CASE REPORT

Caecal diverticulitis, an uncommon mimic of appendicitis

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SUMMARY

A 35-year-old man presented with a relatively short history of right iliac fossa pain. With an unremarkable medical history, marginally raised inflammatory markers and examination findings suggestive of acute appendicitis, a preliminary diagnosis was made and the patient listed for laparoscopic appendicectomy. However, intraoperatively, the appendix was deemed normal and, following further exploration, appendicectomy and amputation of an obviously inflamed caecal pole were carried out using a TLC 75 linear stapler. Histological analysis also confirmed a diagnosis of caecal diverticulitis. Having undergone minimally invasive surgery without unnecessary radical resection, the patient made a full recovery.

BACKGROUND

Caecal diverticulitis is a relatively uncommon differential diagnosis of right iliac fossa pain. Mimicking appendicitis, it may be misdiagnosed, but because the management differs, establishing a correct diagnosis is important. As one is unlikely to encounter the condition during medical school and may remain ignorant of it throughout foundation training, there appears to be an argument for raising awareness among trainees, regardless of level and specialty. With increased awareness, there may not only be a benefit to patients (correct diagnosis and thus appropriate management), but also a more representative picture of prevalence, that is, perhaps, the condition is not as uncommon as previously assumed. With a recent PubMed search using the term 'caecal diverticulitis' yielding only 31 results, it is a topic which has received relatively little attention in the literature compared with other conditions with similar prevalence, and there is certainly a paucity of discussion in surgical textbooks as well as clinical practice. However, if there were greater awareness, particularly among junior doctors, this would undoubtedly be advantageous to both patients and trainees.

CASE PRESENTATION

A 35-year-old Caucasian man presented to the surgical admission unit with a 7 h history of stabbing right-sided abdominal pain associated with low-grade fever and hot flushes. His history was unremarkable apart from a pilonidal sinus and symptoms suggestive of irritable bowel. On examination, there was right iliac fossa tenderness with localised guarding and rebound. The patient's inflammatory markers were only marginally raised (white cell count 12.2, neutrophils 9.8, C reactive protein 9.6).

TREATMENT

Clinically, a diagnosis of acute appendicitis was made based on the above signs and symptoms, and the patient was booked for a diagnostic laparoscopy. However, intraoperatively, the appendix appeared normal, but there were signs of inflammation at the pole and the side wall of the caecum. The procedure was converted to open using a standard McBurney's incision. The caecum was mobilised and assessed to exclude any mass lesion. Once this was reasonably excluded, a decision was made to locally excise the appendix along with the adjacent inflamed caecal pole. The appendicectomy and amputation of the caecal pole were carried out using a TLC 75 linear stapler. The specimen removed was opened and examined to reveal an inflamed solitary caecal diverticulum.

Histological analysis described an appendix 10.5 cm in length with a maximum diameter of 0.7 cm, and this was apparently not inflamed. The amputated portion of the caecum contained a solitary diverticulum measuring approximately 1.5×1×1 cm. On microscopy, there was evidence of ulcerated intestinal mucosa within pericolic fat, surrounding mixed inflammatory infiltrate and mildly congested serosal surface (figures 1–4).

OUTCOME AND FOLLOW-UP

The postoperative period was unremarkable, with the patient making a full recovery. He reported complete resolution of symptoms and was able to return to work without any problems following recuperation from surgery.

Figure 1 Histological sections showing solitary caecal diverticulum with evidence of inflammation – images using increasing microscope resolution settings.

To cite: Kroening HL, Rai S. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2012-007820

Figure 2 Histological sections showing solitary caecal diverticulum with evidence of inflammation – images using increasing microscope resolution settings.

DISCUSSION

Caecal diverticulitis is a relatively uncommon, but important differential diagnosis of right iliac fossa pain. The condition has a higher prevalence in Far East Asian populations¹ and is more common in men.² The age of patients in published case reports ranges from 20 to 51 years, but the average age of presentation appears to be early to mid-40s.³ Although the aetiology of caecal diverticula is still indefinite, they are thought to be linked to a congenital defect, whereby the vestigial caecal outpouching can be considered a ‘duplication’ of the appendix.⁴

Clinically, caecal diverticulitis usually presents with right iliac fossa pain, often associated with fever, nausea or vomiting, which is why it is so easily mistaken for acute appendicitis.

Indeed, it is almost always diagnosed during surgical intervention rather than preoperatively. The main complications to which the condition may lead include perforation, abscess formation, haemorrhage and torsion.³ In the past, conservative management (antibiotics alone) has been recommended. However, most modern case reports describe surgical treatment options ranging from localised excision to radical resection.⁵

This case once again illustrates the clinical significance of caecal diverticulitis as an important differential to be considered in patients presenting with signs and symptoms of acute appendicitis; it also demonstrates that the condition may be more common in Caucasian patients than previously reported. There is a need to raise awareness of the condition, particularly among

Figure 3 Histological sections showing solitary caecal diverticulum with evidence of inflammation – images using increasing microscope resolution settings.

Figure 4 Histological sections showing solitary caecal diverticulum with evidence of inflammation – images using increasing microscope resolution settings.

surgical trainees who are invariably involved in both the clinical and surgical management of such patients.⁶ This awareness is most important in the intraoperative setting as it would help in the decision-making process as to the best surgical option, avoiding unnecessary radical resections. With preoperative diagnosis continuing to pose a dilemma, the role of ultrasound and CT certainly requires further consideration.² However, we think there is a good argument for more liberal use of diagnostic laparoscopy in cases of clinically suspected appendicitis, because, as demonstrated by the case presented here, laparoscopic investigation and appropriate surgical intervention can be performed in one minimally invasive step.

Both appendicitis and caecal diverticulitis can be diagnosed as well as managed laparoscopically, and although the choice of surgical technique depends on the surgeon's experience and skill, there can be no doubt about the importance of correct intraoperative diagnosis, as this usually determines the type of surgical procedure to follow.⁷ With increased awareness, training and experience, it should then be possible to manage most cases of caecal diverticulitis using laparoscopic technique for both diagnosis and definitive treatment.

Thus, one can improve accuracy of diagnosis while simultaneously minimising surgical intervention and associated risks. Controversy over the best management option continues, but there is also clear justification for the use of laparoscopic staplers to amputate the affected caecal segment. The case discussed here implies that such staplers could be useful for management of caecal diverticulitis, and with increasing knowledge and confidence, their use would further minimise the invasiveness of any surgical procedure. Although, in this particular case, the decision was made to convert to open, there is clearly scope for raising awareness of the condition, particularly among surgical trainees, and advocating use of laparoscopic techniques under such circumstances; this would lead to increased experience and confidence in laparoscopy for diagnosis and management of caecal diverticulitis and, based on the less invasive nature, this would also be beneficial to the patient.

Learning points

- ▶ Laparoscopy is an invaluable tool for both diagnostic and interventional purposes, particularly in patients presenting with right iliac fossa pain and clinically suspected to have acute appendicitis.
- ▶ Caecal diverticulitis, a relatively uncommon but important condition, is invariably diagnosed intraoperatively in such cases.
- ▶ An increased awareness of the condition and a confident diagnosis can lead to an appropriate and, depending on the surgeon's skill, minimally invasive surgical procedure avoiding unnecessary radical resections.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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