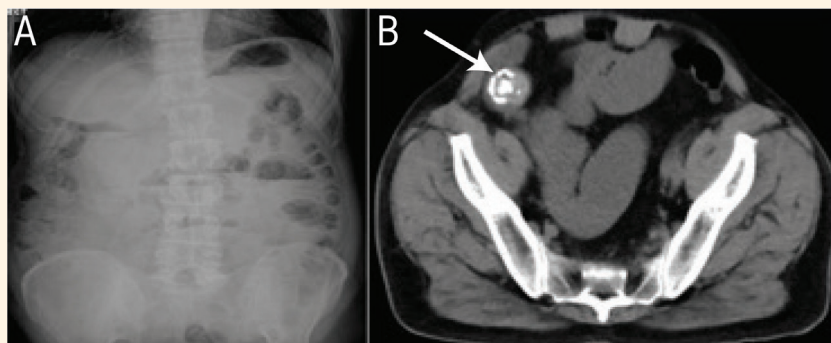


## Primary 'False' Enterolith A rare cause of small bowel obstruction

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**Figure 1:** (A) Erect abdomen x-ray showing multiple small bowel air-fluid levels; (B) contrast enhanced computed tomography scan of the abdomen showing a radio-opaque lesion obliterating distal small intestinal lumen (arrow).

A 72-YEAR-OLD MALE WHO HAD UNDERGONE an open cholecystectomy (uncomplicated with normal small bowel) for calculous cholecystitis in 1999, presented in 2021 at a tertiary care medical college hospital with colicky abdominal pain, bilious vomiting, distension and obstipation (in that order) lasting for four days. A general examination revealed tachycardia and dehydration and 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. The blood counts, liver and renal function tests were all normal. An erect abdomen x-ray showed multiple small bowel air-fluid levels and a collapsed large bowel with no cause of obstruction [Figure 1A]. Hence, a contrast enhanced computed tomography scan of the 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 the patient had 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 ileocaecal valve. Hence, an enterotomy was done. A stony hard mass was extracted, proximal bowel decompressed and the enterotomy was closed [Figure 2]. Rest of the abdominal cavity was normal. Postoperatively, he

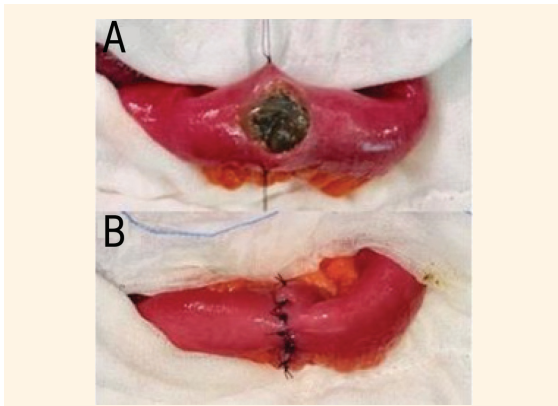
made a good recovery and on follow-up after a year, he appeared to be well. The histopathology of the mass was reported to be an enterolith containing vegetable matter intermingled with calcium.

Informed consent was obtained from the patient for the publication of the images.

### Comment

Enteroliths are uncommon entities in the gastrointestinal tract and can be primary or secondary.<sup>1,2</sup> 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.<sup>2</sup> While the primary enteroliths are usually located in the proximal small bowel, secondary enteroliths are preferentially found in the distal small bowel owing to the differential acid composition in these regions. Existing literature further describes enteroliths as being true (precipitation of intestinal contents) or false (concretion of indigestible materials such as hair and vegetable matter).<sup>1,2</sup>

Stasis of intestinal contents is the major pathophysiology, with aetiologies varying from both benign (infectious or inflammatory) and malignant strictures, congenital or acquired diverticulae and neoplastic growths obstructing the intestinal lumen.<sup>2</sup>



**Figure 2:** Intraoperative images showing (A) enterotomy and lesion extrusion and (B) enterotomy closure in the abdominal cavity.

Bile acid-containing stones are classically radiolucent, while calcium-containing are radio-paque. Variable imaging features make preoperative diagnosis often difficult and a final diagnosis can be made only at laparotomy for a patient with intestinal obstruction.<sup>3</sup> While few stones can be crushed and milked into the large bowel from the distal small intestine, as described for gallstone ileus, larger impacted stones necessitate an enterotomy and extraction.

Furthermore, complications such as perforation necessitate additional surgical interventions in the form of resection and anastomosis.<sup>4</sup>

#### AUTHORS' CONTRIBUTION

RS and GR conceptualised and designed the work. RS conducted the literature review. SR collected and analysed the data as well as drafted the manuscript. CG and GR reviewed and edited the manuscript. All authors approved the final version of the manuscript.

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