyperechoic curvilinear dense strip at the anterior margin of the lesion associated with complete shadowing posteriorly has been described.¹⁹ A CT scan is also useful to detect concomitant gastric and 1 or more small-bowel bezoars. The appearance of concentric whorls or small-rounded areas of hypodensity migrating from the stomach into the small bowel is suggestive of Rapunzel syndrome.^{20,21} Magnetic resonance imaging seems less useful than CT scans for the diagnosis of trichobezoar because the very low signal intensity may be easily confused with air.²²

Chemical dissolution works well for phytobezoars and is first line treatment; however it is not useful in managing trichobezoars.^{23,24} For phytobezoars resistant to chemical dissolution and trichobezoars, endoscopic fragmentation using a variety of instruments or lithotripsy can be used.²⁵ Most patients with trichobezoar are approached through laparotomy, which allows the examination of the stomach and intestines in order to detect and remove fragments and thus prevent intestinal obstruction.¹¹ Trichobezoars are most commonly removed by gastrotomy and/or enterotomy.¹⁷

In a review by Gorter et al laparotomy had a success rate of 99%, with a 12% complication rate, whereas laparoscopy was successful in 75% of the cases, with no complications.²⁶ however use of laparoscopy for removing large trichobezoar is limited. Psychiatric evaluation and management when indicated are recommended, even prior to definite treatment if there are no signs of complication that require urgent management. Conservative management of trichobezoars has been associated with a poor outcome.¹⁷

CONCLUSION

Acute intestinal obstruction is common surgical emergency however small bowel obstruction secondary to trichobezoar is a rare entity. Early diagnosis and prompt management of the case helps to decrease mortality and morbidity associated with more severe complications. Though other modes of treatment such as enzymatic digestion and laparoscopic removal have been stated laparotomy and surgical removal remains best treatment modality for large trichobezoars or those associated with complications.

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