

# Trichobezoar in Modern Era: A Case Report of Concurrent Trichobezoar of Stomach and Small Intestine

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**Abstract:** Trichobezoar is a rare condition in which concretions accumulate in gastro-intestinal tract because of ingested hairs from head that may pose a diagnostic challenge. Patients often have an underlying psychiatric illness and history may not be easily forthcoming. This condition should be entertained especially in adolescent females. Futile complications can occur if there is delay in diagnosis and management. Several treatment options have been proposed, including removal by conventional laparotomy, laparoscopy and endoscopy. We report a case of a 16 year old female with no history suggestive of psychiatric illness, presenting as a case of sub-acute intestinal obstruction who underwent laparotomy and revealed 3 trichobezoars in gastro-intestinal tract.

**Keywords:** trichobezoars; psychiatric; young; gastro-intestinal

## 1. Introduction

The word Bezoar means concretions of non absorbable food or fiber in gastrointestinal tract. The first reference to a bezoar in a human was in 1779 during an autopsy of a patient who died from gastric perforation and peritonitis.<sup>1</sup> Trichobezoar is accumulation of ball of hair in gastrointestinal tract. It is a rare condition which may cause obstruction. It is found in youngsters commonly in females with underlying psychiatric disorder. Trichobezoars in humans were first described from a post mortem by Swain in 1854.<sup>2</sup> The prevalence rate varies from 0.06% to 4%.<sup>3</sup> Rapunzel syndrome is a condition where there is extension of trichobezoar from stomach up to ileum or colon. It was first described by Vaughan et al. in 1968.<sup>1</sup> This is a rare case of trichobezoar located at two separate locations simultaneously i.e. in stomach and ileum.

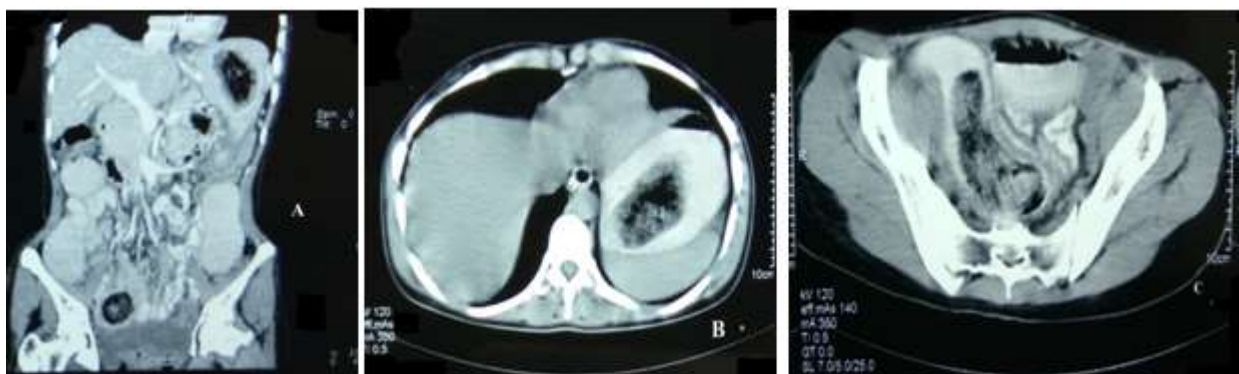
## 2. Case Report

A 16 year old female presented to emergency department with a history of vomiting since 6 days associated with non-passage of stool and flatus since last 5 days. No other complaints reported. She lived with her parents, had no evident psychiatric illness or drug history and had no previous history of any surgery.

On examination, patient was fully conscious, severely dehydrated and had tachycardia (PR> 120/min). Her abdomen was soft on palpation with no lump palpable anywhere in abdomen. Her bowel sounds were absent and her rectum (by digital examination) was empty. Lab examination revealed Hb- 11.9 g/dl, TLC- 9000/cu mm, Blood Urea- 143mg/dl, S. creatinine-2.5 mg/dl, S. Na+ 130 and S. K+ 3.3 me/L.



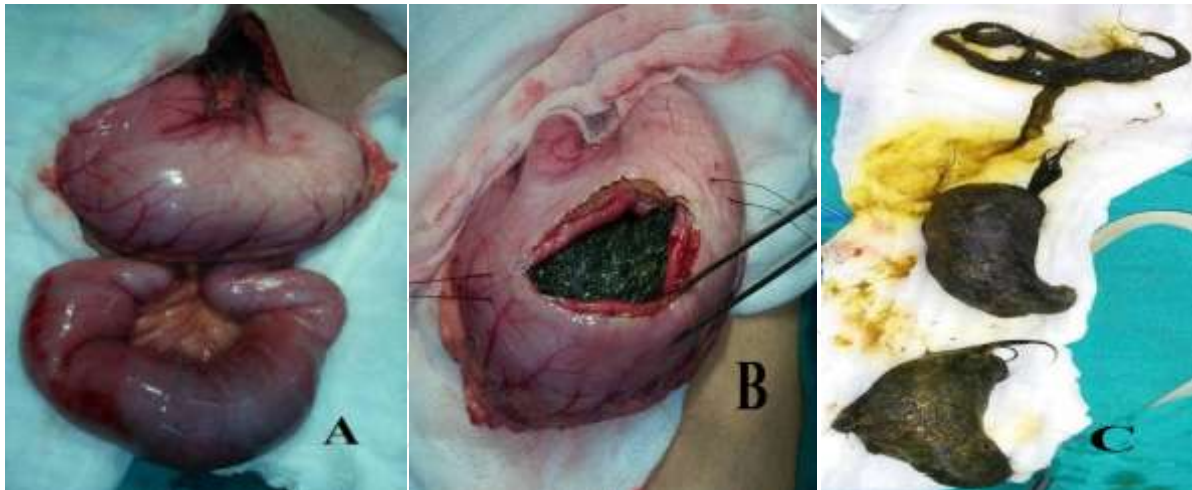
**Figure 1:** An X-ray abdomen showing multiple air-fluid levels



**Figure 2:** Coronal section (A) and axial sections (B & C) showing large heterogeneous masses in stomach and ileum

An abdominal X ray reveals multiple air fluid levels s/o obstruction. An abdominal ultrasound reveals free fluid 1+ with multiple dilated small bowel loops. Initially pt was managed conservatively and strict input-output and vitals monitored and CECT abdomen planned once pt's KFT becomes normal. A CECT abdomen done on 3<sup>rd</sup> day of admission suggested bezoar in stomach and mid ileal level with dilatation of proximal loops. Pt underwent an exploratory laparotomy and three hard lumps were palpable one in stomach and two others in distal ileal segment which

were removed using a combination of gastrotomy and enterotomy. Three trichobezoars measuring 10\*5 cm (stomach), 9\*4 and 3\*2 cm (ileum), mouse shaped with a tail extending distally. After surgical intervention, the patient convalesced well, and her hospital stay was uneventful. A psychiatric evaluation done and a course of psychotherapeutic treatment started to avoid recurrence.



**Figure 3:** Intraoperative Images (A) Dilated stomach and distal ileum (B) Gastrotomy with trichobezoar (C) Removed trichobezoar specimens

### 3. Discussion

Human bezoars are retained conglomerations of foreign material in the gastrointestinal tract. The most common location is stomach but they can also be found in the duodenum, jejunum, ileum, colon, appendix and Meckel's diverticulum.<sup>4</sup>

They are mainly of three types: I) Phytobezoar: It is the most common bezoar and comprises vegetable matter. It is usually associated with decreased acid production or gastric outlet obstruction after gastric surgery. II) Pharmacobezoar: This mass comprises retained medications and may produce additional symptoms related to the release of active ingredients, including potentially fatal overdoses. Known culprits include enteric-coated Aspirin, extended-release versions of nifedipine, antacid and theophylline. Lactobezoars a subtype of pharmacobezoar are exclusively found in infants. Prematurity and concentrated formulas are leading causes of lactobezoars<sup>9</sup>. III) Trichobezoar: Hair conglomerates form a smooth mass that peristaltic contractions do not expulse. They most commonly present in second decade of life. They account for 12% of bezoars. Almost 90% of the all trichobezoars occur in girls younger than 20 years old. Males are rarely affected.<sup>5</sup>

Trichobezoars result from compulsive pulling out of hair (trichotillomania) and then swallowing the hair (trichophagia). DeBakey and Ochsner suggested that hair entrapment in the gastric folds is the initiating event. Due to its indigestibility, resiliency and slippery nature, it becomes entrapped within the mucosal folds where it gets enmeshed,

and acquires more hairs and thus a larger size.<sup>6</sup> Patients with trichobezoars frequently have accompanying mood and anxiety disorders and require comprehensive psychiatric or psychologic evaluation for obsessive compulsive syndrome. Trichotillomania often requires behavioral psychotherapy and pharmacotherapy<sup>7-9</sup>. Other predisposing factors include gastric surgery (57%), especially bariatric surgery, truncal vagotomy and gastroenterostomy, Billroth II gastrectomy, truncal vagotomy and pyloroplasty.<sup>10-11</sup> Although the mechanism behind this is not completely understood. Delayed gastric emptying in patients with vagotomy is one of the hypotheses.

Depending on the location and size of the trichobezoars they can remain either asymptomatic or can present as acute abdomen. The patient with a gastric trichobezoar usually presents with vague and nonspecific symptoms, including abdominal pain (70%), nausea and vomiting (64%), digestive bleeding (61%), epigastric discomfort, early satiety, dyspepsia, weight loss (38%), diarrhea or constipation (32%) and halitosis.<sup>12</sup> A bezoar may also lead to mechanical obstruction, gastric perforation, gastrointestinal bleeding, anaemia and ulcer formation.<sup>13-14</sup>

Suspected trichobezoars can be diagnosed either with radiological or endoscopic techniques. Radiological modalities include barium study, ultrasonography, CT scan. CT scan has a high accuracy rate. On CT scan, a well-circumscribed lesion, composed of concentric whorls of different densities with pockets of air enmeshed within it, appears in the region of the stomach. It also helps to evaluate the rest of the bowel for multiple trichobezoars.<sup>15-16</sup>

While medical approaches are useful for the treatment of phytobezoars, trichobezoars require either endoscopic or surgical removal.<sup>10</sup> The endoscopic approach was first described by McKechnie in 1972.<sup>17</sup> But treatment failure or large bezoars or multiple bezoars in stomach and small intestine require surgical treatment. Other minimally invasive modalities like extracorporeal lithotripter, endoscopic lithotripter and laser fragmentation are emerging.

A psychiatric referral after surgical treatment of a trichobezoar must be considered as an essential part of successful treatment and prevention of recurrence. Although not all psychiatrists agree to adopt pharmacotherapy, it may be used temporarily to treat accompanying disorders (for example, serotonin reuptake inhibitors). Unfortunately, the benefit of such treatment is not consistent, but the combination of such treatment with psychotherapy appears to be effective.

#### 4. Conclusion

Trichobezoar is a rare entity that should always be kept in differential diagnosis in a young female patients presenting with abdominal pain and symptoms of a gastric outlet obstruction. Early diagnosis using appropriate radiological modality and treatment are of utmost importance to decrease the morbidity and mortality of the patient. Although laparotomy is still an excellent treatment option, pharmacotherapy and behavioral assessment play a central role in patient management and prevent recurrence.

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