

## Case Report

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# An uncommon case of small bowel obstruction due to phytobezoar in a known case of tubercular abdomen: a decisional dilemma

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## ABSTRACT

Study report the case of middle aged male who was presented with abdomen pain and diagnosed of small bowel obstruction caused by bezoar in a case of tubercular abdomen and review the literature. The initial presentation was generalised pain with nausea and vomiting and abdominal distension. Plain abdomen film showed diffuse dilated bowel loop in upper abdomen. Patient had similar recurrent episode 12 months back when he was managed conservatively and diagnosed as tubercular abdomen and he had taken ATT for 3 months. At this time patient managed conservatively, but did not respond. Later a CECT whole abdomen was done and patient diagnosed as cocoon abdomen with mass or a foreign body impacted at distal jejunal region with proximal bowel dilatation. Later patient revealed ingestion of a large mango seed 4 months back. Later patient was explored, adhesionolysis and enterotomy was done and phytobezoar was removed. Early history of recurrent tubercular obstruction with non-specific symptoms. Later recognition of condition by typical imaging and leading questions induced history image play an important role in to come to a diagnosis, with significant delay in diagnosis; and increase the morbidity and mortality.

**Keywords:** Abdomen, Bowel, Obstruction, Phytobezoar, Small, Tubercular

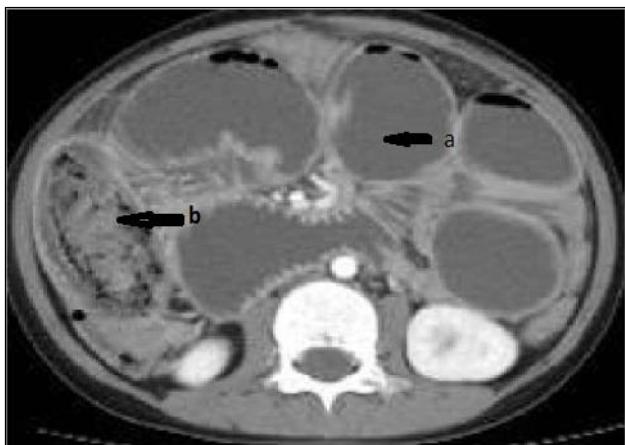
## INTRODUCTION

Small bowel obstruction is a common surgical emergency condition especially in India. The most common causes of small bowel obstruction are adhesions, bands and strictures (73.8%) and hernia (18.5%) of these one quarter of cases of adhesive small bowel obstruction, 75% are due to tubercular aetiology.<sup>1</sup> Obstruction caused by bezoars is rare, and accounts for only 0.4%.<sup>2,3</sup> There are four types of bezoars. The most common type is phytobezoars, which are composed of vegetable matter, especially fruit seed.<sup>4</sup> The bezoars are often unrecognized before surgery. We reported a case with bezoar-induced small bowel obstruction in a case of tubercular abdomen patient with history of recurrent obstruction, diagnosed by CECT and reviewed the literature.

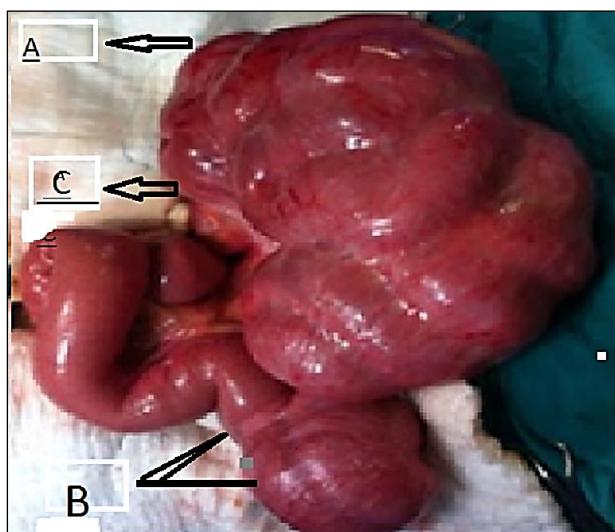
## CASE REPORT

The 45-year-old male patient came to our emergency department because of generalized pain in abdomen, nausea and vomiting, abdominal distension for one week. Tracing back his clinical history, he had similar episodes 3-4 times, 12 months back. He had the usual state of health until one week ago. The pain abdomen and distension aggravated while eating food there was no history of body weight loss. Postprandial vomiting occurred one day before admission. The vomitus was initially food content and became greenish. Small calibre stool was also found. The initial abdomen plain film showed segmental distended bowel loops in central abdomen. His white cell count was 14,000/ $\mu$ l, TLC Polymorph 89% Lymphocyte 10%, haemoglobin 8.7.gm/

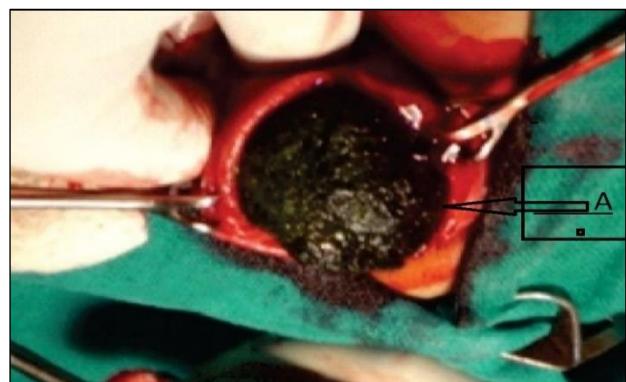
dL and serum amylase 208U/L (normal 36-128U/L) having severe hypo-albuminemia. The level of lipase, liver enzyme and bilirubin was within normal range. Nasogastric tube was inserted but persistent large amount gastric fluid was drained. Abdomen ultrasound showed a dilated proximal bowel loops. One hyper echoic mass like lesion about 5 cm is found at right lower quadrant area is seen, suspecting small bowel tumour with obstruction. CECT abdomen was performed and showed significant proximal bowel dilatation, suspected bezoar impaction with small bowel obstruction (Figure 2). Exploratory laparotomy done, extensive adhesiolysis of small bowel done, a bezoar was found impacted in the distal jejunum and/or proximal ileum at 80 cm from ileocecal junction, enterotomy done and bezoar (Figure 3) extracted. After surgery, his clinical condition improved. He was smoothly discharged from our hospital 2 weeks after admission.



**Figure 1: CECT abdomen showing dilated jejunal loops(a), foreign body in distal jejunum.**



**Figure 2: Plastic abdomen showing plastered loops of jejunum(a), foreign body impacted in distal jejunum(b), non-dilated distal ileum and cecum(c).**



**Figure 3: Phytobezoar extracted from jejunum.**



**Figure 4: Phytobezoar specimen.**

## DISCUSSION

As per predisposing factors is concern, most of the patients had previous operation history, especially for peptic ulcer disease, accounting for 55 to 75%. The most common operation is vagotomy plus pyloroplasty and others.<sup>3,5,8</sup> Diabetes mellitus, mixed connective tissue disease or hypothyroidism also delay gastric emptying and cause bezoar formation.<sup>8</sup> However, there is still some debate. Some study shows that there is no difference of gastric emptying between patient with and without bezoar. So, factors other than the gastric digestive phase are the main contributors to bezoar formation.<sup>8</sup> The most common symptom of bezoar induced small bowel obstruction is abdomen pain, 96% to 100%. Other common symptoms included abdomen distension, nausea and vomiting.<sup>2,5</sup> Some studies show that the impacted small bowel bezoars are usually found at 50-70 cm proximal to ileocecal valve, the narrowest part of the ileum.<sup>9</sup> However, others show that the bezoar may be found more common at upper part of small intestine due to the large size of bezoars.<sup>2,5</sup>

However, our patient's bezoar was found in distal jejunum/proximal ileum at 70 cm proximal to ileocecal valve. The plain abdomen radiography can show small bowel obstruction but rarely to detect bezoars. However, despite extremely rare, air-containing mass may be seen on plain abdomen radiography.<sup>9</sup> The abdomen ultrasound

also detect signs of small bowel obstruction and the appearance of visualization of intraluminal mass with a hyper echoic arc like surface and acoustic shadow.<sup>10</sup> Contrast barium studies show an intraluminal filling defect that does not constant fixed to bowel wall.<sup>11</sup> The contrast barium study should be reserved in only partial or intermittent small bowel obstruction.<sup>2</sup> It is useful to use computed tomography for evaluation of small bowel obstruction.<sup>12</sup> The small bowel obstruction caused by bezoar in computed tomography show intra luminal mass, and the small bowel wall or fluid in the small bowel outline the mass. The mass is gas bubbles and soft tissue appearance with dilated small bowel proximal to the mass.<sup>10,12</sup>

It is less common to detect intraluminal mass by ultrasound. Our patient CT findings were consistent with the bezoars-induced small bowel obstruction. Gastric bezoars can be treated by enzymatic dissolution or endoscopic management but small bowel bezoars are less likely. Although some reports showed that intravenous administration of antispasmodic agents may help move distal small bowel bezoars into the colon and thus removed by colonoscopy, the treatment of small bowel bezoars are mainly surgery.<sup>3</sup> The surgical management is easily performed by fragmenting the bezoar and milking it down to the caecum without enterotomy.<sup>3,4,8</sup> In a retrospective study, fragmenting and milking bezoar was successful in 24 cases (53%). However, enterotomy for bezoar extraction was required in 16 cases (36%). There were five severe cases need segmental bowel resection due to ischemic bowel. Recently, these procedures can also be performed by laparoscopy. Extramural fragmentation of the bezoar can be achieved by using atraumatic forceps. If the bezoar cannot be milking into cecum, removal of bezoars by minimal laparotomy and enterotomy can be performed.<sup>2</sup> Because bezoar is uncommon in small bowel obstruction, there was less study comparing laparoscopic approach with conventional open approach for bezoar induced small bowel obstruction. Only one study showed laparoscopic management had significantly shorter operative time, shorter hospitalization, and less complications than conventional group. There were 3 cases (30%) in laparoscopic group (total ten cases) converted to mini laparotomy. The major difficulty for laparoscopic management are the size of bezoar and the presence of distended and fragile bowel loops.<sup>13</sup>

## CONCLUSION

In conclusion, small bowel obstruction caused by bezoars is uncommon but is still an important issue in the elderly. Surgical approach is the mainly treatment option and easily achieving by fragmenting the bezoar into cecum without enterotomy. Although easily management, early

recognition with typical symptom and image findings play an important role in minimizing the morbidity and mortality.

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## REFERENCES

1. Markogiannakis H, Messaris E, Dardamanis D, Pararas N, Tzartzemelis D, Giannopoulos P, et al. Acute mechanical bowel obstruction: clinical presentation, etiology, management and outcome. *World J Gastroenterol. WJG.* 2007;13(3):432.
2. Ho TW, Koh DC. Small-bowel obstruction secondary to bezoar impaction: a diagnostic dilemma. *World J Surg.* 2007;31:1072-8.
3. Bedioui H, Daghfous A, Ayadi M, Noomen R, Chebbi F, Rebai W, et al. A report of 15 cases of small-bowel obstruction secondary to phytobezoars: predisposing factors and diagnostic difficulties. *Clin Bio Gastroenterol.* 2008;32(6):596-600.
4. Chisholm EM, Leong HT, Chung SC, Li AK. Phytobezoar: an uncommon cause of small bowel obstruction. *Ann R Coll Surg Engl.* 1992;74:342-4.
5. Erzurumlu K, Malazgirt Z, Bektas A, Dervisoglu A, Polat C, Senyurek G, et al. Gastrointestinal bezoars: a retrospective analysis of 34 cases. *World J Gastroenterol.* 2005;28;11(12):1813.
6. Singla SL, Rattan KN, Kaushik N, Pandit SK. Rapunzel syndrome: a case report. *Am J Gastroenterol.* 1999;94:1970-1.
7. O'Sullivan MJ, McGreal G, Walsh JG, Redmond HP. Trichobezoar. *J R Soc Med.* 2001;94:68-70.
8. Escamilla C, Robles-Campos R, Parrilla-Paricio P, Lujan-Mompean J, Liron-Ruiz R, Torralba-Martinez JA. Intestinal obstruction and bezoars. *J Am College Surg.* 1994;179(3):285-8.
9. Yen HH, Chou KC, Soon MS, Chen YY. Electronic clinical challenges and images in GI. Migration of a gastric bezoar. *Gastroenterol.* 2008;134:e1-2.
10. Ripolles T, Garcia-Aguayo J, Martinez MJ, Gil P. Gastrointestinal bezoars: sonographic and CT characteristics. *Am J Roentgenol.* 2001;177:65-9.
11. Verstandig AG, Klin B, Bloom RA, Hadas I, Libson E. Small bowel phytobezoars: detection with radiography. *Radiol.* 1989;172:705-7.
12. Boudiaf M, Soyer P, Terem C, Pelage JP, Maissiat E, Rymer R. CT evaluation of small bowel obstruction. *Radiographics.* 2001;2:613-24.
13. Yau KK, Siu WT, Law BK, Cheung HY, Ha JP, Li MK. Laparoscopic approach compared with conventional open approach for bezoar-induced small-bowel obstruction. *Arch Surg.* 2005;140(10):972-5.

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