CASE REPORT

Colonic phytobezoar as a rare cause of large bowel obstruction

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SUMMARY

Bezoars are masses formed by the concretion of stomach contents or debris within the gastrointestinal tract. Bezoars are rare and account for only 0.4–4% of all cases of gastrointestinal obstruction and mainly occur in the stomach or small intestine. Intestinal obstruction caused by colonic bezoars is extremely rare. We report a case of a distal sigmoid obstruction caused by a phytobezoar in a 60-year-old man with no obvious precipitating causes. He presented to the emergency department acutely unwell and a subsequent abdominal CT scan showed a mass within the proximal sigmoid colon suspicious for a bezoar. He proceeded to have an urgent laparotomy and the obstructive intraluminal mass in the sigmoid colon was identified and manually broken down. Subsequent histopathological assessment reported amorphous material and plant cellular matter consistent with the diagnosis of a phytobezoar.

BACKGROUND

Bezoars are masses formed by the concretion of stomach contents or debris within the gastrointestinal tract and are classified based primarily on their content. There are four major types of bezoars. Phytobezoars are the most common type of bezoars and comprise of undigested vegetable material with large amounts of non-digestible fibres such as cellulose, hemicellulose, lignin and fruit tannins. Trichobezoars consist of gastric concretions of hair fibres and are usually found in patients with a history of psychiatric illnesses and in children with intellectual disabilities. Pharmacobezoars consist of medications such as cholestyramine, kayexalate resin, cavafeate and antacids, which in bulk will agglutinate. Finally, lactobezoars are milk curds that form secondary to infant formula.¹

Bezoars are rare and account for only 0.4–4% of all cases of gastrointestinal obstruction and mainly occur in the stomach or small intestine.¹ Intestinal obstruction caused by colonic bezoars is even rarer. We report a case of a distal sigmoid obstruction caused by a phytobezoar in a 60-year-old man.

CASE PRESENTATION

A 60-year-old man was admitted to a tertiary level hospital with a 24 h history of generalised abdominal pain, vomiting and complete obstipation. This was on a background of a previous gastric ulcer, appendectomy and recurrent small bowel obstructions managed conservatively. His last colonoscopy 2 years prior to presentation showed diverticular disease but no other significant lesions. His other comorbidities include an anterior myocardial

infarction treated with a drug-eluting stent, supra-ventricular tachycardia, a 5.6 cm abdominal aortic aneurysm, hypertension and depression. His medication profile included verapamil, aspirin, atorvastatin, pantoprazole, amitriptyline and sertraline.

On examination, he was afebrile, tachycardic and tachypnoeic, requiring supplemental oxygen. Abdominal examination noted guarding throughout the abdomen, maximally in the left lower quadrant. Digital rectal examination was unremarkable.

INVESTIGATIONS

Arterial blood gas analysis showed metabolic acidosis with raised lactate. Blood tests including a complete blood picture, serum electrolytes and renal function were within normal limits.

Plain abdominal X-ray revealed multiple air-fluid levels and a distended large bowel loop in the right upper quadrant. Subsequent abdominal CT scan showed a mass within the proximal sigmoid colon suspicious for a bezoar. This mass was causing significant proximal distension of the large bowel with collapsed bowel loops distally (figures 1 and 2).

DIFFERENTIAL DIAGNOSIS

The clinical diagnosis was intestinal obstruction secondary to a colonic bezoar, with a differential diagnosis of a colonic tumour.

TREATMENT

The patient proceeded to have an urgent laparotomy because of his features of peritonism. The obstructive intraluminal mass in the sigmoid colon was identified and manually broken down with evacuation of the obstructive material along with large amounts of liquid faecal material. Subsequent histopathological assessment reported amorphous material and plant cellular matter consistent with the diagnosis of a phytobezoar.

Figure 1 CT showing axial view of colonic bezoar with proximal distension and distal collapse of bowel loops.

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Figure 2 CT showing coronal view of colonic bezoar with proximal distension and distal collapse of bowel loops.

OUTCOME AND FOLLOW-UP

The patient's postoperative recovery was complicated by a post-operative ileus that resolved with conservative management. Follow-up colonoscopy showed no underlying neoplastic changes, strictures or anatomical abnormalities to account for the development of the bezoar.

DISCUSSION

Bezoars are a rare cause of intestinal obstruction. Gastric bezoars are the most commonly described type of bezoars due to the presence of the pyloric sphincter, which prevents passage of these bezoars into the small and large bowel. The majority of gastric bezoars have been found to occur as a complication of previous gastric surgery. Primary small bowel bezoars almost always present with intestinal obstruction. This is because they become impacted in the narrower parts of the small bowel—the commonest site being the terminal ileum followed by the jejunum.¹ Bedioui *et al* described a case series of 15 patients with small bowel obstruction secondary to phytobezoars. These patients were found to have altered gastrointestinal motility in which there was a loss of normal peristaltic activity, which compromised pyloric function and reduced gastric acidity.¹ Other predisposing factors they noted were ingestion of high fibre foods, abnormal mastication, diminished gastric secretion and motility, autonomic neuropathy in diabetes mellitus and myotonic dystrophy.¹

Colonic obstruction by bezoars has only previously been noted in case reports, with no available case series published in the English literature. Sang *et al*² described a case of colonic phytobezoar at the rectosigmoid junction. The cause of the presentation was thought to be attributed to previous history of cerebral infarction and the consumption of persimmons with reduced gastrointestinal mobility due to β -blockers. Lee *et al*³ also reported a similar case of intestinal obstruction secondary to rectosigmoid bezoar. Both cases were managed with endoscopic removal of the bezoar with positive outcomes. In our patient, the causative factors for the formation and subsequent obstruction caused by the phytobezoar are unclear, as it was located in an area of no anatomical or physiological stenosis. No specific risk factors suggested in previous case reports were present in this case.

Clinically, patients with colonic bezoars most commonly present with abdominal pain. Other symptoms described include abdominal distension, vomiting, constipation, diarrhoea, anorexia and weight loss.⁴ If treatment is delayed, colonic bezoars can be complicated by intestinal obstruction and

perforation with consequent peritonitis. Diagnosis of colonic bezoars can be challenging due to the presence of other more common causes of intestinal obstruction such as malignancy. The use of CT is helpful in discriminating bezoars from other causes of colonic obstruction. The characteristic CT finding of bezoars is an intraluminal mass containing a mottled gas pattern, which is consistent with the radiographic evidence in our case.⁵

Treatment of colonic bezoars is determined by their location, type and size.⁴ Conservative approaches such as the use of enemas and manual disimpaction is considered in uncomplicated cases of colonic bezoars. Endoscopic or surgical removal of colonic bezoars is performed if there is failure of conservative treatment or when patients present with life-threatening complications. An urgent laparotomy was performed in our patient in view of his acute clinical deterioration with the development of peritonitis, tachycardia and a worsening biochemical picture.

Colonic bezoar is a rare and difficult diagnosis as a cause of intestinal obstruction. This should be considered in patients with gastromotility impairment and/or risk factors including advancing age, past gastrointestinal surgery, diabetes mellitus, muscular atrophy and cerebrovascular disease. A detailed history of dietary habits and medications can be helpful in the diagnostic work up. Prompt diagnosis and management of colonic bezoars is required to prevent progression to potentially lethal complications. In cases where CT imaging is involved and bezoars are diagnosed radiologically, early endoscopic techniques for removal could be considered prior to laparotomy.

Learning points

- ▶ Bezoars are a rare cause of intestinal obstruction that could be considered in patients with gastromotility impairment.
- ▶ Prompt diagnosis and management of colonic bezoars is required to prevent progression to potentially lethal complications.
- ▶ Early endoscopic techniques for removal could be considered prior to laparotomy, if patients are clinically stable.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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