

Gastric Trichobezoar: A Case Report

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INTRODUCTION

A Trichobezoar a compact mass of hair that forms in the alimentary canal especially in the stomach of animals as a result of licking fur. For Humans, Trichobezoar the risk of Trichobezoar is greater among the mentally retarded or emotionally disturbed children¹. It were first described by Baudomant in 1779, consisting of a compact mass of hair, occupying the gastric cavity to a various extent^{2,3}. The term trichobezoar is made up of a Greek and an Arabic root. The Greek root is trico (hair) and the Arabic root is bazáhr(antidote), since in ancient times bezoars were used to counteract the effects of various types of poison⁴.

Bezoars can be classified in four types: phytobezoar (vegetable), trichobezoar (hair), lactobezoar (milk/curd) and miscellaneous (fungus, sand, paper, etc)⁵. They are usually found in the stomach, but they may also be found in the duodenum and other parts of the intestine^{6,7}. The most frequent type of bezoar in adults is phytobezoar, while trichobezoars are more often

ABSTRACT

Trichobezoar is a rare disorder that almost exclusively affects young females. Up to 90% of the patients range between 13 to 20 years of age. It consists of a compact mass of hair occupying the gastric cavity to a various extent. When the trichobezoar extends past the duodenum it is better called Rapunzel Syndrome. We are reporting a case of a 13-year-old girl, who presented with complaints of Upper abdominal pain for 5 days with vomiting several times over the same duration. She had a history of several episodes of similar symptoms from early childhood and was admitted in different hospitals several times and was treated conservatively. Clinical examination showed tenderness and hard mass over the epigastric region, extending towards the right hypochondriac region. Endoscopy revealed that there was a giant trichobezoar impacted from the fundus all the way to pylorus of stomach. CT scan results also showed that the stomach was filled with large intra-luminal abnormal mass like contents with mottled air pattern extended from fundus to fill the pylorus. laparotomy was performed to remove the bezoar successfully. This case report highlights the importance of early diagnosis of trichotillomania and trichobezoar and treatment of both by surgically along with medical management by medication and counselling of the patient and family members.

Keywords: *Trichobezoar, Trichotillomania, Bezoar, Stomach perforation.*

found in children and teenage girls⁸. Hair is made of hard keratin. Keratin is a protein that cannot be digested by human gastric juice. It is believed that the smooth surface of hair does not allow for its propagation through peristalsis, getting trapped in the mucosa⁸. However, the stomach of normal individuals is able to clear even large foreign bodies in up to 80 to 90% of the cases, which may imply that bezoar formation occurs in the presence of both altered gastric anatomy or physiology and continued ingestion of the offending substance^{9,10}. It is usually found in the stomach but can also be observed in small intestine or colon and this is known as Rapunzel syndrome for its resemblance to a tail, described in 1968 by Vaughan¹¹.

Trichobezoars are usually described in the context of an underlying psychiatric disorder, trichotillomania [hair pulling] or trichophagia [hair eating] in particular which is also implicitly taken as cause of it, and usually accompanied by characteristic features such as signs of alopecia¹². Other signs and symptoms are the features of acute abdomen and gastric tract obstruction. These

include abdominal pain, nausea, bilious vomiting, hematemesis, anorexia, early satiety, weakness, weight loss and abdominal mass, depending on the degree of obstruction^{5,13,14}.

The diagnosis of trichobezoars is based on radiological evidence. Ultrasonography is effective in detecting an epigastric mass, although CT-scan is more accurate in revealing a characteristic bezoar image and allowing the identification of the presence of additional gastrointestinal bezoars. The definite diagnosis is established by endoscopy^{5,9,15}.

Trichobezoars demand aggressive treatment, often involving surgical intervention and proper counseling along with medications. It frequently needs consecutive sessions of counseling for not only the parent but also all other family members for the complete recovery of the patient.

This report describes a trichobezoar in a 13-year-old girl and highlights the salient features of diagnosis, treatment, and prognosis.

CASE REPORT

A 13-year-old girl was admitted to Evercare Hospital, Dhaka, with complaints of upper abdominal pain for 5 days and vomiting several times for the same duration. The patient's father reported that she had experienced anorexia, nausea, and early satiety for several months. She had a history of eating hair from the age of 3 years. The patient had a history of hospital admission several times with similar complaints but nothing significant was found at that time. The patient belonged to well social background.

On physical examination, she was weight-41 kg, anxious, difficult to communicate, with mild dehydration & anemia, although stable vitals. Abdominal examination revealed a distended abdomen with tenderness in the epigastric and right hypochondriac region. A large non-mobile, hard mass was found on the epigastric to the right hypochondriac region.

Laboratory test results were notable for a hemoglobin concentration of 10.8 g/dL, leukocyte count of 5.41×10^9 /L and platelet count of 170×10^9 /L. Electrolytes, amylase, and liver function test were normal. Serum total protein was 6.1g/dl, Albumin was 2.9 g/dl and Iron was 16 μ g/dl, which were

significantly low. Serum lipase level was 859 U/L, which was significantly high.

The patient's ultrasonogram suggested acute pancreatitis. CT scan of the whole abdomen also revealed the stomach to be grossly distended, and a giant gastric bezoar was found in the stomach along with possible stomach perforation as shown in Figure 1 & Figure 2. Bezoar was seen in the ileal loops as well with wall thickening and enlarged mesenteric lymph nodes. In the Subsequent event of endoscopy, the giant Bezoar (tightly woven and tangled hair tuft) was further confirmed, which impacted from the fundus to the pylorus and was not amenable to endoscopic removal.



Figure 1: Coronal view of CT scan Showing a giant bezoar in the stomach

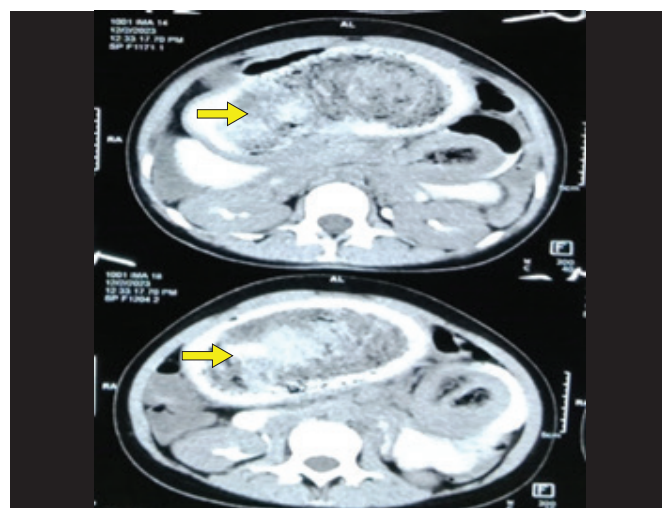


Figure 2: Axial section of CT scan shows a giant bezoar occupying almost entire the lumen of the stomach

The patient was then prepared for surgery and laparotomy was done with an upper mid line incision. After protecting the surrounding structure with a mop, an incision was made between greater and lesser curvature along the long axis away from the pylorus and fundus in the body of stomach. Then a hard bundle of intertwined hair with some food particles became visible immediately. Gentle traction was made at the ventral surface of the mass by Kocher forceps. Persistent gentle traction been continued from different directions. Then slow and gentle push was made and whole mass came out [as shown in Figure 3].



Figure 3: Removal of trichobezoar by gastrotomy

Later thorough stomach wash done. Whole gut was checked. Then NG tube was placed. A drain was kept in the Morrison's pouch. The stomach wound was closed in 2 layers. Abdomen was closed in layers. Skin was closed with a stapler and dressing was applied. The bezoar measured about 20×12×9 cm and was composed of ingested hair coated with decaying food particles [shown in Figure 4].



Figure 4: After extraction of the trichobezoar.

Postoperatively, the patient's recovery was smooth. Both the patient and her family members were counseled, and they advised regular counseling sessions after discharge. The patient's Drain tube and Nasogastric tube were removed on 3rd postoperative day. Check dressing and discharge was done on 6th post-operative day as scheduled. Skin staplers were removed on the 10th post-operative day. Till the last follow up she attended she had a smooth post operative recovery.

DISCUSSION

Trichobezoar is a rare condition that can be asymptomatic at early stages. It is very common among young females, especially between 10–19 years old, who have previous history of psychotic diseases such as trichotillomania (the patient pulls out her own hair) and trichophagia (the patient swallows her own hair)¹⁶. It can also be associated with some other psychiatric diseases such as pica, obsessive-compulsive disorder, depression, anorexia nervosa and mental diseases^{5,9,13}. If the diagnosis is not done at the early stage, trichobezoar continuously grows leading to the erosion of gastric mucosa, causing ulcers, perforation, intussusceptions, obstructive jaundice, enteropathy due to protein loss, pancreatitis and death¹⁷⁻²¹.

The severity of trichobezoar depends on the degree of obstruction. The symptomatic patient usually shows symptoms like abdominal pain, abdominal mass nausea, bilious vomiting, anorexia,

hematemesis, early satiety, weakness and weight loss. These are also the signs of acute abdomen condition and intestinal obstruction⁵.

Our patient suffered from trichotillomania. This is a type of pica that was first described in 1889 as an irresistible urge to pull one's hair²² and subsequent trichophagia, the oral ingestion of hair. The treatment of trichotillomania and trichophagia can be difficult.

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 stomach²³. In some instances, the bezoar is so compact that a layer of air envelopes it and, in light of the long-term accumulation, calcification is often observed. Upper gastrointestinal studies with use of contrast medium confirm the presence of a bezoar and may outline a concomitant gastric ulcer. On ultrasonography, the echogenic arc of air between the bezoar and the gastric wall is pathognomonic and may be enhanced if fluid is administered concomitantly during the examination. Computed tomography vividly demonstrates trichobezoars as free-floating filling defects within the stomach, especially in the presence of orally administered contrast medium²⁴.

Therapy for any bezoar necessitates removal and prevention of recurrence²⁴. The early detection of trichophagia and trichobezoar depends on effective screening for trichotillomania and related behaviors, in order to prevent a possibly life-threatening condition²⁵. Because trichobezoar affected patients are sometimes cannot be recognized in the early stage due to lack of symptoms for many years, the trichobezoar continues to increase in size and weight due to the continued ingestion of hair to the point of obstruction²⁶.

Small bezoars may be amenable to nasogastric lavage or suction, a clear liquid diet, and the use of prokinetic agents²⁴. Bezoars may be fragmented mechanically or through the use of digestive enzymes^{27,28}. Endoscopic retrieval and fragmentation are frequently used for proximal

bezoars whose size and density are not prohibitive; however, the procedure can be technically challenging, and fragments may migrate distally and cause small bowel obstruction²⁹. Laparotomy is a good option for bezoars that include perforation or are too large to be managed less invasively. In our patient, endoscopic removal was impossible due to its larger size as fragmentation was not possible. So, with a small gastrotomy, the gastric bezoar was removed.

After trichobezoar removal, prognosis is good if psychiatric therapy to control habitual trichophagia is successful. In patients who have undergone gastrectomy, however, the recurrence rate of phytobezoars is 13.5% despite preventive measures¹⁶.

Psychiatrists or mental health professionals can play a crucial role in this group of patients with eating disorders for several reasons. Early suspicion and specialist referral can lead to early detection, and timely intervention, which is fundamental for preventing serious health complications with better outcomes. As specialists are equipped to diagnose and manage these conditions and risks effectively, Therefore, whenever an eating disorder is suspected, psychiatrists may need to refer patients to gastroenterologists or a multidisciplinary Team for comprehensive evaluation and management. Our case had a very late presentation and was found to have imminent stomach perforation with the bezoar on CT scan.

CONCLUSION

The early detection of trichophagia and trichobezoar depends on an effective screening for trichotillomania and related behaviors, in order to prevent a possibly life-threatening condition with important medical and surgical morbidity. Such an effort must include a better collaboration between medical and surgical specialties, as complete recovery may not be possible without combined medical and surgical approaches.

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