

Acute Eosinophilic Appendicitis: A Case Report

Lichumo Ezung¹, Dabiangshisha Warlarpih²

Abstract: *Eosinophilic appendicitis is a rare histopathological variant of appendiceal inflammation characterised by eosinophilic infiltration of the appendiceal wall and is usually diagnosed only after histopathological examination.¹ We report a young male who presented with right iliac fossa pain and underwent emergency open appendectomy. Histopathology confirmed acute eosinophilic appendicitis, and the postoperative course was uneventful.*

Keywords: Acute appendicitis, Eosinophilic appendicitis, Open appendectomy, Histopathology, Rare case report

1. Introduction

Acute appendicitis is one of the most common surgical emergencies worldwide.² Eosinophilic appendicitis is an exceptionally rare histopathological entity, accounting for approximately 0.02-1.2% of appendectomy specimens in published series.^{1,3} Fewer than 100 well-documented cases have been reported in the medical literature, and most are isolated case reports or small case series.^{3,4} The condition is characterised by prominent eosinophilic infiltration of the muscularis propria and submucosa of the appendix.¹ Because the clinical presentation is usually indistinguishable from conventional acute appendicitis, histopathological examination remains essential for definitive diagnosis.³

2. Case Presentation

A 28-year-old male presented with abdominal pain of one day duration associated with multiple episodes of vomiting. Clinical examination revealed right iliac fossa tenderness. Laboratory investigations revealed a white blood cell count of 14.47 without eosinophilia. Ultrasonography was suggestive of acute appendicitis, and the patient underwent emergency open appendectomy in view of the clinical and radiological findings.²

3. Operative Findings

Open appendectomy was performed through a right lower quadrant incision. Intraoperative findings revealed an inflamed appendix measuring approximately 1cm in diameter, edematous, and congested. No perforation, abscess, adhesions, or periappendiceal collection was identified.



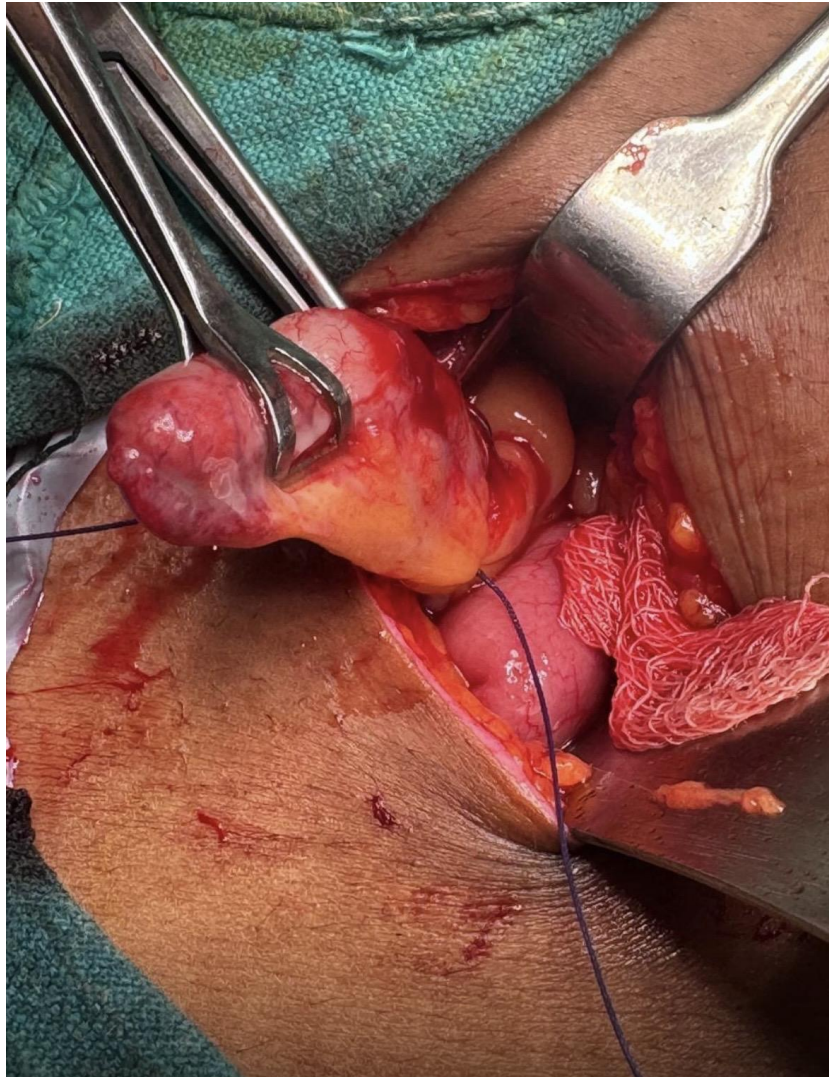


Figure 1: Intraoperative photographs demonstrating an inflamed, congested, and edematous appendix during emergency open appendectomy

4. Histopathological Examination

Gross examination showed a congested appendix measuring approximately 5.5×1 cm. Microscopic examination revealed dense eosinophilic infiltration of the appendiceal wall, consistent with acute eosinophilic appendicitis. Such histological findings are considered diagnostic of

eosinophilic appendicitis when eosinophils prominently infiltrate the muscularis propria.^{1,3}

Representative high-power photomicrographs demonstrate the dense eosinophilic infiltration of the appendiceal wall, supporting the histopathological diagnosis of acute eosinophilic appendicitis.

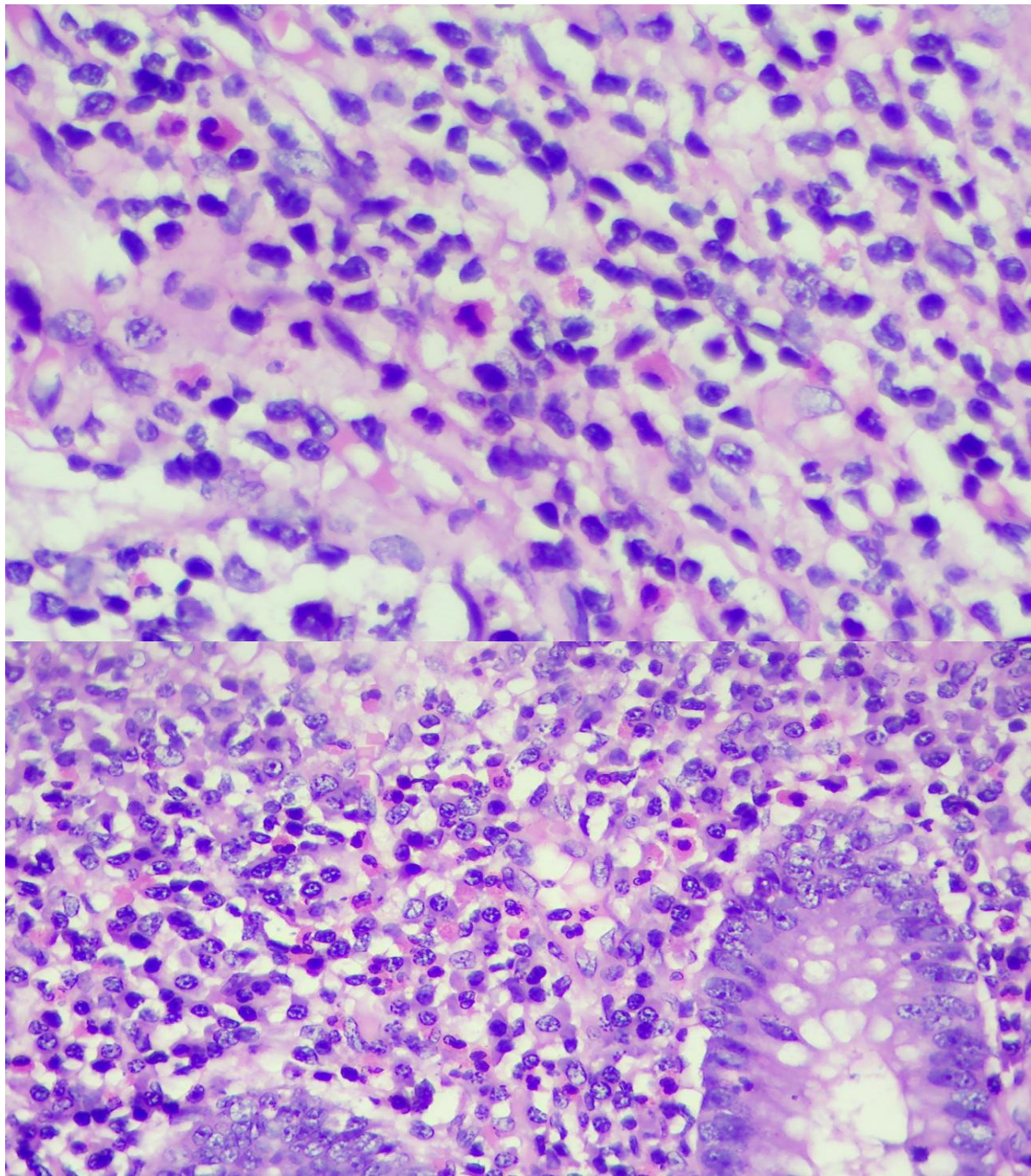


Figure 2 (A): High-power photomicrograph showing dense eosinophilic infiltration within the appendiceal wall

Figure 2 (B): High-power photomicrograph showing numerous eosinophils and inflammatory cells in the appendiceal tissue

5. Discussion

The histopathological images (Figure 2A and Figure 2B) demonstrate the marked eosinophilic infiltrate that forms the key microscopic feature of this entity.

Eosinophilic appendicitis is a rare pathological diagnosis and may represent a localized manifestation of eosinophilic gastrointestinal disease, allergic reactions, parasitic infestation, or an early phase of appendiceal inflammation.^{1,4} Most patients present with symptoms identical to acute appendicitis, including right iliac fossa pain, nausea, vomiting, and localized tenderness.²

The diagnosis is established histologically by demonstrating prominent eosinophilic infiltration, particularly involving the muscularis propria.³ Peripheral eosinophilia may or may not be present, and many cases are diagnosed only after surgical removal of the appendix.⁴ Surgical appendectomy remains both diagnostic and therapeutic, with excellent postoperative outcomes.²

6. Conclusion

Acute eosinophilic appendicitis is a rare but important histopathological diagnosis that clinically mimics conventional acute appendicitis. Histopathological examination of all appendectomy specimens remains

essential for identifying uncommon pathological variants and excluding other significant diseases.^{1,3}

References

- [1] Aravindan KP. Eosinophils in acute appendicitis: possible significance. *Indian Journal of Pathology & Microbiology*. 1997;40(4):491-498.
- [2] Bhangu A, Søreide K, Di Saverio S, Assarsson JH, Drake FT. Acute appendicitis: modern understanding of pathogenesis, diagnosis, and management. *Lancet*. 2015;386(10000):1278-1287. doi:10.1016/S0140-6736(15)00275-5.
- [3] Yantiss RK, Odze RD. Diagnostic difficulties in eosinophilic gastroenteritis and related eosinophilic disorders of the gastrointestinal tract. *Advances in Anatomic Pathology*. 2006;13(5):240-247.
- [4] Khan S, Orenstein SR, Di Lorenzo C. Eosinophilic gastrointestinal diseases: clinical manifestations and diagnosis. *Gastroenterology Clinics of North America*. 2008;37(2):333-348.
- [5] Sunkara T, Rawla P, Yarlagadda KS, Gaduputi V. Eosinophilic appendicitis: a comprehensive review of the literature. *Cureus*. 2017;9(8):e1583. doi:10.7759/cureus.1583.