Giant gastric trichobezoar in a young female

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Abstract  Bezoars are concretions of undigested matter in the gastrointestinal tract (GIT), most commonly in the stomach. The main predispositions to bezoar formation are, altered GIT anatomy or disordered GIT motility/physiology. Clinically, bezoars are classified according to their predominant component. Trichobezoars (composed mainly of hair) as a clinical entity are almost always associated with an underlying psychiatric disorder. We present below a case of giant gastric trichobezoar in a young female which was treated by gastrostomy and excision of the mass.

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Case report

A 25-year-old female, Saudi, was referred to our emergency department from Abha private hospital with a two and half months history of generalized abdominal pain with dyspepsia and occasional postprandial vomiting.

On examination, she was afebrile (T-37°C). Her pulse was 85/min and blood pressure was 107/68 mmHg. Her chest was clear with equal air entry bilaterally. Abdominal examination showed a huge mass about 12 × 18 cm, firm to hard, mobile, non-tender and non-pulsatile, extending from the pelvis to the epigastrium. Bowel sounds were normal.

Ultrasound scan from the referring hospital showed a huge abdomino-pelvic mass measuring 10 × 15 cm extending from the left hypochondrium to the pelvis. Spleen, liver and kidneys were said to be normal.

Further questioning in the light of Barium meal and CT scan findings revealed a background history of psychological stress with the chronic ingestion of extraneous materials like own hair, paper and sand.

A pre-operative diagnosis of trichobezoar was made and surgery was in form of a laparatomy with gastrostomy through which the mass was evacuated. Inspection of the evacuated stomach revealed severe gastritis worse in the pyloric region (Fig. 3). Biopsies were taken for histology from this area. The rest of the GIT was normal on examination.

The evacuated ‘J’ shaped mass weighed 2.1 kg with its long arm measuring 29 cm and the short arm 10 cm. It measured 8 cm at its greatest width and 5 cm at its greatest thickness (Fig. 4).

Her post-operative period was uneventful and she was discharged on the 12th day post-op after initial psychiatric evaluation. Histopathology confirmed polypoid hypertrophic gastritis for which she is being treated with H2-blockers.

She is being followed up in the surgical and psychiatric outpatient clinics and has remained well.

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She was also referred to the gastroenterology department for subsequent follow-up upper GIT endoscopy.

Discussion

Bezoars are retained concretions of undigested matter that accumulate within the stomach and may subsequently migrate to distal parts of the GIT.

Bezoars, which can be composed of any substance, have a very rich history.

Originally described in the stomach of mountain goats of Western Persia, it can be found in the stomach of other ruminant animals like sheep, llamas, etc. The word bezoar is thought to originate from the Persian 'pahnzehr' or the Arabic ‘badzehr’ which means counter-poison or antidote.\(^1\)-\(^3\)

Bezoars were used extensively for the treatment of various ailments the most significant being poisoning. Bezoars worn as amulets were dipped in drinks to remove toxins and poison. Some aristocrats even had ‘poison cups’ with bezoars permanently mounted in them. Bezoars owed their antitoxin/antidote properties to the ability to remove arsenate by exchanging it for phosphate in the bezoar concretion and by binding arsenite to the sulphur compounds in the protein of degraded hair that is a key component of bezoars. Arsenate and arsenic were the main toxic compounds of the poison of that era, arsenic.

From the medical point of view, bezoars are classified according to the dominant component. Recognized types include: phytobezoars composed of undigested materials from fruits and vegetables; trichobezoars composed of hair, seen in young psychiatric patients who ingest own
hair; lactobezoars composed of undigested milk particles, seen in preterm neonates fed highly concentrated formula feeds; pharmacobezoars composed of cellulose casing of sustained release tablets; and finally diospyrobezoars composed of the undigested tannins from ingested persimmons. The commonest are the phytobezoars.

The main predisposition to bezoar formation is altered GIT anatomy or disordered GIT motility/physiology. Examples of disease conditions in which these can be found include, post-partial gastrectomy (5–12% incidence of bezoars), post-vagotomy, diabetes mellitus with gastroparesis, Guillain–Barre’s syndrome, myotonic dystrophy, hypothyroidism, cretinism, psychiatric illness and edentulous patients. The clinical features depend on which part of the GIT is involved. Oesophageal involvement may present with dysphagia, odynophagia, reflux, retrosternal pain, and halitosis. Gastric involvement usually leads to non-specific presentation with abdominal pain, nausea, bloating, post-prandial vomiting, ulceration, GIT bleeding, anaemia, halitosis and easy fullness. Small bowel involvement presents dramatically with partial or complete intestinal obstruction with or without perforation.

Endoscopy is the diagnostic technique of choice for gastric and oesophageal bezoars and has therapeutic potentials. Barium swallow identifies only 25% of bezoars in these areas. Abdominal ultrasound and CT scan also have a role in diagnosis but the CT scan is more accurate. The main ultrasonic feature is a hyper echoic arch like surface with marked acoustic shadowing. The aim of treatment is removal of the bezoar and prevention of recurrence. Various treatment modalities are available and the final choice depends on size, type and site of the bezoar as well as underlying patient risk factors. Options include,

- Endoscopy—which may involve fragmentation using electrohydraulic lithotripsy, tripod forceps, Nd:YAG laser, etc. or enzymatic dissolution using catalase and ‘Coca-cola’ lavage.
- Surgery in form of a gastrostomy or enterostomy with extraction of the bezoar.
- Medical by administering prokinetic agents like metoclopramide.

A pitfall to be avoided by the surgeon when operating for intestinal bezoars, is the possibility of concurrent lesions usually in the gastricum. In a study by Ripolles et al. on 17 cases of bezoars, eight of the 12 cases of intestinal bezoars had concurrent gastric bezoars and five of them had multiple intestinal bezoars. Even after successful surgery, it is recommended that these patients be fully evaluated by upper GIT endoscopy and CT scan with contrast. In our case, there was no evidence of any concurrent lesions.

It is also recommended that these patients should be evaluated and followed up in a psychiatric clinic.

References