A Rare Case of Adult Intestinal Malrotation Presenting with Intractable Hiccups

Puja Sengupta, DO, MSSEMed, Afia Wilson, MD, MPH, Adrian Estrada, DO, Sampath Subramaniam MBBS
[1]Department of Surgery, Colon & Rectal Surgery Department, MVHS, Wynn Hospital, Utica, NY

BACKGROUND

- Intestinal malrotation is a congenital anomaly caused by incomplete rotation of the intestine during embryologic development
- Commonly presents in neonates with bilious vomiting or volvulus.
- Adult presentation is rare, accounting for **0.2-0.5% of cases**, and symptoms are nonspecific.
- Acute midgut volvulus in adults is a **surgical emergency** due to the risk of bowel ischemia and necrosis.
- Diagnosis may be particularly challenging in **neurologically impaired or non-verbal patients** with limited ability to communicate symptoms

CASE PRESENTATION

- A 58-year-old nonverbal male from an assisted living facility presented with **multiple episodes of emesis followed by persistent hiccups** and inability to tolerate oral intake.
- History was obtained from facility staff due to patient's baseline communication limitations
- CT abdomen and pelvis with IV contrast revealed the following:
  - High-grade small bowel obstruction
  - Focal mural thickening
  - Pneumatosis
  - Pelvic free fluid
  - Aberrant colonic positioning suggestive of intestinal malrotation
- Despite concerning imaging findings, the patient remained **hemodynamically stable with normal lactic acid and white blood cell count.**

OPERATIVE FINDINGS

Figure 1: (Axial view): Aberrant configuration of the colon in the left upper quadrant

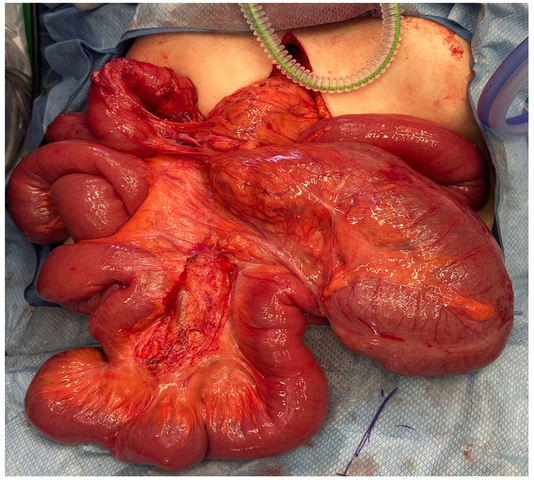

Figure 2: Right of the picture is the patient's left. The cecum to the right is dilated with normal appendix

- The patient underwent diagnostic laparoscopy converted to exploratory laparotomy due to limited visualization.
- Intraoperative findings included:
  - **Complete intestinal malrotation**
  - **270° midgut volvulus around the mesenteric root**
  - Cecal dilation to **12 cm with serosal tears**
  - Presence of **Ladd bands tethering the liver, gallbladder, transverse colon, and duodenum**
- A **standard Ladd procedure** was performed, including:
  - Counterclockwise detorsion of the volvulus
  - Lysis of Ladd bands
  - Appendectomy
  - Repositioning of the small bowel to the right abdomen and colon to the left
- No bowel ischemia was identified, and **adequate superior mesenteric artery pulsation** was present.
- Postoperatively, the patient developed **acute hypoxic respiratory failure**, successfully managed with **BIPAP**, and was discharged back to his assisted living facility at baseline.

DISCUSSION

- Acute **midgut volvulus occurs when the intestine twists around the SMA,** creating a loop obstruction with risk of rapid vascular compromise.
- The presenting symptom of **persistent hiccups following emesis is unusual and may reflect diaphragmatic irritation from bowel distension**, a mechanism previously described in cases of gastric volvulus.
- Diagnosis can be particularly challenging in **nonverbal or neurologically impaired patients**, where communication barriers may obscure early symptoms of abdominal pathology.
- In these cases, **radiologic findings suggested severe obstruction**, yet the patient remained hemodynamically **stable with normal laboratory markers,** highlighting the importance of **clinical judgment and imaging in guiding management.**
- Surgical exploration confirmed complete malrotation with a **270° midgut volvulus**, successfully treated with a Ladd procedure, the standard operative management for this condition.
- Early operative intervention likely **prevented progression to bowel ischemia,** contributing to the patient's favorable outcome
- The case highlights the need for **heightened clinical suspicion when evaluating atypical gastrointestinal symptoms**, particularly in patients with limited ability to communicate distress.

CLINICAL TAKEAWAYS

- Adult intestinal malrotation should remain in **the differential diagnosis of small bowel obstruction, although it is rare but serious.**
- The absence of bowel ischemia in this case despite significant volvulus and cecal dilation suggests that **early recognition and prompt surgical intervention (Ladd's procedure) were critical in preventing vascular compromise, especially in neurologically impaired patients.**
- Overall, this case contributes to the **limited body of literature** describing adult intestinal malrotation presenting with midgut volvulus, particularly in a neurologically impaired, non-verbal patient with atypical symptoms such as intractable hiccups.