



Epiplöic appendagitis, an overlooked emergency in the daily practice

Epiplöik apandisit, günlük pratikte gözden kaçırılan acil bir durum

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ABSTRACT • Background and Aims: Acute epiplöic appendagitis is an uncommon and easily misdiagnosed cause of acute abdominal pain. The diagnosis of epiplöic appendagitis has clear clinical importance in patient management. Radiology has an important role in diagnosing this condition, which mimics many acute pathologies requiring surgery. The aim of this study is to determine the frequency and presentation of acute epiplöic appendagitis in our patient population and to remind this self-limiting entity. **Materials and Methods:** Adult patients applied to the emergency department with acute abdominal pain and were evaluated with abdominal computed tomography between 2022-2023 were retrospectively analyzed. Patients were grouped according to the common causes of acute abdomen. The frequency and common presentation of epiplöic appendagitis were researched. **Results:** In the one-year retrospective radiology database search, computed tomography findings were consistent with epiplöic appendagitis in eight (3.12%) of 256 patients. The anamnesis, physical examination, and laboratory findings of these patients were examined retrospectively. **Conclusion:** Epiplöic appendagitis is a rare but self-limiting cause of acute abdomen. In the management of acute abdominal pain, emergency physicians and radiologists should also remember this clinical situation in order to avoid unnecessary surgical interventions.

Key words: Acute abdomen, computed tomography, abdomen pain, emergency

ÖZET • Giriş ve Amaç: Akut epiplöik apandisit, akut karın ağrısının nadir ve kolayca yanlış teşhis edilen bir nedenidir. Epiplöik apandisit tanısı, hasta yönetiminde açık klinik öneme sahiptir. Radyoloji, cerrahi gerektiren birçok akut patolojiyi taklit eden bu durumun teşhisinde önemli bir role sahiptir. Bu çalışmanın amacı hasta popülasyonumuzda epiplöik apandisit tanı oranı ile prezentasyonunu belirlemek ve bu kendini sınırlayan antiteyi hatırlatmaktır. **Gereç ve Yöntem:** 2022-2023 yılları arasında acil servise akut karın ağrısı şikayetiyle başvuran ve batin bilgisayarlı tomografi ile değerlendirilen erişkin hastalar retrospektif olarak incelendi. Hastalar akut karının sık görülen nedenlerine göre gruplandırıldı. Epiplöik apandisitlerin sıklığı ve yaygın belirtileri araştırıldı. **Bulgular:** Bir yıllık retrospektif radyoloji veri tabanı araştırmasında, 256 hastanın sekizinde (%3,12) bilgisayarlı tomografi bulguları epiplöik apandisit ile uyumluydu. Bu hastaların anamnezleri, fizik muayeneleri ve laboratuvar bulguları geriye dönük olarak incelendi. **Sonuç:** Epiplöik apandisit, akut karının nadir fakat kendi kendini sınırlayan bir nedenidir. Akut karın ağrısının yönetiminde gereksiz cerrahi müdahalelerden kaçınmak için, acil servis hekimleri ve radyologlar bu klinik durumu da hatırlamalıdır.

Anahtar kelimeler: Akut karın, bilgisayarlı tomografi, karın ağrısı, acil

INTRODUCTION

Acute epiplöic appendagitis is a rare and often missed cause of abdominal pain. It may be primary to inflammatory or ischemic damage to epiplöic appendages or, secondary to other inflammatory conditions affecting adjacent abdominal organs. The diagnosis is of clear clinical importance in

patient management because the condition often mimics acute appendicitis and diverticulitis, and imaging plays an important role in diagnosis. The aim of this article is to evaluate the frequency and presentation of acute epiplöic appendagitis in our patient population and to remind this pathology.

MATERIALS and METHODS

Adult patients who presented to the emergency department with acute abdominal pain and were evaluated with abdominal computed tomography (CT) in the one-year period between 2022- 2023 were retrospectively analyzed. Patients were grouped according to the common causes of acute abdomen. The frequency and common presentation of epiploic appendagitis were investigated.

All procedures were conducted in accordance with the ethical standards of the committees concerned with human experimentation (institutional and national) and the 1964 Declaration of Helsinki and its later editions. This study was approved by the Istanbul Aydin University Clinical Research Ethics Committee with the decision dated 18.10.2023 and numbered 2023/125.

RESULTS

In the one-year retrospective radiology database search, a total of 256 adult patients who complained of acute abdominal pain for reasons other than trauma and underwent abdominal CT examination for diagnostic purposes were found. 139 of these patients were male (54.2%). The ages of the patients

were between 18 and 93 and the average age was 59.4. According to CT, eight (3.12%) of 256 patients had signs of acute epiploic appendagitis, and this number was equal to the number of ovarian cyst ruptures. The results are summarized in Table 1.

The clinical information of eight patients diagnosed with epiploic appendagitis was examined in detail. The ages of the patients ranged from 24 to 46 years, and seven patients (87.5%) were men. Four patients (50%) presented with left lower quadrant pain, two patients (25%) complained of right lower quadrant pain, and the other two (25%) presented with widespread abdominal pain. None of the patients had a high fever. The white blood cell (WBC) count was above normal limits in five patients (62.5%). The C-reactive protein (CRP) value was normal in all patients. Abdominal CT scans were re-evaluated by a radiologist with over 10 years of experience (Figures 1-4). Typical imaging findings of epiploic appendagitis on CT were seen in the neighborhood of the descending colon, in four patients (50%) with left lower quadrant pain; in the cecum, in two patients (25%) with right lower quadrant pain; and in the sigmoid colon in two (25%) with widespread pain.

Table 1 Distribution of acute abdomen patients by final diagnosis.

Disease	Number	Ratio %
Acute appendicitis	16	6.25
Renal colic/nephrolithiasis	29	11.32
Ovarian cyst rupture	8	3.12
Ileus	10	3.90
Diverticulitis	12	4.68
Acute cholecystitis/gall-bladder stone	25	9.76
Normal/myalgia/abdominal gas distension	72	28.12
Other (malignancy, cirrhosis, liver/kidney cyst, aortic aneurysm, pancreatitis, hepatomegaly, intestinal inflammatory diseases, etc.)	76	29.68
Epiploic appendagitis	8	3.12
Total	256	100

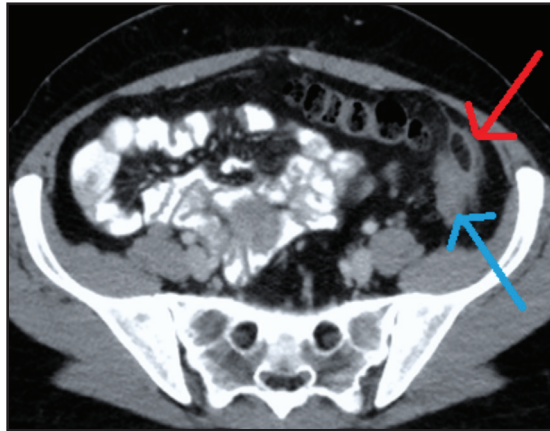


Figure 1 26 year-old woman with left lower quadrant pain. Epiploic appendagitis (red arrow) is adjacent to the descending colon (blue arrow).

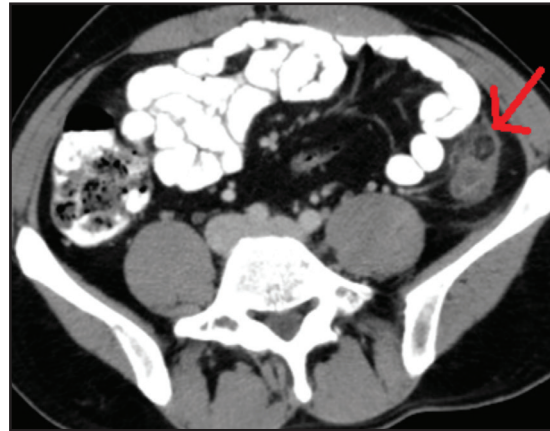


Figure 2 42 year-old man with left lower quadrant pain. Epiploic appendagitis (red arrow) is adjacent to the descending colon.

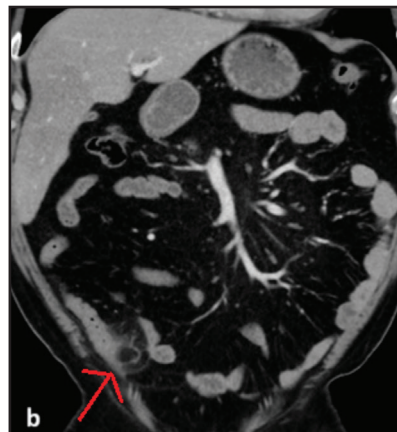
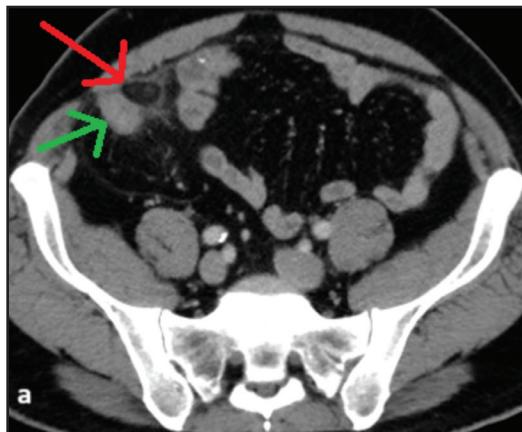


Figure 3-a and 3-b. 54 year-old man with right lower quadrant pain. Epiploic appendagitis (red arrow) is adjacent to the cecum (green arrow).



Figure 4 24 year-old man with general abdomen pain. Epiploic appendagitis (red arrow) is adjacent to the sigmoid colon.

DISCUSSION

Epiploic processes are pedunculated fatty projections on the serosal surface of the colon. In adults, there are approximately 50–100 epiploic processes running in two separate longitudinal stripes around the colon (1,2). Normal epiploic processes are covered by peritoneum and are typically 1–2 cm thick. Although their average length is 2–5 cm, they can extend up to 10 cm (3,4). Epiploic extensions are mainly located at the rectosigmoid junction (57%), followed by the ileocecal region (26%), but can also be found in the ascending colon (9%), transverse colon (6%), and descending colon (2%) (5).

These structures tend to be larger in obese people and those who have recently lost weight. The role of epiploic appendages is not well understood, and it is hypothesized that these structures, together with the omentum, act as a protective fat pad during intestinal peristalsis, and may also play a role in fat storage and immunity. The arterial blood supply of the epiploic appendages is provided by arteries arising from one or two small vasa recta longa, while the venous drainage is provided by a convoluted vein through a narrow pedicle.

Epiploic appendagitis is a relatively uncommon cause of acute abdomen. The incidence of epiploic appendagitis is estimated to be 1.3%, and the typical patient profile consists of young to middle-aged men presenting with left flank and lower quadrant pain (6). It is characterized by acute pain in the abdomen, determined by a benign, self-limiting inflammatory or ischemic process. The “primary” form of epiploic appendagitis occurs with ischemic or hemorrhagic infarction due to torsion of its pedicle or spontaneous central venous thrombosis. Vascular occlusion triggers ischemia, wall edema, necrosis, and aseptic local inflammation of the affected appendage.

Primary epiploic appendagitis may be present with clinical symptoms similar to pelvic inflammatory disease, ovarian torsion, ectopic pregnancy, mesenteric lymphadenitis, acute omental infarction, mesenteric panniculitis, and ureteric stones (7-9). Laboratory tests are usually within normal limits, or mostly non-specific (10). Rarely, a slight increase in WBC and CRP may be observed due to an inflammatory response resulting from ischemic necrosis (11,12). Epiploic appendagitis may also develop secondary to inflammatory processes affecting adjacent organs in the case of diverticulitis, appendicitis, pancreatitis, or cholecystitis (15-17-18).

The clinical presentation of epiploic appendagitis is localized peritonitic pain, which, on examination, is indistinguishable from diverticulitis on the left and acute appendicitis on the right (19,20). Therefore, the initial referral diagnosis is incorrect in almost all patients with a final diagnosis of epiploic appendagitis (21).

Today, CT imaging has become a frequently used and easy-to-apply diagnostic method in the management of acute abdomen. With the development of CT technology, imaging findings of epiploic appendagitis have also been described. The diagnostic image of epiploic appendagitis on CT is a round or oval structure adjacent to the colon, usually 1.5-3.5 cm in diameter, with fat density in the middle, accompanied by fatty tissue inflammation and free fluid around it (1). Nugent et al. reported the CT findings in epiploic appendagitis as an oval mass with a hyperattenuation ring (100%), a central hyperdense dot sign (79%), peritoneal thickening (76%), or intestinal wall thickening (47%) (22).

Although the disease initially has a symptomatology that can be confused with acute pathologies requiring surgery, it is a self-limiting process that regresses completely in about a week. Once diagnosed with imaging, most patients can be treated conservatively with or without short-term oral anti-inflammatory drugs. Most patients do not require antibiotic therapy, hospitalization, or invasive surgery and can be safely discharged.

CONCLUSION

It is possible to prevent unnecessary operations by keeping in mind acute epiploic appendagitis, which can be diagnosed with its typical radiological findings, although it can be confused with acute abdomen requiring surgery during examination.

Ethics: This study was approved by the Clinical Research Ethics Committee of İstanbul Aydın University on date 18.10.2023 and with the number: 2023/125.

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