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Case Report

Surgery Section

The Stomach Full of Hair-Trichobezoar

RAGHAV YELAMANCHI[1], GAYATHRI DHARMA TEJA MANDA[2], GAUTAM KUMAR CHUKKA[3], MANOJ DOKANIA[4]

ABSTRACT

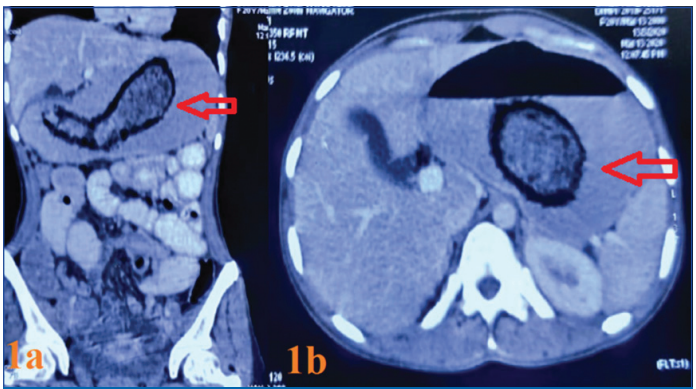
Trichobezoars are rare masses of hair resulting from hair plucking (trichotillomania) and hair eating (trichophagia). Few of the hair may also be carried by peristalsis into the duodenum. This condition is known as Rapunzel syndrome. Complications include gastric perforation, small bowel obstruction and pancreatitis. Here the authors present a case of 20-year old female patient who presented with complaints of abdominal pain, early satiety and non-bilious vomiting. On examination, there was a swelling of size 10×5 cm predominantly in the epigastric and umbilical regions. Contrast Enhanced Computed Tomography (CECT) of the abdomen revealed a grossly dilated stomach with a heterogeneous mass in the lumen obstructing the pylorus. Upper gastrointestinal endoscopy confirmed the diagnosis of trichobezoar. Trichobezoar was removed by laparotomy and the patient had an uneventful recovery. Treatment is mainly laparotomy and minimally invasive methods can be used for small lesions with limited success rate. Psychiatric consultation is a must in all cases.

Keywords: Gastric outlet obstruction, Laparotomy, Rapunzel syndrome, Trichotillomania, Trichophagy

CASE REPORT

A 20-year old female patient had presented to the Surgical Outpatient Department (OPD) with complaints of abdominal pain, early satiety and non bilious vomiting a few hours after taking food for two months. Abdominal pain was localised in the epigastric region and was colicky type. Abdominal pain increased on taking food and relieved on vomiting. Vomiting was non projectile and non bilious and occurred few hours after taking food and consisted of undigested food particles. There was early satiety which has progressed gradually. There was history of significant loss of weight. There was no history of any corrosive intake or other gastrointestinal symptoms. There was no significant past, personal or family history.

On examination, there was a swelling of size 10×5 cm palpable predominantly in the epigastric and umbilical regions and firm in consistency. Swelling was moving with respiration and had limited mobility. Rest of the abdominal examination was normal. A provisional diagnosis of gastric outlet obstruction was made based on the clinical history and examination. Ultrasound of the abdomen revealed dilated stomach filled with heterogeneous contents. Contrast enhanced computed tomography of the abdomen revealed a grossly dilated stomach with a heterogeneous mass in the lumen obstructing the pylorus suggestive of a bezoar [Table/Fig-1(a),(b)]. Upper gastrointestinal endoscopy showed a large trichobezoar causing gastric outlet obstruction. On further probing, there was no history of any psychiatric illness or hair eating. Complete blood picture, serum electrolytes, arterial blood gas analysis, renal function tests and liver function tests were carried out. Serum sodium was 125 Meq/L and serum potassium was 2.7 Meq/L.



[Table/Fig-1]: 1a) Contrast enhanced Coronal section and 1b) axial section Computed Tomography (CT) image of the abdomen showing the trichobezoar (Red arrows).

After preoperative correction of the electrolytes and optimisation, laparotomy was done. The stomach was opened in the anterior wall and the trichobezoar was removed [Table/Fig-2]. There was no extension noted into the duodenum. Gastrotomy was closed with 3-0 polyglactin suture buttressed with 3-0 silk suture. Drain was placed and abdominal wall was closed in layers. The patient had an uneventful postoperative recovery and psychiatric consultation was done before discharge. At one year, follow-up patient gained weight and has no symptoms either of gastric outlet obstruction or any psychiatric illness. Even though in this case, there is no history suggestive of any psychiatric illness, it may be because of the false history given by the patient or her parents or history of trichotillomania in the early childhood which the patient may not remember and overlooked by her parents.

[Table/Fig-2]: Image of the removed trichobezoar.

DISCUSSION

Trichobezoars are rare masses of hair, clumped with food particles and debris. Most common etiologies include psychiatric illness resulting in hair plucking (trichotillomania) and hair eating (trichophagia) of self or dolls but patients may deny such history [1]. Trichotillomania is common in females. Keratin protein is not digestible by human enzymes and hence accumulates in the stomach over years. They

slowly grow in size with repeated consumption of hair and result in the formation of a large mass in the shape of the stomach. Few of the hair strands may also be carried by peristalsis into the duodenum and as far as distal small bowel. This condition is known as the Rapunzel syndrome, first described by Vaughan Jr ED et al named eponymously after a character in a fairytale with long hair [2]. Examination of the scalp of the patient may show loss of patches of hair due to the habit of hair plucking.

Most of these cases present with history of gastric outlet obstruction. Epigastric pain and lump were the most common symptoms followed by vomiting in the previous case reports [1-5]. Many of these young adults also present some form of chronic malnutrition and anaemia which is attributed to decreased food intake. However, some rare presentations of trichobezoars have been reported previously in the literature. Parts of the hair may also be broken down and carried forward by peristalsis. These hair fragments may cause small bowel obstruction in the distal segments [3]. Long-standing cases can erode the wall of the stomach and cause gastric perforation and may present with acute abdominal emergency [4]. Rare complications such as pancreatitis have also been reported due to trichobezoar [5].

Imaging findings are suggestive but not diagnostic of this condition. On ultrasound, the trichobezoar appears as a hyperechoic mass with posterior acoustic shadowing. Computed Tomography (CT) shows a heterodense intraluminal lesion. There may be foci of air trapped inside the mass. Usually, the bezoar is surrounded by a thin layer of fluid from the wall of the stomach. Upper gastrointestinal endoscopy is required for the confirmation of the diagnosis [6].

Many methods have been tried for the treatment of trichobezoar. Non operative methods such as enzymatic digestion have largely been unsuccessful. Laparotomy is still the gold standard for removing trichobezoar especially when there is adhesion with the wall of the stomach and when Rapunzel syndrome is suspected. Minimally invasive surgery such as laparoscopic removal has been successful in some cases with the first reported case by Nirasawa Y et al [7]. However, the conversion rate to open surgery is quite high. Psychiatric evaluation is a must in all patients, as all patients with trichobezoars were diagnosed with psychiatric illness at some point in their lives [1,8,9]. Findings of few published case reports is described in [Table/Fig-3] [1,3,8,10-12].

CONCLUSION(S)

Trichobezoars are rare causes of gastric outlet obstruction. Clinical history and abnormal behavior and habits should be probed. Most cases require open gastrotomy for removal of the large lesion. Psychiatric consultation is a must.

S. no	Authors	Year	Patient age	Patient sex	Psychiatric illness	Management
1.	Gupta A et al., [1]	2017	7 years	Female	Trichotillomania	Exploratory laparotomy
2.	Imran M et al., [3]	2018	16 years	Female	Trichotillomania	Exploratory laparotomy
3..	Gonuguntla V and Joshi DD, [8]	2009	5 years	Female	Trichotilomania on repeated questioning	Exploratory laparatomy
4.	Hernández Garcés HR et al., [10]	2015	22 years	Female	Trichotillomania	Not available
5.	Dong ZH et al., [11]	2019	10 years	Female	Trichotillomania	Exploratory laparotomy
6.	Rousková B et al., [12]	2004	13 years	Female	Trichotillomania	Exploratory laparotomy
7.	Present case	2021	20 years	Female	Patient and her parents deny any history	Exploratory laparotomy

[Table/Fig-3]: Findings of various case reports of trichobezoars [1,3,8,10-12].

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PARTICULARS OF CONTRIBUTORS:
1. Senior Resident, Department of Surgery, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.
2. Resident, Department of Surgery, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.
3. Resident, Department of Surgery, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.
4. Consultant, Department of Surgery, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Raghav Yelamanchi,
Ward 17, Old Building Dr Ram Manohar Lohia Hospital, New Delhi, India.
E-mail: raghavyelamanchi@gmail.com

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