Rare cause of chronic bowel obstruction in the setting of malrotation and omental agenesis

Paul VB Fagan, Sam Dickson, Nigel Henderson, Karl Kodeda

We present an unusual case of chronic obstruction due to internal herniation and the first documented case due to congenital agenesis of the gastrocolic and gastrohepatic ligaments in the context of malrotation.

Case report

A 61-year-old female presents with abdominal pain and intractable vomiting for one day’s duration on a background of several admissions over the past five years with repeated vomiting attributed to gastroenteritis. This was believed to be a paraduodenal hernia after discussion at our radiology meeting. On further questioning, she had previously had episodes similar to this and recurrent episodes of bloating and vague colicky abdominal pain for more than five years’ duration, including several presentations to the emergency department with intractable vomiting. Her symptoms settled rapidly after decompression and she was discharged home for semi-elective surgery the following week.

Loops of the centrally located jejunum were herniating under the stomach via the congenital absence of the gastrocolic ligament and out onto the anterior aspect of the stomach via the congenital defect in the lesser omentum (see Figure 2). The herniated bowel was reduced and the defects closed with 2-0 PDS sutures to prevent recurrence, the small bowel mesentery was widened in a fashion similar to a Ladd’s procedure and an appendectomy was performed to avoid diagnostic confusion in the future.

Figure 1: Diagram of the case: sagittal representation of normal anatomy vs omental agenesis and herniation.
The bowel was noted to be partially malrotated with the duodenum crossing the midline (see Figure 3), with the sigmoid colon on the right side, the appendix in the left upper quadrant on an extremely mobile cecum and the small bowel sitting centrally on a narrow mesentery.

**Discussion**

Congenital obstruction attributable to malrotation is not as rare as previously thought and can present in any time from infancy to adulthood.\(^1\) As with this case, the presentation in adults is often indolent with a long lead time between first symptoms to diagnosis.\(^1\) Congenital malrotation due to defects in the normal omental attachments is very rare with only a dozen cases stretching back over the past 50 years.\(^2\)\(^-\)\(^10\) This is the first published case to occur due to malrotation and congenital absence of the gastrocolic and gastrohepatic ligaments. A high index of suspicion is required for diagnosing obstruction secondary to malrotation, and patients often wait many years to final diagnosis. Additional imaging with x-ray or CT imaging should be considered before attributing recurrent gastrointestinal symptoms to more benign conditions such as gastroenteritis.

**Figure 2:** Loop of small bowel herniating behind the stomach and lacking any normal gastrocolic attachments of the omentum.

**Figure 3:** Intraoperative photo showing malrotation (with the appendix in the right upper quadrant).
Competing interests:
Nil.

Author information:
Paul VB Fagan, SET Trainee, Royal Australasian College of Surgeons; Registrar, Department of General Surgery, Taranaki Base Hospital, New Plymouth;
Sam Dickson, Registrar, Department of General Surgery, Taranaki Base Hospital, New Plymouth; Nigel Henderson, General Surgeon, Department of General Surgery, Taranaki Base Hospital, New Plymouth; Karl Kodeda, General Surgeon, Department of General Surgery, Taranaki Base Hospital, New Plymouth; Associate Professor of Surgery, Sahlgrenska Academy, Gothenburg, Sweden.

Corresponding author:
PVB Fagan, 13 Winscombe St, Belmont, Auckland 0622.
pvfagan@gmail.com

URL:

REFERENCES: