CASE REPORT

Phytobezoar-Induced Small Bowel Obstruction with Jejuno-Colonic Fistula: A Rare Case Report

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ABSTRACT

Bezoars are compacted masses of indigestible materials that accumulate within the gastrointestinal tract. The most common variant, phytobezoars, is formed from plant fibres such as cellulose and lignin. These masses may cause gastrointestinal symptoms, ranging from mild discomfort to bowel obstruction. Phytobezoars may occur in adult patients as a postoperative complication after gastric bypass or partial gastrectomy, especially when partial gastrectomy is accompanied by vagotomy. Once considered folklore objects, bezoars are now addressed through modern diagnostic imaging and management strategies, including enzymatic dissolution, endoscopy or surgery, depending on their size, location, and clinical impact.

Keywords- Phytobezoar, Jejunal bezoar, Small bowel obstruction.

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INTRODUCTION

Phytobezoars represent the predominant form of bezoars, accounting for up to 40% of reported cases. They primarily contain indigestible plant materials like fruit fibers, seed coats, and vegetable skins. The stomach is the most common site (around 78%), though approximately 17% are identified in the small intestine.[1,2] Common predisposing factors include previous gastric surgery (especially partial gastrectomy with vagotomy), delayed gastric emptying, and dietary habits. Small bowel obstruction is the most frequent complication and requires intervention.[3]

Case Presentation

A 43-year-old female without any significant surgical history or medical co-morbidities presented in the surgical outpatient clinic with persistent left lower quadrant abdominal pain and a palpable mass for three months. She had experienced two episodes of non-bilious vomiting two months prior. On physical examination, a 10 × 6 cm hard, mobile mass was palpable. CT Enterography revealed a peripherally calcified, mottled intraluminal mass within the proximal jejunum, extending 25 cm long, with fistulous communication to the transverse and descending colon and adjacent fat stranding (Figure 1a).

Colonoscopy demonstrated a significant, obstructive intraluminal mass (suspected phytobezoar) within the transverse colon (Figure 1b), but endoscopic extraction proved unsuccessful. The patient underwent diagnostic laparoscopy followed by laparotomy, revealing fistulous connections between jejunal loops and both the transverse and sigmoid colon (Figure 2a). A jejunotomy for the fistula site approximately 1.5 feet distal to the duodenojejunal junction was performed to remove the phytobezoar, followed by resection of the affected bowel and fistulae (Figure 2b).

Intraoperative colonoscopy confirmed complete removal (Figure 3). Histology revealed ulcerated mucosa, nonspecific chronic inflammation, and serositis.

DISCUSSION

Bezoars account for 0.4 to 4% of mechanical intestinal obstructions.[4] The term "bezoar" is derived from Arabic and Persian words meaning "antidote," historically believed to counteract poisons.[5] Bezoars are categorized by composition: phytobezoars (plant matter), trichobezoars (hair), pharmacobezoars (drugs), lactobezoars (milk curds), and miscellaneous foreign materials.[6]

Phytobezoars are more prevalent in individuals with risk factors such as previous gastrointestinal surgery, diabetes mellitus, or gastric motility disorders.[7] The jejunum, particularly the segment 50 to 70 cm from the ileocecal valve, is commonly affected due to its narrow lumen.[8] Some bezoars occur due to the swallowing of plastic and metal pieces. Obstruction is generally seen in the narrow part of the small

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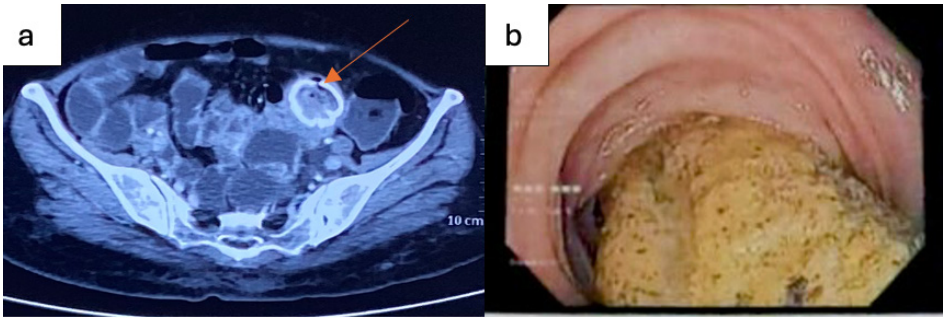

Figure 1: Pre-operative CT Entero-graphy and Colonoscopy. a. Arrow showing presence of Fistula and Intraluminal Phytobezoar. b. Presence of a greenish colored endoluminal mass inside the transverse colon extending up to the Descending colon

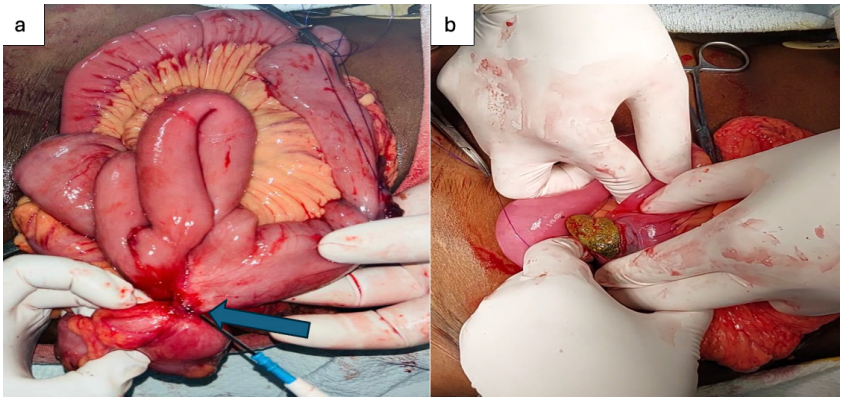

Figure 2: Jejuno-Colic Fistulous Communication a. An arrow showing the site of the fistula. b. Opening of the Fistulous site revealed the proximal end of the phytobezoar

intestine, particularly 50 to 70 cm distant from the ileocecal valve, since the intestinal lumen is narrow at that level. The second most common region is the jejunum. CT scan is the most effective method to determine the accurate treatment modality for detecting co-existing multiple bezoars, intestinal ischemia, perforation, and other potential intestinal diseases.[4,5] On computed tomography (CT), bezoars typically present as rounded, ovoid, or elongated intraluminal masses with mottled gas patterns at the site of obstruction. The choice of treatment is guided by factors such as the bezoar's size, anatomical location, and the patient's overall condition. Management strategies include chemical dissolution, endoscopic techniques, and surgical intervention.

For patients presenting with mild symptoms, conservative therapy with chemical dissolution may be attempted. Agents such as carbonated beverages (e.g., cola) or cellulase are commonly used. Cellulase is administered at doses ranging from 3 to 5 g, diluted in 300–500 mL of water and consumed over 2 to 5 days. Metoclopramide, at a dose of 10 mg orally, may be co-prescribed to enhance gastric motility. However, papain-based enzymatic therapies are now discouraged due to associated risks. Endoscopic intervention is indicated in patients with bezoars refractory to dissolution or in those experiencing moderate to severe symptoms. When bezoars are identified during diagnostic endoscopy, removal can be attempted in the same session. Mechanical fragmentation

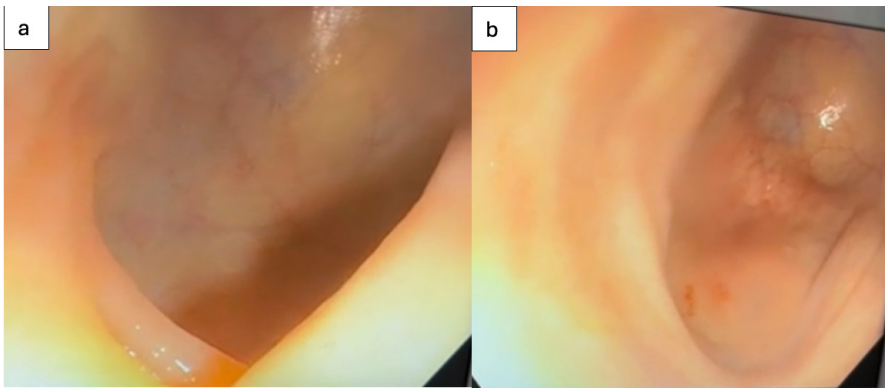

Figure 3: Post removal, intra-operative colonoscopy revealed no residual fragment of phytobezoar

tools—such as snares, forceps, water jet sprays, argon plasma coagulators, or even laser systems—are employed to break down the mass for retrieval or passage. Surgical removal becomes necessary when both chemical and endoscopic approaches fail, or in cases complicated by bowel obstruction, perforation, or bezoar-induced fistulae.[9]

CONCLUSION

Though rare, phytobezoar-induced small bowel obstruction should remain a differential diagnosis, even in patients without prior gastrointestinal surgery. Early identification through imaging and a tailored approach—whether chemical, endoscopic, or surgical—can significantly reduce morbidity. Intraoperative endoscopy can ensure complete bezoar removal, particularly in complex presentations involving fistulae or multiple sites.

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