

Intestinal Malrotation in Geriatric Patient: Rare Case Report

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Abstract-Diagnosis of intestinal malrotation is often overlooked in geriatric patients presenting with abdominal pain and weight loss. We present a rare case of malrotation of gut in a 60 year old adult who diagnosed with imaging modalities and successfully managed with Ladd's procedure.

Key Words: intestinal malrotation, Ladd's band, Ladd's procedure

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I. Introduction

Midgut malrotation is a developmental anomaly of fetal intestinal rotation and fixation that usually presents within the first month of life. It is the failure in the counter-clockwise rotation of the midgut. It is a very rare entity in adults. 90% of cases diagnosed during the first year of life [1] and in only 0.03% of the adults. [2]

For these reasons, the diagnosis of this disease is part of day-to-day of pediatric surgery, but this diagnosis is often overlooked in cases of abdominal pain in geriatric population.

Diagnosis of malrotation can be done by barium studies and computed tomography (CT) scans and angiography. Treatment described in literature Ladd's procedure by Dr. Ladd in 1936. [3]

We present a rare case of malrotation of gut in a 60 year old adult who diagnosed with imaging modalities and successfully managed with Ladd's procedure .

II. Case History

A 60 years old male presented with chief complaints of post prandial flatulence, chronic intermittent vague abdominal pain, intermittent bilious vomiting, and distension of upper abdomen and constipation and weight loss of 4 kgs since 6 months. On physical examination, the patient's vital signs were: pulse 64/min, blood pressure 106/74mmHg, temperature 36.4°C and respiratory rate 14/min. He was an under-nourished. His abdomen was distended with epigastric fullness, left to right peristalsis & succussion splash was present. Rectal examination was normal. Hemoglobin, white blood cell count and basic chemistry panel were all within normal values. Barium meal of upper gastrointestinal tract showed contrast agent-filled duodenum and jejunal loops that remain right-sided without crossing the spine to the left. CT scan showed moderate dilatation of stomach and duodenum upto the 3rd part at the level of crossing of mesenteric vessels; inverted relationship between the superior mesenteric artery (SMA) and superior mesenteric vein (SMV); the SMV was positioned anterior to the SMA and opacified small bowel presented almost entirely on the right side and colon to the left.

On diagnosing malrotation, patient was undertaken for exploratory laparotomy. After taking the midline vertical incision, stomach and duodenum were found to be dilated. The D-J flexure was in the midline. The duodenum, caecum and colon were in the same line closer to the midline. There was a thick band extending from the ileo-caecal junction across midline compressing the duodenum. The small intestine mesentery was short. Ladd's operation was done in which Ladd's band release with the aim to broaden the base of the small intestine mesentery by adhesiolysis was done. Appendectomy and placement of caecum in the left hypochondrium was done after the adhesiolysis. Post operatively patient was managed in the wards with nasogastric aspiration, kept nil by mouth, antibiotics and intra-venous fluids till 3rd post-operative day. Started oral fluids on the 3rd day, soft diet on 4th day and normal diet on the 6th day. The stitches were removed on the 10th day. Post-operative period was uneventful. He was discharged on the 15th day. Patient was regularly followed up till 1, 3 and 6 months. On 6-month follow-up he had gained 6kg of weight with no other complications.

III. Discussion

Midgut malrotation refers to a failure in the counter-clockwise rotation of the midgut. Vast majority of cases of intestinal malrotation in adults are asymptomatic changes may occur in acute or chronic form. The acute course with abdominal pain and vomiting without distention can lead to volvulus, intestinal ischemia and necrosis with peritonitis.

Congenital bands extending from the right lateral abdominal wall, across the duodenum to the caecum are called the bands of Ladd. These may cause external compression to the duodenum and may be the cause of upper abdominal pain, bloating, loss of appetite and subsequently malnutrition and failure to thrive.. The malrotation of the gut and abnormal location of the cecum produces a narrow superior mesenteric vascular pedicle; as opposed to the normally broad based small bowel mesentery. This narrow superior mesenteric artery takeoff predispose the patient to subsequent midgut volvulus and obstruction with potential vascular catastrophe. Midgut volvulus, a clockwise twisting of the bowel around the SMA axis because of the narrowed mesenteric attachment, is the most feared complication of intestinal malrotation. It is a clear indication for emergent surgery. The clinical diagnosis of midgut volvulus in adolescents and adults is difficult because the presentation is usually non-specific and malrotation is rare.[4]

The standard upper gastrointestinal barium series remains accurate for detection (accuracy over 80%). The duodeno-jejunal junction fails to cross the midline. Deviation from the normal relationship between the superior mesenteric artery (SMA) and superior mesenteric vein (SMV) is a useful indicator of malrotation on CT.[4,5]

Surgical therapy remains the mainstay of treatment regardless of age at presentation. The most commonly used approach is the Ladd's procedure which entails counter-clockwise detorsion of the midgut volvulus (if present), division of the abnormal colo-duodenal Ladd bands tethering the midgut and causing extrinsic compression, widening of the mesenteric base to prevent further volvulus and removal of the malpositioned appendix. Although symptomatic malrotation after infancy requires prompt recognition and treatment, many patients with malrotation may remain asymptomatic into adulthood. Laparoscopic method for performing Ladd's procedure in the case of malrotation without volvulus has similar results.[6]

IV. Conclusion

The incidence of Ladd's band in elderly is very rare and it mostly remains asymptomatic or diagnosed in post-mortem stages.

Therefore in elderly patients coming with upper GI symptoms like post-prandial vomiting the possibility of diagnosis of midgut malrotation should always be kept in mind.

It is crucial that all surgeons operating on adult patients have firm knowledge of intestinal embryology and its anatomic variations.

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