

Phytobezoar Presenting as Small Bowel Obstruction: A Case Report

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Abstract

Ingestion of indigestible or poorly digestible substances may accumulate in the gastrointestinal tract in the form of a bezoar. On the basis of their composition, bezoars are classified into various types. Phytobezoars (concretions of vegetable matters) are commonly found in the gastrointestinal tract, including stomach and small intestine. Most cases are asymptomatic but intestinal obstruction had been reported in the literature, accounting for only 0.4 to 4%. Here we report a case in which phytobezoar was presented with small intestinal obstruction.

Introduction

Bezoars can result from any indigestible or poorly digestible substance that is capable of forming concretions within gastrointestinal tract including stomach and small intestine. Phytobezoars are composed of concretions of vegetable matters [1]. Most of patients with bezoars are asymptomatic but intestinal obstruction has been reported [2]. Small intestinal phytobezoars are almost always obstructive. Intestinal perforation secondary to obstruction is not well documented in the literature [3]. Here we reported a case presented with acute intestinal obstruction with phytobezoar in ileum.

Case Report

A 12 years old boy was admitted to emergency department in tertiary care hospital with complaints of pain abdomen, bilious vomiting and abdominal distension of past one month duration. He had history of seizure since birth and was on antiepileptic drugs. He had deranged milestones and profound mental retardation. General physical examination revealed thin built, emaciated child weighing 24 kg, pulse rate 110/min, temperature 99.0 F and pallor. Abdominal examination showed tense, distended and tender abdomen. No abdominal lump was palpable. No organomegaly was noted on abdominal examination. Bowel sounds were sluggish. Plain x-ray abdomen showed dilated proximal loops of small intestine. A clinical suspicion of acute intestinal obstruction was suggested and abdominal ultrasonography was advised which revealed dilated bowel loops filled with foreign materials along with a biliary sludge in gall bladder. An exploratory laparotomy was performed which revealed ileal intestinal obstruction with proximal intestinal dilation. Enterotomy was done and foreign material was removed from the ileum. Grossly we received a mass of vegetative materials and calcified debris, measuring 11x8x5 cms (Figure 1). Histopathological examination



Figure 1: Mass of vegetative materials and calcified debris.

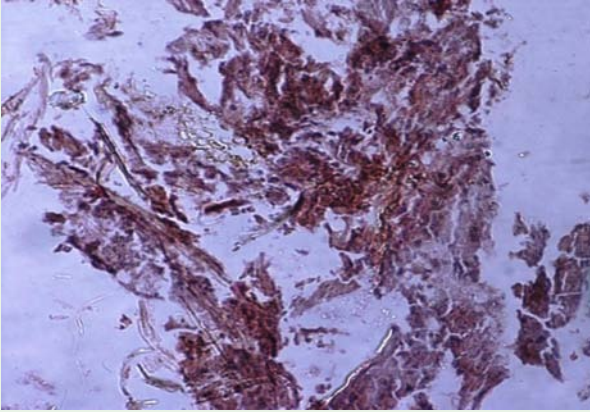


Figure 2: Histopathological examination of mass revealed vegetative materials and necrotic debris (H&E, 200x).

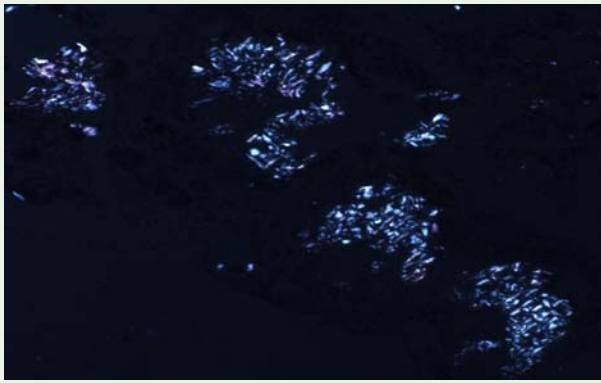


Figure 3: Polarizing microscopic appearance of vegetative materials and calcified debris (200x).

revealed vegetative materials and necrotic debris consistent with the diagnosis of phytobezoar (Figures 2 & 3). No complication was noted post-operatively. Patient was discharged with advice for follow up to avoid recurrence of phytobezoar.

Discussion

Various common causes of small bowel obstruction are adhesions, strangulated hernias, malignancy, volvulus and inflammatory bowel diseases. Small bowel obstruction by a bezoar is a rare entity reported in the literature, accounting for only 0.4 to 4% [2]. The stomach is the most common site of bezoar formation, followed by the small intestine and, rarely, large intestine. Phytobezoars (concretions of vegetable matters) are common in stomach and small intestine [1].

On the basis of composition, bezoars are classified into phytobezoar (concretions of vegetable matters), trichobezoar (hair), lactobezoar (concentrated milk formulas), pharmacobezoar (drugs) and food bolus bezoar. Phytobezoars are most common type of bezoar, which is composed by concretions of vegetable matter which contain huge amounts of non-digestible material such as cellulose, lignin, hemicelluloses and tannin. Phytobezoar caused by persimmons is known as disopyrobezoar. Persimmons are the commonest cause of phytobezoar formation reported in the literature [3].

Trichobezoars are concretions of hair fibers in stomach and present usually in patients of psychiatric disorders. In our case report, patient was mentally retarded with habit of eating anything. When various medication substances such as antacids and cholestyramine are taken in bulk, may result in pharmacobezoars. Lactobezoar seen usually found during the first week of life who are fed on concentrated milk formula. Low birth weight neonates are more prone for lactobezoar [1-4].

Phytobezoars usually form in the stomach. Sometime part or all of the mass may leave the stomach, become impacted in the small intestine and cause obstruction. In our case, no stomach mass was obtained, may be due to complete dislodgement of mass into small bowel. Previous gastric surgery and vagotomy are main risk factors for the development of gastric phytobezoars. Other risk factors include eating of vegetarian diet and poor mastication. Vagotomy alters normal gastric emptying mechanism, which increase risk of formation of phytobezoars in stomach. Gastric surgeries which predispose to phytobezoar formation include pyloroplasty and gastroenterostomy which allow passage of a large bolus through an enlarged gastric outlet. Gastric operations may decrease gastric motility and also delay gastric emptying [1,3].

Clinical presentations of intestinal phytobezoar vary with the location which is from no symptom to acute abdominal syndrome, such as epigastric distention, abdominal pain and acid regurgitation. Gastric phytobezoar can cause gastric ulcer formation. Small intestinal phytobezoar often cause Small Bowel Obstruction (SBO), presenting with nausea, vomiting and abdominal distention. Phytobezoar induce pressure necrosis of intestinal wall which result in perforation. Intestinal perforation due to phytobezoar may require resection of the bowel [1].

Radiological investigation for detection of phytobezoars include plain abdominal X-ray, barium study, ultrasonography and CT scans. Plain X-ray of the abdomen may reveal a mottled gas collection and dilated proximal bowel with or without air fluid levels in intestinal obstruction. In barium studies, a phytobezoar may appear as an intraluminal filling defect of variable size. This does not appear to be fixed to the bowel wall, however, it is very difficult to differentiate these filling defects from intraluminal tumors [1,5].

Ultrasonography may reveal bezoars as intraluminal masses with a hyperechoic, arc like surface and prominent posterior acoustic shadowing. The USG appearance of bezoars may confuse with calcifying masses. CT is investigation of choice for detection of small bowel bezoars. CT can also differentiate bezoars from other intraluminal masses. Associated complications such as perforation and obstruction can also easily demonstrate with CT scan [5-7].

The aim of the treatment in gastrointestinal phytobezoar is the removal of the bezoar and prevention of its recurrence. Gastrotomy and/or enterotomy are preferred for removal of bezoar. If complicated with SBO, gastric perforation or gastric hemorrhage, the patients can be treated by gastric and/or intestinal resections. Some gastric phytobezoars can be removed under endoscopic vision. Small bowel phytobezoars usually require laparotomy with fragmentation of the phytobezoar by finger fracture technique and milking of the bezoar into the caecum. Recently, some authors have performed a laparoscopic approach successfully [1,3,8].

Conclusion

It is emphasized that such an atypical presentation of phytobezoars may keep the surgeon in a diagnostic dilemma. The surgeon should keep the possibility of a phytobezoar for intestinal obstruction in children, particularly in developing countries, where children have a habit of eating everything.

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