

Unexpected cause of large bowel obstruction: Colonic bezoar

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Citation

M Bala, L Appelbaum, G Almogy. *Unexpected cause of large bowel obstruction: Colonic bezoar*. The Internet Journal of Gastroenterology. 2008 Volume 7 Number 2.

Abstract

Colonic bezoars as a cause of obstruction have not been widely described in the literature, so no conclusions can be drawn based on available data.

We present a case of large bowel obstruction in an adult blind patient caused by a colonic mass suspicious for tumor or bezoar by its radiological features. Colonic bezoar should be suspected when large bowel obstruction takes place in older patients with chronic constipation or a disability in controlling food intake. There are no specific diagnostic findings related to colonic bezoars, but computerized tomography seems to be the most readily available to characterize bezoar in this case. CT diagnosis of bezoar was based on identifying a low-density intraluminal mass containing air bubbles and exhibiting a characteristic mottled appearance.

The treatment may vary depending on the clinical situation. If diagnosis is correctly made, surgical operation can be averted. Early and effective management of constipation could help prevent this condition.

INTRODUCTION

Bezoars are the uncommon result of ingestion of poorly digestible or indigestible substances. The majority of bezoars are located in the stomach¹, with the small intestine being the next most commonly involved site. The colon is rarely the site for a bezoar^{2,3,4}. The following is a case report of large bowel obstruction due to bezoar, confirmed intraoperatively.

CASE REPORT

A 78 year old male with history of congenital blindness, hypertension and diabetes mellitus was admitted with a 4 day history of constipation and left abdominal pain, which worsened on the day of admission. He had no fever or chills at admission, with normal vital signs. On physical examination he had mild abdominal distention and left lower quadrant tenderness. Rectal examination was normal with negative guaiac test. The laboratory workup including liver function tests, coagulation profile and basic metabolic panel were within normal limits, except for a WBC count of 12000 μ /l. Plain abdominal X-ray showed distended large bowel with "cut-off" at the level of the descending colon (Fig.1). A CT scan revealed distended proximal large bowel up to the distal descending colon, were an oval intraluminal mass with mottled gas pattern was demonstrated. The descending

colon wall was thickened, and there was stranding of the surrounding fat, with a small amount of free fluid in the left gutter (Fig. 2). No diverticulosis of the colon was seen. The differential diagnosis was obstructing colonic cancer and colonic bezoar. The bowel wall was thickened in a long segment, which is less likely to be due to a malignant process, and the impression of an intra-luminal mass led us to suspect a bezoar. However, since it is so uncommon, and there was no conclusive evidence, the patient was admitted for further evaluation and observation. Overnight, his abdominal pain increased, and he developed diffuse abdominal tenderness with chills and fever and elevation of WBC to 18000 μ /l. The patient underwent exploratory laparotomy that revealed distended cecum and transverse colon, and a hard, immobile, intra-luminal mass at the descending colon with patchy necrosis of the bowel wall. The distal sigmoid colon was collapsed. Similar necrotic lesions and serosal tears were seen on the cecal wall due to its distention (more than 15 cm). Right extended hemicolectomy was performed with hand-sewn ileo-sigmoid anastomosis. Macroscopic examination of the resected specimen showed that the descending colon contained an impacted phytobezoar with a circular, 4 cm wide, ulceration of the bowel wall. A greenish plastic mass was firmly adhered to the mucosa. Microscopic examination showed signs of acute transmural ischemia. No malignant cells were

found. Postoperative course was uneventful and the patient was discharged on the seventh post-operative day. At 6 month follow up the patient is doing well and free of gastrointestinal symptoms.

Figure 1

Figure 1: Plain abdominal x-ray. Left large bowel obstruction; distended large bowel loops up to a well-defined ovoid intraluminal mass with mottled gas pattern in the distal descending colon (). No air or fecal contents is demonstrated distal to this point.

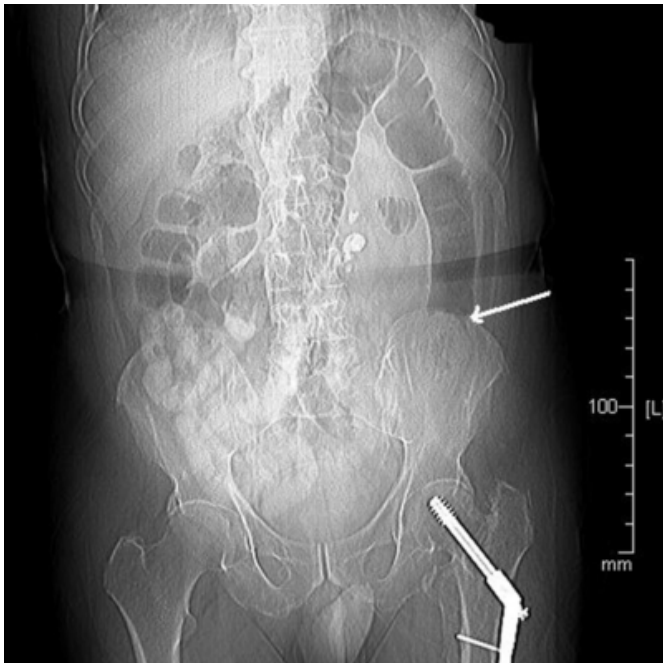


Figure 2

Figure 2: CT scan revealed distended large bowel loops, up to the distal descending colon where a well-defined ovoid intraluminal mass with mottled gas pattern is shown (). The colon distal to it was collapsed.



DISCUSSION

We report a case of a colonic phytobezoar causing large bowel obstruction and pressure necrosis upon presentation, and the treatment of this unusual occurrence. Historically, bezoars are classified according to the involved material and include phytobezoar (fruit and vegetable fibers), trichobezoar (hair), and lactobezoar (milk curds). Bezoars secondary to medications have also been described. ⁵

Predisposing factors include inadequate chewing, high-fiber diets, and previous gastric surgery ⁶. Small-bowel obstruction is the most frequent clinical presentation of phytobezoars, although they are responsible for only 0.4–4% of all intestinal obstructions ⁵. Chronic constipation in elderly patients with inadequate food intake due to blindness was probably the trigger to bezoar formation in our patient.

Bezoar-induced obstruction of small bowel rarely improves with conservative treatment, and early surgery may be required to relieve obstruction. Conservative treatment is appropriate for colonic bezoars ⁷. Therefore, the diagnosis of a bezoar as the cause of obstruction is important because it modifies the approach to treatment.

The clinical presentation of colonic bezoars is abdominal pain, sometimes associated with a palpable mass, abdominal distention, vomiting, constipation, or diarrhea. The diagnosis of colonic bezoar is typically made with plain abdominal radiograph and contrast enema or by CT scan. Conventional abdominal radiographs demonstrate signs of large bowel obstruction. Imaging findings of small-bowel obstructing bezoar have been well documented^{1,6,8}. Radiographic demonstration of a focal intraluminal mass with a mottled gas appearance in the small bowel at the level of the transition zone, measuring approximately 3x5 cm may be regarded as pathognomonic finding for an obstructing bezoar. The same appearance is expected to be found in the colon. Fecal material in the colon can also simulate the image of a bezoar, particularly in the presence of barium concretions. In small bowel obstruction, a similar confusion could be encountered; it is common to see fecal contents due to the stasis, the ““small bowel feces sign””. In contrast with this intraluminal fecal content, which may appear more amorphous and affects longer segments, the identification of a well-defined focal mass at the site of obstruction should raise the possibility of an obstructing bezoar.

The typical bezoar image, involving a mottled air pattern, was visible in only 18% of patients with SBO in plain radiography⁶. CT is much more sensitive and specific, and described series have shown the focal well-circumscribed air-mottled intraluminal mass in all the patients⁸. In our opinion, CT may be considered the imaging technique of choice for confirming the diagnosis of gastrointestinal bezoars. CT enables radiologists to determine the point of obstruction, reveal the bezoar as the underlying cause of obstruction, and detect the existence of additional intestinal or gastric bezoars. CT diagnosis of bezoar in this case was based on identifying a low-density intraluminal mass containing air bubbles and exhibiting a characteristic mottled appearance.

The differential diagnosis of colonic bezoar consists of suspected tumor or fecaloma. Long-standing constipation may enhance the formation of stone-hard fecaloma. A diagnosis of fecaloma is supported if the mass in the colon is large, readily movable and not attached to the bowel wall⁹.

A bezoar of colon as well as fecaloma due to persistent pressure over the bowel wall may cause pressure necrosis of the mucosa known as stercoral ulcer. Deep stercoral ulcers of the colon are associated with perforation and high mortality rate in elderly patients¹⁰.

The method of bezoar removal depends on the site of impaction, and size, nature, and complications of the formation. Conservative management includes enemas and manual disimpaction. Colonoscopic removal is considered if enemas fail. Surgery is reserved for bezoars following failure of conservative management, and for those presenting with life threatening complications such as sigmoid volvulus, haematochezia, or peritonitis.

Surgical management of colonic bezoars includes colotomy and bezoar extraction, or bowel resection when associated with ischemic bowel wall or perforation. We performed extended hemicolectomy in our patient due to a distended and compromised right colon.

CONCLUSION

Chronic constipation is a very common problem in our increasingly aging population. However, colonic bezoars are infrequent. Large bowel obstruction due to colonic bezoar is a diagnostic challenge and may cause life threatening complications. CT seems us to be the main diagnostic tool for colonic bezoar. Treatment options will depend on the patient's condition, and management of proximal colon is part of a definitive treatment of bezoar-induced obstruction.

ACKNOWLEDGMENTS

The authors declare that they have no competing interests.

Authors' contribution:

Miklosh Bala MD: correspondent author and first author.

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A written informed patient consent was taken both to case report publication and accompanying images.

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