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Small bowel obstruction due to a phytobezoar thirty years after Roux-en-Y gastrojejunostomy: A case report

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ABSTRACT

INTRODUCTION: We present a case of a delayed small bowel obstruction due to a phytobezoar in a patient with a previous surgical history.

PRESENTATION OF CASE: A 73-year-old male patient presented with vomiting and obstipation for a week. His past surgical history included a Roux-en-y gastrojejunostomy due to a surgical management for peptic ulcer disease 30 years ago. Abdominal computed tomography demonstrated a dilation of small bowel with air-fluid levels. He was diagnosed with acute bowel obstruction. On exploration, we found a compressible mass 150 cm from the jejunojunction anastomosis. An enterotomy was performed and the mass was milked back. It was a phytobezoar. After the bezoar removal, his complaints relieved completely.

DISCUSSION: Small bowel obstruction after abdominal surgery (Roux-en-y gastrojejunostomy) is a complication that may present early or late for many causes. One of the unusual underlying causes is phytobezoar.

CONCLUSION: This case aims to raise awareness of phytobezoar as a cause of small bowel obstruction even in delayed presentation.

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1. Introduction

A bezoar is an indigestible conglomeration trapped in the gastrointestinal tract. Representative substances forming bezoars include plant materials such as fibers, skins and seeds of vegetables and fruits (phytobezoars), ingested hair (trichobezoars), medications (pharmacobezoars), and milk protein in milk-fed infants (lactobezoars). Among the four types of bezoars, phytobezoars are the most common. Bezoars can be formed and found in any part of the gastrointestinal tract, but the stomach is the most common [1].

Predisposing risk factors include prior gastric surgery, improper mastication, and dentition problems. Patients with bezoars may remain asymptomatic for many years. Common symptoms usually include abdominal pain, nausea, vomiting, early satiety, anorexia and weight loss. Some patients present with gastrointestinal bleeding, ulceration, perforation, and gastric outlet or small bowel obstruction [2,3].

To the best of our knowledge, it is one of few cases of bowel obstruction distal to the jejunojunction anastomosis. This work is reported in accordance with the SCARE criteria [4].

2. Presentation of case

A 73-year-old man, referred from suburbs to our Emergency Department with new onset of vomiting for a week. It started as food material vomitus and turned to bilious. He also reported having an obstipation and early satiety started parallel with vomiting. His past surgical history was significant for peptic ulcer disease, for which he had undergone construction of a Roux-en-y gastrojejunostomy 30 years ago. He complained of poor dentition and mastication 2 months ago. On examination, the patient was afebrile. His abdomen was a little distended with a paraumbilical tenderness and no rebound tenderness or hernias. There was a mid-line laparotomy scar. On per rectum (PR) examination, there were no masses or fecal impaction. On auscultation, there were weak peristalses. Fluid resuscitation and electrolyte replacement were initiated and a nasogastric tube (NGT) was inserted. Laboratory tests were normal except for granulocytosis. Plain abdominal x-ray showed poor gas shadows with air-fluid levels. External abdominal computed tomography demonstrated a dilated small bowel with air-fluid levels and collapsed loops (Fig. 1). The initial diagnosis was a small bowel obstruction. The patient underwent abdominal

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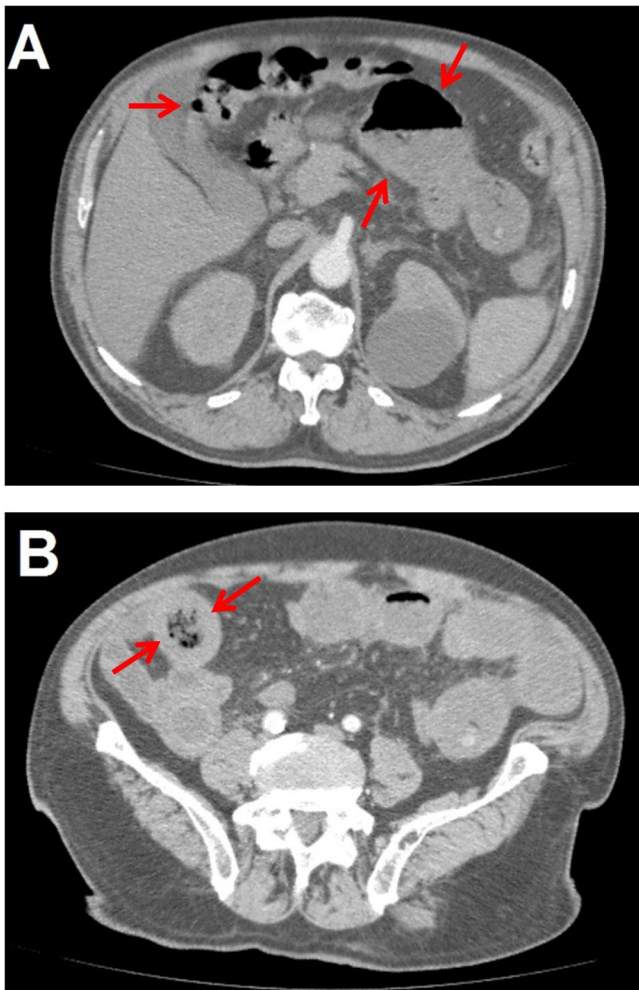


Fig. 1. External CT showed:

- A. Dilatation of small bowel loops with air-fluid levels.
 B. Dilated and collapsed small bowel loops and impacted mottled mass.



Fig. 2. The impacted mass.

exploration. With a midline incision, the abdomen was open and the intestines were inspected and a compressible 5×3×3 cm mass was found impacted about 150 cm from the jejuno-jejunostomy anastomosis with dilated loops, and no other abnormalities (Fig. 2). The mass was milked back 40 cm and longitudinal incision of 4 cm

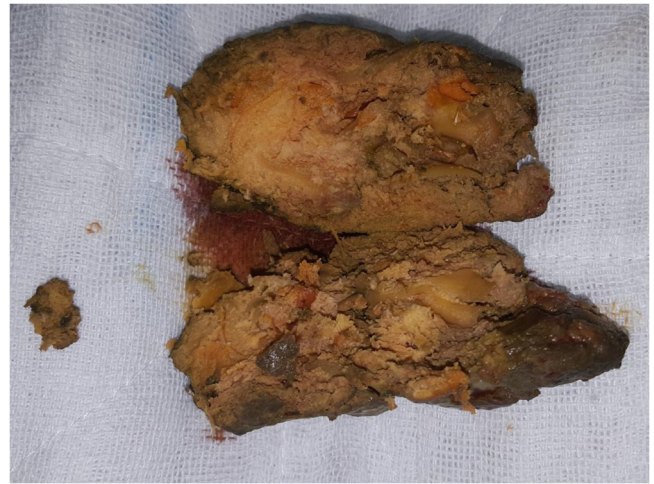


Fig. 3. The phytobezoar.

was made and the mass extracted from. We found indigestible fibers that formed a phytobezoar (Fig. 3). A one layer closure with a 2/0 vicryl suture was done.

The recovery was uneventful except superficial wound infection and the patient was discharged on the postoperative day 5.

3. Discussion

Small bowel obstruction after Roux-en-y gastrojejunostomy is a complication that may present early or late. It may be caused by adhesions, stricture of anastomosis, ileus, incarcerated ventral hernias, or intussusception. On the other hand, phytobezoar is one of the unusual underlying causes [3,5].

The excessive ingestion of vegetable fibers, a degree of gastric dysfunction and insufficient mastication are the main factors predisposing to phytobezoar formation [3] and our patient had many of these factors. The poor mastication was probably the triggering factor in the phytobezoar formation as it was the sole major change in the patient health state since his Roux-en-y gastrojejunostomy which was 30 years ago.

The bezoar usually presents with obstructive symptoms but can be associated with abdominal pain, nausea, vomiting, weight loss, ulceration, and GI bleeding [6]. The timing of bezoar detection varies widely and has been reported as early as 9 months post-operatively, and up to 30 years after surgery [7].

Radiologically, Abdominal X rays and CT scan can reveal amass or filling defects. If the bezoar lies proximally, it can be confirmed by endoscopy which provides not only direct visualization of the bezoar but also allows simultaneous therapeutic intervention. The majority of gastric bezoars can be removed endoscopically. A variety of other non-operative management strategies have been described in cases of phytobezoar, including the enteral administration of Coca-Cola, acetylcysteine, cellulase, meat tenderizer and hydrogen peroxide [2]. However, Nonoperative management of a phytobezoar becomes more challenging if it is present distally in the GI tract. Surgical removal should be considered in patients who failed conservative therapy, have large bezoars that hinder endoscopic removal or have complications such as obstruction [2], therefore the conservative therapy was excluded in our patient. Furthermore, the stomach must be explored for associated bezoars [8].

Nutritional counseling in the postoperative care of gastric surgery patients is very crucial to prevent recurrence. Patients should be encouraged to increase the intake of fluids, chew food carefully and avoid a stringy fibrous diet. Patients with trichobe-

zoars may need to seek a psychiatric evaluation. Furthermore, the underlying motility problems should be identified and treated as necessary [2,3].

4. Conclusion

Phytobezoar is one of the unusual causes of delayed small bowel obstruction that can happen after abdominal surgery, such as a Roux-en-y gastrojejunostomy, as observed in this case. We should take care of the patient nutrition especially after gastric surgery to prevent bezoar formation.

Conflicts of interest statement

There is nothing to disclose.

Sources of funding

There are no sources of funding.

Ethical approval

Not required for case reports at our hospital. Single case reports are exempt from ethical approval in our institution.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Ruqaya Masri: design of study, data collection, data interpretation and analysis, drafting, revision, approval of final manuscript.

Nihad Mahli: the Supervisor, patient care, revising critically, approval of final manuscript.

Majd Alobied: patient care, revising critically, data analysis, approval of final manuscript.

Riham Moahed: design of study, data collection, data interpretation and analysis, drafting, revision, approval of final manuscript.

Rawan Fadhil: data collection, data interpretation and analysis, drafting, revision, approval of final manuscript.

Registration of research studies

Not applicable. This case is not a part of any clinical study.

Guarantor

Dr. Nihad Mahli.
Dr. Majd Alobied.

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