

Eiploic Appendagitis a challenging imaging diagnosis



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ABSTRACT

Eiploic appendagitis is a self-limited condition secondary to torsion or thrombosis of the eiploic appendages, usually followed by inflammation. The clinical findings are non-specific, leading to frequent misdiagnosis situations. On the other hand, the Computed Tomography (CT) features of eiploic appendagitis are quite typical and well described. Therefore, physicians should consider the diagnostic role of CT in this underdiagnosed challenging disease.

Key words: *Eiploic, appendages, appendagitis*

Eiploik Apendisit: Görüntüleme Yöntemleri ile Tanı

ÖZET

Eiploik apendisit eiploik apendikslerin tromboz ve torsiyonuna sekonder kendini sınırlayan bir inflamasyon durumudur. Klinik bulgular spesifik değildir ve sıklıkla yanlış tanıya neden olur. Diğer bir yandan bilgisayarlı tomografide eiploik apendisitin görünümü tipik olarak iyi tanımlanmıştır. Bundan dolayı bu durumun tanısını koymada klinisyenler bilgisayarlı tomografiyi düşünmelidir.

Anahtar kelimeler: *Eiploik, apendiks, apendisit*

INTRODUCTION

Eiploic appendagitis is an uncommon, benign, self-limited condition secondary to inflammation of the eiploic appendages (1). The eiploic appendages are pedunculated fat-containing peritoneal pouches that protrude from the serosal surface of the colon (1-6). Supplied by two arteries and one vein, the torsion or thrombosis of an eiploic appendage may cause eiploic appendagitis (2-6). As the clinical presentation is usually lower abdominal pain, many possible and more prevalent differential diagnoses often lead to a clinical misdiagnosis, with unnecessary intervention (2,6). Therefore, imaging plays a diagnostic role in this challenging clinical condition (2,4,6). The authors report a case in which Computed Tomography (CT) diagnosed eiploic appendagitis, avoiding the need for surgical intervention. The patient responded well to oral anti-inflammatory medication and was discharged.

CASE

A 24-year-old male patient was admitted to the Emergency Room with intense left lower-quadrant abdominal pain. The pain started 15 days prior and turned from mild to severe in the previous 3 days. Migrative or irradiative characteristics were absent. The patient had no history of abdominal surgery or trauma in the past. He reported anorexia but denied nausea, vomiting, weight loss, intestinal habits or genitourinary alterations. The physical examination was barely normal. The only finding was a non-specific pain in the left iliac fossa on palpation. There were no signs of important abdominal distention, peritonism or fever. The laboratory analysis revealed no signs of infection (leukocytes: 5700/mm³). The urinalysis was also normal. Abdominal Computed Tomography (CT) showed an oval-shaped, hypodense fat-containing mass, with peripheral enhancement, at an anterior paracolic

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position from the sigmoid colon, measuring 2,7 x 1,2 x 3,0 cm. Moreover, surrounding inflammatory changes were present, again suggesting epiploic appendagitis (Figure 1). After starting conservative treatment with ibuprofen, the patient evolved well and was sent home 2 days after admission, with medication maintained for one week. After 4 weeks, he returned for follow-up, completely asymptomatic, and was definitively discharged.

DISCUSSION

The epiploic appendages are small, fat-containing peritoneal pouches that protrude from the serosal surface of the colon, with an anti-mesenteric location (1-6). These structures were first described by Vesalius in 1543 (1). Their function is not well established, although a defending role, such as the one played by the great omentum, has already been described (1,5). Epiploic appendages are not usually found near the rectum (2). The pedunculated appearance is due to the vascular stalk, which comprises two arteries and one vein. Therefore, the ischemic symptoms of epiploic appendagitis are initially caused by the venous component (2,5). There are approximately 100 epiploic appendages (1,2,3,5), which vary in size from 0,5-5 cm long and 1-2 cm in wall thickness (1,2,5,6). However, those near the sigmoid colon tend to be larger and greater in number (1,2,4,5). The term "epiploic appendagitis" was first introduced by Lynn et al. in 1956



Figure 1. Abdominal Computed Tomography (CT) showing an oval-shaped, hypodense fat-containing mass (arrow), with surrounding fat stranding, suggesting epiploic appendagitis.

(1,2). Other terms such as epiploic appendicitis, appendicitis epiploica, epiploitis, appendagitis, hemorrhagic epiploitis and epiplopericolicitis are used interchangeably in the literature (1). The disease occurs when the epiploic appendages suffer an ischemic or thrombotic event, usually from torsion of the vascular stalk, followed by inflammation (1-3,6). Nevertheless, other causes such as intestinal obstruction, hernia incarceration, intraperitoneal loose body, lymphoid hyperplasia and bacterial invasion secondary to an abdominal infection have been described (2,5). The prevalence is not known. The evidence suggests that its self-limited character, associated with frequent misdiagnosis, leads to an underdiagnosed disease (5,7). A study conducted by Rao et al. found a \$4117 cost per misdiagnosed patient (7). The incidence peak ranges between 40-50 years but may occur at any age. Men are more commonly affected than women (2,5). Risk factors include hernia, obesity, unaccustomed exercise and rapid weight loss (1,2).

Clinically, patients present non-specific lower quadrant pain, more frequently on the left side, the onset of which is habitually acute (1,2,4,6). In our report, the lower left quadrant pain had a 15-day evolution and may be considered subacute. Abdominal guarding is reported in 50% of the cases (5). In our report, we believe that the absence of this finding is enforced by the subacute onset of the pain. A study by Freitas et al. (1) found urinalysis alteration in 5% of the patients. No urinalysis changes were observed in the current case. Depending on the side, symptoms tend to simulate acute appendicitis or acute diverticulitis (1-5). However, unlike epiploic appendagitis, these two entities are usually followed by nausea, vomiting, fever and moderate to significant leukocytosis. On the other hand, non-specific abdominal pain and anorexia are often present (1,2). Before the advent of CT, the diagnosis used to be intraoperative (1,2,6,7). The CT aspects of epiploic appendagitis were first published in 1986 by Danielson et al (1,2,7). The use of Ultrasonography (US) and Magnetic Resonance (MR) has also been described (1,2,4). Nonetheless, the operator dependence and the extensive period of time required for imaging acquisition, respectively, support the use of CT in most emergency services (1). The most frequent features of epiploic appendagitis on CT are oval-shaped, hypodense fat-containing masses, with enhanced rims after contrast administration, periappendiceal fat stranding and thickening of the parietal peritoneum (1-7). All of these findings were documented in our report.

The main differential diagnosis at CT includes omental infarction, sclerosing mesenteritis, mesenteric panniculitis, tumor or metastasis involving the mesocolon, acute appendicitis and acute diverticulitis (1,2,6). Moreover, a differential clinical diagnosis such as cholecystitis, ovarian torsion, ovarian cyst rupture, ectopic pregnancy, Crohn`s disease, ulcerative rectocolitis, or mesenteric adenitis should be considered (1). Epiploic appendagitis is habitually self-limited and should be treated conservatively in most cases. Treatment is symptomatic and anti-inflammatory drugs are advised (1-7). The response to treatment tends to be quick and rarely exceeds 2 weeks (2). In our report, the patient was asymptomatic 2 days after starting oral ibuprofen therapy. However, CT findings may last up to 6 months (2). Although rare, complications are usually caused by abscess formation or intestinal obstruction and require urgent surgical intervention (2,5). In conclusion, we enforce that the CT role in diagnosing epiploic appendagitis is crucial, and that the presence of the triad a) oval-shaped hypodense fat-containing mass, b) enhanced rim after contrast administration and c) periappendiceal fat stranding and thickening of the parietal peritoneum, associated with non-specific abdominal pain, shall suggest epiploic appendagitis.

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