

Nonrotation Of Gut With Acute Appendicitis – A Case Report

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Abstract

Nonrotation of the gut is a rare congenital anomaly characterized by small bowel loops occupying the right side of the peritoneal cavity and the colon predominantly located on the left. We present a case of acute appendicitis with an incidental intraoperative finding of intestinal nonrotation.

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I. Introduction

Intestinal malrotation is an uncommon congenital anomaly resulting from an arrest in normal embryological rotation of the midgut. Nonrotation, one of its variants, may remain asymptomatic and often goes undiagnosed until adulthood. However, when associated with acute abdominal conditions such as appendicitis, it may alter clinical presentation and surgical findings. We report a rare case of acute appendicitis in a patient with nonrotation of the gut.

II. Case Presentation

A 36-year-old male presented to the casualty with intermittent, non-radiating abdominal pain for one day, along with a history of low-grade fever for four days and four episodes of vomiting containing food particles.

Clinical Examination & Investigations:

- Ultrasound abdomen revealed probe tenderness in the right iliac fossa but appendix could not be visualized.
- Moderate hepatosteatorrhea and an umbilical hernia (defect 1.6 cm with omentum as content) were noted.
- Blood investigations were within normal limits.
- Despite conservative management with intravenous antibiotics and analgesics, the patient continued to have pain.

CECT Abdomen Findings:

- Large bowel loops predominantly on the left side.
- Ileocaecal junction in the midline near the periumbilical region.
- Small bowel loops confined to the right side.
- Duodenum did not cross the midline at D3 (L1–L2 level).
- Disruption of the normal SMA/SMV relationship, suggesting nonrotation.

- Dilated appendix (~10 mm) in the left superolateral periumbilical region with mild surrounding fat stranding.



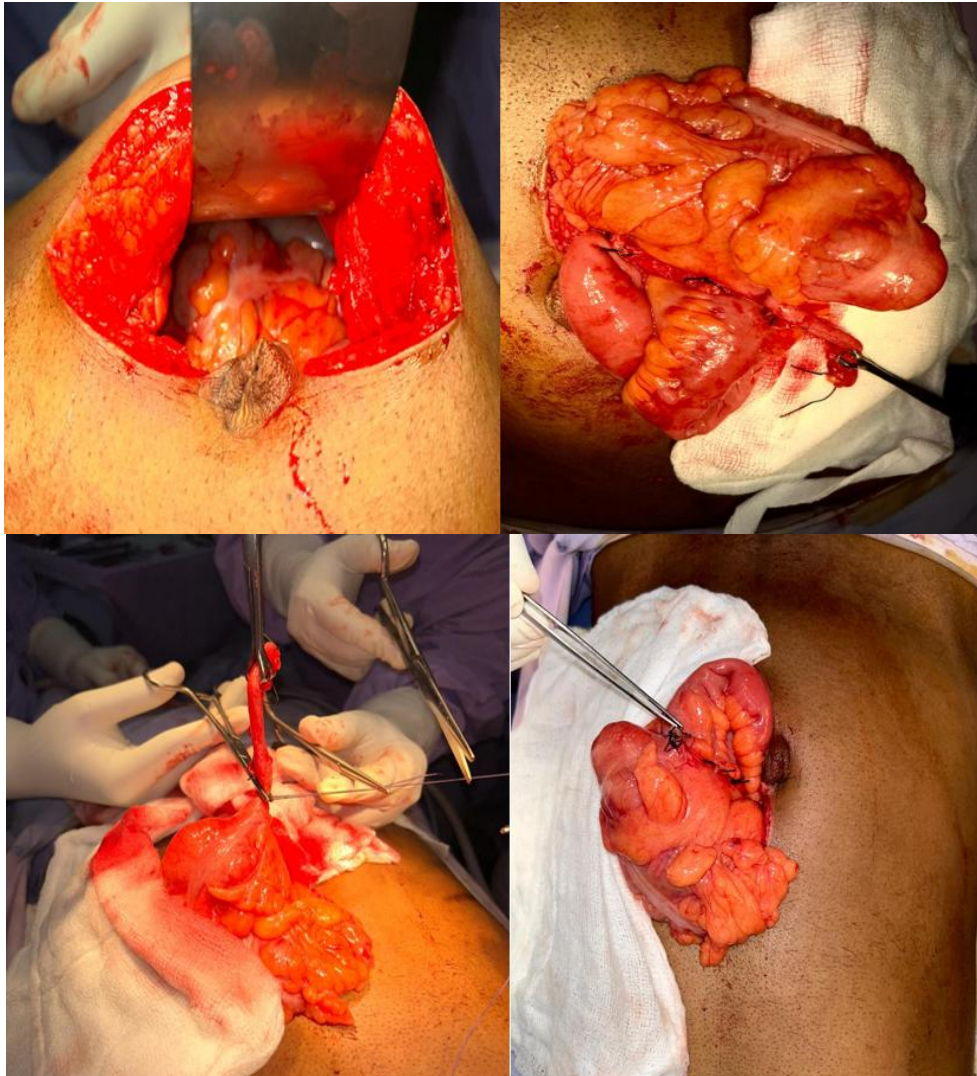
Management

After obtaining informed consent and pre-anaesthetic clearance, the patient underwent exploratory laparotomy and appendicectomy under general anaesthesia (20.04.2023).

Intraoperative Findings:

- Dilated elongated appendix in the left abdomen.
- Caecum and ileocaecal junction also located on the left side.
- Small bowel loops confined to the right side.
- Umbilical hernia containing omentum.

Appendicectomy was performed successfully. Histopathology confirmed features of acute appendicitis. The postoperative period was uneventful, and the patient recovered completely.



III. Discussion

Nonrotation of the gut occurs when the embryonic midgut fails to undergo its normal 270° counter-clockwise rotation. It typically results in the small intestine occupying the right side of the abdomen and the colon on the left. Most cases remain asymptomatic and are diagnosed incidentally during imaging or surgery.

In this case, the diagnosis was first suspected radiologically, and confirmed intraoperatively. The unusual location of the appendix on the left side highlights the importance of considering congenital anomalies when evaluating atypical abdominal pain.

IV. Conclusion

Nonrotation of the gut is a rare congenital anomaly that may present incidentally or complicate common conditions such as appendicitis. Awareness of such variations is essential for accurate diagnosis and appropriate surgical management.