Malrotation in the Adult: A Challenging Diagnosis

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BACKGROUND

This case series presents two patients, both with malrotation discovered in their adult years requiring subsequent surgical intervention. Intestinal malrotation occurs when the rotation of the gut in embryogenesis is halted during development. As exemplified by these two cases, this can present emergently or be identified incidentally. The clinical presentation is often quite variable in the adult years, making diagnosis and management challenging.

INTRODUCTION

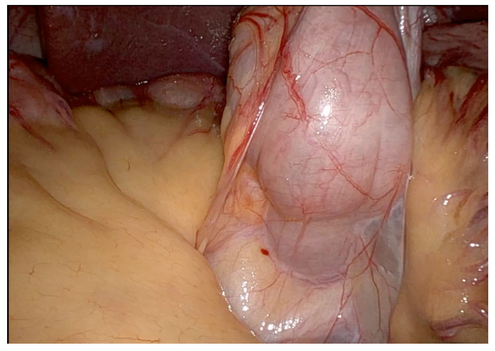
Malrotation is typically described in the pediatric population and discovered in the first year of life. The prevalence of malrotation in an adult is quite rare, approximately 0.2 - 0.5% of cases. In adulthood, this condition can present with a wide range of symptoms including abdominal pain, obstructive symptoms, or bowel ischemia; however, the majority of patients are asymptomatic.

CASE PRESENTATION

The first patient is a 34-year-old female presenting with one day of vague abdominal pain. CT scan revealed bowel malrotation with reversal of the superior mesenteric artery (SMA) and superior mesenteric vein (SMV), as well as intestinal volvulus. The patient emergently underwent a diagnostic laparoscopy, reduction of volvulus, division of mesenteric bands, replacement of small bowel and large bowel, and appendectomy.

The second patient is a 32-year-old female with 6 months of frequent belching, shortness of breath and abdominal distention. EGD was performed and revealed a fibrous band overlying the duodenum, leading to a partial gastric outlet obstruction. Upper GI series revealed intestinal malrotation. She underwent a robot-assisted diagnostic laparoscopy, lysis of adhesions, division of Ladd's bands, and appendectomy. Both patients underwent uncomplicated postoperative courses and were discharged without incident.





CT abdomen and pelvis (Figure 1) demonstrating small bowel malrotation with reversal of superior mesenteric artery and vein. Intra-operative photo of LADDs bands (Figure 2).

DISCUSSION

Clinical presentation in adults with malrotation is variable. Most patients are asymptomatic, those who present with symptoms present in an acute or chronic manner. Acute presentation usually is secondary to an underlying volvulus. The chronic subset is more prevalent and is characterized by intermittent crampy abdominal pain and bloating over months to years. Often diagnosis is made incidentally with routine imaging or abdominal pain workup. CT scan has a diagnostic accuracy of 80%, revealing SMA and SMV reversal of their anatomic locations. The lack of specific presentation leads to a delay in diagnosis in the adult population suffering with malrotation.

CONCLUSION

The low incidence of intestinal malrotation in the adult population makes recognition and diagnosis a challenging prospect. Further characterization of these patients and their typical presentation is essential to the development of systematic and expeditious management strategies.

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