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ORIGINAL ARTICLE

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Acute epiploic appendagitis in hernia sac: CT appearance

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Abstract We describe an unusual cause of acute abdomen due to acute epiploicappendagitis located within an incisional hernia sac. The contrast-enhanced CT showed an oval fat density structure with surrounding inflammation in the transverse mesocolon. The contrast-enhanced CT findings of the inflammation of appendices epiploicae of the transverse colon were diagnostic in this case.

Keywords Acute abdomen · Appendices epiploicae · Epiploic appendagitis · Hernia sac

Introduction

Acute epiploic appendagitis is an uncommon cause of acute abdomen, the diagnosis of which is based primarily on imaging. The mainstay of diagnosis is CT imaging, although there are reports of diagnosis with ultrasound and MR [1–7]. It is important to make an accurate radiological diagnosis of this condition, as it needs medical management with analgesics rather than surgery.

It is uncommon for the diagnosis of epiploic appendagitis to be made on clinical grounds alone [8]. Though acute appendagitis can often mimic the clinical presentation of acute diverticulitis and appendicitis, this is the first case report of the CT imaging features of acute epiploic appendagitis within an incisional hernia sac.

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Materials and methods

A 46-year-old woman with known anterior abdominal wall incisional hernia presented with acute onset of severe pain localized to the hernia sac. During evaluation in the emergency room, the patient had an elevated WBC count of 12,100 ml^{-1} and an ESR of 56 mm h^{-1}.

The prior surgical history included two laparotomies performed 4 years ago for bilateral ovarian cysts and tubovarian abscess. The past medical history included obesity, diverticulitis, tubo-ovarian abscess, and migraines.

A contrast-enhanced CT examination was performed for a clinical diagnosis of recurrent acute diverticulitis. It was performed on a helical CT scanner (General Electric Medical Systems, Milwaukee, WI, USA) using 140 ml of nonionic contrast (300 mgI ml^{-1}) and an injection rate of 3 ml s^{-1} (Fig. 1). The CT slice thickness for the abdomen and pelvic scans was 5 mm, and the images were interpreted on a PACS workstation (Impax DS3000 AGFASP4SU2).

The CT showed a 10×8 cm herniation through the anterior abdominal wall, containing transverse colon within the hernia sac. Within the hernia sac was a 3-cm-long oval fat density with hyperdense rim abutting the transverse colon, surrounded by inflammation in the transverse mesocolon. This finding was new since the prior CT of the patient done approximately 9.5 months earlier for an episode of acute diverticulitis. There was no colonic dilatation, wall thickening, or diverticulae seen involving the transverse colon.

The patient was conservatively managed with opioid analgesic and discharged in less than 10 h after presentation in the emergency room. The pain subsided with analgesic, and the patient had an uneventful course. The patient subsequently underwent a surgical repair of the incisional hernia, 25 days after the episode of acute epiploic appendagitis, and was discharged home.

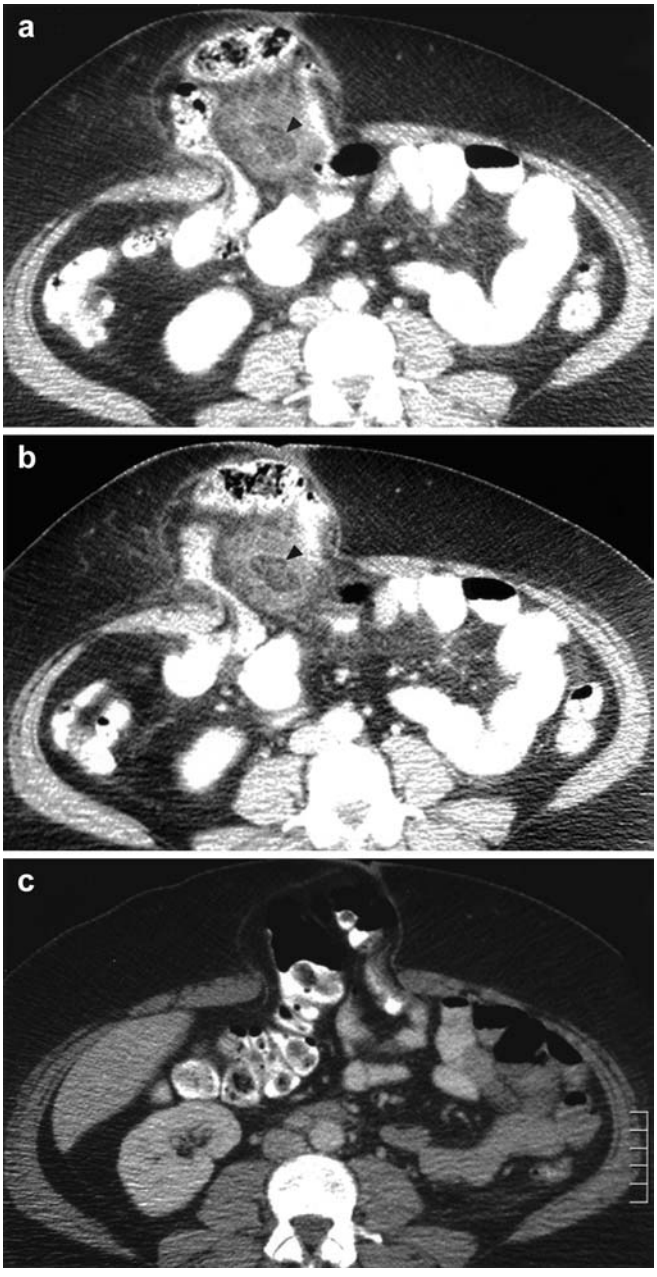

Fig. 1 A 46-year-old with with acute epiploic appendagitis. **a**, **b** Contrast-enhanced CT shows a fat density lesion (*arrowheads*) with surrounding inflammation located within the anterior abdominal wall hernia sac. **c** Contrast-enhanced CT performed 9.5 months earlier showed the hernia sac containing transverse colon

Discussion

Epiploic appendagitis is most commonly seen as an oval fat density lesion with surrounding inflammation and often a small high-density center. On CT it is most commonly present anterior to the sigmoid colon and typically does not cause colonic wall thickening [2–4].

Epiploic appendages are 2–5-cm-long fat-containing peritoneal outpouchings arising from the serosal surface of the colon. The inflammation of epiploic appendages is a benign self-limiting condition resulting from torsion or venous occlusion.

It is uncommon for acute epiploic appendagitis to be located adjacent to the transverse colon. The finding of a focal fat density lesion with high-density rim and surrounding inflammation in the mesocolon was diagnostic. Though there are case reports of appendices epiploicae causing incarcerated hernia, this is the first documented case in the literature of the CT imaging features of acute epiploicappendagitis presenting within an incisional hernia sac [9, 10].

In general, acute epiploic appendagitis does not produce leukocytosis and clinically does not present with nausea, vomiting, and fever. Though it is more common than usually thought of as the cause of acute abdominal pain, the clinical presentation is not characteristic enough to make a diagnosis based only on signs and symptoms. It is included in the differential diagnosis in less than 5% cases, based on the clinical presentation [8]. In this case the possibility of acute appendagitis was not entertained prior to the CT.

Acute pain referred to a hernia sac can be due to bowel incarceration, mesh, inflamed Meckel's diverticulum, appendicitis, abscess, and hemorrhage. This case report introduces a new CT imaging differential diagnosis of pain referred to a hernia sac, and the radiologist's knowledge of acute epiploic appendagitis helped avoid unnecessary hospital admission and treatment.

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