

Sigmoid diverticulitis complicated with anterior abdominal wall abscess and colocutaneous fistula

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Submitted on 19.11.2025 and accepted for publication on 25.02.2026

Introduction

Diverticulitis is a common pathology of the colon characterised by inflammation of diverticula, which are sac-like outpouchings of the colonic wall. This condition most commonly involves the sigmoid colon. Although traditionally considered a disease of western populations, incidence in Asian populations has been steadily rising, likely due to decrease in dietary fiber intake (1).

Diverticulitis may be complicated with perforation, abscess formation or fistula formation (2). Reported fistulae include colovesical, colovaginal, colotubal, coloenteric, and colocutaneous fistulae (3). Colo-cutaneous fistulae are very rare, accounting for only about 1-4% of the fistulae secondary to diverticular disease (2). Here, we report a case of sigmoid diverticulitis complicated by focal perforation, pericolic abscess, anterior abdominal wall abscess and colocutaneous fistula, which has rarely been reported in the literature (2, 4, 5).

Case presentation

A 68-year-old female was admitted with a two-day history of fever and left sided lower abdominal pain. The patient reported as having a left-sided inguinal lump for the last 2 weeks. Her medical history included hypothyroidism, type 2 diabetes mellitus, dyslipidemia, and hypertension. One month prior to admission, she was investigated for left sided abdominal pain and an ultrasound scan had revealed diverticulitis.

On examination, she was afebrile and alert. Pulse rate was 122 bpm and blood pressure was 144/88 mmHg. Abdominal examination revealed a lump in the left inguinal area with mild tenderness.

A contrast enhanced CT (CECT) of the abdomen and pelvis revealed sigmoid diverticulitis with focal perforation and pericolic abscess formation extending into the anterior abdominal wall with secondary abdominal wall abscess formation in the left lower quadrant (Figure 1). It was consistent with Hinchey stage II.

Initial blood investigations revealed a white blood cell count of 12,550/mm³ (normal: 4,000-11,000/mm³), haemoglobin level of 9.5 g/dL (normal: 13.5-17.5 g/dL) and platelet count of 424,000/mm³ (normal: 150,000 - 450,000/mm³). C-reactive protein (CRP) was markedly elevated at 254.5 mg/L (normal <5 mg/L).

Percutaneous drainage of the abscess was done, followed by an explorative laparotomy and defunctioning loop transverse colostomy. The exploration revealed colocutaneous fistula involving sigmoid colon.

Postoperatively, the patient received a 6-day course of Intravenous (IV) Meropenem (1 g 8-hourly), Clindamycin (600 mg 6-hourly), and Metronidazole (500 mg 8-hourly) alongside multimodal analgesia.

Post operatively, the patient recovered well and was discharged home on the seventh postoperative day. Plan was made for 2nd stage left hemi-colectomy and protective ileostomy followed by reversal of ileostomy as a 3rd stage.

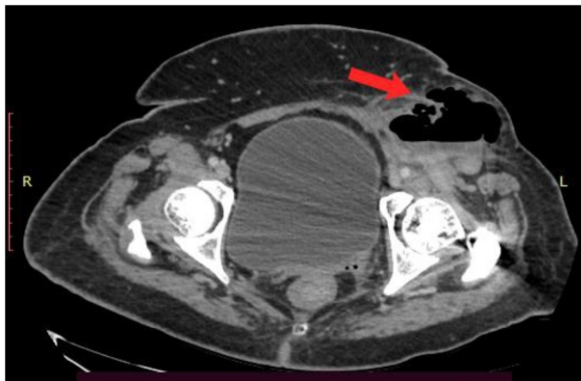


Figure 1: Abscess arising from perforation of sigmoid colon expanding into anterior abdominal wall in left iliac fossa (red arrow)

Discussion

Diverticular disease can lead to common complications including abscess formation, perforation, obstruction, bleeding, and uncommon complications such as fistula formation (6). Colocutaneous fistulae, comprising only 1-4% of diverticular fistulae, typically occur following surgical or percutaneous intervention (2, 3). However, in this patient the spontaneous fistula formation secondary to perforated diverticulitis may have already been evolving prior to intervention. Infection had spread from a perforated sigmoid diverticulum into the anterior abdominal wall, forming a secondary abscess.

The Modified Hinchey classification uses CT imaging to grade disease severity (Table 1) (7). Higher grades are linked to higher risk of complications and recurrence. Hinchey I is usually treated conservatively, Hinchey II may need drainage, and Hinchey III and IV generally require surgery (7).

Diagnosis is primarily established with contrast-enhanced CT imaging. It shows diverticulitis, signs of perforation and abscesses, thereby guiding surgical management (2,4). Management of complicated diverticulitis involves initial stabilization and source control, often via percutaneous drainage. Definitive management includes resection of the affected sigmoid segment and excision of colocutaneous fistula. In recent years, laparoscopic sigmoidectomy has become a trend to treat diverticulitis (5, 8).

Table 1: Modified Hinchey classification

Modified Hinchey classification	Features
I	Pericolic abscess
IIa	Distant abscess amenable to percutaneous drainage
IIb	Complex abscess with fistula
III	Generalized purulent peritonitis
IV	Faecal peritonitis

Given the patient's presentation with a left-sided inguinal lump and localized tenderness, the initial differential diagnoses included an incarcerated left inguinal hernia, complicated Crohn's disease, and locally perforated colorectal carcinoma. The latter is important to exclude, which justifies the surgical resection, as complicated diverticulitis carries a higher incidence of malignancy (9).

The primary learning point is that complicated diverticulitis can present atypically as an inguinal lump mimicking an abdominal wall hernia due to the tracking of a pericolic abscess. Maintaining high clinical suspicion ensures early CT-guided diagnosis and guides definitive surgical planning, as percutaneous drainage carries a significant risk of colocutaneous fistula formation.

Conclusions

This case illustrates an unusual presentation of perforated sigmoid diverticulitis as an inguinal abdominal wall mass secondary to abscess tracking and colocutaneous fistula formation. Early CT imaging was essential for the diagnosis and operative planning. Clinicians should consider complicated diverticulitis in the differential diagnosis of atypical abdominal wall or inguinal masses, particularly in elderly patients with known diverticular disease.

Informed consent was obtained from the patient for the case study publication.

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