Right iliac fossa pain from a grossly enlarged and tortorted appendix in a patient with known colitis

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ABSTRACT

A 27-year-old man with a background of well controlled colitis presented with a 12-hour history of central abdominal pain, nausea, vomiting and fever. A diagnostic laparoscopy revealed an extremely large, gangrenous appendix, which had descended into the pelvis posterior to adhesions in the right iliac fossa and was tortorted 720°. The decision was taken to convert to a lower midline laparotomy and as the base appeared healthy, a standard appendicectomy was performed. The patient recovered well and was discharged after two days. The appendix measured 104mm x 53mm x 51mm. Histology revealed acute haemorrhagic and necrotising appendicitis with foci of impending perforation. There was no malignancy or mucocoele. Acute torsion (or volvulus) of the appendix is an unusual cause of this common general surgical emergency.

KEYWORDS

Appendix – Appendicitis – Torsion abnormality

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Abdominal pain with right iliac fossa tenderness is an extremely common presentation to the general surgical emergency service, with several key differential diagnoses, which may or may not require operative intervention. Appendicitis is very common but may rarely be caused by torsion of the appendix.¹

Case history

A 27-year-old man presented to the general surgical emergency clinic with 12 hours of colicky central abdominal pain, bloating, nausea, vomiting and fever. Urinary and bowel habits were unchanged. His only past medical history was mild ulcerative colitis, which was well controlled on mesalazine. He had no significant family history, was a non-smoker and non-drinker.

On physical examination, the patient was pyrexial (temperature 38.4°C) and tachycardic (102bpm) but with otherwise normal cardiovascular and respiratory system examinations. His abdomen was soft; there was tenderness and guarding suprapubically and in the right iliac fossa with a weakly positive Rovsing's sign, and bowel sounds were normal. Digital rectal examination was unremarkable.

Serum biochemistry and haematology results revealed raised inflammatory markers but were otherwise within normal range. Plain film radiography of the chest and abdomen was unremarkable.

Initial management consisted of administration of intravenous fluid and antibiotic therapy according to local protocols. By the following morning, a reduction in pain and

tenderness plus normalisation of the heart rate were observed. In light of this, a further period of observation was undertaken but during this period, the patient's symptoms worsened and his vital signs became abnormal, at which time the decision was taken to perform a diagnostic laparoscopy.

Initial examination of the peritoneal cavity revealed well established adhesions in the right iliac fossa but appearances were otherwise grossly normal. However, retraction of the sigmoid colon towards the left iliac fossa along with cranial retraction of the small bowel exposed a discoloured mass in the right aspect of the pelvis. On closer inspection, it became apparent that the appendix had passed posteriorly to the right iliac fossa adhesions, was tortorted 720° degrees and had become grossly enlarged with necrosis of the wall (Fig 1). Owing to the unknown histological status of the appendix as well as concerns regarding potential perforation of the appendix during laparoscopic mobilisation, the procedure was converted to a lower midline laparotomy for safe resection.

Once freed from the pelvis and exteriorised, the appendix was found to be grossly swollen to approximately 10cm x 5cm x 5cm with a necrotic wall. The base, when untwisted, was found to be healthy (Fig 2). The base was clamped, divided and transixed in standard fashion using a 2/0 braided absorbable suture and the caecum was returned to the peritoneal cavity. Lavage was performed with 2l of warm 0.9% sodium chloride until aspirated fluid was clear. Mass closure of the midline laparotomy was performed using a size 1 loop monofilament absorbable suture and the skin (including at

Figure 1 Laparoscopic view of the pelvis with small bowel and sigmoid colon retracted, demonstrating a large gangrenous appendix descending from the right iliac fossa

Figure 2 View of the appendix once untwisted, demonstrating a healthy appendix base and caecum

laparoscopic port sites) was closed with surgical staples. The patient recovered well and was discharged two days later.

Histology of the resection specimen revealed a large appendix weighing 173g, measuring 8mm in diameter at the base but 104mm × 53mm × 51mm distally. The proximal appendicular lumen was almost completely obliterated. The distal lumen contained altered blood but no mucus. Acute

haemorrhagic and necrotising appendicitis was seen, with foci of impending perforation. There was no malignancy and no mucocoele.

Discussion

Acute appendicitis is a common diagnosis among patients admitted under the emergency general surgery take. We present an unusual aetiology: torsion of the appendix. Fewer than 60 previous cases could be identified in the literature; furthermore, we believe that of those reports, none describe an appendix of this size or filled only with blood.

Torsion of the appendix may occur primarily.¹ Alternatively, it may be secondary to a mucocoele,² or an intramural³ or extramural mass lesion.⁴ It is therefore pertinent to avoid appendiceal perforation and potential intraperitoneal spillage of appendiceal or mass contents; given the size of (and difficulty in mobilising) the appendix, this supports the rationale for conversion to an open operation in the case described above. However, laparoscopic excision of a torted appendix has been successful previously.⁵

Conclusions

Appendicitis is a common general surgical emergency; it should not necessarily be excluded in the presence of a previous diagnosis of inflammatory bowel disease. The location of the appendix is variable even in simple cases and so variability in location of pain should be borne in mind. It is possible that in our patient, the pelvic location of the appendix may have produced suprapubic tenderness, leading to further diagnostic uncertainty. A period of observation is useful to determine need for diagnostic laparoscopy in cases of initial uncertainty but surgery is the cornerstone of treatment for a torted appendix and may be safely attempted using a laparoscopic approach.

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