

CASE REPORT

Acute Epiploic Appendagitis as a Rare Case of Acute Abdomen: A Case Report

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Abstract: We reported the unusual case of a 39-year-old man, who presented to a private hospital located at Kuala Lumpur, Malaysia, with intense left iliac fossa abdominal pain. The diagnosis of acute epiploic appendagitis (EA) was made based on the computed tomography (CT) findings of a well-defined ovoid lesion of fat density at the junction of sigmoid and descending colon, with thin hyperdense rim, together with surrounding mesenteric fat, and thickening of the adjacent peritoneum. He was treated conservatively without surgery, and the pain subsided gradually. Our case reaffirmed that careful diagnosis is necessary to avoid invasive surgical interventions that are largely unnecessary as a treatment for acute EA.

Keywords: Abdominal pain, Acute epiploic appendagitis, Diagnosis, Computed tomography

1 Introduction

The term “epiploic appendagitis (EA)” was first coined by Dockerty *et al.*^[1] in 1956, followed by description of its computed tomography (CT) features by Danielson *et al.*^[2] in 1986. Epiploic appendages are small pouches of omentum that originates from the serosal surface of the colon, to which they are attached by a vascular stalk. As a result of torsion or venous thrombosis, they may be subject to acute inflammation that leads to ischemia. This condition can be classified as either primary or secondary. Primary EA occurs when the blood supply to epiploic appendages is blocked by spontaneous torsion itself, or venous thrombosis. Secondary EA occurs when the tissue surrounding the colon, or the colon itself, is infected or inflamed, resembling lymphoid hyperplasia and bacterial infection due to appendicitis, cholecystitis, or diverticulitis^[3]. Inflammation of the epiploic appendages is self-limited in majority of patients. It rarely results in complications, such as abscess formation, abdominal adhesion, intestinal obstruction, intussusception, or peritonitis.

2 Case presentation

A 39-year-old, obese man came to our emergency department with severe abdominal pain at the left lower abdomen that had lasted for 2 days. He described it as colicky pain, without radiation to other parts of the body, and the pain score was 7 – 8/10. The pain was exacerbated by sudden movements, but not affected by eating, defecation, or urination. There was no associated nausea and vomiting. Neither symptoms of urinary tract infection nor change in bowel habit happened. He denied any history of abdominal trauma.

During physical examination, the patient was afebrile and not septic. Abdominal examination revealed tenderness in the left iliac fossa associated with abdominal

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guarding, while no pulsatile or palpable abdominal mass was detected. The outcome of the physical examination was otherwise unremarkable.

Complete blood count results of the patient are as follows: White blood cell (WBC) count $9.5 \times 1000/\mu\text{L}$ (normal range: $4.0 - 11.0 \times 1000/\mu\text{L}$), neutrophils 51.7%, hemoglobin 14.5 g/dL with a hematocrit of 41.0%, and platelet count $307,000/\text{mm}^3$. The results of liver and renal function tests were within normal limit. Serum amylase level was 49 U/L (normal range: 25 – 115 U/L). There was no blood, protein, or white blood cells detected in his urine sample. There was no radiological evidence of consolidation, effusion, or air under the diaphragm as shown on his chest X-ray.

CT scanning of the abdomen/pelvis with intravenous administration of 27.75 g of Iopamidol as contrast media was performed using the 64-slice Aquilion Prime SP CT Scanner (Canon Medical Systems, USA). The scan showed a well-defined ovoid lesion of fat density in the left iliac fossa, which is adherent to the junction of sigmoid and descending colon measuring 0.6 cm (AP) \times 3.9 cm (W) \times 1.6 cm (CC), with thin hyperdense rim, together with surrounding mesenteric fat, and thickening of the adjacent peritoneum (**Figure 1**). Besides, a small direct inguinal hernia was found during the CT scan. There was no evidence of diverticulum- and bowel-related mass or ascites. The overall clinical findings and CT findings were consistent with EA.

The patient was hospitalized and rehydrated with intravenous (IV) normal saline solution, IV Sulperazone 1 g b.d., and Celebrex 200 mg capsules b.d. Subsequently, his abdominal pain subsided gradually, remaining afebrile, and able to tolerate orally. He was discharged with oral dosage form of Cefuroxime and Celebrex after 2-day hospitalization. During the outpatient review, he remained well without abdominal pain or fever.

Written informed consent was obtained from the patient for publication of his test results.

3 Discussion

Acute EA is a relatively rare cause of acute abdomen. However, 2.3 – 7.1% of patients with suspected sigmoid diverticulitis and 1.0% of patients with suspected acute

appendicitis were finally found to have EA^[4-6]. EA, which occurs predominantly in male^[2,7,8], commonly happens in the 4th and 5th decades of life^[2,8]. It is considered rare among children, and the disease is more commonly associated with anorexia, nausea, vomiting, and low-grade fever, with caecum as the most common site among the affected children^[9]. With regard to the treatment, there was no difference between the children and the adults^[9].

Overweight or obesity, increased abdominal adipose tissue, and post-meal strenuous exercise were proposed to be the risk factors for developing EA^[10,11]. A localized abdominal pain with tenderness at right or left iliac fossa on palpation is present in all patients. It could be misdiagnosed for other conditions, such as appendicitis, colitis, or diverticulitis. Most of the patients do not experience fever, vomiting, or change in bowel habit, and their WBC count is often within normal range. In view of their non-specific clinical signs and symptoms, most cases of acute EA were unfortunately diagnosed intraoperatively, particularly before the widespread usage of CT scan.

The most common CT feature in EA^[12] is an oval lesion usually smaller than 5 cm in diameter^[13], with the “hyperattenuating ring sign”^[14], which is a thin, hyperdense rim-enhancing lesion (thickness of 1 – 3 mm), and the perilesional inflammatory fat attenuation^[13]. Sigmoid colon and caecum are the most commonly involved sites of EA. Without inflammation, inflammatory fatty lesion surrounding the epiploic appendages would not be detected on CT scan. However, some other lesions, such as acute omental infarction, diverticulitis, mesenteritis, and primary colon tumor or metastasis, needed to be ruled out before a diagnosis of EA is made^[13].

In this case, the patient was obese, with a body mass index (BMI) of 32 kgm^2 , which could be a risk factor for developing EA. He did not have fever or leukocytosis that is usually observed in acute appendicitis, diverticulitis, or other intra-abdominal inflammatory diseases. This is consistent with most of the literature which reported the absence of fever and normal WBC count in most cases of EA^[7,8].

Acute EA is a self-limiting condition which can be treated conservatively^[12]. Most of the patients will improve within 1 – 2 weeks from the condition after taking anti-

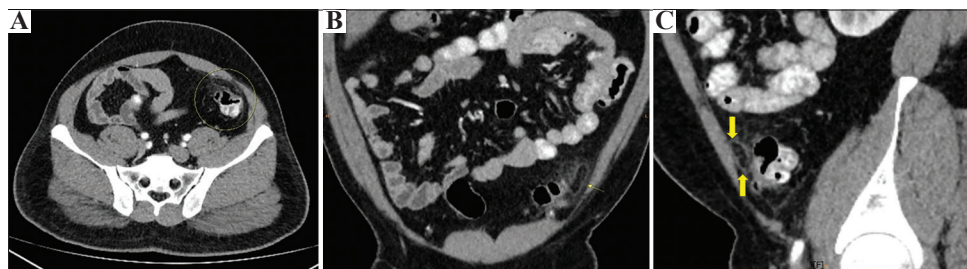


Figure 1. CT-scan showed a well-defined ovoid fat-density lesion with thin hyperdense rim in the left iliac fossa, adjacent to the junction of sigmoid and descending colon. It is associated with surrounding mesenteric fat. Adjacent sigmoid colonic wall is mildly thickened. (A) Axial view; (B) coronal view; (C) sagittal view.

inflammatory drugs. Sand *et al.*^[7] reported that recurrence of inflammation may occur in 40% of the patients that were treated conservatively. Surgical management using laparoscopic approach could be indicated if the patient remains symptomatic, despite adequate painkiller or anti-inflammatory treatment, to avoid further complications.

4 Conclusion

The diagnosis of acute EA should be considered in patients with acute localized abdominal pain but no signs of nausea, vomiting, fever, changes in menstrual history (for female), or abnormal laboratory test results. Careful detection coupled with abdominal and pelvis CT scans and/or ultrasound increase the accuracy of EA diagnosis, thereby obviating the need for surgery in majority of cases.

Conflict of interest

The authors declare no conflicts of interest in this case presentation.

Author contributions

All authors made substantial contributions to the acquisition of data, conception of the case report, and manuscript writing. J.Y.C. edited the final version of the manuscript before submission. All authors approved the final draft for publication.

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