Emergency Care Journal

Official Journal of the Academy of Emergency Medicine and Care (AcEMC)

eISSN 2282-2054

https://www.pagepressjournals.org/index.php/ecj/index

Emerg Care J 2026 [Online ahead of print]

To cite this Article:

Poggiali E, Caborni C, Turchio P. **An abdominal pain that looks like a ring.** *Emerg Care J* doi: 10.4081/ecj.2026.14994

Submitted: 1 March 2026 Accepted: 10 April 2026 Early access: 21 May 2026

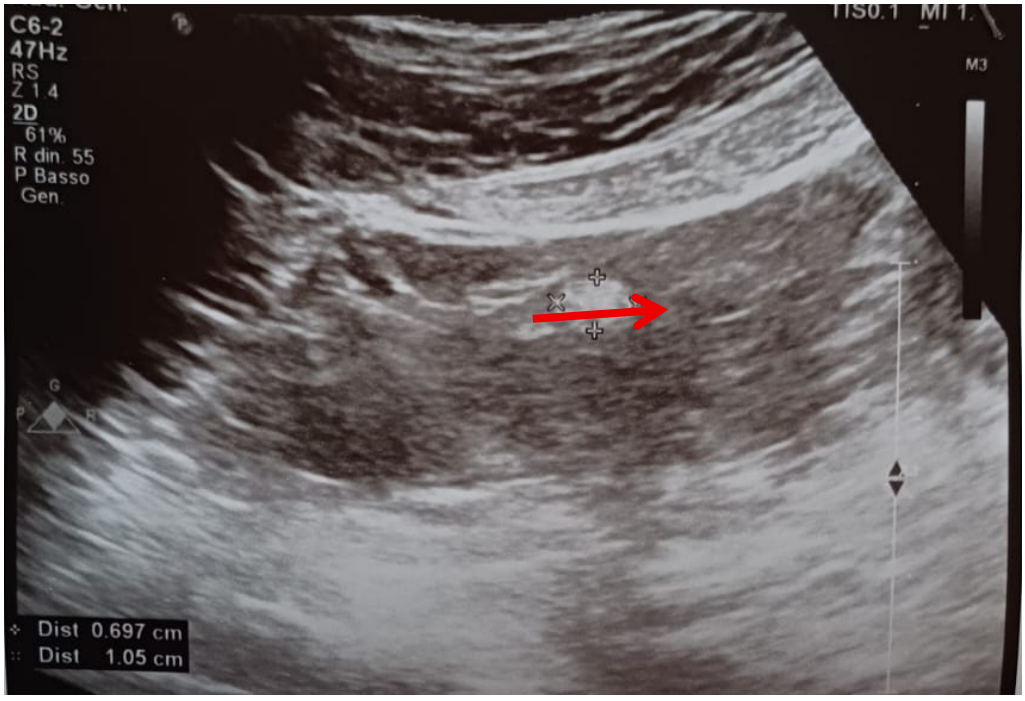
An abdominal pain that looks like a ring

Erika Poggiali,[1] Claudia Caborni,[2] Piergiorgio Turchio[2]

[1]Emergency Department, Guglielmo da Saliceto Hospital, Piacenza; [2]Radiology Unit, Guglielmo da Saliceto Hospital, Piacenza, Italy

Correspondence: Erika Poggiali, Emergency Department, "Guglielmo da Saliceto" Hospital, Via Giuseppe Taverna 49, Piacenza, Italy. Tel.: +39 0523 303044. E-mail: E.Poggiali@ausl.pc.it

Key words: epiploic appendagitis; abdominal pain; point-of-care ultrasound; computed tomography; ring sign.



Descriptive legend

A 53-year-old man presented with severe pain in the left iliac fossa for 2 days without nausea, vomiting, diarrhea, and fever. He was affected by type 2 diabetes mellitus and denied any previous episodes of diverticulitis. Physical examination revealed abdominal tenderness and guarding. Laboratory tests, including C reactive protein, were within the normal range. Point-of-care Ultrasound (US) showed a focal, non-compressible, oval (0.6 x 1 cm), hyperechoic mass with a hypoechoic rim, located directly under the abdominal wall at the point of maximum tenderness. Enhanced Computed Tomography (CT) of the abdomen was performed (Figure 1) and confirmed the diagnostic suspicion.

Question: What is the most likely diagnosis?

1. Diverticulitis

2. Epiploic appendagitis

3. Acute appendicitis

4. Liposarcoma

Answer

The correct answer is Epiploic Appendagitis (EA). First described by Lynn *et al.* in 1956, EA is a rare cause of abdominal pain that can mimic other acute and subacute conditions, such as acute appendicitis, diverticulitis, mesenteric panniculitis, omental neoplasms, and omental infarction.[1] EA accounts for approximately 1% of all cases of abdominal pain in adults, especially in the 2nd and 5th decades, with a higher prevalence among women and obese individuals.[2] The pathogenesis is thought to be due to torsion of a large and pedunculated epiploic appendage, or spontaneous thrombosis of the venous outflow, resulting in ischemia and necrosis.

Patients typically present with acute abdominal pain and rebound tenderness, with the left abdomen being the most common site of pain. EA is essentially indistinguishable from diverticulitis and acute appendicitis (depending on location) and, despite being uncommon, it accounts for up to 7% of cases of suspected diverticulitis.

Diagnosis is easily made with CT or US (4). The CT features include an oval lesion 1.5-5 cm in diameter, with attenuation similar to that of fat with a thin (1-3 mm) high-density rim ("ring sign"), a central hyperdense dot (representing the thrombosed vascular pedicle), and surrounding inflammatory changes and thickening of the adjacent peritoneum (Figure 2).[5] US shows a rounded (diameter 2-4 cm), non-compressible hyperechoic mass, without internal vascularity and surrounded by a subtle hypoechoic line.[4]

EA is a self-limiting inflammatory condition, and most patients recover within a few days with conservative management focused on pain control with NSAIDs, rest, and observation,[2,3] as occurred in our case.

In conclusion, emergency clinicians should be aware of this rare disease, as EA can sometimes be mistaken for an acute abdomen, leading to unnecessary surgeries.

Figure 1. Abdomen CT scan with contrast medium showing a fat-density ovoid structure (22 x 10 mm) adjacent to the sigmoid colon, surrounded by a thin high-density rim, known as the hyperattenuating ring sign.

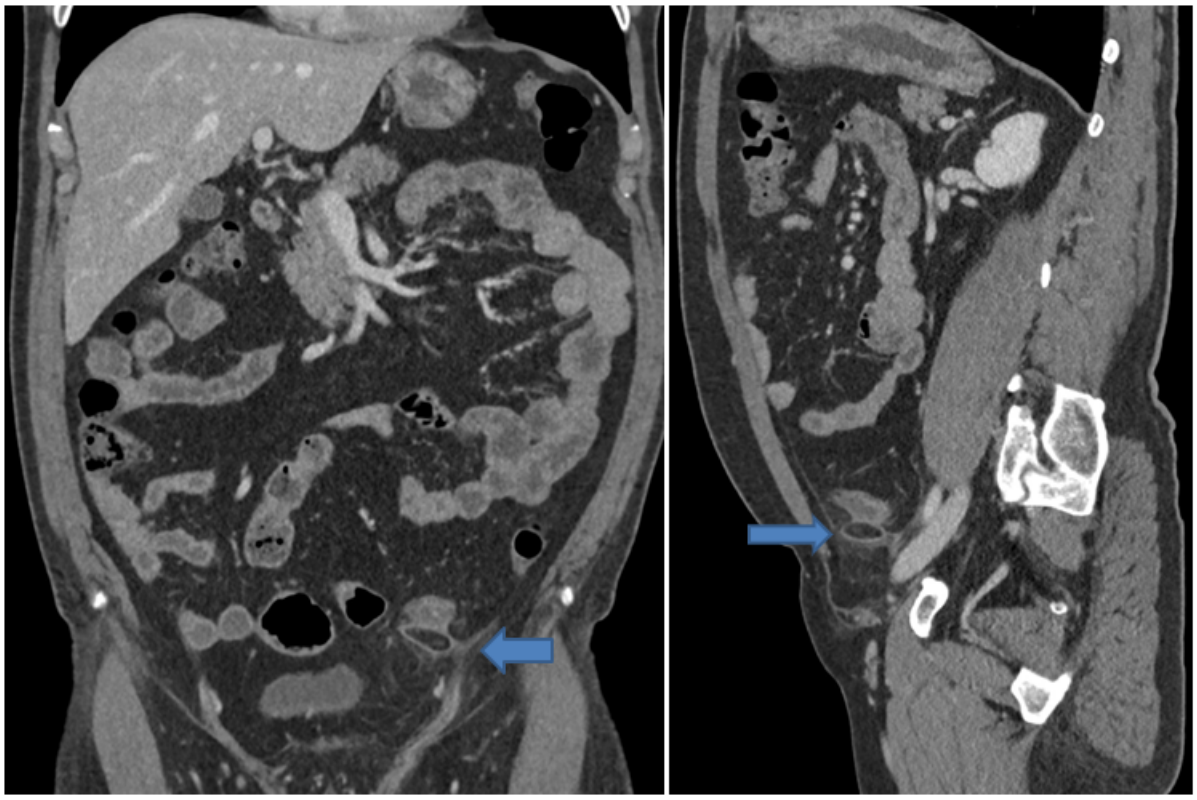


Figure 2. Abdomen CT scan showing epiploic appendage in the sigmoid colon.

References

1. Singh AK, Gervais DA, Hahn PF, et al. Acute epiploic appendagitis and its mimics. Radiographics 2005;25:1521-34.
2. Schnedl WJ, Krause R, Tafeit E, et al. Insights into epiploic appendagitis. Nat Rev Gastroenterol Hepatol 2011;8:45-9.
3. Acevedo-Castillo CD, Macias-Cruz HM, Ramirez-Cisneros A, et al. Epiploic Appendagitis: Systematic Review of a Distinctive Pathology. Am Surg 2024;90:3074-81.
4. Rioux M, Langis P. Primary epiploic appendagitis: clinical, US, and CT findings in 14 cases. Radiology 1994;191:523-6.

5. Singh AK, Gervais DA, Hahn PF, et al. CT appearance of acute appendagitis. AJR Am J Roentgenol 2004;183:1303-7.

Contributions: All the authors equally contributed to the work and approved the final version.

Conflicts of interest: EP is member of the editorial board of Emergency Care Journal. The authors declare no conflict of interest.

Availability of data and materials: The datasets used during the current case report are available from the corresponding author on reasonable request.

Ethics approval and consent to participate: As this was a descriptive case report and data was collected without patient identifiers, ethics approval was not required under our hospital's Institutional Review Board guidelines.

Informed consent: The patient provided consent for the access to medical records at the time of admission.