Primary ‘False’ Enterolith

A rare cause of small bowel obstruction

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Introduction

A 72-year-old man who had undergone an open cholecystectomy (uncomplicated with normal small bowel) for calculous cholecystitis 2 years back, presented with colicky abdominal pain, bilious vomiting, distension and obstipation, in that order of 4 days duration. General examination revealed tachycardia and dehydration. Per-abdominal examination showed a diffusely distended abdomen with no signs of peritonitis. Bowel sounds were absent and digital rectal examination revealed a collapsed rectum. A clinical diagnosis of postoperative adhesive small bowel obstruction was made. Blood counts, liver and renal function tests were normal. An erect abdomen x-ray showed multiple small bowel air-fluid levels and collapsed large bowel with no cause of obstruction [Figure 1A]. Hence a contrast enhanced computed tomography (CECT) scan of abdomen was done, which revealed a radio-opaque lesion in the distal ileum with proximally dilated fluid-filled bowel loops [Figure 1B]. There was no pneumoperitoneum or signs of bowel ischaemia. As patient had a dynamic bowel obstruction, he underwent an emergency exploratory laparotomy. Intraoperatively, there was a hard movable lesion in the distal ileum that could not be milked across the ileo-caecal valve, hence an enterotomy was done. A stony hard mass was extracted, proximal bowel decompressed and the enterotomy was closed [Figure 2A and 2B]. Rest of the abdominal cavity was normal. Postoperatively he made a good recovery and on follow-up after a year he is well. Histopathology of the mass was reported to be an enterolith containing vegetable matter intermingled with calcium.
Informed consent was obtained from the patient for the publication of these images.

Comment

Enteroliths are uncommon entities in the gastrointestinal tract, and could be primary or secondary. The uncommon primary enteroliths, occurring in the small intestine and causing subacute to acute obstruction are composed of either bile salts, phosphates or calcium oxalate. Secondary enteroliths are due to cholelithiasis and present as gallstone ileus. While the primary enteroliths are usually located in the proximal small bowel, the secondary are preferentially found in the distal small bowel, owing to the differential acid composition in these regions. Literature further describes enteroliths as being true (precipitation of intestinal contents) and false (concretion of indigestible materials like hair and vegetable matter). Stasis of intestinal contents is the major pathophysiology, with aetiologies varying from both benign (infectious, inflammatory) and malignant strictures, congenital or acquired diverticulae and neoplastic growths obstructing the intestinal lumen. Bile acid-containing stones are classically radiolucent while calcium-containing are radiopaque. Variable imaging features make preoperative diagnosis often difficult and a final diagnosis can be made only at laparotomy for a patient with intestinal obstruction. While few stones can be crushed and milked into the large bowel from the distal small intestine, as described for gall stone ileus, larger impacted stones necessitate an enterotomy and extraction, while complications like perforation necessitate additional surgical interventions in the form of resection and anastomosis.

References


Figure 1: (A) Erect abdomen x-ray showing multiple small bowel air-fluid levels; (B) CECT abdomen showing a radio-opaque lesion obliterating distal small intestinal lumen (arrow).

Figure 2: Intraoperative pictures showing (A) enterotomy and lesion extrusion; (B) enterotomy closure.