Epiploic appendagitis in a young male. A case report

Iveth Sarahí Amador Rosa M.D.
Estuardo Emmanuel Ruiz Gramajo M.D.
Eduardo Nehemías Chún Ajxup M.D.
Mynor Abraham Marroquin Solorzano M.D.
José Carlos Echeverría Solís M.D.
Mary Geyovana Cotí Coyoy M.D.

Quetzaltenango, Guatemala

Case Report

Radiology

OPEN ACCESS

Background: Epiploic appendagitis is an uncommon cause of acute abdominal pain resulting from ischemic inflammation of the epiploic appendages. It occurs predominantly in adults, particularly during the third to fifth decades of life, although younger patients may also be affected. Due to its nonspecific clinical presentation, it can mimic other conditions requiring surgical management, such as acute appendicitis and diverticulitis. Imaging plays a crucial role in its diagnosis and differentiation from other causes of acute abdominal pain. Computed tomography allows characterization of the typical imaging features of this condition, while ultrasonography may contribute to diagnosis by identifying a noncompressible, hyperechoic lesion adjacent to the colon. Recognition of these imaging findings facilitates timely diagnosis and supports conservative management in uncomplicated cases, avoiding unnecessary interventions. This report highlights the complementary role of ultrasonography and computed tomography in the evaluation of epiploic appendagitis in a young adult and emphasizes the importance of considering this condition in the differential diagnosis of acute abdominal pain, even in patients younger than the typical age range.

Keywords: epiploic appendagitis; ultrasonography; computed tomography; abdominal pain; diagnostic imaging.

Epiploic appendagitis (EA) is an uncommon, usually self-limiting cause of acute abdominal pain resulting from ischemic inflammation of the epiploic appendages, which are small, fat-containing peritoneal structures attached to the external surface of the colon. Primary EA generally results from torsion of an appendage or thrombosis of its draining vein, whereas secondary EA occurs in association with an adjacent inflammatory process.

EA predominantly affects adults, with a systematic review of 371 patients reporting a mean age at diagnosis of 39 years. Although it is not restricted to a specific age group, its occurrence in a 23-year-old patient highlights the importance of considering this diagnosis in younger adults. Clinical manifestations are often nonspecific and may resemble acute appendicitis, diverticulitis, or other causes of an acute abdomen, potentially leading to unnecessary antibiotic treatment or surgical intervention.

Imaging plays a central role in establishing the diagnosis. Computed tomography (CT) is particularly useful for identifying the characteristic fat-containing lesion adjacent to the colon and assessing associated inflammatory changes. Ultrasonography may also demonstrate a focal, noncompressible, hyperechoic lesion in the region of maximal tenderness and can provide valuable complementary information. This report highlights the diagnostic assessment of epiploic appendagitis in a young adult using ultrasonography and CT, emphasizing the importance of imaging correlation in the differential diagnosis of acute abdominal pain.

Case report

A 23-year-old male patient was admitted to the Surgery Emergency Department, due to lower abdominal pain with bloating. VAS pain score was 6 out of 10. Abdominal pain was not related with eating and defecation. He did not have nausea, vomiting, fever, chills, skin rash, joint pain, dysuria, hematuria, loss of weight, and trauma to the abdomen.

On physical examination, the patient had tenderness and pain in the right iliac fossa associated with abdominal guarding. There was no pulsatile or palpable mass. All of his vital signs were within normal limits. Laboratory investigations revealed total leukocyte count (TLC) 5.4×103/µL, hemoglobin: 17.1 g/dL, hematocrit: 41.6%, red blood cell level: 5.4×106/mm3, and platelet: 2.33×105/µL. Urine analysis report was within normal limits.

The patient underwent abdominal and abdominal wall ultrasonography, which demonstrated an oval-shaped, well-defined, hyperechoic, fat-containing lesion at the level of the linea alba, extending inferiorly beneath the right rectus abdominis muscle. The lesion was noncompressible and showed no internal vascular flow on color Doppler evaluation. It measured approximately 5.8 × 5.6 × 2.0 cm, with an estimated volume of 34.8 mL (figure 1). Further evaluation was performed using multiphasic abdominal computed tomography (CT), which identified the same oval-shaped, fat-attenuation lesion, measuring −72 Hounsfield units (HU). The lesion measured 11.4 × 5.4 × 1.8 cm, with an estimated volume of 60.4 mL. It was located posterior to the rectus abdominis muscles and, due to its extent, was adjacent to the antimesenteric borders of the transverse and ascending colon (figure 2). The lesion was surrounded by a thin hyperattenuating rim, with mild stranding of the surrounding fat. No significant thickening of the adjacent colonic wall was observed. There was no evidence of diverticulitis, acute appendicitis, or other intra-abdominal complications at

From the Department of Radiology at Hospital Regional de Occidente San Juan de Dios, Radiology, Quetzaltenango, Guatemala. Received on October 13, 2026. Accepted on October 18, 2026. Published on October 21, 2026.

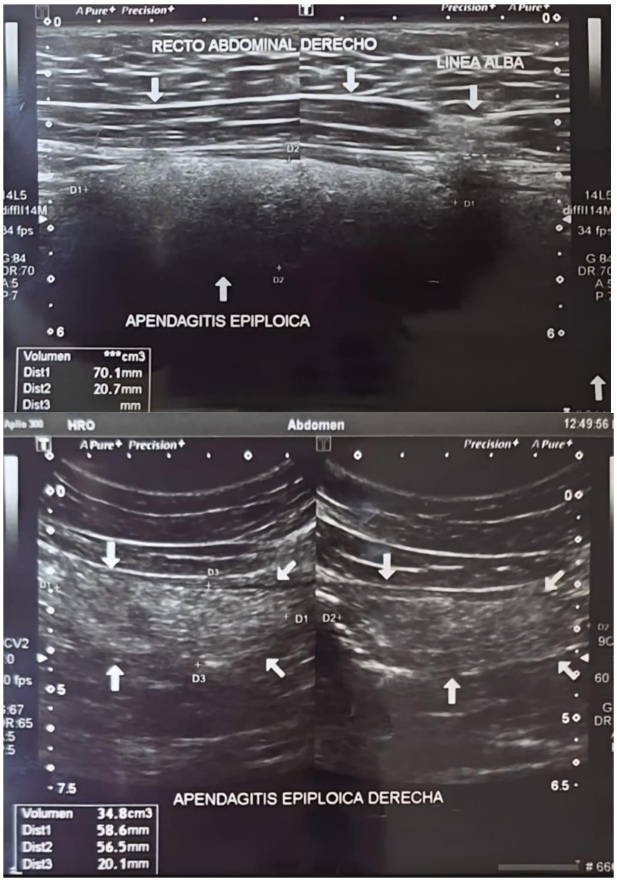


Figure 1. Abdominal wall ultrasonography performed with linear and convex transducers demonstrates an oval-shaped, hyperechoic, fat-containing lesion at the site of the patient's reported pain.

the time of examination. These findings were highly suggestive of epiploic appendagitis and after careful correlation among clinical, radiological, and laboratory findings, the diagnosis was confirmed.

The patient recovered completely (the symptoms and signs resolved clinically) after one week managed conservatively at home with the advice of plenty of fluid intake and bed rest.

Discussion

Epiploic appendagitis is an important diagnostic consideration in patients presenting with acute abdominal pain because its clinical manifestations may overlap with those of more common inflammatory and surgical conditions. In a systematic review including 371 patients, was reported a mean age at diagnosis of 39 years, with a predominance of male patients. Although the condition is more commonly recognized in adults on their third decade, its occurrence in a 23-year-old man illustrates that younger age should not exclude this diagnosis from the differential assessment of acute abdominal pain.

The pathophysiology of primary epiploic appendagitis involves ischemic injury to an epiploic

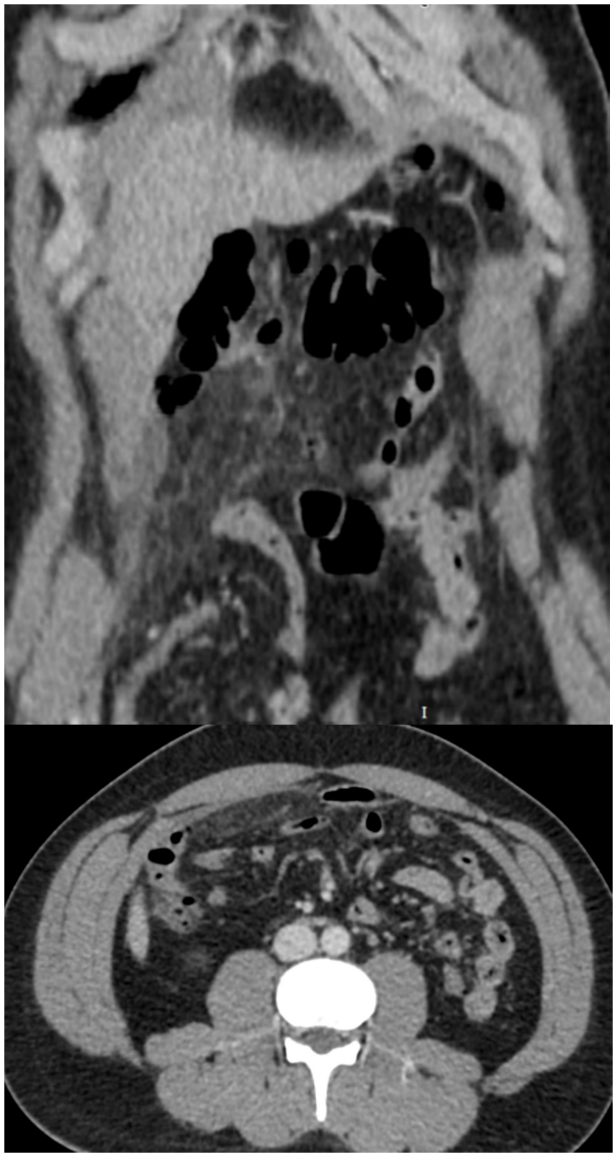


Figure 2. The following abdominal CT coronal and axial views demonstrates the same oval-shaped, fat-attenuation lesion seen before. The scan helped to locate it precisely posterior to the rectus abdominis muscles and, adjacent to the antimesenteric borders of the transverse and ascending colon. The lesion was surrounded by a thin hyperattenuating rim, with mild stranding of the surrounding fat. No significant thickening of the adjacent colonic wall was observed. These findings were highly suggestive of epiploic appendagitis and after careful correlation among clinical, radiological, and laboratory findings, the diagnosis was confirmed.

appendage, most commonly caused by torsion or spontaneous thrombosis of its draining vein. The resulting inflammation is usually localized to the pericolonic fat and tends to resolve spontaneously. Secondary epiploic appendagitis, in contrast, occurs in association with an adjacent inflammatory process. Distinguishing between these entities is clinically relevant because the management of secondary disease must also address the underlying condition.

Clinical findings alone are often insufficient to establish the diagnosis. Patients typically present with

DOI 10.5281/zenodo.23550313
Copyright 2026 © Unauthorized reproduction of this article is prohibited.

focal abdominal pain and localized tenderness, while systemic manifestations and laboratory abnormalities may be absent or mild. Depending on the anatomical location of the affected appendage, the clinical presentation may mimic acute appendicitis, diverticulitis, or other causes of an acute abdomen. This diagnostic overlap underscores the importance of imaging in identifying the origin of the inflammatory process and excluding alternative diagnoses.

Ultrasonography can be useful as an initial imaging modality, particularly when the examination is directed toward the area of maximal tenderness. The characteristic finding is an oval, noncompressible, hyperechoic lesion adjacent to the colonic wall, sometimes surrounded by a subtle hypoechoic rim. Color Doppler may demonstrate absent internal vascularity, although peripheral hyperemia can be present. The diagnostic performance of ultrasonography depends on operator experience, body habitus, lesion location, and acoustic accessibility. Consequently, a negative or indeterminate examination does not exclude epiploic appendagitis.

CT is particularly valuable for confirming the diagnosis and evaluating alternative causes of abdominal pain. Typical findings include an oval lesion with fat attenuation abutting the colon, surrounding inflammatory fat stranding, and a hyperattenuating peripheral rim, commonly referred to as the hyperattenuating ring sign. A central high-attenuation focus, sometimes called the central dot sign, may represent a thrombosed vessel, but its absence does not exclude the diagnosis. The colonic wall is usually normal or demonstrates only mild reactive thickening, which may help distinguish epiploic appendagitis from diverticulitis.

In the present case, the complementary assessment provided by ultrasonography and CT is particularly relevant. The final manuscript should describe the specific ultrasonographic findings and explain how the CT examination confirmed the anatomical origin and inflammatory characteristics of the lesion. If both modalities demonstrated concordant findings, this should be highlighted as an example of multimodal imaging correlation. The discussion should also state whether the appendix, adjacent bowel, and surrounding structures were adequately assessed and whether any alternative inflammatory process was identified. These details are necessary to support the classification as primary rather than secondary epiploic appendagitis.

The recognition of characteristic imaging findings has important implications for patient management. Uncomplicated primary epiploic appendagitis is generally treated conservatively with analgesia and, when appropriate, nonsteroidal anti-inflammatory medication. Antibiotics are not routinely indicated in the absence of another infectious or inflammatory condition, and surgery is generally reserved for persistent symptoms, complications, or unresolved diagnostic uncertainty. Accurate radiological diagnosis can therefore reduce unnecessary antibiotic exposure, hospitalization, and operative intervention.

This case reinforces the importance of considering epiploic appendagitis in younger patients with acute abdominal pain and highlights the complementary roles of ultrasonography and CT. Its principal educational contribution will depend on the precise correlation between the clinical presentation and the imaging findings, demonstrating how recognition of this uncommon but typically benign condition can support appropriate clinical decision-making.

Conclusion

Epiploic appendagitis should be considered in the differential diagnosis of acute abdominal pain, including young adults. Recognition of its characteristic imaging features is essential to distinguish this usually self-limiting condition from other causes of an acute abdomen. Ultrasonography may provide valuable initial diagnostic information, while CT enables further characterization and exclusion of alternative pathologies. Correlation between these imaging modalities can support an accurate diagnosis and help guide appropriate conservative management, thereby avoiding unnecessary antibiotic therapy and surgical intervention in uncomplicated cases.

Conflicts of interests

None declared by the authors.

Acknowledgements

We thank the Hospital Regional de Occidente for its support of the Radiology Department, providing the necessary supplies and equipment for the prompt diagnosis of patients.

References

1. Acevedo-Castillo CD, Macias-Cruz HM, Ramirez-Cisneros A, Bautista-Coronado UA, Moran-Guerrero JA, Guzman EA. Epiploic appendagitis: Systematic review of a distinctive pathology. Am Surg [Internet]. 2024;90(11):3074–81. Available from: http://dx.doi.org/10.1177/00031348241256062
2. Cirimele V, D'Amone G, Ricci M, Casati R, Ragone R, Redi A, et al. A rare cause of right-upper quadrant abdominal pain: Epiploic appendagitis of the hepatic flexure. Radiol Case Rep [Internet]. 2023;18(10):3434–7. Available from: http://dx.doi.org/10.1016/j.radcr.2023.07.005

Copyright 2026 © Unauthorized reproduction of this article is prohibited.

3. Idrissi MB, Akammar A. Diagnosing and treating epiploic appendagitis: a review of two cases. J Surg Case Rep. 2023;2023(3):rjad156. doi:10.1093/jscr/rjad156.
4. Gaur S, Jawahar RP, Prasad R, Prabakaran M. Epiploic appendagitis - a rare cause of acute lower abdominal pain. Radiol Case Rep [Internet]. 2021;16(5):1144–7. Available from: http://dx.doi.org/10.1016/j.radcr.2021.02.026
5. Akubudike JTE, Egigba OF, Kobalava B. Epiploic appendagitis: A commonly overlooked differential of acute abdominal pain. Cureus [Internet]. 2021;13(1):e12807. Available from: http://dx.doi.org/10.7759/cureus.12807

Iveth Sarahí Amador Rosa
Radiology Department
Hospital Regional de Occidente
Quetzaltenango, Guatemala.
e-mail: iveth.ar2903@gmail.com

 DOI 10.5281/zenodo.23550313
Copyright 2026 © Unauthorized reproduction of this article is prohibited.