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Case Report

Surgery Section

Ingested Sharp Bone Fragment: An Unusual Cause of Acute Bowel Obstruction- Case Report

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ABSTRACT

Acute bowel obstruction due to ingested foreign body (FB) like sharp bone fragment is a rare entity. As preoperative diagnosis was uncertain due to lack of proper history, diagnosis is usually done intraoperatively. Even though it is rare, we should consider it as differential diagnosis in patients with recent dietary history. Herein, we are reporting a 38-year-old man, without any psychiatric illness or previous surgery presenting to emergency department with the features of acute bowel obstruction. CT scan shows high density object in ileum suspicious of foreign body. Patient underwent exploratory laparatomy which reveals dilated small bowel with sharp bony object in ileum, which was retrieved with enterotomy.

Keywords: Acute bowel obstruction, Exploratory laparotomy, Enterotomy

CASE REPORT

A 38-year-old man presented to emergency department with one day history of progressively worsening, cramping lower abdominal pain with abdominal distension. It was associated with anorexia and vomiting. He had no history of previous abdominal surgery or mental illness. He had no other co-morbid conditions. On examination, his pulse was 102/min. No lymphadenopathy. On inspection, abdomen was markedly distended. On palpation, abdomen was tense and mildly tender. Bowel sounds were increased in frequency. On per rectal examination, the rectum was empty. Hernia sites were intact. Laboratory examination reveals no significant changes except total count of 12000/mm^3. Plain abdominal radiograph showed multiple dilated small bowel loops [Table/Fig-1].

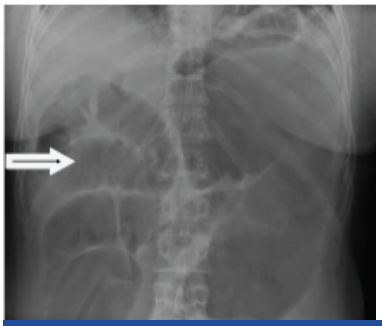
Computed tomography (CT) of the abdomen demonstrated multiple loops of dilated, gas and fluid-filled small bowel measuring up to 4.5 cm with a 3.9×0.5 cm high attenuation linear structure lying transversely in the lumen of the distal small bowel, 30-40 cm from the ileo-caecal valve [Table/Fig-2]. There was no free intraperitoneal gas. After taking informed consent, patient underwent laparotomy, intraoperative finding revealed dialated small bowel loop with trasition zone in distal ileum, where on palpation a long, thin bone fragment was lying transversely, along with two other small pieces just proximal to it lying longitudenly. Bone fragment removed through enterotomy [Table/Fig-3,4]. Bowel decompression done, then enterotomy wound closed. Postoperatively on enquiry, he admits that he had consumed chicken meat 36 hours prior to presentation. The postoperative period was uneventful and patient was discharged on the 7th postoperative day.

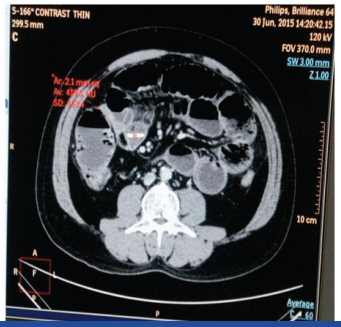
DISCUSSION

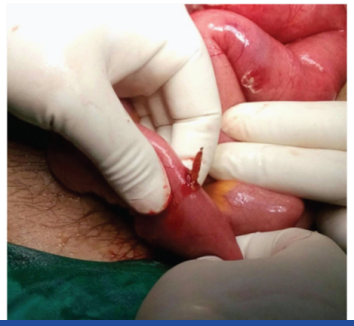
Foreign body (FB) ingestion is rare in healthy adults without any mental health illness. Common influencing factor for foreign body ingestion in adults are alcohol or drug consumption, psychiatric illness, denture wearers and those with insatiable appetites. In most cases bone fragment used to pass through bowel without any complication, but in few, perforation of small bowel is well documented [1]. Till now there are only a few reported literature of bone fragment causing acute bowel obstruction [2,3]. Apart from bone fragment, bezoars and other inanimate objects like blister packs and plastic balls have also been documented as causing small bowel obstruction. As ileo-caecal region is narrowest part of bowel, it is usual site for foreign body impaction [4].

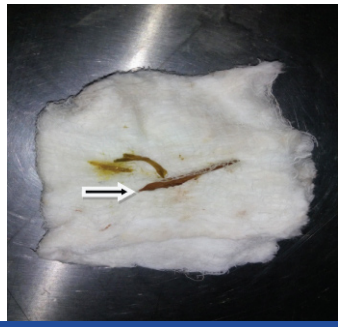
Ingested FB present with non-specific symptoms usually simulates other causes of acute abdomen like perforation or acute obstruction. Pain abdomen is the most common complaint (95%), followed by fever (81%), nausea/vomiting (39%) and melena (10%) [5].

Preoperative diagnosis in acute abdomen due to ingested FB is uncertain, as the patient often cannot recall FB ingestion. Computer tomography of the abdomen is considered the most useful imaging to detect foreign bodies in small bowel. It is also helpful in detecting associated complication and to rule out other causes of acute obstruction. In patients with clinical signs of









[Table/Fig-1]: Plain abdominal x-ray showing dialated small bowel loops. **[Table/Fig-2]:** CT scan showing linear dense radio-opaque object lying transversely in ileum. **[Table/Fig-3]:** Sharp bone fragment retrieving through enterotomy. **[Table/Fig-4]:** Retrieved chicken bone.

peritonitis or bowel obstruction, if CT scan shows dilated bowel loops with radio-opaque object in lumen of bowel, with a free fluid or extra luminal gas collection, FB ingestion should be strongly considered as the cause for presentation [6].

The management of small bowel obstruction due to FB is usually operative. Enterotomy and retrieval of the FB is performed in uncomplicated cases. Bowel resection with primary anastomosis or ileostomy/colostomy is required in few complicated cases [7].

Laparoscopy has been used for intraperitoneal and intraluminal foreign body retrieval with marginal success, as 29% conversion rate had been reported in study by O'Connor et al., study [8]. They concluded that unanticipated pathology and dense adhesion were the usual reasons for conversion to open surgery. Therefore, further studies are needed to conclude the effectiveness of laparoscopy in the management of FB leading to small bowel obstruction. The morbidity credited to FB ingesion leading to complications is 24.2% and the mortality 6.5% [6]. Common complication includes intra-abdominal abscess, respiratory distress, intestinal fistula, gastrointestinal haemorrhage, prolonged ileus, intestinal occlusion and diffuse peritonitis. The usual cause of death is multiple organ failure due to septicaemia. In our case, during laparotomy we found dilated small bowel loops and sharp-pointed chicken bone inside the small bowel lumen. As bowel wall looks healthy we did enterotomy and retrieved the FB [Table/Fig-4], and the patient recovered uneventfully.

CONCLUSION

Foreign body ingestion is an uncommon phenomenon. Acute intestinal obstruction due to foreign body especially a sharp object like bone fragment in healthy men is rare, nevertheless it should be considered in the differential diagnosis of patient presenting with feature of acute intestinal obstruction with virgin abdomen and a thorough dietary history should be elicited for early diagnosis and treatment for better outcome.

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