

Unusually Long Pre-Ileal Vermiform Appendix Presenting as Acute Appendicitis in a Young Female: A Rare Anatomical Variant with Diagnostic Implications

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Abstract

Background: The vermiform appendix exhibits substantial variation in length and orientation. While the average length is 6–9 cm, extreme elongation is uncommon in living patients and may present with atypical symptoms in young females.

Case: We report a 22-year-old female presenting with right iliac fossa pain, abdominal distension, and low-grade fever. Ultrasonography suggested appendicitis, but gynecologic differentials were initially considered. Open appendectomy revealed an unusually long **17.2-cm pre-ileal appendix**, markedly inflamed throughout its course. Histopathology confirmed acute suppurative appendicitis. Recovery was uneventful.

Conclusion: Elongated appendices may mimic gynecologic disorders and pose intraoperative challenges. Surgeons must recognize such anatomical variations to prevent incomplete removal and stump appendicitis.

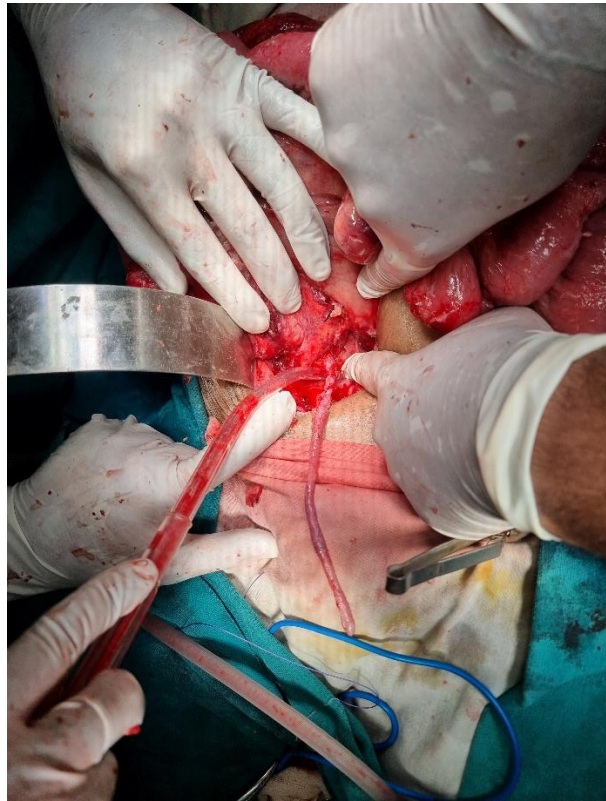
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Introduction

Acute appendicitis remains a leading cause of emergency abdominal surgery, with a lifetime incidence of 7–10% (1). Although conservative management has gained attention, appendectomy remains the standard treatment (2).

The vermiform appendix is a blind-ended tubular structure arising from the posteromedial cecal wall (3). Its length varies widely, typically measuring **6–9 cm**, with reported extremes from **2 to 35 cm** (4). Exceptionally long appendices are rare in living patients and may complicate diagnosis, especially in young women in whom gynecologic disorders commonly mimic appendicitis.

This case describes a **17.2-cm pre-ileal appendix** presenting as acute appendicitis in a young female, highlighting diagnostic challenges associated with anatomical variations.



Case Report



A 22-year-old female presented with **right iliac fossa pain for three days**, accompanied by nausea, abdominal distension, and low-grade fever. There was **no history of ectopic pregnancy, ovarian torsion, PID, or urinary symptoms**. Her menstrual cycles were regular.

On examination, localized tenderness and mild guarding were noted at **McBurney's point**. Laboratory evaluation revealed leukocytosis (TLC 16,800/mm³) with neutrophilia.

Ultrasonography showed a thickened, blind-ended tubular structure in the right iliac fossa with peri-appendiceal fluid. Ovaries were normal, excluding gynecological pathology.

A planned **open appendectomy** via McBurney's incision was performed (5). Intraoperatively, the appendix was identified in a **pre-ileal position**, markedly elongated, and inflamed. Measurement from base to tip confirmed a length of **17.2 cm**, significantly above the reported average (4).

The mesoappendix was ligated, and the base secured with a purse-string suture. **Histopathological examination** confirmed **acute suppurative appendicitis**. The postoperative period was uneventful, and

the patient was discharged on postoperative day four.

Discussion

In young females, right lower abdominal pain frequently overlaps with gynecologic conditions, making diagnosis challenging (6). An unusually long appendix extending toward the pelvis may mimic **adnexal pathology, ovarian torsion, or PID**, leading to misdiagnosis.

The longest appendix reported in literature measured **26 cm**, removed during autopsy (7). Although elongated appendices are described in cadaveric studies, their occurrence in symptomatic living patients remains rare.

Failure to identify and remove the entire appendix can result in **stump appendicitis**, a recognized but preventable complication (8). Awareness of rare positional variations—including retrocecal, subhepatic, pelvic, or pre-ileal appendices—is essential for complete surgical excision.

This case reinforces the importance of **multidisciplinary evaluation** and careful surgical assessment to avoid missing an unusually long appendiceal extension.





Conclusion

An unusually long pre-ileal appendix may mimic gynecologic abdominal pathology in young females, contributing to diagnostic uncertainty. Surgeons must be aware of such variations to ensure complete removal and prevent postoperative complications.

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