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Case Report

Large ileal fecalith presenting as subacute obstruction and mimicking appendicitis: a case report

Aftab H. Shaikh[1], Amit V. Dashputra[1]*, Rajesh D. Jawale[1], Rajalakshmi Venkateswaran[1], Anvitha Manoj[1], Nilofar Shaikh[2]

[1]Department of General Surgery, Grant Government and Medial College, Byculla, Mumbai, Maharashtra, India
[2]Saifee Hospital, Mumbai, Maharashtra, India

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***Correspondence:**
Dr. Amit V. Dashputra,
E-mail: amitdashputra@outlook.com

ABSTRACT

In patients with right lower quadrant pain post-appendectomy, consideration of alternative diagnoses is crucial. This case illustrates the rare presentation of a large ileal fecalith masquerading as constipation and McBurney's tenderness, emphasising the role of radiographic assessment in decision-making. Early diagnostic laparoscopy was instituted for a thorough survey of the abdomen for causes of fecalith. A single fecalith was identified 15 cm from the ileocolic junction while the rest of the bowel was normal. The 4×3.6 cm stone was retrieved by longitudinal enterotomy 10 cm proximal to the site of impaction followed transverse closure to prevent stricture formation. The extraction performed via minilaparotomy under laparoscopic guidance proved pivotal, leveraging the advantages of minimally invasive surgery and facilitating a swift recovery process.

Keywords: Fecalith, Obstruction, Ileal fecalith, Primary fecalith, Mini-laparotomy, Minimally invasive surgery

INTRODUCTION

Approach to a patient with right lower quadrant pain and right iliac fossa tenderness reflexly brings up a differential of appendicitis. However, in a case of history of past appendectomy, other diagnoses need to be considered. Pelvic inflammatory disease, pyelonephritis, ureteric calculus, diverticulosis and Meckel diverticulum are possible alternatives. Radiographic assessment suggesting hyperdense foreign body within bowel lumen is evaluated for cause and severity at presentation for deciding management.[1]

We herein report a rare case of large ileal fecalith presenting as constipation and McBurney's tenderness presenting as a differential diagnosis of appendicitis. This case highlights the role of early diagnosis and minimally invasive approach for retrieval of fecalith.

CASE REPORT

The patient, a 63-year-old menopausal female was referred by her general practitioner for evaluation of possible stump appendicitis. She presented with a history of dull aching pain in the right lower abdomen for four months, which had worsened over the past two days with colicky episodes. She reported not passing stools for 3 days with a history of intermittent constipation over the past year but denied any episodes of nausea, vomiting with abdominal distension. There was no history of rectal bleeding, alternating diarrhoea and constipation, or significant weight loss. The patient did not have migratory pain in the right lower abdomen with fever and chills She denied any vaginal discharge associated with lower abdominal pain or urinary symptoms. She had no medical comorbidities. Past surgical history revealed an open appendectomy performed 25 years ago with hospitalisation of 1 week and uneventful recovery. Obstetric history included two full-term normal vaginal deliveries. Menopause had occurred

20 years ago. The patient maintained a mixed diet with unchanged sleep and bladder habits.

On examination, the patient was afebrile with a pulse of 82 beats per minute. Abdominal examination revealed tenderness in the right iliac fossa, with no rebound tenderness or guarding observed. A complete blood count demonstrated white blood cell count of 8300 cells/mm^3.

Contrast enhanced computed tomography of abdomen and pelvis revealed a large hyperdense calcified body measuring 4.1×4.3 cm in the terminal ileum, demonstrating lamellated layers of calcification, suggestive of a fecalith. Dilated terminal ileal loops, were visualised with a maximum diameter of 5.3 cm and demonstrated fecalization. 9 mm circumferential wall thickening of terminal ileum and ileocecal junction was noted, extending for a length of 5 cm. Surrounding fat stranding and free fluid were present. The appendix was not visualised, consistent with postoperative status.

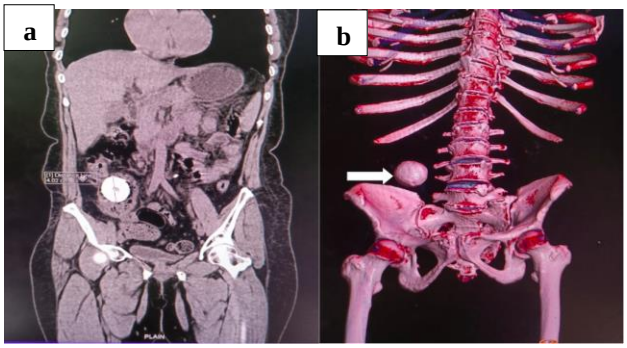

Figure 1: (a) Coronal section computed tomography showing hyperdense 4×4 cm stone, and (b) three dimensional reconstruction showing stone (arrow).

Patient was taken for diagnostic laparoscopy and the ileocolic junction was identified. Absence of appendix was noted and bowel walk was performed. A single fecalith was identified 15 cm from the ileocolic junction while the rest of the bowel was normal.

Gentle attempts to displace fecalith in the large bowel laparoscopically proved unsuccessful.

Small bowel was grasped 10 cm proximal to fecalith and a 5 cm incision was made in lower midline and small bowel delivered. 2 cm longitudinal enterotomy was 5 cm made proximal to the fecalith and stone delivered. Enterotomy was closed by polydioxanone 3-0 round body continuous sutures.

A 4×3.6 cm stone was sent for chemical analysis which subsequently revealed lamellated stone with calcium oxalate monohydrate (45%), calcium oxalate dihydrate (45%) and carbonate apatite (10%). The postoperative course was uneventful and the patient was discharged on day 2 followed up at suture removal on high fibre diet and stool softeners. Patient remains asymptomatic at follow-up visit at 2 months post-operatively.

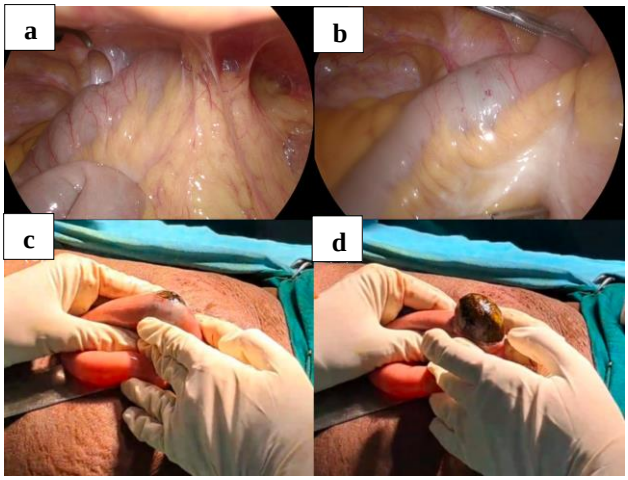

Figure 2: (a) Adhesions in right iliac fossa, (b) single fecalith impacted at 15-20 cm from ileocecal junction, and (c) and (d) fecalith delivered from an enterotomy proximal to the site of impaction.

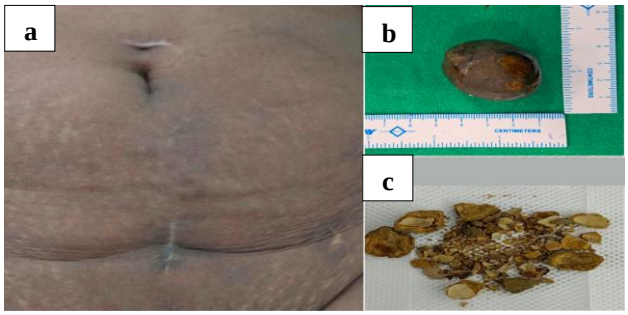

Figure 3: (a) Healed scar site of mini laparotomy incision, (b) 3.4×3.1 cm fecalith specimen, and (c) lamellated appearance of the fragmented fecalith.

DISCUSSION

When assessing a hyperdense body within the small bowel, the investigation entails identifying its source. Common considerations include foreign body ingestion, migration of gallstones into the bowel, and the presence of intestinal diverticula. Fecalith is a concretion of dry compact faeces or hard stony mass of faeces in the intestinal tract with an incidence of 5 to 12%.[1] If the accumulation of faecal matter is slow and desiccation is fast then the mass becomes hard and dry and is called a fecalith.[2] The pathophysiology of fecalith formation is usually related to slowed peristalsis of the lower GI tract, dehydration and low fibre diet intake.

It's notable that this individual presented with a fecalith located in the small intestine, specifically in the distal ileum. This occurrence is quite rare, with only four prior cases documented in English literature involving an adult patient.[3,4] Fecaliths are amenable to conservative management with laxatives and enemas but surgical

management prevents recurrence. The majority of stones smaller than 2 to 2.5 cm may pass spontaneously through a normal gastrointestinal tract and will be excreted uneventfully in the stool.[3,4] Ischemia may develop at the site of stone impaction, due to the pressure generated against the bowel wall and the proximal distention. Necrosis and perforation followed by peritonitis may occur.[4]

Given the computed tomography (CT) findings of dilated small bowel loops proximal to the fecalith and collapsed loops distally, conservative management with polyethylene glycol was deemed inappropriate. This decision was made to prevent exacerbation of small bowel dilatation.

Although small intestine diverticular disease is much less common than colonic diverticular disease, it is essential to rule out diverticular disease as well as Meckel's diverticulum during imaging and diagnostic laparoscopy in such cases.[5] Fecaliths caused by bili-enteric fistulas are uncommon and the absence of air in the biliary tree makes it less likely to be the cause.[6,7] Location of a minilaparotomy is optimised due to the laparoscopic approach.

When possible, through gentle manipulation the stone is brought proximally to a non-edematous segment of bowel. A longitudinal incision is made on the antimesenteric border proximal to the site of stone impaction and the stone is extracted.[8,9] A transverse closure of the enterotomy is recommended to avoid narrowing of the intestinal lumen. Most of the time, it is not possible to move the stone due to impaction of the stone. Bowel resection is sometimes necessary, particularly in the presence of ischemia, perforation or an underlying stenosis.[9] Manual propulsion of the stone through the ileocecal valve should be reserved for highly selected situations because of danger of mucosal injury and bowel perforation.[8,9]

CONCLUSION

This case highlights the rare presentation of a large ileal fecalith masquerading as constipation and McBurney's tenderness. Successful surgical intervention, including diagnostic laparoscopy and fecalith extraction through enterotomy, demonstrates the efficacy of minimally invasive surgical technique in resolving cases of ileal fecaliths.

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