Royal Australasian College of Surgeons

Colo-rectal fistula: a rare complication of diverticular disease

Colo-rectal fistula secondary to complicated sigmoid diverticular disease is a rare but important complication that can present with symptoms mimicking invasive malignancy.

We present the case of a 47-year-old male who was referred with a six-week history of lower abdominal discomfort radiating to the perianal region, tenesmus, urinary urgency, frequency and occasional frank rectal bleeding. There was no personal or family history of colorectal cancer or inflammatory bowel disease (IBD). A CT scan showed a 61 mm rectal mass that was suspicious for a rectal malignancy (Fig. 1a). However, subsequent MRI revealed specific features of a rectal wall abscess (T2-hyperintense fluid collection within the anterior rectal wall), corresponding to the sigmoid colonic fistula and paracolic abscess (Fig. 1b).

A follow-up colonoscopy revealed bulging of the anterior rectal wall with a fistula opening draining purulent material (Fig. 2a). There was corresponding active diverticulitis in the proximal sigmoid colon (Fig. 2b). The rectal biopsy showed granulation tissue with reactive changes, without features of malignancy or IBD. The patient was managed non-operatively successfully with antibiotics.

Non-IBD fistulising diverticular disease is uncommon. The most common variant is a colo-vesical fistula, found in approximately 2%–18% of cases.[1,2] It is commonly present in males, as in females the uterus prevents the development of fistulous communication between the colon and bladder. In post-hysterectomy patients, persistent sigmoid inflammation may lead to colo-vaginal and/or colo-vesical fistula.[3,4] Other pelvic organs are not immune to the fistulisation process[5]; however, involvement of the rectum and perianal skin is rare.

Multiplanar CT is often the first investigation in such cases.[6] It assesses the extent of pelvic inflammation and assists with decision-making regarding the optimal timing of surgery.[7] Where

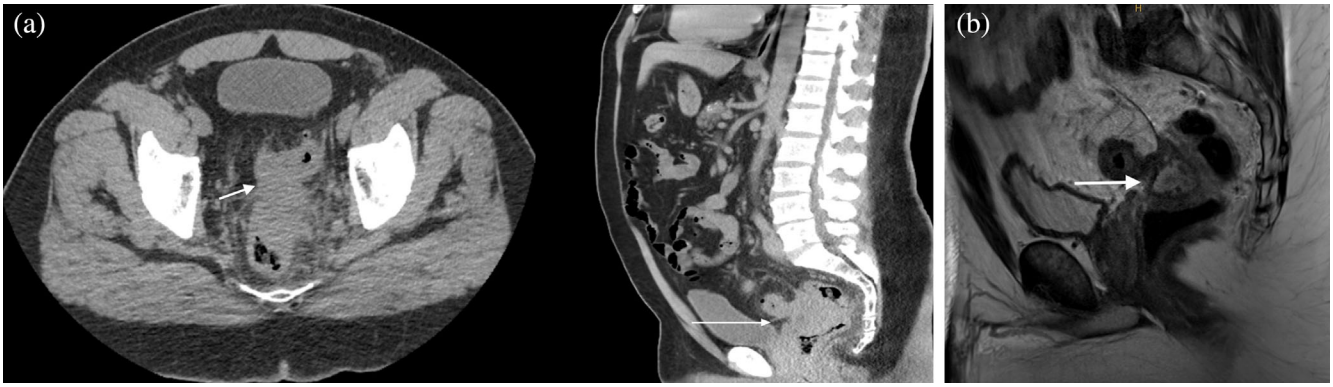

Fig. 1. (a) CT images illustrating phlegmonous 'rectal mass' and colorectal fistula and (b) MRI images showing rectal wall abscess characterized in T2 weighted image.

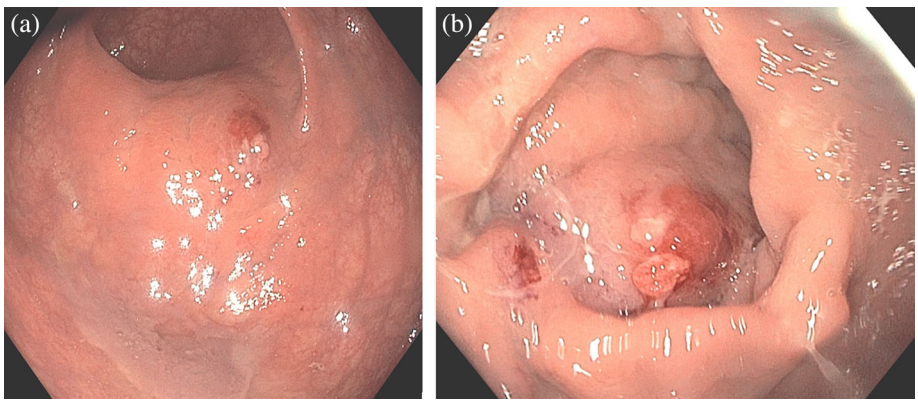

Fig. 2. Endoscopic views of (a) rectum with extra mucosal abscess causing luminal narrowing and (b) Sigmoid colon with inflamed mucosa.

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Table 1 Comparative diagnostic efficacy of various investigative modalities.

	CT	MRI	Colonoscopy
Diagnostic yield in identifying colon related fistula[†]	60–80%	100%	8.5%

[†]The data are adopted from the studies by Melchior *et al.*[7–9]

the bladder is part of the phlegmon, air bubbles in the urinary bladder, without prior instrumentation, are pathognomonic. However, the diagnostic utility of a CT scan for identifying a clear rectal fistulous tract is lower than that of an MRI (Table 1). Magnetic resonance imaging is superior regarding fistula identification due to better tissue contrast.[8,9] Additional information, such as the absence of satellite tumour deposits and nodal metastasis in the mesorectal fat, further supports the likelihood of benign rectal pathology in suspicious cases.

Colonoscopy has a limited role in diagnosing fistulous tracts and openings.[7] This modality should be used for the exclusion of malignancy and strictures.

Benign colorectal fistulae are uncommon, but they pose a clinical challenge when their symptoms mimic those of invasive malignancies. This report emphasizes the significance of multimodal imaging and endoscopic evaluation for diagnosing colorectal fistulae. Treatment typically involves draining sepsis and administering a course of antibiotics. If the condition fails to resolve, operative management may be necessary, including resection with primary colorectal anastomosis—with or without a covering ileostomy—or a defunctioning stoma for highly symptomatic patients who are unfit for major resection.

Consent statement

We are grateful to the patient who consented to use the clinical information and images.

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Author contributions

Zainab Naseem: Conceptualization; writing – original draft; writing – review and editing. **Yui Kaneko:** Writing – review and editing. **Toan Pham:** Conceptualization; supervision; validation; writing – review and editing.

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