

Trichobezoar Causing Gastric Perforation: A Case Report

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What's Known

- Trichobezoar is a psychosocial disease usually seen in adolescent females. It may require emergency surgical intervention if not treated in time.
- Irrespective of composition, the symptoms are similar.
- Endoscopic removal is the novel and preferred modality, but in case of complications, laparotomy is the gold standard.

What's New

- The true incidence of trichobezoar is unknown. Hence, there should be a high level of suspicion in the case of patients presented with abdominal symptoms, chronic loss of weight, or other complications.
- Bezoar itself does not cause perforation. Therefore, associated history should be sought.
- Often the diagnosis is made intraoperatively, thus routine palpation of the entire stomach should be done.

Abstract

Trichobezoars are impactions of swallowed hairs in the stomach and occasionally in the intestine. They occur in emotionally disturbed, depressed, or mentally retarded patients who have trichotillomania and trichophagia. Trichobezoars are usually diagnosed on CT scan or upper GI endoscopy. They can give rise to complications like gastroduodenal ulceration, haemorrhage, perforation, peritonitis, or obstruction, with a high rate of mortality. The treatment is endoscopic, laparoscopic, or surgical removal and usually followed by psychiatric opinion. Herein, we report a case of gastric trichobezoar presenting as gastric perforation in a patient of trichotillomania and trichophagia that was accidentally found on laparotomy. As the patient was in shock on admission, relevant history of trichophagia could not be elicited. Henceforth, she was operated for perforation peritonitis. Trichobezoar was discovered intraoperatively and removed. The perforation was repaired with Graham's omental patch. Postoperatively, history of trichophagia was corroborated with scarring alopecia of scalp. Trichobezoars is usually seen in adolescent girls, often with an underlying psychiatric or social problem. Laparotomy is the gold standard treatment. Surgical treatment should be followed by behavioral and psychiatric treatment. The patient should be vigilantly monitored for this impulsive disorder, as recurrences are common.

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Introduction

Trichobezoar is a Greek word trich, which means hair. Bezoars are collections of indigestible material that accumulate in the GI tract and are most often located in the stomach.¹ Trichobezoars are often associated with psychiatric illness like trichotillomania and trichophagia usually occurs in young and adolescent females. Gastric trichobezoar (GT) is the most common variety of bezoar found in the stomach.² On the basis of their contents, bezoars are classified into phytobezoars (composed of non-digestible food materials such as seeds and pits), trichobezoars (composed of hair), lactobezoars (composed of lactose), and pharmacobezoars (composed of medications).³ The most common complications reported over the years, include gastric mucosal erosion, ulceration, and perforation of the stomach or the small intestine, gastric outlet obstruction, intussusception, obstructive jaundice, protein-losing enteropathy, pancreatitis and death.⁴ Usually trichobezoar is confined to the stomach,

but it can migrate through the pylorus into the jejunum, ileum or even the colon. Rapunzel syndrome is named with reference to the Grimm brothers' fairy tale. Rapunzel syndrome was first reported in the West Indies by Duncan et al.⁵ in 1994. Trichotillomania is a DSM-IV-TR 312.39 psychiatric classification of impulse control disorders.⁶ 50% of all bezoars are gastric with an incidence of 0.4% to 1%, however, this is most likely an underestimation.⁷

Case Report

A 30-year-old woman, mother of two, reported to the emergency department with the complaints of pain in middle abdomen, not passing flatus or motion (obstipation) and abdominal distension for the past 5 days. There was generalized tenderness in abdomen with guarding and rigidity. On examination, the patient was pyrexial, tachycardic and with low blood pressure. After initial resuscitation, an erect abdominal radiograph was taken, which revealed gas under right side of diaphragm and an unusual shadow in the left hypochondrium in the region of the stomach (Figure 1). An emergency exploratory laparotomy was performed and around two liters of pyoperitoneum was removed. On exploration, a 2×2 cm perforation was identified in the anterior wall of the prepyloric region of stomach. A large mass could also be felt in the stomach extending from fundus to the pylorus. Visible through the perforation was a large mass of hair (Figure 2). A separate gastroenterotomy was made and the mass was removed. The mass was foul smelling and contained densely wound bunch of hair, threads and bits of plastic. The gastroenterotomy was repaired primarily in single layer with non-absorbable suture and perforation with Graham's omental patch. The postoperative period was uneventful and the patient is under psychiatric treatment. The patient was never diagnosed nor treated as a case of trichotillomania with trichophagia. The patient had a scarred area of alopecia, which was supported by the history of eating hair for the past 4 years (Figure 3). Written informed consent was taken from the patient for scientific publication.

Discussion

Trichobezoars is usually seen in adolescent girls, often with an underlying psychiatric or social problem. Swain first described trichobezoar while conducting an autopsy in 1854.⁸ Once the bezoar extends from the

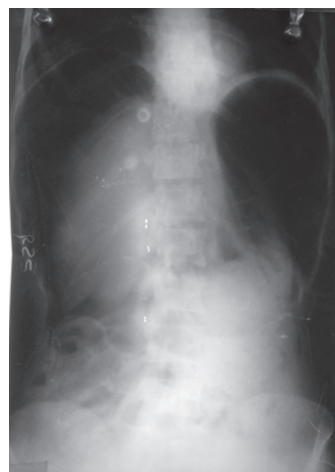


Figure 1: Shows abdominal X-ray (AP VIEW) suggestive of gas under diaphragm with filling defect.

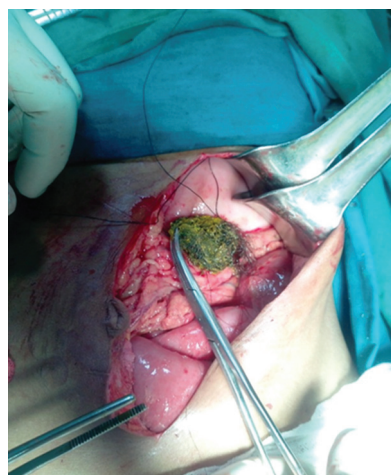


Figure 2: Shows intraoperative findings, visible large hairs through perforation.



Figure 3: Shows scarred area of alopecia on scalp.

stomach into the jejunum or further on, it is referred to as "Rapunzel syndrome," which was first described in 1968 by Vaughan Jr. et al.⁹ This increases the risk of severe complications, such as gastric mucosal erosion, ulceration

and even perforation of the stomach or the small intestine. Apart from intussusception, other complications reported in unrecognized trichobezoars are obstructive jaundice, protein-losing enteropathy, pancreatitis, and even death.¹⁰ Perforation is a known complication of trichobezoars of either the stomach or the intestine, which should be vigilantly looked for and its complications.¹⁰

As the size of the trichobezoar increases, the blood supply to the mucosa of the stomach and part of the intestine is hampered, leading to ulceration and eventually perforation. Nirasawa et al.¹¹ were the first to report on laparoscopic removal of a trichobezoar. Laparotomy is considered as the treatment of choice in view of high success rate, relatively low complication rate, and low complexity. In addition, the entire gastrointestinal tract can be evaluated for satellites in a short period of time. The evolution of GT is still not fully understood. Hair strands because of their slippery surface, escape peristaltic propulsion and are retained in the folds of the gastric mucosa. The hairball lies dormant and the trichobezoar continues to grow in size and weight due to the incessant ingestion of hair. Ultimately, the GT attains the shape of the stomach, usually as a single solid mass.¹² The most common symptoms are epigastric pain (70.2%), epigastric mass (70%), nausea and vomiting (64%), hematemesis (61%), weight loss (38%), and diarrhea and constipation (32%). A preoperative diagnosis of trichobezoar may be suggested in a patient presenting with severe halitosis, patchy alopecia, a previous history of trichotillomania and trichophagia. Other associated complications of GT are malabsorption related, which include protein-losing enteropathy, iron deficiency anemia, and megaloblastic anemia.¹²

Valenciano et al. stated the most common complication is either perforation of the stomach or intestine (occurring in 10.1% of cases), followed by intussusception (1.85%), pancreatitis (0.92%) and cholangitis (0.92%).¹³ The management of trichobezoars is removal of mass, presence of complications, and prevention of recurrence. They may have varying consistency, size, and location. Smaller size of trichobezoars can be removed endoscopically by the use of basket or direct suction, but in cases with a larger size it is difficult and reports are scarce. In this case, we opted for laparotomy as we did not know what we are dealing with. Moreover, there was sign suggestive of gastric perforation. Though laparoscopy is superior to laparotomy in view of cosmetic results, less postoperative complication and less hospital

stay, but in the laparotomy careful examination of the entire gastrointestinal tract is easier to prevent secondary intestinal obstruction due to migration of residual bezoars.

Laparotomy, the gold standard, is the most effective and hence the most common technique in the medical literature. Few patients have seemed to benefit from fluoxetine or other serotonin reuptake inhibitors, although these results are not consistently reproducible in all patients. To avoid recurrence, an integrated approach of surgeons, pediatricians, psychiatrists, and gastroenterologists is imperative.

Conclusion

A diagnosis of trichobezoar should be considered in patients with epigastric lump with coexisting psychiatric disorder. After treatment of trichobezoar, a psychiatric evaluation of the patient should be considered to get to the root cause of the problem.

Conflict of interest: None declared.

References

1. Yeo CJ, McFadden DW, Pemberton JH, Peters JH, Matthews JB. Shackelford's surgery of the alimentary tract. New York: Elsevier Health Sciences; 2012. 805 p.
2. Coufal NG, Kansagra AP, Doucet J, Lee J, Coimbra R, Bansal V. Gastric trichobezoar causing intermittent small bowel obstruction: report of a case and review of the literature. *Case Rep Med.* 2011;2011:217570. doi: 10.1155/2011/217570. PubMed PMID: 21687591; PubMed Central PMCID: PMC3114431.
3. Andrus CH, Ponsky JL. Bezoars: classification, pathophysiology, and treatment. *Am J Gastroenterol.* 1988;83:476-8. PubMed PMID: 3284334.
4. Ventura DE, Herbella FA, Schettini ST, Delmonte C. Rapunzel syndrome with a fatal outcome in a neglected child. *J Pediatr Surg.* 2005;40:1665-7. doi: 10.1016/j.jpedsurg.2005.06.038. PubMed PMID: 16227005.
5. Duncan ND, Aitken R, Venugopal S, West W, Carpenter R. The Rapunzel syndrome. Report of a case and review of the literature. *West Indian Med J.* 1994;43:63-5. PubMed PMID: 7941500.
6. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association. 4th ed. Washington, DC: USA; 2000.

7. Alsafwah S, Alzein M. Small bowel obstruction due to trichobezoar: role of upper endoscopy in diagnosis. *Gastrointest Endosc.* 2000;52:784-6. doi: 10.1067/mge.2000.108927. PubMed PMID: 11115920.
8. Chisholm EM, Leong HT, Chung SC, Li AK. Phytobezoar: an uncommon cause of small bowel obstruction. *Ann R Coll Surg Engl.* 1992;74:342-4. PubMed PMID: 1416706; PubMed Central PMCID: PMC2497638.
9. Vaughan ED, Jr., Sawyers JL, Scott HW, Jr. The Rapunzel syndrome. An unusual complication of intestinal bezoar. *Surgery.* 1968;63:339-43. PubMed PMID: 5638179.
10. Nirasawa Y, Mori T, Ito Y, Tanaka H, Seki N, Atomi Y. Laparoscopic removal of a large gastric trichobezoar. *J Pediatr Surg.* 1998;33:663-5. doi: 10.1016/S0022-3468(98)90342-6. PubMed PMID: 9574777.
11. Gonuguntla V, Joshi DD. Rapunzel syndrome: a comprehensive review of an unusual case of trichobezoar. *Clin Med Res.* 2009;7:99-102. doi: 10.3121/cm.2009.822. PubMed PMID: 19625498; PubMed Central PMCID: PMC2757434.
12. Gorter RR, Kneepkens CM, Mattens EC, Aronson DC, Heij HA. Management of trichobezoar: case report and literature review. *Pediatr Surg Int.* 2010;26:457-63. doi: 10.1007/s00383-010-2570-0. PubMed PMID: 20213124; PubMed Central PMCID: PMC2856853.
13. Santos Valenciano J, Nonose R, Bragattini Cruz R, Tiemi Sato D, Monteiro Fernandes F, Fabricio Nascimento E, et al. Tricholithobezoar causing gastric perforation. *Case Rep Gastroenterol.* 2012;6:26-32. doi: 10.1159/000336203000336203. PubMed PMID: 22379468; PubMed Central PMCID: PMC3290022.