

Cecal epiploic appendagitis associated with a subhepatic appendix: a case mimicking acute appendicitis

Nedim İzgi*, İgbal Osmanov

Department of Radiology, Faculty of Medicine, Ufuk University, Ankara, Türkiye

Received: 13.05.2026

Accepted: 22.06.2026

Published: 29.06.2026

Cite this article: İzgi N, Osmanov İ. Cecal epiploic appendagitis associated with a subhepatic appendix: a case mimicking acute appendicitis. *J Radiol Med.* 2026;3(2):50-53. doi:10.51271/JRM-0050

*Corresponding Author: Nedim İzgi, izginedim@gmail.com

ABSTRACT

Epiploic appendagitis is a rare, benign, and usually self-limiting inflammatory condition caused by torsion or venous thrombosis of epiploic appendages. It can clinically mimic acute appendicitis. The aim of this study is to present a case of cecal epiploic appendagitis accompanied by a subhepatically located appendix that was confused with acute appendicitis in the preoperative period, and to emphasize the diagnostic features of this rare condition. A 26-year-old male patient presented to the emergency department with right lower quadrant pain that had persisted for approximately four hours. Physical examination revealed rebound tenderness in the right lower quadrant. Laboratory findings showed leukocytosis and elevated CRP. Preoperative computed tomography (CT) demonstrated inflammatory changes within the pericecal fat and an appendix measuring approximately 5.8 mm in diameter proximally and 5 mm distally, extending into the subhepatic space. The appendix demonstrated mild wall thickening at its proximal portion. No periappendiceal fluid collection or appendicolith was observed. Although the antimesenteric location of the lesion and the pericecal dirty appearance were suggestive of epiploic appendagitis, the atypical localization and positive rebound tenderness precluded a definitive differential diagnosis. Due to persistent clinical findings and radiological uncertainty, surgical intervention was performed. Intraoperative evaluation revealed a macroscopically normal appendix; however, inflamed epiploic appendages were identified adjacent to the cecum. Appendectomy was performed along with resection of the inflamed epiploic appendages. Histopathological examination confirmed the diagnosis of cecal epiploic appendagitis with no acute inflammation detected in the appendix. Cecal epiploic appendagitis may mimic acute appendicitis in the presence of an atypical appendix location, leading to diagnostic difficulty. In such cases, surgical exploration may be necessary for definitive diagnosis and treatment of accompanying inflammatory pathology.

Keywords: Acute epiploic appendagitis, acute appendicitis, imaging, abdominal pain

INTRODUCTION

Epiploic appendages are pedunculated fatty tissue projections attached to the serosal surface of the colon. They can be found from the sigmoid colon to the cecum, running along the taenia libera and taenia omentalis. Approximately 50-100 epiploic appendages are distributed along the colon. These structures range from 0.5 to 5 cm in length, are covered by serosa, and are typically supplied by one or two arteries with a single draining vein.^{1,2}

Epiploic appendagitis is among the rare causes of acute abdominal pain and is more commonly observed in male individuals in the fourth to fifth decades of life. Its annual incidence is reported to be approximately 8.8 per 1.000.000. The incidence is higher in obese individuals.^{3,4}

Primary epiploic appendagitis is a rare, benign, and usually self-limiting inflammatory condition resulting from torsion, venous thrombosis, or ischemia of the appendages. It most commonly occurs at the sigmoid colon level, with cecal involvement being rarer.⁵

The differential diagnosis between secondary epiploic appendagitis (SEA) and primary etiologies must be clearly established. SEA refers to inflammation resulting from the spread of adjacent inflammatory processes such as diverticulitis or cholecystitis to the epiploic appendages; diverticulitis is the most common source of inflammation in this context.⁶



Cecal epiploic appendagitis may cause diagnostic difficulties due to its ability to mimic other acute abdominal pathologies such as acute appendicitis or diverticulitis.⁵

The possibility of confusion with acute appendicitis in patients presenting with right lower quadrant pain underscores the importance of imaging modalities for accurate diagnosis.⁷ Today, preoperative diagnosis can most often be established by computed tomography (CT). Typical CT findings include periappendiceal fat stranding, increased appendiceal diameter, and an oval mass with peripheral hyperdensity in an antimesenteric location, reflecting inflammatory fat and sometimes a thrombosed vessel.^{8,9}

Although epiploic appendagitis is generally managed conservatively, conditions requiring surgery—such as acute appendicitis—cannot always be excluded in the presence of atypical clinical and radiological findings. In such situations, surgical exploration may be required due to diagnostic uncertainty.¹⁰

The subhepatic location of the cecum and appendix is an uncommon anatomical variant that may result from either intestinal malrotation or incomplete descent of the cecum during embryological development. Intestinal malrotation occurs because of incomplete or absent rotation of the primitive midgut around the superior mesenteric artery between the 5th and 10th weeks of fetal life, followed by abnormal fixation to the peritoneal wall. Alternatively, a subhepatic cecum may arise when the cecum fails to descend to the right iliac fossa despite otherwise normal intestinal rotation. The position of the appendix is highly variable; while the retrocecal location is the most common, followed by pelvic, subcecal, preileal, and postileal positions, atypical locations such as subhepatic, left-sided, intrahernial, mesocolic, and lumbar positions have also been described. Awareness of these anatomical variations is clinically important, as unusual appendiceal locations may alter the presentation of right lower quadrant pathologies, mimic other intra-abdominal diseases, and lead to diagnostic challenges and delays in management.¹¹

In this study, we present a case of cecal epiploic appendagitis associated with a subhepatically located appendix that was confused with acute appendicitis in the preoperative period and was confirmed surgically and histopathologically.

CASE

A 26-year-old male patient with no comorbidities presented to the emergency department with right lower quadrant abdominal pain that had persisted for 4 hours. The pain was localized and showed no migration. There was no history of nausea, vomiting, or fever.

Physical examination revealed tenderness in the right lower quadrant without guarding; rebound tenderness was positive. Rovsing, psoas, and obturator signs were negative.

Laboratory findings showed a leukocyte count of $11.07 \times 10^3/\mu\text{L}$ and a CRP level of 9.17 mg/dL. Other parameters were within normal limits.

Preoperative CT examination revealed marked inflammatory changes in the pericecal fat tissue (**Figure 1**). The appendix was found to extend into the subhepatic space with a proximal diameter of approximately 5.8 mm (**Figures 1, 2**). Appendiceal wall thickening or luminal obstruction was not clearly identified. However, acute appendicitis could not be excluded given the existing inflammatory changes, the unusually long course of the appendix, and its atypical localization.

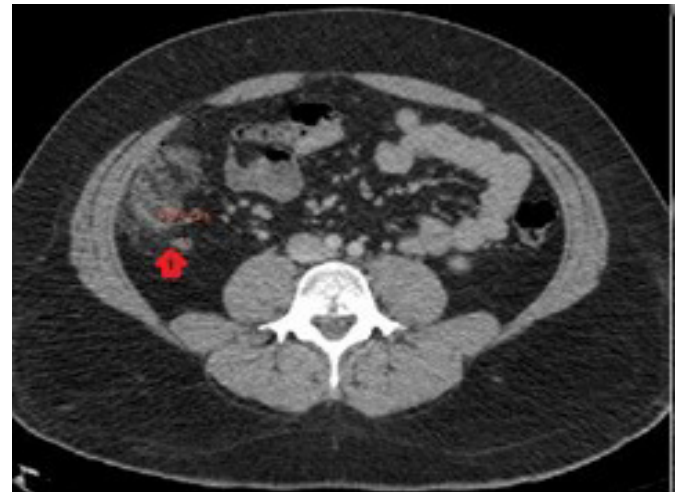


Figure 1. Pericecal dirty appearance and the appendix indicated by an arrowhead



Figure 2. Extension of the appendix into the subhepatic space

In view of persistent clinical findings and inconclusive radiological results, the patient was taken to the operating room. Intraoperative examination revealed that the appendix was in a subhepatic location and appeared macroscopically normal (**Figure 3**). However, multiple inflamed epiploic appendages were identified adjacent to the cecum (**Figure 4**). Appendectomy and resection of the inflamed epiploic appendages were performed.

Intraoperative and histopathological examination revealed no evidence of acute inflammation in the appendix. Histopathological evaluation confirmed the diagnosis of epiploic appendagitis. The postoperative course was uneventful, and the patient was discharged in good clinical condition.

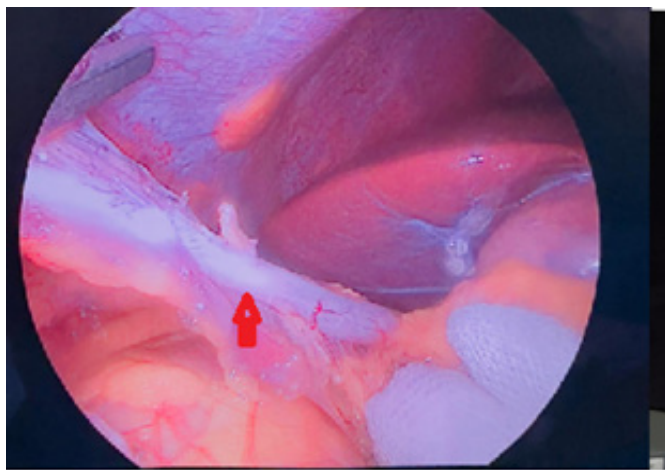


Figure 3. Normal appendix appearance

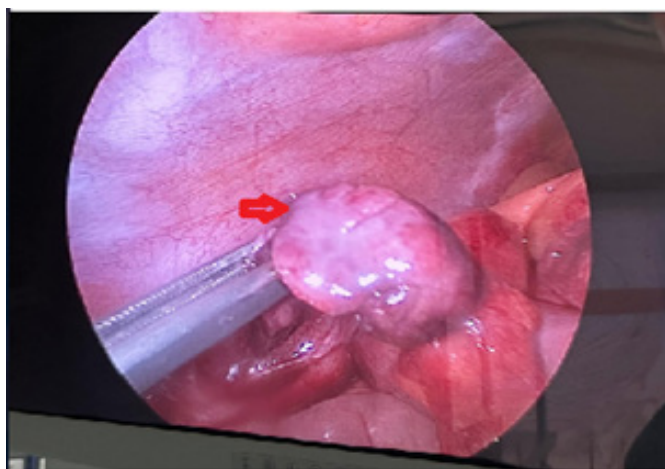


Figure 4. Inflamed cecal epiploic appendages

DISCUSSION

Epiploic appendagitis is a rare and frequently underrecognized cause of acute abdominal pain. Misdiagnosis may lead to unnecessary hospitalization, antibiotic use, or surgical intervention. Although advances in imaging have improved recognition of this condition, clinical awareness remains of critical importance.¹²

Epiploic appendagitis most commonly occurs at the sigmoid colon level and less frequently involves the descending colon and cecum.¹ Reaching a definitive diagnosis may be challenging, particularly in the presence of atypical anatomical variations such as a subhepatically located appendix.¹³ CT remains an important imaging tool for resolving diagnostic complexity and preventing unnecessary surgery in this setting.⁸

However, the intraoperative discovery of epiploic appendagitis in patients with a preliminary diagnosis of acute appendicitis or diverticulitis may complicate surgical decision-making.¹⁴ Surgical excision may be considered especially in cases that do not respond to conservative treatment or in which symptoms recur. Furthermore, the presence of anatomical variations such as a subhepatic appendix may further complicate the clinical picture and necessitate resection of additional pathologies.¹⁵

Although conservative management of epiploic appendagitis is increasingly accepted,^{11,16} prospective studies on the indications and timing of surgical intervention in specific cases remain insufficient. The lack of randomized controlled trials evaluating the efficacy of conservative treatment in patients diagnosed with EA (epiploic appendagitis) makes it difficult to standardize a uniform treatment approach.¹⁷

In the present case, the decision to proceed with surgery was mainly driven by diagnostic uncertainty rather than by epiploic appendagitis itself. Although CT findings were suggestive of cecal epiploic appendagitis, acute appendicitis could not be confidently excluded because of the subhepatic location of the appendix, mild wall thickening at its proximal portion, right lower quadrant tenderness, leukocytosis, and elevated CRP levels. Therefore, conservative management was considered less reliable in this atypical setting. Surgical exploration was performed to avoid missing a possible acute appendicitis in an unusual anatomical location and to establish a definitive diagnosis. This case highlights that the coexistence of cecal epiploic appendagitis and a subhepatic appendix may create a diagnostic gray zone in which radiological findings, although suggestive, should be interpreted together with clinical and laboratory findings.

The literature on imaging findings of inflammatory processes associated with a subhepatically located appendix is limited.¹³ Therefore, as in our case, intraoperative evaluation and histopathological confirmation play a critical role in establishing an accurate diagnosis and determining the appropriate treatment strategy in cases with atypical presentations.¹⁸

CONCLUSION

Epiploic appendagitis is a rare condition that may be confused with acute appendicitis, particularly in patients presenting with right lower quadrant pain. In the presented case, acute appendicitis could not be safely excluded due to the subhepatic localization of the appendix and accompanying pericecal inflammatory changes; therefore, surgical exploration was preferred. Intraoperative and histopathological evaluation revealed no inflammation in the appendix; however, the inflamed epiploic appendages adjacent to the cecum were resected, confirming the diagnosis.

This case demonstrates that epiploic appendagitis may create significant diagnostic complexity in the presence of atypical anatomical variations and that a surgical approach may be inevitable in some situations. Therefore, the combined and careful evaluation of clinical and CT findings is of paramount importance.

ETHICAL DECLARATIONS

Informed Consent

Written informed consent was obtained from the patient included in this report. Signed consent forms are retained by the authors and are available upon request.

Peer Review Process

This report underwent external peer review.

Conflict of Interest

The authors declare no conflicts of interest.

Financial Disclosure

This case report did not receive any financial support.

Author Contributions

Concept: NI, IO; Design: NI, IO; Data Collection and/or Processing: NI; Analysis and/or Interpretation: NI, IO; Literature Review: NI; Article Writing: NI; Critical Review: NI, IO.

REFERENCES

1. Singh AK, Gervais DA, Hahn PF, Sagar P, Mueller PR, Novelline RA. Acute epiploic appendagitis and its mimics. *Radiographics*. 2005;25(6):1521-1534. doi:10.1148/rg.256055030
2. Mollà E, Ripollés T, Martínez MJ, Morote V, Roselló-Sastre E. Primary epiploic appendagitis: US and CT findings. *Eur Radiol*. 1998;8(3):435-438. doi:10.1007/s003300050408
3. Ortega-Cruz HD, Martínez-Souss J, Acosta-Pumarejo E, Toro DH. Epiploic appendagitis, an uncommon cause of abdominal pain: a case series and review of the literature. *P R Health Sci J*. 2015;34(4):219-221.
4. Nadida D, Amal A, Ines M, et al. Acute epiploic appendagitis: radiologic and clinical features of 12 patients. *Int J Surg Case Rep*. 2016;28:219-222. doi:10.1016/j.ijscr.2016.09.015
5. Osada H, Ohno H, Watanabe W, et al. Multidetector computed tomography diagnosis of primary and secondary epiploic appendagitis. *Radiat Med*. 2008;26(10):582-586. doi:10.1007/s11604-008-0278-z
6. Al-Anbagi U, Saad A, Ibrahim T, Nashwan AJ. Epiploic appendagitis: a case report and review of diagnostic challenges. *J Med Surg Public Health*. 2024;4:100148. doi:10.1016/j.glmedi.2024.100148
7. Tay SY. Acute epiploic appendagitis. *N Engl J Med*. 2024;391:746.
8. Krisem M, Jenjitrant P, Thampongsa T, Wongwaisayawan S. Appendiceal wall thickness and Alvarado score are predictive of acute appendicitis in the patients with equivocal computed tomography findings. *Sci Rep*. 2023;13(1):998. doi:10.1038/s41598-023-27984-8
9. Tiralongo F, Di Pietro S, Milazzo D, et al. Acute colonic diverticulitis: CT findings, classifications, and a proposal of a structured reporting template. *Diagnostics (Basel)*. 2023;13(24):3628. doi:10.3390/diagnostics13243628
10. Bains L, Bahadur A, Lal P, Bhatia R, Singh N, Kaur D. Epiploic appendagitis: a riddle for right lower quadrant pain! *Case Rep Gastroenterol*. 2021;15(2):525-532. doi:10.1159/000514775
11. Evola G, Lanaia A, Cantella R, Di Fidio C, Di Fede GF, Piazza L. Subhepatic perforated acute appendicitis in a patient with midgut malrotation: a case report and review of the literature. *Int J Surg Case Rep*. 2022;95:107249. doi:10.1016/j.ijscr.2022.107249
12. El-Sawaf Y, Alzayani S, Saeed NK, et al. Epiploic appendagitis: an overlooked cause of acute abdominal pain. *World J Gastroenterol*. 2025;31(32):109897. doi:10.3748/wjg.v31.i32.109897
13. Soh GT, Ndong A, Nde AFT, Tendeng JN, Nyemb PMM, Konate I. Peculiarities of diagnosis and management for subhepatic appendicitis. *J Med Surg Public Health*. 2025;7:100212. doi:10.1016/j.glmedi.2025.100212
14. Giambelluca D, Cannella R, Caruana G, et al. CT imaging findings of epiploic appendagitis: an unusual cause of abdominal pain. *Insights Imaging*. 2019;10(1):26. doi:10.1186/s13244-019-0715-9
15. Giannis D, Matenoglou E, Sidiropoulou MS, et al. Epiploic appendagitis: pathogenesis, clinical findings and imaging clues of a misdiagnosed mimicker. *Ann Transl Med*. 2019;7(24):814. doi:10.21037/atm.2019.12.74
16. Limon Ö, Çolak Oray N, Bayram B, Atila R. Acute epiploic appendicitis: a diagnostic dilemma. *Tr J Emerg Med*. 2012;12(3):140-143. doi:10.5505/1304.7361.2012.70188
17. Kessler SE, Martin G. Epiploic appendagitis: a benign process at risk of unnecessary hospitalization and interventions. *J Gen Intern Med*. 2017;32(6):711. doi:10.1007/s11606-016-3955-0
18. Pham PC, Van HAT, Hoang VT, Hoang TH, Nguyen DD, Hoang DT. Appendiceal diverticulitis mimics cecal diverticulitis diagnosed preoperatively. *Clin Pathol*. 2024;17:2632010X241248909. doi:10.1177/2632010X241248909