Appendiceal diverticulitis: a rare pathology masquerading as acute appendicitis

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INTRODUCTION

- Appendiceal diverticulitis is a rare but important differential diagnosis of RIF pain. However, it is often disregarded as a variant of acute appendicitis due to seemingly similar clinical features.
- Studies indicate different demographic and clinical characteristics, with significantly increased risk of severe complications, necessitating timely diagnosis and management.

CASE PRESENTATION

- 58-year-old male presented with a 5-day history of severe lower right abdominal pain, fever, loose stool, but no nausea or vomiting. Background of hypertension. No previous abdominal procedures.
- On examination, abdomen soft but severely tender in RIF, with positive Rovsing’s sign. Vital signs unremarkable, with no fever.

DIFFERENTIAL DIAGNOSIS

- Most highly suspected diagnosis in severe RIF pain is usually acute appendicitis. However, there are other forms of appendix pathology, such as diverticulitis, intussusception, and neoplasia, and there are a wide range of other intra-abdominal causes, including gastrointestinal, genitourinary, or gynaecological.

INVESTIGATIONS

- Blood tests: mildly raised inflammatory markers; WCC 9.5, CRP 31.
- CT abdomen/pelvis (contrast-enhanced): several markedly inflamed diverticula in the medial aspect of the appendix, surrounded by fat stranding; appendix itself unremarkable; no fluid collections; several reactive lymph nodes noted in the draining mesentery; mild uncomplicated sigmoid diverticulosis also present.
- Overall, consistent with diagnosis of appendiceal diverticulitis.

APPENDICEAL DIVERTICULITIS

- Treated with emergency appendicectomy, given the degree of inflammation and propensity for perforation. Performed laparoscopically with no complications.
- Operative findings confirmed the presence of multiple appendiceal diverticula, with one complicated with phlegmon; lie of the appendix retrocolic and the base was healthy; no other abnormalities were observed in the abdomen.

CLINICAL CHARACTERISTICS

- Appendiceal diverticulitis has some distinct clinical features to acute appendicitis. Pain usually more intermittent and insidious, taking place over a longer interval.
- Typically occurs in an older patient age group, with average age of 40-50 years compared to 20-30 years for acute appendicitis.

TREATMENT AND OUTCOME

- Acute inflammation of diverticula arising from the appendix wall. Diverticulosis of appendix is usually asymptomatic; it may be discovered incidentally in operations or imaging, but two thirds of patients go on to develop appendiceal diverticulitis.
- Two histological types of diverticulosis. Congenital: herniation of all layers of the appendix wall; extremely rare. Acquired: herniation of only mucosa and submucosa through defect in the muscular layer; much more common.
- Four types of diverticulitis. 1: acute diverticulitis within normal appendix. 2: acute diverticulitis with appendicitis. 3: acute appendicitis with incidental uninvolved diverticulum. 4: incidental diverticulum with no diverticulitis or appendicitis.
- Historically thought relatively rare, with incidence 0.2-1.5% in surgical pathological specimens, but recent reviews suggest higher incidence (almost 10%); may thus be more prominent clinical problem than previously recognised.

RISKS AND MANAGEMENT

- Appendiceal diverticulitis: greater risk of severe complications; perforation x4 more common; mortality rate x30 higher.
- Other complications: haemorrhage, intestinal obstruction or intussusception, peritoneal abscesses, pelvic pseudocysts, vesicocecal fistulae; associated with mucinous neoplasms.
- Thus immediate surgical resection necessary, even if pain not severe. Prophylactic appendicectomy when diverticulosis discovered incidentally. Requires meticulous histological examination of specimen to rule out associated neoplasia.
- APPENDICEAL DIVERTICULITIS

RADIOLOGICAL FEATURES

- Appendiceal diverticulitis has some distinct radiological appearances compared to acute appendicitis.
- US: thickened and echogenic appendix wall layers; possibly direct visualisation of inflamed appendix.
- CT: compared to acute appendicitis, more difficult to visualise appendix; may visualise acutely inflamed diverticula as small round cystic outpouchings; peri-appendiceal extra-luminal fluid, peri-appendiceal fat stranding; larger appendix calibre; more likely to have formation of abscesses; absence of intraluminal fluid; and absence of appendiculitis.
- Essential for radiologists to be aware of its radiographic appearances on US and CT, to enable accurate and timely differentiation from other forms of appendix pathology.

REFERENCES