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6 7 **Primary ‘False’ Enterolith**

8 *A rare cause of small bowel obstruction*

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13 14 **Introduction**

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

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

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36 **Comment**

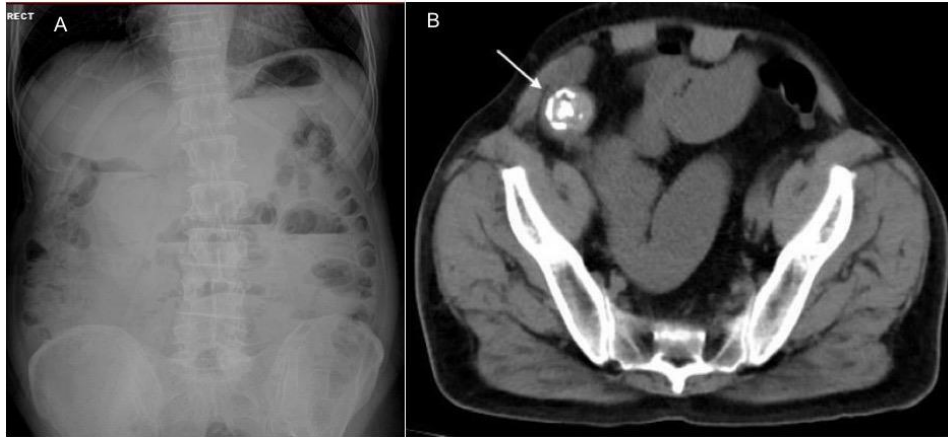
37 Enteroliths are uncommon entities in the gastrointestinal tract, and could be primary or
38 secondary. The uncommon primary enteroliths, occurring in the small intestine and causing
39 subacute to acute obstruction are composed of either bile salts, phosphates or calcium
40 oxalate. Secondary enteroliths are due to cholelithiasis and present as gallstone ileus. While
41 the primary enteroliths are usually located in the proximal small bowel, the secondary are
42 preferentially found in the distal small bowel, owing to the differential acid composition in
43 these regions. Literature further describes enteroliths as being true (precipitation of intestinal
44 contents) and false (concretion of indigestible materials like hair and vegetable matter).^{1,2}
45 Stasis of intestinal contents is the major pathophysiology, with aetiologies varying from both
46 benign (infectious, inflammatory) and malignant strictures, congenital or acquired
47 diverticulae and neoplastic growths obstructing the intestinal lumen.² Bile acid-containing
48 stones are classically radiolucent while calcium-containing are radiopaque. Variable imaging
49 features make preoperative diagnosis often difficult and a final diagnosis can be made only at
50 laparotomy for a patient with intestinal obstruction.³
51 While few stones can be crushed and milked into the large bowel from the distal small
52 intestine, as described for gall stone ileus, larger impacted stones necessitate an enterotomy
53 and extraction, while complications like perforation necessitate additional surgical
54 interventions in the form of resection and anastomosis.⁴

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56 **References**

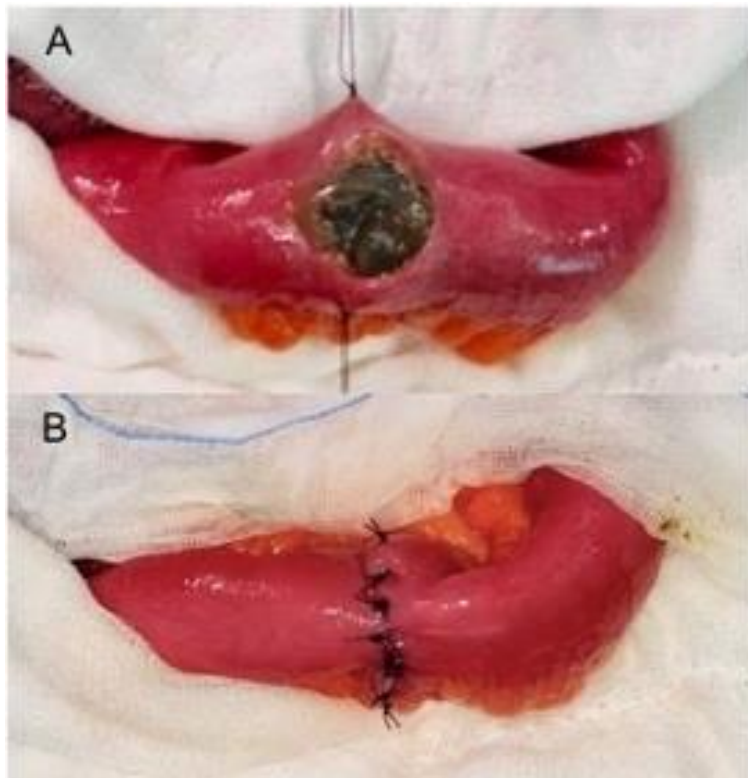
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69 **Figure 1:** (A) Erect abdomen x-ray showing multiple small bowel air-fluid levels; (B) CECT
70 abdomen showing a radio-opaque lesion obliterating distal small intestinal lumen (arrow).
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73 **Figure 2:** Intraoperative pictures showing (A) enterotomy and lesion extrusion; (B)
74 enterotomy closure.