
CASE REPORT

Primary Epiploic Appendagitis

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ABSTRACT

Primary epiploic appendagitis is a benign self-limiting condition, which is not as rare as presumed. Computed tomography demonstrates characteristic features that enable correct diagnosis, thereby avoiding unnecessary treatment.

Key Words: Abdomen, Acute conditions, Computed tomography, Epiploic appendagitis

CASE REPORT

A 45-year-old woman presented with left lower quadrant pain for 2 days. The pain was sudden in onset, severe, and localised to the left lower quadrant of the abdomen. She did not have other gastrointestinal or urinary tract symptoms. She had menorrhagia and a right ovarian cyst, which required regular gynaecological follow-up. She was afebrile throughout her stay in hospital. Physical examination revealed marked tenderness over the left lower quadrant of the abdomen with peritoneal sign of guarding and rebound tenderness. No other physical findings were evident. Laboratory values were all unremarkable including normal liver and renal function tests and normal white cell count. The pregnancy test was negative.

Ultrasound examination of the abdomen and pelvis revealed a right ovarian cyst approximately 3 cm in size. The area of maximum tenderness, as indicated by the patient, did not reveal any abnormality. Owing to persistent pain with localised peritoneal sign, she subsequently underwent contrast computed tomography (CT) study of the abdomen and pelvis.

Pre- and post-contrast helical CT of the abdomen and pelvis (10-mm slice thickness, pitch 1.5:1) was performed. A total of 150 mL iodinated contrast medium

(240 mg iodine/mL) was administered intravenously at an injection rate of 2 mL/second. The time delay between the beginning of the CT examination and the start of bolus intravenous infusion was 85 seconds. Urografin 18 mL/900 mL water was taken orally by the patient 2 hours and 1 hour before the CT scan. A stat dose of oral contrast urografin 4 mL/200 mL water and rectal contrast were administered just prior to the CT examination. CT showed a 2-cm pericolonic mass in the left lower quadrant of the abdomen situated laterally and slightly anterior to the sigmoid colon. The mass consisted of attenuating fat, measuring approximately 56 HU on pre-contrast scan (Figure 1a). A rim of hyper-attenuation was noted circumscribing the mass (Figure 1b). Mild inflammatory stranding was seen in the adjacent soft tissue. The adjacent loop of large bowel showed no CT evidence of diverticular disease. No abnormal bowel wall thickening or abscess was noted. A 3-cm right pelvic cystic lesion consistent with sonographic findings of a right ovarian cyst was present. The rest of the abdomen and pelvis was normal.

The overall clinical picture and the imaging features were consistent with primary epiploic appendagitis (PEA). The patient was conservatively treated. The pain subsided gradually with analgesics and she was discharged 5 days after admission.

DISCUSSION

Epiploic appendages are small out-pouches of omentum filled with fat and small vessels that are aligned along the serosal surface of the colon from the caecum to the recto-sigmoid junction. PEA is an acute inflammatory response of an appendage to infarction caused

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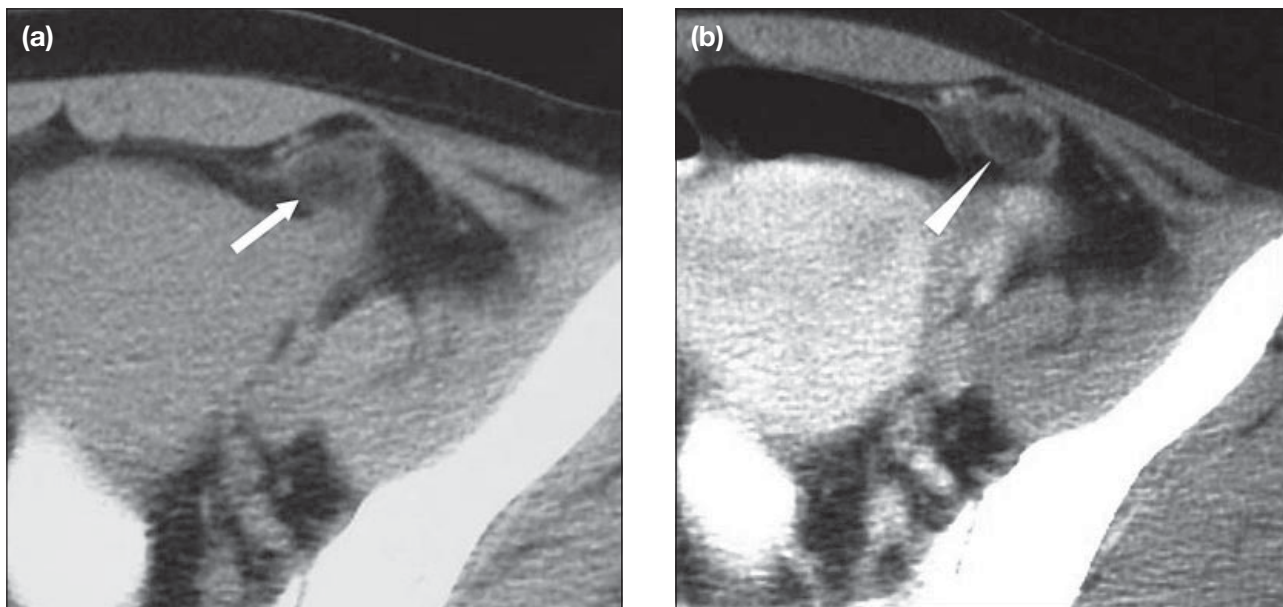


Figure 1. (a) Pre-contrast and (b) post-contrast study of the abdomen and pelvis showing a pericolic fat containing mass (arrow) circumscribed by a ring of hyperattenuation (arrowhead) in the left lower quadrant of the abdomen.

by torsion or spontaneous venous thrombosis.^{1,2} The main presenting symptom is severe focal abdominal pain that is sudden in onset.^{1,2} Since the inflammatory process is mainly located in the lower quadrants, in which the sigmoid colon and caecum harbours the largest number of epiploic appendages,³ clinically the symptoms may mimic that of acute appendicitis and diverticulitis.^{1,2} The left lower quadrant is the most common location.^{2,4} Examination of the patient usually reveals localised peritoneal sign with rebound tenderness. A palpable mass is seldom found.² The white cell count is usually either normal or only mildly elevated.^{2,4,5} PEA is a benign self-limiting condition that requires only conservative treatment with analgesia. Symptoms usually last for a week.^{1,2,6}

PEA may occur at any age, including childhood, with a peak incidence in the fifth decade.⁷ This is not as rare a condition as is often thought. PEA has been reported in 2.3% to 7.1% of patients clinically suspected of having colonic diverticulitis and 1.0% of patients suspected of having appendicitis.^{4,6,7} Historically, PEA has been diagnosed only at laparotomy, usually performed for presumed diverticulitis or appendicitis.¹

CT has an important role in the diagnosis of PEA. The finding of a pericolic fat-containing mass (1 to 4 cm in diameter) circumscribed by a hyperattenuating ring (0.2 to 0.3 cm in thickness) described as the 'hyperattenuating ring sign' is a characteristic feature of PEA.⁶ The hyperattenuating ring may be subtle,

but its presence has been extensively described in the literature.^{1,2,4,6,7} The fatty nature of the mass typically has fat attenuation (mean, -60 HU), slightly higher than the other areas of normal fat attenuation (mean, -120 HU).² Occasionally, the lesion may contain a central hyperattenuating area presumably caused by thrombosed vessels and haemorrhagic necrosis.^{1,2} Additional CT findings include periappendageal fat stranding, thickening of the parietal peritoneum, mass effect on the adjacent fat and, occasionally, adjacent bowel wall thickening.^{1,2}

Ultrasound findings in a patient with PEA include a hyperechoic non-compressible pericolic mass, frequently surrounded by a hypoechoic border.⁶ US has the advantages of being non-invasive, does not involve ionizing radiation, and targets examination to the area of maximum tenderness identified by the patient. However, CT should be used to confirm the fatty nature of the mass before a definite diagnosis of PEA can be made.⁴

The differential diagnosis of PEA based on imaging findings includes colonic diverticulitis with secondary epiploic appendagitis and omental infarction.^{1,2,3} Findings of diverticulitis include presence of diverticuli close to the inflamed fat, colonic wall thickening with luminal narrowing, abscess, or free fluid.^{1,2} In omental infarction, the lesion is usually right-sided, larger (average diameter 3.5 cm to 7cm), and without the characteristic hyperattenuating ring sign.^{2,9}

In conclusion, PEA is a benign self-limiting condition. This report presents a patient for whom a diagnosis of PEA was successfully established by CT. It is important to consider PEA in the investigation of patients with abdominal pain, because a timely diagnosis could avoid unnecessary antibiotic therapy and surgical treatment.

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