Diverticular disease of the terminal ileum mimics cancer

Introduction

Terminal ileal diverticular disease is very rare. This article presents a case of a radiologically abnormal terminal ileum seen incidentally in a patient with recurrent sigmoid diverticulitis. Upon suspicion of a cancer, the patient underwent an elective laparoscopic right hemicolectomy. Although an intraoperative suspicion of cancer prevailed, only a solitary terminal ileal diverticulum was subsequently diagnosed histologically. The patient had no surgical complications and was very well on follow up. This case illustrates the diagnostic and surgical management challenges associated with the varied pathologies of the terminal ileum.

Discussion

Diverticular disease is common worldwide and most often affects the sigmoid colon in western populations (Connolly et al, 2006). Diverticulosis of the jejunum or ileum is very rare and the terminal ileum is the least likely location within the small bowel (Jeong et al, 2015). The prevalence of terminal ileal diverticulosis is thus unknown (Park and Lee, 2009). Cases may be acute with inflammation that clinically mimics appendicitis (Navarro et al, 1984; Kassahun et al, 2007). However, an asymptomatic solitary diverticulum at the terminal ileum is very unusual and the present case shows that it can resemble a malignancy.

Terada (2013) discussed the rarity of terminal ileal diverticulae and presented a case in which terminal ileal diverticulae were mistaken for possible malignant lymphoma

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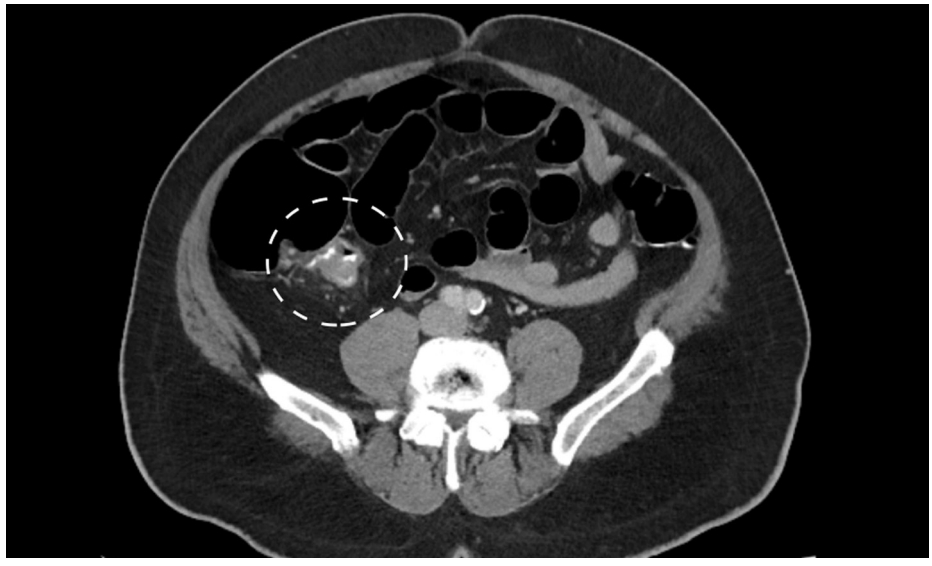
Figure 1. Axial abdominal computed tomography scan showing the terminal ileal diverticulum (white dashed ring).



CASE REPORT

A white British man underwent radical prostatectomy at the age of 61 years. At the age of 65 years, the patient presented acutely to the authors' hospital with a 4-day history of lower abdominal pain. Clinical findings and an abdominal computed tomography scan confirmed acute sigmoid diverticulitis, which was managed with co-amoxiclav following discharge home the next day. The patient had at least five further episodes of acute diverticulitis over 2 years that were all managed with antibiotics alone in primary care, with annual outpatient follow up with the authors' team.

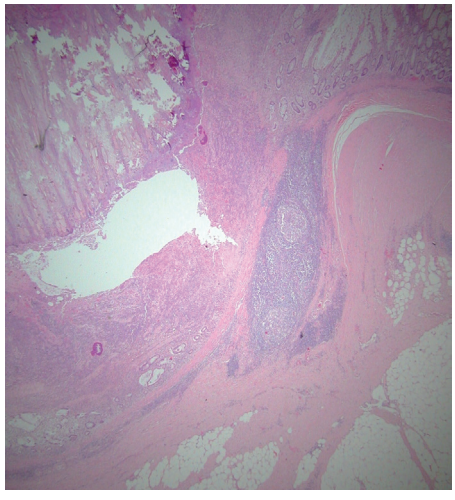
At the age of 67 years a computed tomography colonogram was performed to exclude other pathology (*Figure 1*). An incidental finding of a mass lesion was identified as follows: 'Thickening and asymmetry of the terminal ileum, with a mass-like lesion and some associated adjacent fat stranding and small volume local lymph nodes – direct visualisation is necessary. The appearances may represent a neoplasm – a malignancy, a GIST [gastrointestinal stromal tumour] or a benign lesion such as a carcinoid, although it does not enhance avidly, which is against the latter.'

Eight days after the computed tomography colonogram, the patient was informed of the findings in clinic and consented to a colonoscopy, which was performed 1 month later. Aside from known sigmoid diverticular disease, no gross pathology of the caecum was seen and biopsy samples revealed 'mild surface ileitis only'. His clinical examination and blood test results were entirely normal. The case was discussed at a multidisciplinary team meeting and there was ongoing concern about the possibility of lymphoma or a neuroendocrine tumour at the terminal ileum, thus the team consensus was to proceed with an elective laparoscopic right hemicolectomy 2 weeks later.

Intraoperatively, the terminal ileum and appendix were bound by adhesions within the pelvis and required sharp dissection. The procedure was completed without complications and the patient made an uncomplicated recovery. Histopathological review of the resected surgical specimen confirmed 'a diverticulum of the wall of the ileum, measuring up to 10 mm in maximum diameter, at the distal end of the terminal ileum, 20 mm from the ileocaecal valve. The diverticulum appears to protrude posteriorly. No other mucosal lesion is identified in the ileum or the caecum' (*Figures 2* and *3*).

Figure 2. Macroscopic photograph of a transverse section of the ileum showing the diverticulum projecting beyond the muscle wall into the peri-ileal fat. The lumen of the diverticulum is filled with faecal material.

Figure 3. Photomicrograph showing the edge of the diverticulum including the neck where the ileal mucosa traverses the muscularis propria. The lumen is impacted with vegetable (faecal) material with bacterial colonies.



based on computed tomography and positron emission tomography findings. As in the current case, the patient soon underwent bowel resection but only diverticulae were diagnosed histologically.

The present case illustrates the possibility of terminal ileal diverticulosis when diagnosing bowel cancer, both before and during surgical procedures. Very rarely, both conditions may even co-exist (Tsujii et al, 2002), which adds further diagnostic uncertainty to such cases. Definitive diagnosis may often be made only after surgical resection, with the risks and benefits having been fully discussed with the patient. Terminal ileal diverticulosis is an uncommon finding that may or may not be managed surgically, and this decision can depend on the multidisciplinary findings and the reliability of endoscopic approaches. As in the present case, colonic resection can often be justified by a strong suspicion of malignancy. **BJHM**

LEARNING POINTS

- Incidental findings on abdominal computed tomography imaging are increasingly common.
- Incidental abnormalities may lead to diagnostic uncertainty despite further investigations.
- Pathologies of the terminal ileum are numerous and diverticular disease should be considered.
- Rare but benign pathologies may result in surgical interventions that may not be clinically indicated.

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