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**AN INTERESTING CASE OF INTESTINAL OBSTRUCTION DUE
TOMALROTATION OF MIDGUT AND TRANSMESENERIC
INTERNALHERNIA**

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ABSTRACT

Congenital Internal hernias[1] are rare causes of intestinal obstruction in adults. AnAssociatedmalrotation is even rarer. Diagnosis of this condition needs high degreeof suspicion. We describe a case of a young male with a rare presentation ofmalrotation with a transmesenteric internal Hernia presenting as Intestinalobstruction. On laparotomy entire jejunum was within a sac in right side of theabdomen which was found to be herniating from a defect in the small bowelmesentery from the left behind the superior mesenteric vessels and the DJ flexurewas not fixed and was seen on the right side.

KEYWORDS:Malrotation, internal hernia, trans mesenteric hernia, intestinal obstructions.



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INTRODUCTION

Malrotation of the G.I.T. may occur due to arrest in rotation of the intestine during embryological development. Association of malrotation with a transmesenteric defect which causes a congenital internal herniation of the bowel and intestinal obstruction is a rare anomaly in adults.

CASE REPORT

A 19yr old male presented with abdominal distention, vague abdominal discomfort and vomiting for 3 days. Abdominal distention was gradually increasing. He had vomited for one day – 2 episodes which was Billious, not bloodstained, non faeculent. He had vague abdominal pain which was intermittent and colicky in nature. Patient also gave history of three episodes of similar abdominal pain in the past which subsided spontaneously. There was no past h/o any abdominal surgery. On examination, he was hemodynamically stable and his abdomen was distended. There was a vague fullness over the right side of the abdomen. Bowel sounds were audible. X-ray abdomen erect showed distended small bowel loops suggestive of small bowel obstruction. CT abdomen was taken, it

showed a cluster of proximal small bowel loops encapsulated in the right mid-abdomen which show an abrupt point of transition at the level of L3 vertebra; mesenteric vessels were seen converging towards the point of transition and were clustered at the medial aspect of the encapsulated sac; the mesenteric fat within the sac showed stranding and the bowel loops within were dilated. The DJ flexure was not clearly seen and Superior mesenteric vein was seen ventral to Superior mesenteric artery. An Impression was given as ?*Right para duodenal hernia with? Associated mal-rotation of gut.* Patient was put on conservative management with Naso gastric tube suction and nil by mouth. He improved after a day and the distention started to reduce. He passed stools on the next day. He underwent a Barium meal follow through (fig-1) which showed the Duodenojejunal flexure on the Rt side of Abdomen suggesting malrotation of midgut and most of the proximal jejunal loops seen bundled over the right side of the abdomen. The caecum was in normal position. It was reported as a ?malrotated gut with no significant obstruction at present.

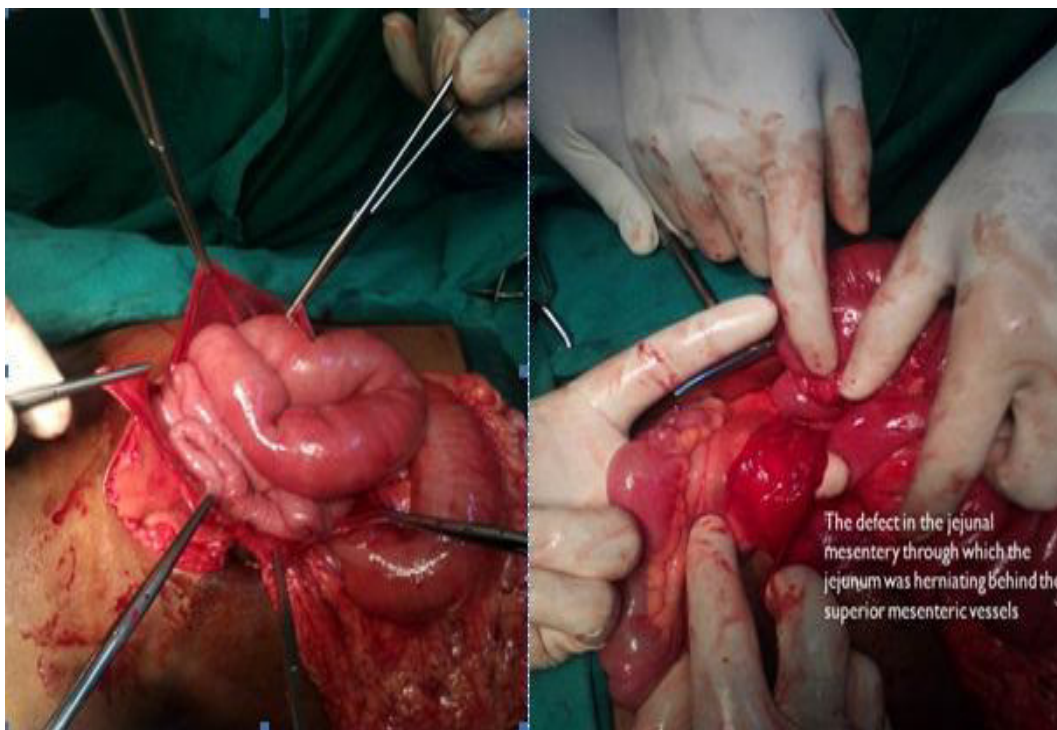
Figure-1
barium meal follow through



Due to the history of recurrent episodes an elective exploratory laparotomy was done which revealed the entire jejunum was within a sac in right side of the abdomen which was found to be herniating from a defect in the small bowel mesentery from the left behind the superior mesenteric vessels about 10 x 7 cm in size. The DJ flexure was found in the right side of the midline and was not fixed. No congenital Ladd's bands were found. The caecum and the colon were in the normal position and were fixed. Intra-op diagnosis of

transmesenteric internal hernia due to malrotation (non-fixity of DJ flexure) was arrived at. The herniating jejunum was reduced to the left side and the mesenteric defect was closed in layers to prevent recurrence. DJ flexure was brought to the Left side and fixed, thus bringing the entire small bowel to the left of the superior mesenteric vessels and to its normal anatomical position thereby reducing risks for future volvulus. Appendectomy was also done.

Figure-2
per operative photograph



The patient made an uneventful recovery. He was discharged on the eighth postoperative day and remained asymptomatic on subsequent follow-ups.

DISCUSSION

Internal hernia is a rare cause of small bowel obstruction^[1]. The incidence is only 0.2 - 0.9% of all small bowel obstruction. This may be Congenital or acquired & may be persistent or intermittent. There is a high risk of strangulation of bowel loops. Transmesenteric hernia is a type of internal hernia^[2]. In this a defect is noted in the small bowel mesentery. These mesenteric defects can be congenital or acquired. Incidence is about 6-8% of all internal hernias. Other sites of

internal hernias are paraduodenal (50%), pericaecal, foramen of Winslow, supra/perivesical, intersigmoid, trans-omental, peri-rectal and postoperative mesenteric defects^{[3],[4]}. Mesenteric defects are commonly seen in the small bowel mesentery (70%) with about 53% in the ileocaecal region^{[5] [6]}. Majority of internal hernia through trans mesenteric defects are reported in infants or children, often with an associated intra-abdominal anomaly

most commonly being intestinal Artesia [7]. In adults, acquired defects due to blunt abdominal trauma or post surgical defects are commonly seen. However, in our case, the mesenteric defect was congenital and was also associated with a third phase arrest of rotation of gut with the DJ flexure on the right side. But the caecum was fixed to the right side in our case. Mesenteric defects may be asymptomatic and only an incidental findings in adults undergoing laparotomy. In some case they may present as life threatening strangulating internal hernias [8]. Mesenteric defects occurs approximately 1 in every 500 live births. Most cases of malrotation in adults are detected only at emergency laparotomy for intestinal obstruction due to midgut or ileocecal volvulus or for other conditions. Only some patients may give a prior history of recurrent vague abdominal pain with bilious vomiting suggestive of intermittent small intestinal obstruction or volvulus. A high index of suspicion is needed to diagnose congenital

mesenteric defects with features of intestinal obstruction in the absence of obvious external hernia or previous abdominal surgery. Operative management consists of timely laparotomy, reduction of the contents and resection of bowel if it is gangrenous. [2] The mesenteric defect or rent should always be closed. Mesenteric vessels near the edge of the defect should be carefully preserved. In this patient the herniating jejunum was brought to its normal anatomical position and the duodenum was fixed in the left side of the midline in its normal position. This maneuver restored normal anatomy and we presume, reduced the risk of future volvulus.

CONCLUSION

Transmesenteric hernia may be a rare cause of sudden abdominal pain in adults. Diagnosis requires high index of suspicion and surgical correction at the appropriate time is important. This case is reported for its rarity.

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