

Case Report

Doormatobezoar: first case report of a bezoar formed by doormat ingestion

Madhur Anand^{1*}, Noor Topno², Kyrshanlang G. Lynrah², Swati Aggarwal³

¹Department of Urology, King George's Medical University, Lucknow, India

²Department of General Surgery, NEIGRIHMS, Shillong, India

³Department of Anaesthesiology, Prasad Institute of Medical Sciences, Lucknow, India

Received: 12 February 2023

Revised: 14 March 2023

Accepted: 16 March 2023

*Correspondence:

Dr. Madhur Anand,

E-mail: drmadhuronline@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Bezoars are retained concretions of undigested foreign material that accumulate and coalesce within the gastrointestinal tract, most commonly in the stomach. A 12 years old male child presented to us with complaints of pain upper abdomen on and off for 2 months. He had a habit of biting and chewing doormat at home for several months. Physical examination revealed mild epigastric tenderness. Upper GI endoscopy revealed a mass of fibres in the stomach which was tightly organised and too large to safely remove endoscopically in toto. Hence patient was taken up for surgery and a mass of around 9×6 cm in size and oval in shape was removed from stomach. Postoperative recovery was uneventful. Doormatobezoars are rare cause of pain abdomen which can be treated safely and effectively surgically.

Keywords: Bezoars, Pain abdominal, Laparotomy, Endoscopy

INTRODUCTION

Concretions of undigested foreign material accumulated in gastrointestinal tract, commonly in stomach are termed bezoars.¹ Patients with previous gastric surgery psychiatric problems, delayed gastric emptying due to diabetes mellitus, mixed connective tissue disease, and hypothyroidism are predisposed to development of bezoars.² We report a case of bezoar caused by doormat ingestion in a 12 year old male child, which was removed surgically. This, to the best of our knowledge was the first reported case of bezoar due to doormat ingestion.

CASE REPORT

A 12 years old male child presented to us with complaints of pain upper abdomen on and off for 2 months. There was no history of fever but on and off vomiting was present, the examination of the child revealed no

significant finding except for mild epigastric tenderness. The child underwent an upper GI endoscopy which revealed a mass of fibres in the stomach which was tightly organised and could not be fragmented. It was deemed too large to safely remove endoscopically *in toto* (Figure 1). On elaborating the history the patient had a habit of biting and chewing coconut fibre based and plastic fibre based doormat at home for several months and hence a diagnosis of gastric bezoars due to doormat ingestion was made and patient was taken up for surgery after deworming. On midline laparotomy and gastrotomy, a mass of around 9×6 cm in size and oval in shape was removed from stomach and gastrotomy closed (Figure 2). The postoperative recovery of the patient was uneventful and the patient was discharged home after consultation with psychiatrist. The patient is currently under follow up and is doing well and importantly has given up the habit of chewing doormats.



Figure 1: Endoscopic appearance of bezoar.

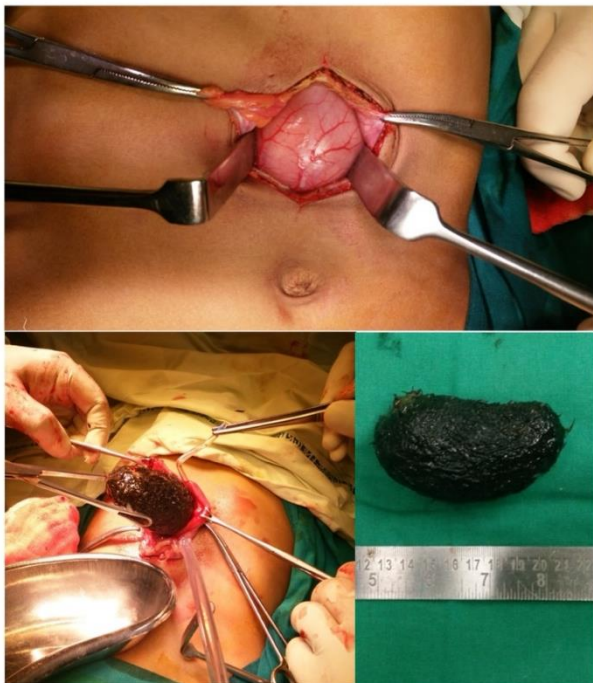


Figure 2: Key steps of surgery done and specimen.

DISCUSSION

The term bezoar originated from the Arabic word "Badzehr" or Persian word "Panzer" meaning antidote. Most bezoars were reported from Mediterranean region with seasonal predilection for autumn and winter months. They were named as per the predominant component.² A wide variety of ingested materials may produce bezoars e.g. hair (trichobezoars), vegetable food material and plant substances (phytobezoars), medicines like cholestyramine and antacids (pharmacobezoars), condensed milk (lactobezoars), metal bezoars, plastic bezoars, and sand bezoars.² Some rare causes of bezoar formation are occupational (cotton), food faddism (honeycomb), wood dust, and even carpet.³⁻⁵ A especially rare and harder than any other types of gastric bezoars

caused by persimmons was disopyrobezoar. Chronic exposure of the ingested material to the mucus and secretions enmeshes the constituents and shapes them identical to the shape of stomach whereas chronicity of problem and delayed reporting leads to enlargement of the bezoar.² Bezoars are most commonly located in the stomach, but may be present anywhere from the esophagus to the rectum.¹ Rapunzel syndrome is a condition when the gastric bezoars extend into the small intestine. Bezoars may be found in any age but most patients are young and most of them are females.² Isolated ileal bezoars without a parent gastric bezoar is very rare. Most common site for intestinal bezoars was 50-70 cm proximal from the ileocaecal valve due to narrow caliber, slowed motility and water absorption hardening the phytobezoar. Gastric and colonic bezoars were sometimes detected incidentally, however majority of small bowel bezoars produced symptoms of acute intestinal obstruction. Hence in patients with history of past abdominal surgery it may be difficult to differentiate from adhesive obstruction.² Imaging studies helped in pre-operative diagnosis. X-ray abdomen may demonstrate features of small bowel obstruction and occasionally outline of bezoar. Ultrasonogram is operator dependent with a diagnostic rate of 88-93%. CT abdomen can diagnose 65-100% cases and defined extent and complications. The defining feature is a well-defined intraluminal mass with mottled gas appearance associated with an encapsulating wall.² Upper GI endoscopy helps visualise the bezoars and may help in removal of bezoars. Many modalities like surgery, endoscopic lithotripsy, electrohydraulic lithotripsy, laser therapy, and even extracorporeal shock wave lithotripsy (ESWL) have been used to treat bezoars. In 2002, Ladas reported cola-lysis (irrigation of bezoar with coca-cola) for the dissolution of bezoars. Chung demonstrated that injection of Coca-Cola into the bezoar via a needle was also effective. Coca-Cola contains carbonic acid and phosphoric acid with a pH of 2.6 and creates a gastric environment akin to that of a normal state. Another theory said that fine bubbles of carbonic acid permeated the uneven surface of the bezoar. Some other endoscopic methods were cellulose injection, water jet, drill device, tripod forceps, polypectomy snare plus diathermy, Dormia basket, mechanical lithotripter, or Nd: YAG laser. However in a tightly organised bezoar like our case it is difficult to remove the bezoar without a formal surgery.

CONCLUSION

Doormatobezoars are rare types of bezoars and this is the first reported case of such bezoar to the best of our knowledge.

Current management Current management of bezoars includes expectant treatment if the bezoars are small, medical treatment with enzymes and prokinetic agents; endoscopic management; and surgical removal. Huge hard bezoars as found in our case require surgical treatment. Failed endoscopic management is an

indication of surgery. Postop consultation with a psychiatrist is very important.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Sanders M. Bezoars: from mystical charms to medical and nutritional management. Pract Gastroenterol. 2004;28:37-50.
2. Durkhure RC, Singh JP, Singhal V. Cotton bezoar- a rare cause of intestinal obstruction: case report. BMC Surg. 2003;3(1).
3. Katsinelos P, Pilpilidis I, Chatzimavroudis G, Katsinelos T, Lazaraki G, Fasoulas K, et al. Huge gastric bezoar caused by honeycomb, an unusual complication of health faddism: a case report. Cases J. 2009;2(1):7077.
4. Pitiakoudis M, Tsaroucha A, Mimidis K, Constantinidis T, Anagnostoulis S, Stathopoulos G, et al. Esophageal and small bowel obstruction by occupational bezoar: report of a case. BMC Gastroenterol. 2003;3(1).
5. Wang PY, Skarsgard ED, Baker RJ. Carpet bezoar obstruction of the small intestine. J Pediatr Surg. 1996;31(12):1691-3.

Cite this article as: Anand M, Topno N, Lynrah KG, Aggarwal S. Doormatobezoar: first case report of a bezoar formed by doormat ingestion. Int Surg J 2023;10:776-8.