

# “Aged Wrong” - Malrotation: A Rare but Important Cause of Bowel Obstruction in Adults

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**Abstract:** Adult midgut malrotation is a rare cause of acute abdomen in adults, with less than 100 cases reported till date. Malrotation is a familiar situation to pediatric surgeons, but rarely seen by general surgeons, hence necessitating the need for equipping general surgeons to diagnose malrotation in adults. We report a rare case of a 20-year-old male, who presented with obstruction, and an emergency exploratory laparotomy was performed. Intraoperatively, the patient was found to have midgut malrotation, and Ladd's procedure was done. On post-operative CT enteroclysis, abnormal SMA-SMV relationship, typical of malrotation was seen.

**Keywords:** Adult Midgut Malrotation, Acute Abdomen, Ladd's Procedure, General Surgeons, Exploratory Laparotomy.

## 1. Introduction

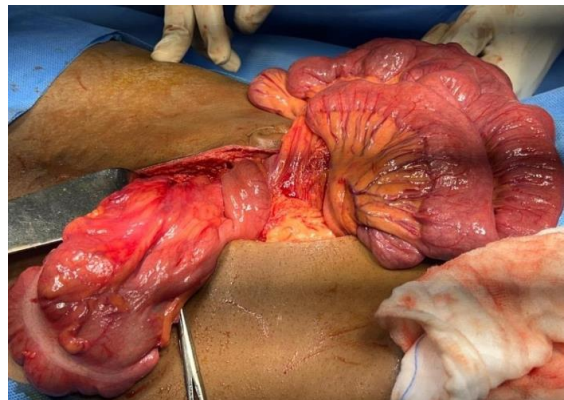
Midgut malrotation is a congenital anomaly, with an estimated incidence of up to 1 in 500 live births<sup>[1]</sup>. It is a familiar situation to pediatric surgeons, but rarely seen by general surgeons. Adult presentation of midgut malrotation is a rare cause of acute abdomen in adults, with less than 100 reported cases<sup>[2]</sup>. This necessitates the need for a general surgeon to be equipped to diagnose malrotation in adults.

## 2. Case Report

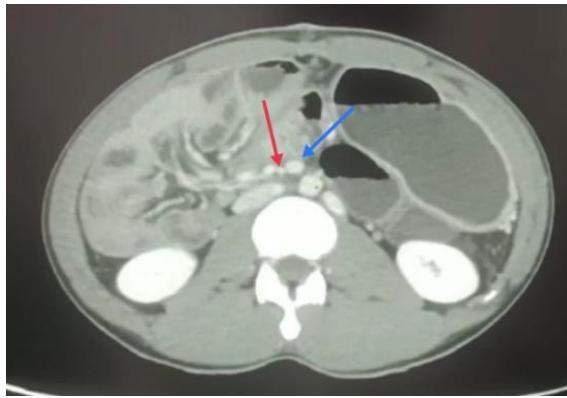
A 20 year old male presented to us with the complaints of abdominal pain since 1 day, associated with multiple episodes of bilious vomiting and obstipation. He had a history of similar complaints - 2 times in the past; which resolved on its own and a history of open appendectomy, 17 years back. On examination, his vitals were stable. There was diffuse abdominal tenderness, distension and hyperperistaltic bowel sounds were heard. A well-healed open appendectomy scar was present in the right iliac fossa. All laboratory values were within normal limits and the plain abdominal radiograph was inconclusive. Patient had a CECT of the Abdomen and Pelvis, done outside, which revealed focal swirling of mesentery with mesenteric vessels and transverse colon located in the pelvis - suggestive of focal volvulus. An emergency exploratory laparotomy was performed. Intraoperatively, Cecal bands attaching to the duodenum (Ladd's bands) were noted, jejunal loops were present on the right-side of the abdomen, while the colon was on the left and the ileocecal junction was in the pelvis, to the right of the midline. Post-appendectomy status was also noted.

Ladd's Procedure was done - Ladd's bands were lysed, the duodenum and right colon were mobilized and detorsion of the

volvulus done and adhesiolysis around the Superior Mesenteric Artery was done and base of the mesentery was widened. Due to prolonged postoperative ileus and pain, a CT Enteroclysis was done on POD4 which showed Inversion of the SMA-SMV anatomy, typical of malrotation<sup>[3]</sup> and no e/o obstruction. He was managed conservatively, and discharged in stable condition on POD10. He is stable on follow up at 3 and 6 months.



**Figure 1:** Jejunal loops were present on the right side of the abdomen while the colon was on the left.



**Figure 2:** Postoperative CT - enteroclysis showing SMA-SMV inversion.

### 3. Discussion

Malrotation is defined as any deviation from the normal 270° counterclockwise rotation of midgut during development. Cases typically present in the 1st month of life (64-80%)<sup>[1][4]</sup>. Only 0.2-0.5% present in adulthood<sup>[5]</sup>. Treatment options range from simple adhesiolysis to Ladd's procedure<sup>[6]</sup>. Adult midgut malrotation is a difficult diagnosis, mainly due to the rarity of the condition. Diagnosis requires a high index of suspicion, especially because patients may present with anything from non-specific, chronic abdominal pain, to obstruction<sup>[7]</sup>.

### References

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