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Case Report

Not all that glitters is metal: a rare case of mechanical small bowel obstruction

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ABSTRACT

Mechanical small bowel obstruction (MSBO) is a common surgical emergency presenting usually because of adhesions due previous abdominal surgeries. Fecolith are usually present in large bowel and are formed mainly due to stasis and dehydration. Small bowel fecolith are extremely rare cause of MSBO which are usually present in setting of inflammatory bowel disease and divertculae. We present a case of acute MSBO due to small bowel fecolith in a frail elderly lady with Dengue fever, who was suspected to have ingested metallic foreign bodies. An emergency mini laparotomy was performed with extraction of fecolith from the distal ileum with resection of strictured distal ileum and end to end ileo-ileal anastomosis. The patient developed features of peritonitis on post-operative day 4 and revealed massive hemoperitoneum with anastomotic leak and was managed with peritoneal lavage and double barrel stoma formation. She was resuscitated with blood products but continued to deteriorate during her post-operative course. This case report aims to analyse and present options which could have been done as a part of damage control surgery, rather than going ahead with a definitive procedure.

Keywords: Small bowel obstruction, Fecolith, Ileal strictures, Poor outcome

INTRODUCTION

Mechanical small bowel obstruction (MSBO) in adults is a common emergency condition that typically requires hospitalisation and usually acute surgical intervention. In general, MSBO is reported to have a 30% risk of small bowel ischemia, thus it is a serious condition that carries the potential of significant morbidity and mortality.[3,4] The common causes of MSBO in adults are adhesions of prior surgeries and hernias.[1-3] Here we discuss a case of MSBO due to a rare cause.

CASE REPORT

A 69-year-old frail lady with no known co-morbid conditions presented to our hospital with complaints of abdominal colic of a week duration. She also gave a history of multiple episodes of bilious vomiting for the last two days and obstipation for a day. She also gave a history of fever a week ago, which resolved with some Ayurvedic medications. On examination, she had tachycardia, dehydration, and diffuse tenderness in the entire abdomen, more in the peri-umbilical and lower abdomen with increased bowel sounds. A digital rectal examination showed semisolid faeces and no mass was palpable. Plain radiographs of the abdomen showed multiple air-fluid levels in small intestines with six coin-shaped foreign bodies (Figure 1). She had anemia (Hb 6.6 g/dl), leucopenia (3500/cumm), and thrombocytopenia (51000/cumm) with dengue NS1 antigen positivity by card test.

The NCCT abdomen confirmed metallic density (1000 HU) foreign bodies (six in number) in the distal ileum leading to small bowel obstruction with dilatation of the jejunum, proximal, and mid ileum (Figure 2). The patient and relatives denied any history of ingestion of foreign bodies, either accidental or otherwise, and also of any mental illness.

She was admitted, resuscitated with intravenous fluids, and promptly underwent diagnostic laparoscopy, which showed features of generalized serositis, minimal ascites, and multiple strictures in the distal ileum with upstream dilated intestines with friable walls (Figure 3). The approach was converted to mini-laparotomy due to friable and edematous bowel walls. An enterotomy was performed about 70 cm proximal to the ileocecal junction and all the six coin-shaped hard fecoliths were retrieved (Figure 4). An intra-op decision was taken to resect the 50-cm segment of the strictured ileum, owing to the multiplicity of the strictures, with primary hand-sewn ileo-ileal anastomosis.

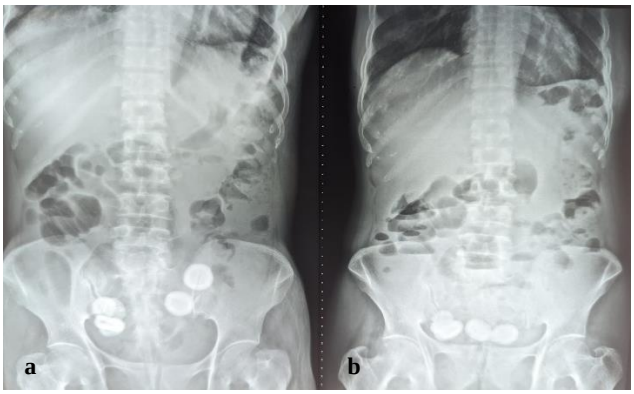

Figure 1 (a and b): X-ray abdomen showing foreign bodies with features of small bowel obstruction.

Figure 2: Metallic density foreign bodies.

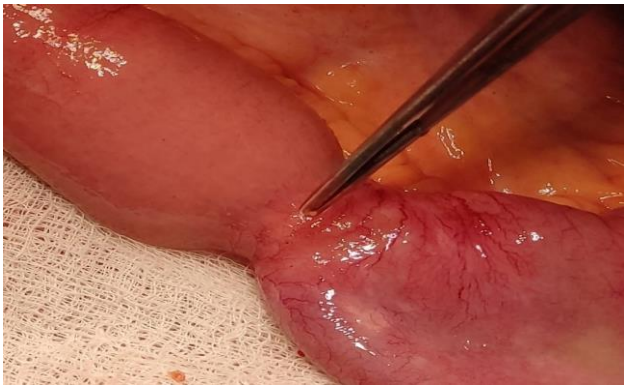

Figure 3: Distal Ileum with stricture.

Figure 4: Coin shaped fecolith.

Her early postoperative period was uneventful, she was started orally with liquids on the first postoperative day and semi-solids by day 3. On further probing, she admitted multiple episodes of self-limiting abdominal colics in the last few years for which she was never evaluated.

However, on the 4th postoperative day, she developed features of peritonitis with sudden abdominal distension with absent bowel sounds. Exploratory laparotomy revealed a massive hemoperitoneum with a partial leak at the anastomotic site. Peritoneal toileting and drainage were done and the bowel was exteriorized as a double barrel stoma. No particular bleeding site could be identified. Postoperatively, she was resuscitated with blood products including platelets. However, her general condition continued to deteriorate. On postoperative day 24, she developed sudden cardiac arrest and could not be revived. The histopathology report of the strictured part of the ileum showed non-specific ischemia with no vasculitis or malignant changes.

DISCUSSION

Fecoliths are hardened masses of fecal matter and are commonly implicated in mechanical obstruction of the large bowel. They usually occur in the setting of predisposing conditions like diabetic neuropathy, large bowel diverticulae, and inflammatory bowel disease (IBD).[5]

Small bowel fecoliths are rare entities, reported in only a handful of cases with the usual culprits being phytobezoars. Primary fecoliths arise in areas of intestinal stasis, such as diverticular diseases, surgical anastomoses, blind pouches, and intestinal stenosis or strictures as seen in cases of inflammatory bowel diseases. Secondary fecoliths may occur due to bilio-enteric fistulization of gallbladder calculi. Presentation is often nonspecific, but typically includes “tumbling” abdominal pain, nausea, and vomiting related to the bowel obstruction, and may progress to bleeding and perforation.[5]

Agrawal et al reported a case of distal ileal fecolith in a young, healthy female which was managed surgically with

an enterotomy and transverse repair.[6] Similarly, a few case reports exist that have dealt with the issue with enterotomies, removal of fecoliths, and either stricturoplasty or resection and anastomosis.[7-10] In our case, we resorted to resection and anastomosis, owing to the multiplicity of the strictures.

Dengue fever is caused by a flavivirus carried by vector *Aedes aegyptii* mosquito. The spectrum has a febrile phase, a critical phase marked with plasma leak, and a convalescent phase. Dengue fever may be associated with surgical emergencies like acute cholecystitis, acute appendicitis, acute pancreatitis, and non-specific serositis.[11] In our case, intestinal obstruction may be attributed to the extensive third space losses as seen in the critical phase of the illness, due to bowel wall edema and serositis in the presence of pre-existing strictures, which is unique. The thrombocytopenia likely led to poor hemostasis, compounding to intestinal leak. Despite aggressive blood component therapy, the surgical insult in this frail old lady in the background of dengue hemorrhagic fever pushed her into a downward spiral.

Retrospective auditing of the case brings out viable options of damage control in the form of enterotomy, and retrieval of fecoliths with temporary exteriorization of ileum for a later elective resection of diseased ileum with definitive anastomosis.

CONCLUSION

Mechanical small bowel obstruction due to primary fecoliths is a rare entity. The associated co-morbid conditions need to be taken into consideration before aggressive surgical approaches and damage control surgery deserves to be a preferred option.

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