

Endoscopic Removal of a Recurrent Trichobezoar in an Adolescent

A Case Report

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Abstract: Trichobezoar, a rare condition of intragastric hair accumulation is commonly associated with an underlying psychological condition. Removal of the bezoar either endoscopically or surgically (laparoscopy or laparotomy) with concurrent psychiatric assessment and treatment is the mode of treatment. We present a 10-year-old child with recurrent trichobezoar, who was managed surgically the first time, and subsequently endoscopic removal was done on recurrence of bezoar after 3 months. We also present the difficulties encountered during endoscopic bezoar removal.

Key Words: bezoar, trichobezoar, endoscopic bezoar removal, Rapunzel syndrome

INTRODUCTION

Trichobezoar is the accumulation of hair inside the stomach (1). When the tail of the bezoar extends into the small intestine and beyond, it causes a rare condition known as Rapunzel syndrome (2). It is almost always associated with an underlying psychological condition and concurrent management of the individual's psychological state is extremely important for preventing recurrence (1,2). We present a 10-year-old child with recurrent trichobezoar. The first time the condition was managed surgically; subsequently endoscopic removal was done on recurrence of bezoar after 3 months. We also present the difficulties encountered during endoscopic bezoar removal.

Case Report

In February 2023, a 10-year-old girl child presented to the surgical department with abdominal pain that occurred for 5 months. The pain was intermittent, and the episodes were associated with screaming and occasional waking at night. She also had a history of eating hair for the past 5 months. CT scan showed trichobezoar in the

stomach. She underwent explorative laparotomy with gastrotomy in February 2023. On laparotomy, a mass of hair was removed (Fig. 1) and she was diagnosed with gastric trichobezoar and advised psychiatric counseling.

In May 2023, she presented to us with intermittent colicky epigastric abdominal pain with decreased appetite for 15 days, difficulty in passing stool and vomiting for 5 days. The pain was aggravated by eating food and relieved by bending forward. Upon examination, in May 2023, her weight was 25.2 kg (between 10th and 25th centile as per Indian Academy of Pediatrics growth charts) and height was 140 cm (between 50th and 75th centile as per Indian Academy of Pediatrics growth charts). Her vital parameters were normal. The hair on the left frontal region was just a few inches long in contrast to her remaining hair, which was shoulder length. Systemic examination was normal. Ultrasound (USG) abdomen showed a distended stomach with a linear echogenic structure with heterogenous postacoustic shadowing in the antero-pyloric region extending into the first part of the duodenum suggestive of recurrent trichobezoar with partial gastric outlet obstruction. Upper gastrointestinal (UGI) endoscopy was done with a Pentax Eg290Kp gastroscope with Pentax EPK3000 processor and the bezoar was visualized in the stomach (Fig. 2). The bezoar was pulled out via its tail end using the rat tooth forceps, but the bezoar got stuck at the cricopharynx. To prevent respiratory compromise, the child was intubated with a 5.5-sized cuffed endotracheal tube and bezoar was completely removed using an artery forceps under direct vision with a direct laryngoscope. It measured 12 cm × 3 cm postretrieval (Fig. 3), check UGI endoscopy was done to check for injuries in which a small mucosal injury was noted in the cricopharyngeal region. The patient has been scheduled for psychiatric counseling and family therapy.

DISCUSSION

Trichobezoar is the accumulation of hair in the gastrointestinal tract which results due to the ingestion of hair, a nonabsorbable material (1). It is invariably associated with an underlying psychiatric disorder such as trichotillomania and trichophagia (3,4). The source of hair can be either from self or from dolls, hairbrush, pet hair, and/or wigs (3). Mostly, it is the hair from the scalp that is ingested when the source is self, but it can also be from the eyelashes, eyebrows, and pubic areas (1).

Due to the slippery and nonabsorbable nature, the hair accumulates over time and eventually along with the mucus and food particles, forms a ball (bezoar) (4). The breakdown of the food component gives the putrid odor to the bezoar and the patient's breath and the denaturation of the hair protein by the stomach acid gives its characteristic black color (1). All these result in the formation of the characteristic black ball of foul-smelling hair (trichobezoar).

The symptoms are quite vague and can range from asymptomatic to abdominal pain, vomiting, decreased appetite, and weight loss

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FIGURE 1. Trichobezoar removed surgically.

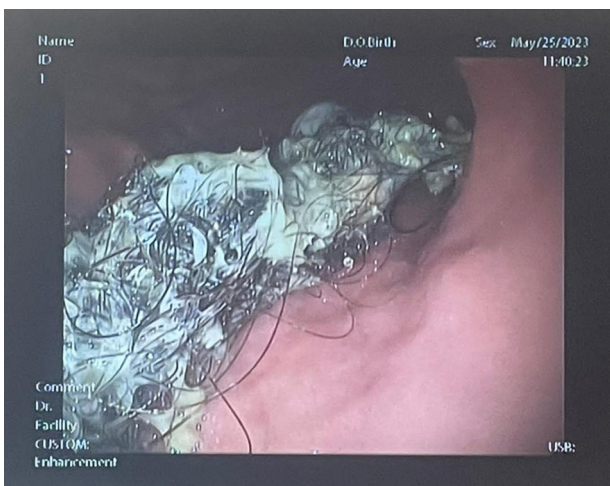


FIGURE 2. Recurrence of trichobezoar seen endoscopically in the body of the stomach.

(1,3). In advanced cases, the individual can even present with gastric ulcers, peritonitis, gastric, or small intestinal perforation, obstructive jaundice, pancreatitis, intussusception, and even death (1,4). On physical examination, patchy alopecia and halitosis can offer a diagnostic clue (3). Our patient also had patchy alopecia.

The gold standard of diagnosis is UGI endoscopy while CT scan is the most commonly used modality (1,4). In addition to removing the bezoar, treating the underlying psychological condition with psychiatric assessment and periodic counseling is very important (1,2). Failure to control the associated psychological condition can cause recurrence such as seen in our patient who did not follow up with the



FIGURE 3. Postendoscopic removal of trichobezoar measuring 12 cm x 3 cm.

psychiatrist after the initial episode. The bezoar can be removed endoscopically, laparoscopically, or via laparotomy depending on the timing of presentation, nature of the trichobezoar, and resources available (1). Our patient had a surgical removal of the bezoar initially followed by an endoscopic removal on recurrence of the bezoar.

We had difficulties with the endoscopic removal of the bezoar. Similarly, other studies have also reported difficulties with endoscopic retrieval of the trichobezoar with failure to remove the bezoar in a single piece or using Nd: YAG laser to disintegrate the bezoar and removing each piece with multiple endoscopic passages in 3 sessions (5,6). Newer modalities of treatment such as intragastric enzyme administration (cellulase, pancreatic lipase, laser-assisted technique, and extracorporeal shock wave lithotripsy) are available, although with variable outcomes (1,2). Even though no 1 particular method has been deemed superior, laparotomy continues to be the most popular treatment of choice (2).

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REFERENCES

1. Kajal P, Bhutani N, Tyagi N, et al. Trichobezoar with and without rapunzel syndrome in paediatric population: a case series from a tertiary care centre of Northern India. *Int J Surg Case Rep.* 2017;40:23–26.
2. Marginean CO, Melit LE, Sasaran MO, et al. Rapunzel syndrome-an extremely rare cause of digestive symptoms in children: a case report and a review of the literature. *Front Pediatr.* 2021;9:684379.
3. Gonuguntla V, Joshi DD. Rapunzel syndrome: a comprehensive review of an unusual case of trichobezoar. *Clin Med Res.* 2009;7:99–102.
4. Gorter RR, Kneepkens CM, Mattens EC, et al. Management of trichobezoar: case report and literature review. *Pediatr Surg Int.* 2010;26:457–463.
5. Konuma H, Fu K, Morimoto T, et al. Endoscopic retrieval of a gastric trichobezoar. *World J Gastrointest Endos.* 2011;3:20–22.
6. Saeed ZA, Ramirez FC, Hepps KS, et al. A method for the endoscopic retrieval of trichobezoars. *Gastrointest Endosc.* 1993;39:698–700.