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Case Report

Epiploic appendagitis - a rare cause of acute lower abdominal pain

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ABSTRACT

Epiploic appendagitis is a rare cause of acute to subacute lower quadrant abdominal pain. It has 2 subtypes: primary and secondary Epiploic appendagitis. Primary epiploic appendagitis is characterized by inflammation of the epiploic appendages caused by torsion or thrombosis of the draining vein of the appendage whereas secondary Epiploic appendagitis may occur in association with other inflammatory etiologies in the abdomen and pelvis. Due to its similarity to other causes of acute abdomen, patients with primary epiploic appendagitis often undergo unnecessary treatment with antibiotics and surgical intervention. We present a case of a middle-aged male who was diagnosed with primary epiploic appendagitis based on imaging studies and was successfully managed with conservative treatment.

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Introduction

Appendices epiploicae extend from the cecum to the rectosigmoid junction. A human adult colon has 50–100 appendages. Epiploic appendagitis is a rare condition that refers to the inflammation of the epiploic appendages. There are 2 types of epiploic appendagitis: Primary and secondary. Primary epiploic appendagitis results from vascular involvement due to torsion or thrombosis of the central vein of the appendage. Secondary epiploic appendagitis is characterized in association with other abdomino-pelvic inflammatory processes, for example, pancreatitis, cholecystitis, diverticulitis, and appendicitis.

We present another case of a primary epiploic appendagitis in a middle-aged man who presented to us with left side lower abdominal pain. The patient was subsequently diagnosed with primary epiploic appendagitis based on imaging and was managed conservatively. Practicing clinicians should be aware of such an entity for its diagnosis and successful management.

Case summary

A 29-year-old male presented to emergency department (ED) with left-sided lower quadrant abdominal pain for 2

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days. The pain was of stabbing nature with no radiation and associated with nausea, nonbilious vomiting. The patient had no fever, chills, night sweats, hematemesis, melena, hemochezia, hematuria, flank pain, or radiating pain.

Physical examination revealed an otherwise well-appearing patient. Vital signs were normal. Physical examination demonstrated left lower quadrant tenderness. Laboratory workup was normal. A computed tomography (CT) scan of the abdomen and pelvis was obtained which was read as 2.8 × 2.1 cm area of focal inflammation in the fat in a region adjacent to the antero-inferior margin of junction of descending and sigmoid colon, demonstrating a high-density ring with mild surrounding inflammatory fat stranding and thickening of the adjacent peritoneal lining suggestive of epiploic appendagitis. The patient had a gradual resolution of symptoms; surgical intervention was avoided and the patient was discharged for home.

Imaging findings and diagnosis

Figures 1–3.

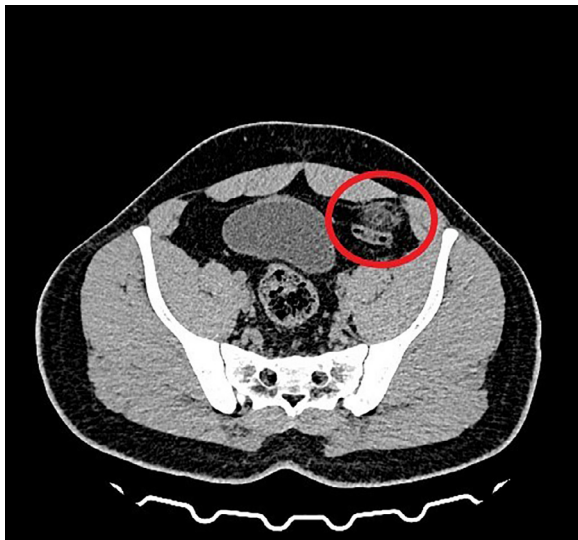


Fig. 1 – Computed tomography scan of the abdomen and pelvis (axial view) showing a 2.8 × 2.1 cm fat density ovoid structure adjacent to the antero-inferior margin of junction of descending and sigmoid colon, demonstrating a high-density ring with mild surrounding inflammatory fat stranding and thickening of the adjacent peritoneum.



Fig. 2 – Computed tomography scan of the abdomen and pelvis (coronal view) showing a 2.8 × 2.1 cm fat density ovoid structure adjacent to the antero-inferior margin of junction of descending and sigmoid colon, demonstrating a high-density ring with mild surrounding inflammatory fat stranding and thickening of the adjacent peritoneum.



Fig. 3 – Ultrasonography scan of the lower abdomen shows a hyperechoic lesion with hypoechoic rim measuring 2.8 × 2.1 cm in the left iliac fossa.

Discussion

Epiploic appendagitis is a rare cause of localized, acute abdominal pain. Dockerty et al in 1956 were the first to use the terminology “Epiploic appendagitis.” [1] Epiploic appendagitis mimics various other intra-abdominal pathologies which include mesenteric panniculitis, omental infarction, appendicitis, diverticulitis, and fat-containing tumor among others [2,3]. Exact incidence and prevalence of epiploic appendagitis is not reported. Some literatures report a male preponderance, primarily affecting patients between the 4th and 5th decade of life [2]. It is seen with increased frequency in obese patients, patients with hernia, and those undergoing heavy exercise [2,4].

The most common clinical presentation includes sudden onset of lower quadrant abdominal pain, most often on the left side. Other symptoms that may accompany include fever, nausea, vomiting, bloating or fullness, distension, and diarrhea [5,6]. Laboratory workup is usually normal, but in some cases, neutrophilic leukocytosis, elevation of erythrocyte sedimentation rate, and elevation of C-reactive protein has been reported [7,8].

Before the development of advanced diagnostic imaging techniques, Epiploic appendagitis was a surgical diagnosis. Danielson et al described characteristic findings of epiploic appendagitis by CT scan in 1986 for the first time [9]. EA is now primarily diagnosed based on these CT scan findings. The presence of intraperitoneal fluid or inflammation around the appendages distinguishes epiploic appendagitis on CT imaging. Usually an oval-shaped, fat density paracolic lesion about 2-4 cm in size, surrounded by fat stranding as seen in our patient. Furthermore, with increasing use of CT scan, incidental diagnosis of epiploic appendagitis is also being reported. Ultrasound of abdomen and pelvis can also help in the diagnosis, where the typical findings include a noncompressible hyperechoic mass with a surrounding hypoechoic rim no color flow on Doppler studies [2,9]. Most common sites of the bowel affected in descending order of frequency include sigmoid colon, descending colon, and the right hemi colon [2]. Differential diagnosis of epiploic appendagitis should include acute cholecystitis, acute diverticulitis, acute appendicitis, and dropped appendicoliths (especially for calcified epiploic appendages).

Epiploic appendagitis is a benign inflammatory condition with a self-limited course. Management may not require hospitalization, antibiotics, or surgical intervention. Oral non-steroidal anti-inflammatory medications or opioid analgesics can be used depending on the severity. Typically, symptoms resolve spontaneously within 2 weeks [5]. The CT findings may take longer to resolve, usually up to 6 months [2]. Surgical management may be indicated in patients who develop bowel obstruction or intussusception. Unresolved epiploic appendagitis may result in complications like intestinal obstruction, intussusception, and abscess formation.

Our study showed the location of epiploic appendagitis in the left iliac fossa region adjacent to the anteroinferior margin of junction of descending and sigmoid colon whereas the case studies done by Chu E A et al and Aljilly S et al showed the

location to be on the right involving the ascending colon and appendix respectively [10,11].

In summary, we present a case of a middle-aged male who presented with acute left lower quadrant abdominal pain. The patient was evaluated with a CT scan of the abdomen and pelvis which confirmed the diagnosis of epiploic appendagitis due to the characteristic findings. We were able to avoid surgical intervention in this particular case.

Conclusion

An inability to appropriately differentiate epiploic appendagitis from other acute inflammatory abdominal pathologies such as acute diverticulitis and appendicitis leads to surgical intervention, increased length of hospitalization, as well as increased postoperative morbidity. Clinicians should be aware of epiploic appendagitis as a differential of lower quadrant abdominal pain. Our case highlights the role of an astute radiologist in outlining the characteristic radiologic features of epiploic appendagitis.

Patient consent

I have seen a version of the manuscript to be submitted/published (including any pictures) and I hereby give my consent for my image or other information relating to me to be reported in the above named manuscript for consideration of publication in the journal of radiology case reports of Elsevier publications. I understand that this signed form will be submitted to the journal with the manuscript as evidence of my consent.

I understand that protected health information such as my identification number, billing information, address, will not be published and that efforts will be made to conceal my identity, however, the journal cannot guarantee confidentiality once the case is published. Images, including distinctive body markings and/or diagnostic images, may be published.

I understand that the material may be published (both in print and electronically) and in products derived from the journals. As a result, I understand that the material may be seen by the general public. I understand that I may revoke consent at any time before publication, but once the information has been published revocation of the consent is no longer possible. I understand that I will derive no financial benefit from publication of this paper.

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