

Phytobezoar: A Rare Cause of Small Bowel Obstruction

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ABSTRACT

Phytobezoar is an unusual cause of small bowel obstruction. It accounts for about 0.4%-4% of all mechanical bowel obstruction. However, the symptoms are not very different from those caused by usual aetiologies of small bowel obstruction. The commonest site of obstruction is terminal ileum. Treatment of small bowel obstruction due to Phytobezoar is surgery. Prevention includes avoidance of high fibre diet, prokinetics particularly in patients who have undergone gastric surgery. A 57-year-old male presented with symptoms and signs of small bowel obstruction. On exploratory laparotomy Phytobezoar in the ileum was found to be the cause of obstruction. Diagnosis was confirmed by histopathology.

CASE REPORT

A 57-year-old male patient brought to casualty with pain and distension of abdomen since one day. The pain was diffuse all over abdomen, colicky in nature, which was associated with 5-7 episodes of vomiting. He also had not passed stools for one day. The past history of patient revealed that he had undergone laparotomy, details of which were not known to the patient. There were no known comorbidities. At the time of admission vitals were stable except high blood pressure. Abdomen was distended with tenderness all over the abdomen. No guarding or rigidity was present. Bowel sounds were sluggish. Taking all this into consideration, clinical diagnosis of sub-acute intestinal obstruction due to post-op adhesions was considered.

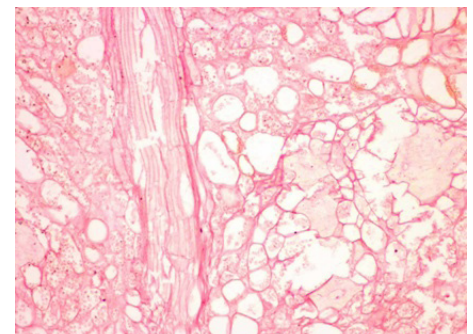
There were dilated small bowel loops on Supine X-ray abdomen. Ultrasound abdomen revealed dilated bowel loops with to and fro movements that were suggestive of intestinal obstruction with mild free fluid in abdomen. Blood investigations and Chest X-ray were normal. The patient was managed conservatively. However, the patient did not respond to conservative management. Ryles tube aspiration was feculent on following day. Repeat X-ray showed persisting features of small bowel obstruction. The patient was subjected to exploratory laparotomy and the findings were that of dilated oedematous small bowel loops [Table/Fig-1] extending 30cm from ileocaecal junction to mid-jejunum. There was intraluminal mass felt distal to dilated loops causing obstruction. Enterotomy was done and large faecolith [Table/Fig-2] was extracted and sent for histopathology. Enterotomy closed in two layers. The patient recovered well post-operatively. The histopathology of faecolith

Key words: Intestinal obstruction, Bezoar, Phytobezoar

revealed vegetable matter [Table/Fig-3]. Patient was started on liquids orally on 5th day followed by soft diet subsequently. The patient was discharged on 10th post operative day. Patient was on follow up for one month which was found uneventful.

DISCUSSION

Small bowel obstruction is a common disease encountered in surgical practice. Literature shows diverse and varied aetiologies for intestinal obstruction. However, phytobezoar is rarely reported etiological factor, accounting for only 0.4%-4% of all mechanical small bowel obstruction [1]. Phytobezoars are concretions of poorly digested fruit and vegetable fibres that are found in alimentary track and are mostly composed of indigestible cellulose, tannin and lignin from ingested vegetables and fruits [2]. The commonest Phytobezoar encountered worldwide is related to the ingestion of persimmon fruit [3]. Normally, they are found in stomach and they may enter into the small bowel. The primary small bowel bezoars are very rare, and they are usually seen in patients with underlying small bowel diseases such as stricture, diverticulum or tumor [1]. There are several predisposing factors that influence Phytobezoar formation. Some of the common ones are previous gastric surgery, excessive consumption of fruits rich in fibres, poor dental health, insufficient mastication, diabetic gastro paresis, kidney failure, hypothyroidism and use of drugs which affect gastric motility [4]. The patient had undergone laparotomy 6 years back and the details of which are not known. The patient is in traffic police and mostly always eats outside food in hurry without chewing adequately. There is a slight male preponderance reported.



[Table/Fig-1]: Dilated small bowel loops with intraluminal mass being felt

[Table/Fig-2]: Phytobezoar after being removed through enterotomy

[Table/Fig-3]: Histopathology of faecolith showing vegetable matter

Primary small bowel bezoars are very rare and invariably causes obstruction of small bowel [5]. Clinical presentation of Phytobezoar induced small bowel obstruction is same as due to other causes, such as pain abdomen, distension of abdomen, nausea, vomiting and constipation [6]. Hence, it is difficult to differentiate between small bowel obstruction due to Phytobezoar and adhesions, particularly in patients who have history of previous abdominal surgery. Our working diagnosis was sub-acute intestinal obstruction due to post operative adhesions.

Plain supine X-Ray typically shows a classic obstructive pattern of small bowel. Occasionally outline of bezoar can be made out, which is difficult to differentiate from abscess or faeces within the colon [1]. The diagnostic rate of abdominal ultrasound in detecting Phytobezoar is reported to be 88%-93% [6]. But it is operator dependent and bezoar can be concealed by bowel gas. In this patient both X-ray abdomen and ultrasound showed features suggestive of small bowel obstruction. The cause of obstruction can be diagnosed by computed tomography in 73%-95% [7] of patients, and its diagnostic accuracy for bezoar induced small bowel obstruction is about 65%-100% [6]. It is operator independent investigation that confirms the level of obstruction, existence of multiple bezoars, as well as any complications such as bowel ischemia and perforation. Well defined intraluminal mass with mottled gas appearance associated with encapsulating wall is suggestive of Phytobezoar [8]. In our patient we didn't do CT abdomen and took him for exploratory laparotomy as he developed signs of acute intestinal obstruction.

The treatment of choice for small bowel obstruction due to Phytobezoar is surgery. Most bezoars in the small bowel are found 50cm-70cm proximal from ileocaecal valve, because it is narrow, slow intestinal motility and a large amount of water absorption hardens the bezoar resulting in losing its motility [6]. Surgical options reported are manual fragmentation of Phytobezoar and pushing it towards caecum. If it is not possible enterotomy should be done to remove the bezoar. Segmental bowel resection and anastomosis may be required in presence of complications such as gangrene of bowel [9]. At the time of laparotomy thorough exploration of abdominal cavity should be done to exclude the presence of concomitant gastric bezoar or intestine bezoars [4]. About one third of patients have multiple intestinal bezoars. Laparoscopic management of Phytobezoar induced small bowel obstruction have been reported, however this requires expertise [10].

The best way to manage Phytobezoar is prevention. Good eating habits, avoiding high fibre diet particularly in patients with gastric surgery, introduction of prophylactic medications to improve gastric motility and psychiatric follow up in patients with psychiatric disease [1]. Our patient was counselled by dietician and was on prokinetics at the time of discharge.

CONCLUSION

Phytobezoar induced small bowel obstruction is a very rare entity and often overlooked. There should be high index of suspicion in patients with small bowel obstruction who have previous history of gastric surgery. The presence of intra-luminal mass with mottled gas pattern at the site of obstruction in CT abdomen is diagnostic of Phytobezoar. Surgery is the treatment of choice in phytobezoar induced small bowel obstruction. Diet modification is the best way of prevention.

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