

## Case Report

# Trichobezoars as a cause of intestinal obstruction in a young female

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**Received:** 09 February 2019

**Accepted:** 30 March 2019

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### ABSTRACT

A bezoar is a mass found trapped in the gastrointestinal system, though it can occur in other locations. There are various types of bezoars including food boluses, lactobezoar, pharmacobezoar, phytobezoar, diospyrobezoar and trichobezoar. They are common in children and adolescents, and 90% of the patients are women. Complications may manifest as gastric outlet obstruction or bleeding and intestinal obstruction. CT is the preferred image modality for the evaluation of suspected trichobezoars in order to characterize the size, location, presence and level of obstruction and complications such as ischemia or perforation. Here authors present a case to stress the importance of considering trichobezoars as one of the causes for intestinal obstruction in young females.

**Keywords:** Bezoar, Obstruction, Trichobezoar, Trichotillomania

### INTRODUCTION

A trichobezoar is a bezoar formed from the ingestion of hair. It is seen mostly in young women associated with trichotillomania (compulsive hair pulling) and trichotillophagia. Although rare, can be fatal if undetected. It is a rare cause of bowel obstruction of the proximal gastrointestinal tract accounting for 0.4-4.8% of the cases, stomach being the most common site of location.<sup>1</sup> This condition is also known as Rapunzel syndrome.

The most common form is phytobezoars, while trichobezoars constitute less than 6% of all cases.<sup>2</sup> Many patients may be asymptomatic but can present with non-specific complaints such as epigastric pain, nausea, vomiting, loss of appetite, leading to malnutrition and weight loss, or complications such as small bowel or gastric outlet obstruction, bleeding.<sup>3</sup> Trichobezoars are usually resistant to enzymatic degradation and medical treatment. Surgical intervention is often required. Psychiatric evaluation and management of anxiety and

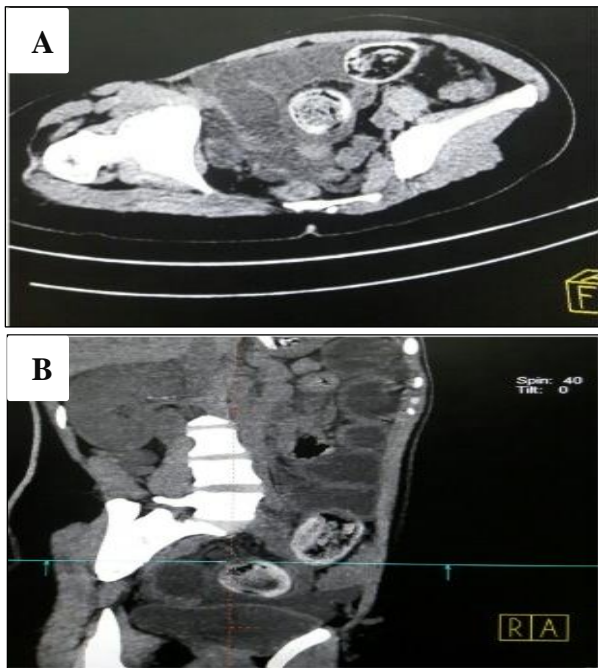
depression are particularly important in order to reduce the risk of recurrence of trichotillomania and trichophagy.

### CASE REPORT

An 18-year-old female with psychiatric illness presented in casualty with complaints of central abdominal pain for 8 days, vomiting and abdominal distention for 2 days. On clinical examination, the abdomen was distended with mild periumbilical tenderness and sluggish bowel sounds. X-ray abdomen (erect film) showed multiple air-fluid filled levels. Plain CT abdomen revealed 2 large fecoliths measuring 5 x 3.6 cms and 3.8 x 3.8 cms in size causing distal ileal obstruction with dilatation of proximal bowel loops with free fluid in between (Figure 1).

Patient underwent laparotomy following fluid resuscitation. Intra-operatively, dilatation of jejunal and proximal ileal loops were noted with 2 trichobezoars measuring 5x4 cms and 4x4 cms causing intestinal obstruction at 30 cms from ileocolic junction. Both bezoars were milked further into the distal ileum.

Enterotomy was then done at 10 cms from ileocolic junction and the bezoars were recovered (Figure 2).



**Figure 1: CT abdomen-coronal and sagittal views showing 2 trichobezoars with proximal small bowel dilatation.**



**Figure 2: Intra-operative pictures of bezoar removal.**

Following bowel decompression, enterotomy was closed in a single layer. Patient's postoperative recovery was uneventful.

## DISCUSSION

A bezoar is an intraluminal mass formed by the accumulation of undigested material in the gastrointestinal tract. Bezoars have been known since the 12<sup>th</sup> century BC. Term bezoar is derived from Arabic Bazehr or the Persian Panzehr, either meaning counter poison or antidote.<sup>4</sup>

Trichobezoars are the most common types of bezoars, commonly seen in patients under 30 years of age.<sup>5</sup> In 90% of cases, the patients are women with long hair and

emotional or psychiatric disorders. Clinical manifestations are non-specific - abdominal pain, nausea, constipation-but trichobezoars can lead to serious complications such as bowel obstruction, hemorrhage or perforation.<sup>6,7</sup> The treatment of choice is surgical removal and their size often necessitates a laparotomy for removal. Endoscopic fragmentation may be attempted but often fails.

Trichobezoars develop from the hair trapped within the gastric folds. These strands initially are enmeshed which creates a mass in the shape of stomach.<sup>8</sup> The stomach is not able to exteriorize this out of the lumen because of smooth surface of hair and peristalsis is not sufficient for propulsion. Vaughen ED et al, described the term Rapunzel syndrome as trichobezoars extending continuously through the entire length of the small intestine as a tail.<sup>9</sup>

Primary small bowel bezoar- induced small bowel obstructions remain an uncommon diagnosis. They should be suspected in patients with an increased risk of bezoar formation, such as in the presence of previous gastric surgery, a history suggestive of increased fiber intake, or patient with psychiatric disorders. They are usually caused by a portion of gastric trichobezoar which becomes detached to cause small or large bowel obstruction.<sup>10</sup> Patients are usually anemic; it is well established that iron deficiency anaemia is rather a result not cause of trichophagy.<sup>11</sup>

Plain radiography shows distended stomach shadow with an intragastric mottled gas pattern, outlined by fundal gas, which may resemble a food-filled stomach. Fluoroscopy: barium studies may show an intraluminal filling defect with mottled gas pattern without attachment to bowel wall and over time its interstices are filled with barium. This barium may remain for a considerable period of time and can be seen in delayed radiographs.

Ultrasound examination illustrates a band of high amplitude echoes superficially with complete shadowing posteriorly and may show complex intraperitoneal free fluid if complicated by bowel perforation. The high echogenicity of hair and presence of multiple acoustic interfaces created by trapped air and food is one of the limitations with this diagnostic modality.<sup>12</sup> CT scan is the most useful diagnostic tool. It tells about the size and configuration, location and number of bezoars. It may show a 'mottled gas pattern' or 'compressed concentric rings' pattern due to the presence of entrapped air and food debris, also presence of free intraperitoneal gas or fluid in case of perforation.<sup>13</sup>

The goals of bezoar treatment are the removal of the bezoar and the prevention of bezoar recurrence. Treatment consists of removing the mass by a single enterotomy or resection of bowel if required. A search for retained bezoars is to be made intra-operatively. Following removal of a bezoar, it is prudent to prevent

future occurrences via dietary counseling and correction of underlying motility problems if present. Also, psychiatric follow-up is essential.

## CONCLUSION

Trichobezoar is a rare clinical entity. Stomach is the common site of occurrence. The intestinal obstruction due to primary trichobezoar is extremely rare. The treatment consists of removing the mass using enterotomy and relieving the obstruction. Our purpose of presenting this case was to highlight the importance of considering trichobezoars as a cause of intestinal obstruction in a young female patient with psychiatric illness.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

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**Cite this article as:** Chodankar SU, Kudchadkar SJ, Amonkar D. Trichobezoars as a cause of intestinal obstruction in a young female. *Int J Res Med Sci* 2019;7:1957-9.