

# EPILOIC APPENDAGITIS;

A rare cause of acute abdomen; computed tomographic & ultrasound features (Case reports & review of literature)

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**ABSTRACT**.....Acute epiploic appendagitis is an uncommon cause of abdominal pain that has only recently been recognized. The diagnosis of this condition primarily relies on cross-sectional imaging and is made most often on CT, although occasionally sonography has been used<sup>1</sup>. Epiploic appendages are fat- and blood vessel-containing outpouchings protruding from the serosal surface of the colon<sup>2</sup>. They appear in the fifth month of fetal life and in an adult human, the average number of epiploic appendages is approximately 50-100. They measure from 2-5 cm in length<sup>2,3,5</sup>. Epiploic appendagitis is the inflammatory process of the epiploic appendage and has primary and secondary types. Primary epiploic appendagitis (PEA) is the infarction and inflammation of an appendage because of torsion or spontaneous venous thrombosis. PEA mimics acute abdominal diseases; thus, it must be distinguished from the secondary epiploic appendagitis, which is caused by neighborhood inflammatory processes such as diverticulitis, appendicitis or cholecystitis<sup>2,3</sup>. The most common computed tomographic (CT) appearance of acute epiploic appendagitis is the presence of 1.5- to 3.5-cm-diameter fat-density lesion with surrounding inflammatory changes abutting the anterior wall of the sigmoid colon<sup>1</sup>.

**Key words:** Inflammation, epiploic appendage, acute abdomen, colon, computed tomography

## Article Citation

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## CASE 1

A 43-year-old male patient presented with acute severe pain in left iliac fossa. There was left abdominal tenderness on physical examination; the laboratory findings were unremarkable. Abdominal ultrasonography showed a hyperechoic oval shaped lesion in left lower quadrant at site of maximum tenderness (Fig. 1). On colour doppler no blood flow seen in it and suspected diagnosis of epiploic appendagitis was given and after that CT scan of pelvis done which demonstrated a hyperdense lesion in left lower quadrant with fat density. Oval shaped lesion was anterior to sigmoid colon and posterior to abdominal wall (Fig.2). However density of lesion was more than surrounding fat. Minimal enhancement was seen after IV contrast administration. After antibiotic and anti-inflammatory therapy size of lesion decreased gradually and disappeared as observed on follow up ultrasounds and patient was clinically settled as well.

## CASE 2

A 25-year-old male patient presented with severe pain

in left lower abdomen. There was left lower abdominal tenderness on physical examination; the laboratory findings were unremarkable. Abdominal ultrasonography showed a hyperechoic oval shaped lesion in left lower quadrant at site of maximum tenderness (Fig 3). On colour doppler minimal blood flow seen in it and suspected diagnosis of epiploic appendagitis was given. CT scan of abdomen & pelvis was acquired which demonstrated an oval shaped hyperdense lesion in left lower quadrant with fat density and surrounded by fat standings (Fig. 4). This lesion was anterior to sigmoid colon and posterior to anterolateral abdominal wall. However density of lesion was more than surrounding fat. Minimal enhancement was seen after IV contrast administration. After antibiotic and anti-inflammatory therapy size of lesion decreased gradually and disappeared as observed on follow up ultrasounds and patient was clinically settled as well.

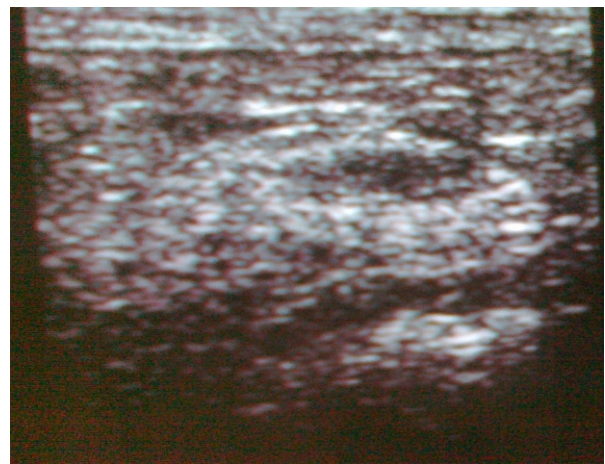
## DISCUSSION

Epiploic appendagitis was reported first time as finger-like projections of fat-containing structures arising

from the serosal surface of the colon by Vesalius in 1543. The vessels pass through their narrow pedicle which contains one or two small arteries and a single vein<sup>5</sup>. Epiploic appendagitis can be primary or secondary. Primary epiploic appendagitis results from spontaneous thrombosis of appendiceal drainage veins in the absence of torsion or ischemia<sup>3,6,7</sup>. Secondary epiploic appendagitis develops following the inflammatory processes in adjacent structures, such as in cases of vermiform appendix, diverticulitis, and cholecystitis<sup>3,7</sup>. Pain is usually perceived in the right and left lower quadrants, but may change with location of the inflammatory process; yet, left lower quadrant pain is the most common<sup>3,7</sup>. Some patients report fever, vomiting, diarrhea or nausea, such as our first case<sup>2,8</sup>. Laboratory findings are usually normal or white blood cell count is minimally elevated<sup>5,8</sup>. Sometimes exercise or posture change may cause epiploic appendagitis<sup>3,5</sup>. The most common part of the colon affected by acute epiploic appendagitis in decreasing order of frequency was the sigmoid colon (n = 31), descending colon (n = 9), cecum (n = 6), and ascending colon (n = 4) in a study of 50 patients. (1).

Male predominance is seen in the primary form and it affects obese people in the second to fifth decades of life<sup>5,7</sup>. Epiploic appendagitis is a self-limiting and spontaneously regressing entity, and conservative treatment is sufficient<sup>3,5</sup>. Epiploic appendagitis should always be considered in evaluating an acute abdomen case presenting with localized lower quadrant pain and tenderness in the absence of specific symptoms and laboratory findings, and prompt radiological evaluation should be conducted<sup>6</sup>. Ultrasound has been used to show epiploic appendagitis. It shows hyperechoic noncompressible mass near the colonic wall at the site of tenderness on physical examination<sup>2,5,9-12</sup>. With color Doppler, no vascularity is demonstrated within the mass, and this finding distinguishes it from other inflammatory processes such as diverticulitis or appendicitis<sup>2,4</sup>. CT findings of

PEA are specific and characteristic for epiploic appendagitis. In presented case, abdominal CT demonstrated an oval fat density lesion on the left side with minimal contrast enhancement next to the sigmoid colon and increased density of mesenteric fat planes around the lesion secondary to the inflammation, as presented in previous papers<sup>2,3,9,13,14</sup>. Sometimes fascial thickening and nearby parietal peritoneal thickening may also be demonstrated<sup>2,7,9,10,12,13</sup>.



**Figure 1: Ultrasound Image showing an oval shaped hyperechoic mass inferior to abdominal wall**



**Figure 2: CT scan showing oval shaped hypodense mass anterior to sigmoid colon with fat density.**

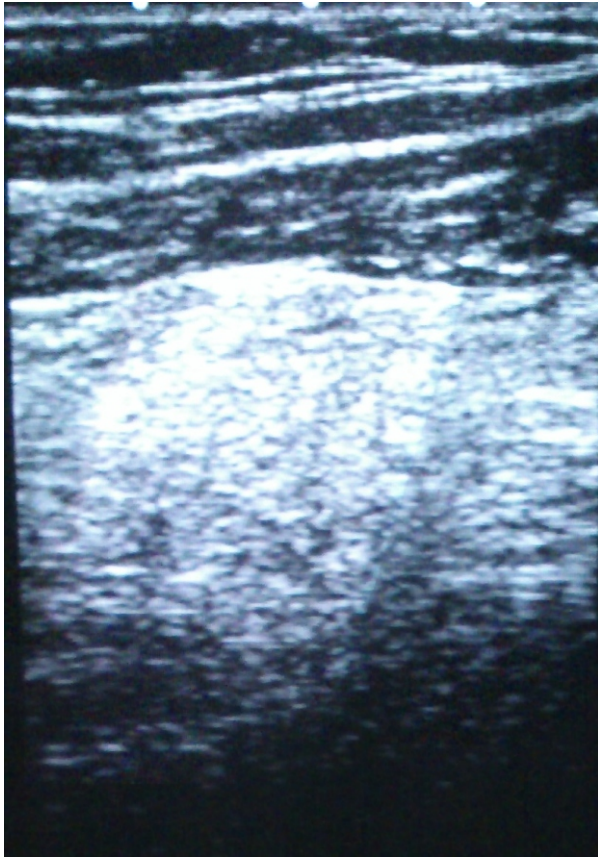


Figure 3: Ultrasound Image showing an oval shaped hyperechoic mass inferior to abdominal wall in left iliac fossa

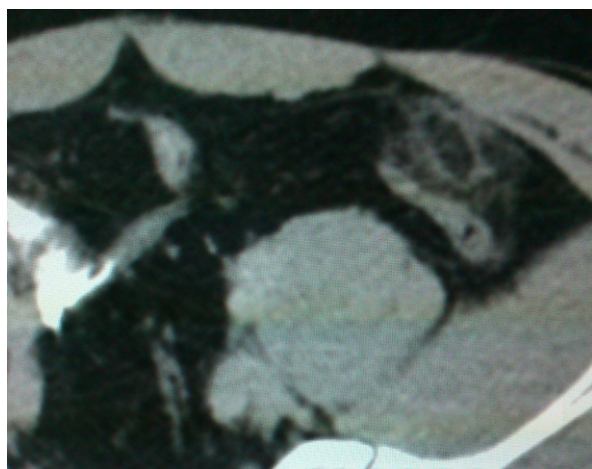


Figure 4: CT scan showing oval shaped fat density hypodense mass anterior to sigmoid colon with surrounding strandings.

In conclusion, epiploic appendagitis mimics acute abdominal diseases, and CT findings are characteristic for the disease. It should be kept in mind that if the patient is diagnosed with this rare inflammatory condition, other acute pathologies can be excluded and unnecessary surgery in patients can be avoided. Precontrast CT or ultrasound is sufficient for the follow-up of the patients.

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