



MULTIFOCAL INTESTINAL ENDOMETRIOSIS PRESENTING AS TERMINAL ILEAL PERFORATION IN A PATIENT WITH A CLINICAL DIAGNOSIS OF CROHN'S DISEASE: A CASE REPORT

Pathology

Dr Sakshi Saraf	First-year DNB Pathology Postgraduate Trainee, Department of Pathology, Manipal Hospitals, EM Bypass, Kolkata, West Bengal, India
Dr Ankita Kataria	Second-year DNB Pathology Postgraduate Trainee, Department of Pathology, Manipal Hospitals, EM Bypass, Kolkata, West Bengal, India
Dr Sanhita Chatterjee*	Senior Consultant Pathologist and HOD, Histopathology and Cytopathology, Department of Pathology, Manipal Hospitals, EM Bypass, Kolkata, West Bengal, India *Corresponding Author

ABSTRACT

Background: Intestinal endometriosis may mimic ileocaecal Crohn's disease, especially with bowel-wall thickening, obstruction or perforation. Deep disease often involves the serosa and muscularis propria with relative mucosal sparing, making endoscopic biopsy unrevealing. **Case Presentation:** A 29-year-old woman with a documented clinical diagnosis of Crohn's disease and reported biologic therapy presented with acute abdominal pain, abdominal distension and sepsis. Imaging showed pneumoperitoneum. Emergency laparotomy revealed terminal ileal perforation with fecal peritonitis; right hemicolectomy, decompression and ileostomy were performed. She subsequently developed septic shock, recurrent cardiac arrest and died. **Pathological Findings:** The resection showed multifocal intestinal endometriosis involving the ileum, caecum, ascending colon and appendix. Endometrial-type glands and stroma involved mural and serosal compartments, with hemorrhage and serositis adjacent to the perforation. PAX8 highlighted the glandular component, while ER and PR showed nuclear positivity. Crohn's-type chronic inflammatory features, granulomas, necrosis and malignancy were not identified in the examined sections. **Conclusion:** Resection morphology and immunohistochemistry supported multifocal intestinal endometriosis as a mimic of complicated ileocaecal Crohn's disease. Because prior Crohn's diagnostic records were unavailable, the case is best framed as specimen-level clinicopathological discordance rather than exclusion of previous Crohn's disease.

KEYWORDS

Intestinal Endometriosis; Crohn's Disease; Terminal Ileal Perforation; PAX8

INTRODUCTION

Endometriosis is defined by the presence of endometrial-type glands and stroma outside the uterine cavity. Bowel involvement is an important manifestation of deep endometriosis and most often affects the rectosigmoid region. Ileal, caecal and appendiceal disease is less frequent but clinically important because it overlaps with the differential diagnosis of ileocaecal Crohn's disease, intestinal tuberculosis, appendicitis-related inflammation, ischaemia and malignancy (Habib et al., 2020).

Deep bowel endometriosis typically involves the serosa, muscularis propria and deeper mural compartments, while the mucosa may be spared. Consequently, colonoscopic biopsy can be negative or nonspecific. Conversely, mucosal involvement may simulate chronic active colitis or inflammatory bowel disease, creating a diagnostic trap (Jiang et al., 2013).

We report a fatal case of terminal ileal perforation in a young woman with a clinical diagnosis of Crohn's disease, in whom resection pathology demonstrated multifocal intestinal endometriosis involving the ileum, caecum, ascending colon and appendix. The case illustrates the importance of re-evaluating a clinical label when resection morphology is discordant.

Case Presentation

A 29-year-old woman presented with acute abdominal pain, abdominal distension and features of sepsis. She had a documented clinical diagnosis of Crohn's disease and was reportedly receiving biologic therapy. Records establishing the original diagnosis, including previous endoscopy, biopsy, imaging and pre-biologic infectious screening, were unavailable for review.

Abdominal imaging showed small-bowel dilatation with fecal sign and pneumoperitoneum, suggestive of bowel perforation. Emergency exploratory laparotomy revealed terminal ileal perforation with fecal peritonitis. Right hemicolectomy, bowel decompression and ileostomy were performed. The postoperative course was complicated by septic shock, recurrent cardiac arrest and death.

Pathological Findings

The right hemicolectomy specimen included terminal ileum, caecum, ascending colon and appendix. Grossly, an approximately 1 cm terminal ileal perforation was identified. The bowel was dilated and congested, and the caecal wall was thickened. No gross creeping fat

was described.

Microscopy showed endometrial-type glands and stroma at multiple intestinal sites, involving mural and serosal compartments of the ileum, caecum, ascending colon and appendix. Focal hemorrhage, hemosiderin pigment and serositis were present, including adjacent to the perforation. The appendix also showed endometriotic foci within its wall.

The background intestinal mucosa in the examined sections did not show Crohn's-type chronic inflammatory changes. Crypt architectural distortion, cryptitis, crypt abscesses, granulomas, giant cells, necrosis and malignancy were not identified.

Immunohistochemistry supported endometrial/Müllerian differentiation: PAX8 highlighted the glandular epithelial component, while ER and PR showed nuclear positivity in lesional tissue. The final pathological diagnosis was multifocal intestinal endometriosis involving the ileum, caecum, ascending colon and appendix, associated with terminal ileal perforation and serositis.

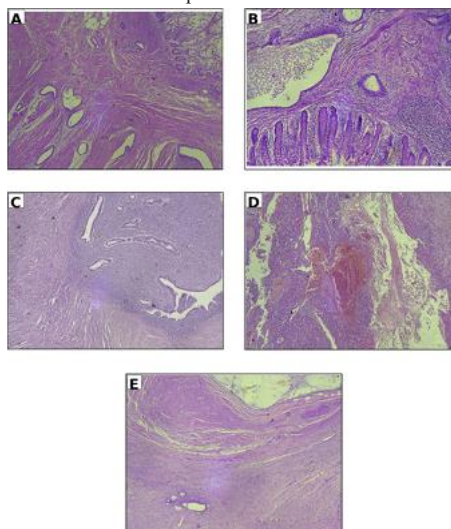


Figure 1. Histomorphology of multifocal intestinal endometriosis

(H&E). (A) Islands of endometrial glands and stroma within the wall of caecum. (B) Mucosa-adjacent focus with endometrial gland and stroma near intestinal mucosa. (C) Transmural endometrial glands and stroma in ascending colon. (D) Perforation field showing hemorrhage with serositis/inflammatory change. (E) Endometriotic foci involving the appendiceal wall.

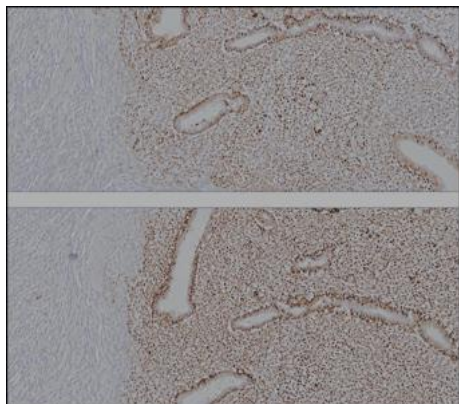


Figure 2. Representative ER/PR immunohistochemistry from the case showing nuclear positivity in endometrial glands and stroma. PAX8 positivity in lesional glandular epithelium was also documented but is not illustrated in this composite.

DISCUSSION

This case demonstrates clinically important discordance between a Crohn's-directed clinical pathway and a resection specimen showing multifocal intestinal endometriosis. The ileocaecal region has a broad differential diagnosis; therefore, terminal ileitis should be regarded as an anatomic pattern rather than a final diagnosis.

The diagnosis in the resection specimen was established by positive morphology: endometrial-type glands and stroma in mural and serosal compartments at multiple intestinal sites, with hemorrhage, hemosiderin and serositis. PAX8 positivity in the glandular component and ER/PR nuclear positivity provided supportive immunophenotypic evidence. The depth of involvement is diagnostically important because deep intestinal endometriosis may escape mucosal biopsy, whereas mucosal involvement can mimic inflammatory bowel disease (Jiang et al., 2013).

The distinction from Crohn's disease also depends on negative findings. Crohn's-type chronic inflammatory features were not identified in the examined resection sections. However, this does not exclude previously established Crohn's disease, which can be patchy, segmental or treatment-modified; coexistence of Crohn's disease and terminal ileal endometriosis has also been reported (Kaemmerer et al., 2013). Epidemiologic and review data likewise support an association between endometriosis and inflammatory bowel disease (Chiaffarino et al., 2020; Jess et al., 2012). Because the patient's earlier diagnostic records were unavailable, the original basis of the Crohn's diagnosis could not be assessed.

Perforation is an uncommon but recognized complication of intestinal endometriosis. Chronic mural infiltration, hemorrhage, fibrosis, adhesions, stricture formation and obstruction may contribute to bowel-wall injury; terminal ileal endometriosis causing obstruction and perforation has been described (Attieh et al., 2025). In the present case, endometriosis, hemorrhage and serositis were present adjacent to the perforation, supporting an anatomic association, although causality beyond the specimen cannot be established from the available records.

The principal diagnostic lesson is to prioritize specimen morphology when it conflicts with an established clinical label. In a perforated ileocaecal resection, identification of endometrial-type glands and stroma with a supportive Müllerian immunophenotype should prompt recognition of intestinal endometriosis and careful reassessment of alternative or coexisting disease.

CONCLUSION

Terminal ileal perforation occurred in bowel showing multifocal intestinal endometriosis involving the ileum, caecum, ascending colon and appendix. H&E morphology and PAX8/ER/PR immuno-

histochemistry supported the diagnosis, while Crohn's-type chronic inflammatory features were not identified in the examined sections. Because prior diagnostic records were unavailable, previous Crohn's disease could neither be confirmed nor excluded. The case highlights intestinal endometriosis as an important mimic of complicated ileocaecal Crohn's disease and the need for specimen-based clinicopathological correlation.

Conflicts of Interest

The authors declare no conflicts of interest.

Funding

No external funding was received.

REFERENCES

1. Habib, N., Centini, G., Lazzeri, L., Amoroso, N., El Khoury, L., Zupi, E., & Afors, K. (2020). Bowel endometriosis: Current perspectives on diagnosis and treatment. *International Journal of Women's Health*, 12, 35–47. <https://doi.org/10.2147/IJWH.S190326>
2. Jiang, W., Roma, A. A., Lai, K., Carver, P., Xiao, S. Y., & Liu, X. (2013). Endometriosis involving the mucosa of the intestinal tract: A clinicopathologic study of 15 cases. *Modern Pathology*, 26(9), 1270–1278. <https://doi.org/10.1038/modpathol.2013.51>
3. Attieh, P., Irani, E., Raheb, J., Raheb, R., Karam, K., & Fiani, E. (2025). Terminal ileal endometriosis masquerading as Crohn's disease: A rare cause of small bowel obstruction and perforation in a middle-aged woman. *European Journal of Case Reports in Internal Medicine*, 12(6), 005472. https://doi.org/10.12890/2025_005472
4. Kaemmerer, E., Westerkamp, M., Kasperk, R., Niepmann, G., Scherer, A., & Gassler, N. (2013). Coincidence of active Crohn's disease and florid endometriosis in the terminal ileum: A case report. *World Journal of Gastroenterology*, 19(27), 4413–4417. <https://doi.org/10.3748/wjg.v19.i27.4413>
5. Jess, T., Frisch, M., Jørgensen, K. T., Pedersen, B. V., & Nielsen, N. M. (2012). Increased risk of inflammatory bowel disease in women with endometriosis: A nationwide Danish cohort study. *Gut*, 61(9), 1279–1283. <https://doi.org/10.1136/gutjnl-2011-301095>
6. Chiaffarino, F., Cipriani, S., Ricci, E., Roncella, E., Mauri, P. A., Parazzini, F., & Vercellini, P. (2020). Endometriosis and inflammatory bowel disease: A systematic review of the literature. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 252, 246–251. <https://doi.org/10.1016/j.ejogrb.2020.06.051>