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Large gastroduodenal trichobezoar in a 14 year old: a case report

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Absract

Trichobezoar or concrete masses of ingested hair in the gastrointestinal tract are commonly seen in adolescent girls with pre-existing behavioral disorders like trichotillomania and trichophagia. Generally, the patients present late due to slow progression of the disease. Our patient was a 14-year-old girl who presented with vague upper abdominal discomfort and symptoms with preceding history of trichotillomania. She had a palpable lump in her upper abdomen which was confirmed by CT scan to be an intraluminal bezoar. She underwent successful laparotomy and bezoar removal and has been undergoing productive post-operative behavioral therapy sessions. Trichobezoar patients rarely present early due to the social stigmata associated with the underlying disorders. Surgery and psychiatric therapy go hand in hand to achieve good outcomes in such cases.

Keywords:

Trichobezoar, Trichotillomania

Introduction:

Trichobezoars are one of the commonest forms of bezoars more frequently seen in the early adolescence.1 Basically, they are concretions of ingested hair which get retained in the gastrointestinal tract, most commonly in gastroduodenal segment, though rarely they may extend distally as a long segment called the Rupanzel's tail.2 Trichobezoars predominate the young girls and are more often than not are associated with a spectrum of psychiatric illnesses such astrichotillomania (uncontrollable urge to pluck hair) and trichophagia (eating hair).3,4 The psychopathology generally lies somewhere in between impulsivity and compulsivity. These bezoars are insidiously growing masses and remain indolent and asymptomatic for prolonged periods. However, over a period of time, they may grow sufficiently to manifest clinically with abdominal discomfort, mass or in more advanced cases with features of gastric or enteric obstruction. Psychological and behavioral therapy form the cornerstone of this ailment which is primarily a psychiatric disorder but slowly progressive course and stigma associated with the disease per se or the underlying behavioral issues leading to the same precludes the patients from initiating timely therapy. Most of the patients present late and are thus candidates for surgical intervention for complete removal of the bezoar. Herein, we present one such case of a 14-year-old girl with a giant gastroduodenal bezoar.

Case Report:

Our patient was a 14-year-oldadolescent girl with no preceding medical history, who was brought to the surgical outdoor with complaints of generalized weakness, unexplained weight loss and upper abdominal discomfort for the preceding 4-6 months. The upper abdominal pain was vague, insidious onset, non-progressive, bearable without

any radiation or shift in location. It had no association with meals or any other aggravating or relieving factors. Occasionally, patient had episodes of non-bilious vomiting of ingested food without any hematemesis or malena. She had associated unexplained weight loss, not quantified but validated by history of loosening of clothes. Her appetite was though preservedwith unchanged stooling pattern. On divulging the past history, she was born full term with normal vaginal delivery and had no documented comorbidties. Her mother gave history of trichotillomania although no definitive history of trichophagia could be elicited. On examination, the child looked pale with a thin built. Vital signs were within normal range. She had no icterus or lymphadenopathy. On abdominal examination, a well-defined mass could be palpated arising out of the epigastrium and the left subcostal region sized around 15 cm. The upper margins could not be reached or defined whilst caudally the mass was felt moving across the midline to the right in the umbilical region. It was moving with respiration and had a firm consistency with a fairly smooth surface. It was non-tender, non-pulsatile, non-ballotable, non-fluctuant intraabdominal mass. There was no evidence of free fluid. Per rectal and other systemic examination were unremarkable. With the aforesaid in mind, the differentials of a splenic mass or a splenomegaly with its various causes was kept in mind alongside the probability of a trichobezoar, given the history of trichotillomania despite the absence of definitive history of trichophagia.

Routine laboratory parameters showed anemia with normal other hematological and biochemical routines. An ultrasound abdomen was performed, being a non-invasive initial modality. It revealed a heterogeneously hypoechoic to isoechoic lesion in the upper abdomen with inconclusive roots of origin in either the spleen, pancreatic tail or the retroperitoneum. In view of the diagnostic dilemma, a contrast enhanced CT abdomen was performed. It revealed a large heterogeneous organized gastro-duodenal luminal mass lined by the oral contrast with mottled air appearance(Figure-1). The mass

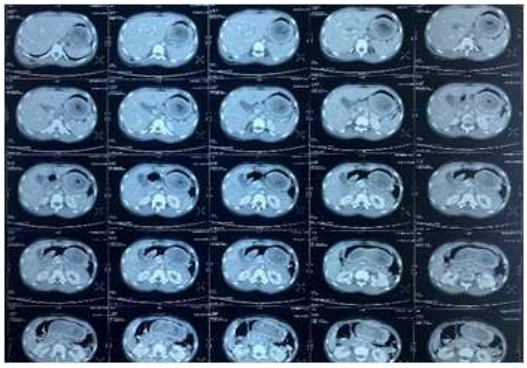


Figure – 1: CT showing intraluminal heterogeneous mass with interspersed air

measuring around 14 cm occupied most of the stomach and first part of the duodenum. However, there was no contrast uphold indicating a non-obstructive pathology. The clinico-radiological correlation clinched the pre-operative diagnosis of a gastroduodenal bezoar.

The child underwent exploratory laparotomy (midline supraumbilical skin incision). The stomach was partially delivered into the surgical wound followed by performing an anterior wall gastrostomy and removing a large mass of trichobezoar (Figure-2). The gastrostomy was closed in two layers, inner layer of an absorbable full thickness sutures in continuous fashion followed by an outer layer of Lembert sutures (interrupted). The abdomen was closed in layers. Post -operative period was uneventful. Oral feeds were restarted on the third post-operative day in aphased manner and the child was discharged ina satisfactory condition on the 5thpost-operative day. The followup was carried out in the surgical as well as the psychiatric outdoor. She has been undergoing psychological and behavioral therapy under the guidance of psychiatrist and has



Figure – 2: Trichobezoar after surgical removal

been responding well to the same.

Discussion:

In 1779, French physician Baudamant first described trichobezoars in literature as a gastric accumulation of ingested hair. Broadly stating, a bezoar is defined as an indigestible lump or mass of a foreign material detected within the gastrointestinal tract. The commonest site is the stomach. The bezoars are classified based on the etiological content it is made of.5The commonest form is the trichobezoar (hair). The other varieties include phytobezoar (vegetables with fibres rich in cellulose and hemicellulose), medications (pharmacobezoar) and at times milk products (lactobezoar). Occasionally, the bezoar may extend distally from the stomach to the small gut or even the distal colon (rarely) as a long tail, first described as the Rapunzel's tail by Vaughn et al. aptly named after the folklore.2

Trichobezoars are commonly seen in girls in early adolescence. The pathogenesis behind the development of a trichobezoar is not consensual. It is hypothesized that the smooth surface of the hair precludes its effective clearance by peristalsis and it thus entraps in the mucosal folds of the stomach. Continuous ingestion of these hairs, unequivocallyas a consequence of an underlying behavioral abnormalities like trichotillomania and trichophagia, plays an important part in gradual building up of this mass. Stomach has been shown to clear 80-90% of such foreign bodies. Thus, some theorists also postulate the role of altered gastric physiology and anatomy leading to impaired clearance to play its part. The gastric mucous makes the hair shiny whilst it is acted upon by the digestive juices which denature and oxidise the hairs. With persistent hair and food consumption, the latter enmeshes with the former to take the shape of the lumen.6-8With little space available, the patient has clinical features of vomiting and weight loss (malnourishment). An extension of the bezoar distally into the small gut may cause more sinister complication of intestinal obstruction. Secondary bacterial infection of the bezoar may cause fever and halitosis.

Trichobezoarsare inadvertently associated with a preceding history of an underlying psychiatric disorders such as trichotillomania and trichophagia and on other occasions depression, obsessive-compulsive disorder and bodydysmorphic order amongst others. About 5 to 30% of cases with trichotillomania engage in trichophagia though the shame or guilt associated with the abovementioned disorders and thus in admitting to the exact history or willingness to undergo psychiatric consultation may actually be the reason for this disparity.3,4

Benign nature of the pathology as well as the stomach being an adaptive reservoir, the patients usually present late with complaints ranging from vague symptoms like abdominal discomfort, weight loss, nausea and vomiting to specific features like feeling of an abdominal mass to intestinal obstruction. The patient may not admit to his or her underlying behavioral abnormalities and the same may not be viewed seriously by the guardians of the affected children, leading to delayed diagnosis. Our patient had history of trichotillomania for the past 4-5 years and the same was known to her mother but the latter could not corelate her behavior to her symptomatology.

The diagnosis may at times be aided by appropriate use of radiology. Plain radiographs are seldom useful. Ultrasound though an excellent non-invasive modality may or may not diagnose a large bezoar accurately. The imaging modality of choice in such patients is a CT scan which clearly shows an intra-luminal heterogeneous mass interspersed with air. Similar findings in our patient coupled with the behavioral history helped clinch the diagnosis.

Once diagnosed, treatment modalities include supportive behavioraltherapy alongside surgical therapy. Dissolutiontherapies are seldom helpful in trichobezoars unlike phytobezoars. Surgical modalities depend upon the size of the bezoar and include endoscopic fragmentation to laparoscopic retrieval to laparotomy followed by bezoar removal through gastrostomy. Latter, reserved for larger and complicated cases, carries the best results and outcomes despite the inherent morbidity of an

invasive procedure. Our patient had a large gastroduodenal bezoar which mandated an open approach. In cases of Rapunzel's syndrome care must be advocated to remove the bezoar in toto.

Conclusion:

Patients with trichobezoar usually have an underlying behavioral pattern of trichotillomania and trichophagia which can help in early screening. However, patients usually present late with large bezoars with related complications. In such cases, laparotomy is generally the intervention of choice with very good cure rates.

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