Small bowel perforation caused by an ingested foreign body masquerading as acute appendicitis

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INTRODUCTION

Acute appendicitis is one of the commonest causes of acute abdominal pain in the young adult. In the male patient with a typical history and clinical finding of right iliac fossa peritonism, the diagnosis is usually straightforward. Occasionally, an unusual cause will mimic acute appendicitis. Unless a careful search is made for alternative causes, the diagnosis may be missed.

DISCUSSION

The common differential diagnosis of right iliac fossa pain in the adult male includes acute appendicitis, terminal ileitis, ureteric colic, right-sided acute pyelonephritis, perforated peptic ulcer, testicular torsion, acute pancreatitis and rectus sheath haematoma (O'Connell, 2000). The diagnosis of acute appendicitis is based largely on history and physical findings. A leucocytosis is common but needs to be interpreted in light of the clinical findings (Lau et al, 1989). Scoring systems such as the Alvarado score (Alvarado, 1986) can be used to improve diagnostic accuracy and would have shown a probable appendicitis. Ultrasound is useful in excluding other significant pathology, particularly in young women. However, it has not been shown to improve outcome compared to unaided clinical diagnosis (Douglas et al, 2000). In this case, additional tests were not performed as they were unlikely to alter the diagnosis and affect management.

A normal appendix was found at operation, which can occur in up to 20–30% of appendicectomies (Jones, 2001). When a negative appendicectomy is encountered, it is usual to exclude terminal ileitis, Meckel's diverticulitis and tubal or ovarian causes in women (O'Connell, 2000). Once excluded, the abdomen is usually closed. In this case, such an approach would have resulted in a missed diagnosis of small bowel perforation caused by a foreign body. These have previously been described and are usually caused by bone fragments or toothpicks (Pinero Madrona et al, 2000). It is rare to find a pneumoperitoneum preoperatively and the diagnosis is most often made at operation.

CONCLUSION

Bowel perforation with foreign bodies can mimic acute appendicitis and should be considered in the differential diagnosis. In cases where the preoperative clinical signs are unequivocal but, at time of operation, no obvious cause can be found, the value of a careful laparotomy is emphasized. This should include an examination of the small intestine that extends beyond the usual site for Meckel's diverticulum so that rare and unusual findings are not missed. HM

CASE REPORT

A man aged 45 years presented with a 9-hour history of lower abdominal pain, which was worse in the right iliac fossa. The pain was sharp in nature and worse with movement. There was no nausea or vomiting. He had previously been well and healthy. On admission, he was apyrexial (37.0°C), had a normal pulse rate (75 beats/min) and was normotensive (120/80 mmHg). Clinical examination was significant for right iliac fossa tenderness but there was no guarding or rebound. There was no blood on urinalysis. His blood tests revealed a raised white cell count (12.4x10^9/litre), a normal neutrophil count (7.40x10^9/litre), a raised C-reactive protein (122 mg/litre) and a normal serum amylase (33 U/litre). Erect chest X-ray and plain abdominal X-ray were normal. On re-examination, his pain had worsened and he had increasing peritonism in his right iliac fossa, so he was listed for an urgent appendicectomy.

Appendicectomy was carried out through a skin crease incision in the right iliac fossa. Operative findings showed a normal appendix with no free fluid in his abdomen. His terminal ileum was examined and was normal to 2 feet. However, in view of the significant findings on clinical examination, the rest of his abdomen was carefully searched. Patchy inflammation was found affecting 30 cm of distal jejunum, approximately 100 cm from the ileocaecal valve with the inflamed bowel lying close to the right iliac fossa. This was caused by a sharp splinter of ingested woody material (*Figure 1*) that had repeatedly perforated through all the layers of his small bowel. The foreign body was removed and the multiple perforations oversewn. Appendicectomy was also performed. He made an uneventful recovery and was discharged home 4 days later.

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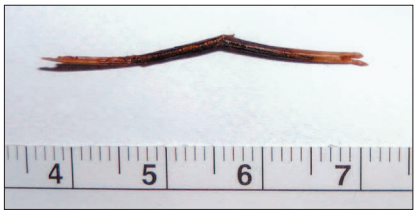
Figure 1. Ingested foreign body causing small bowel perforation (scale in centimetres).



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