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AN INTERESTING CASE OF INTESTINAL OBSTRUCTION DUE TOMALROTATION OF MIDGUT AND TRANSMESENTERIC INTERNALHERNIA

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ABSTRACT

Congenital Internal hernias[1] are rare causes of intestinal obstruction in adults. AnAssoiatedmalrotation 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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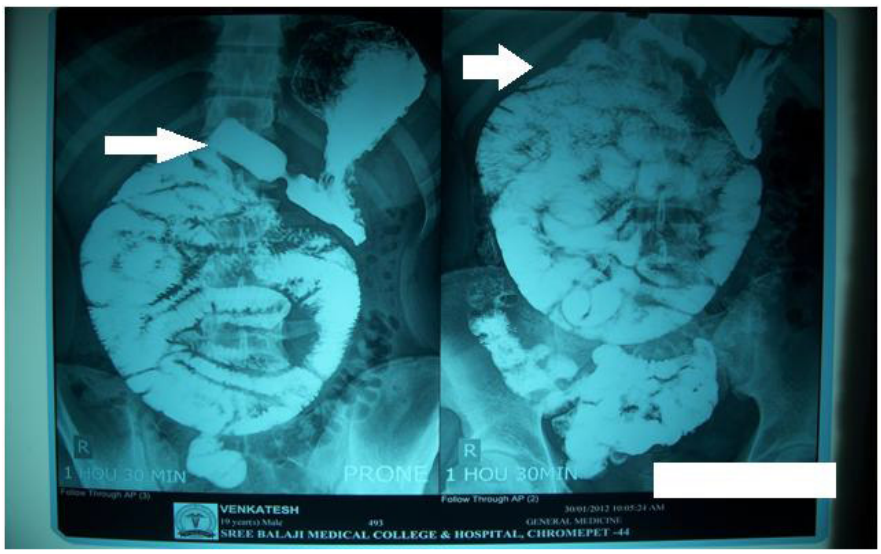
INTRODUCTION

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

CASE REPORT

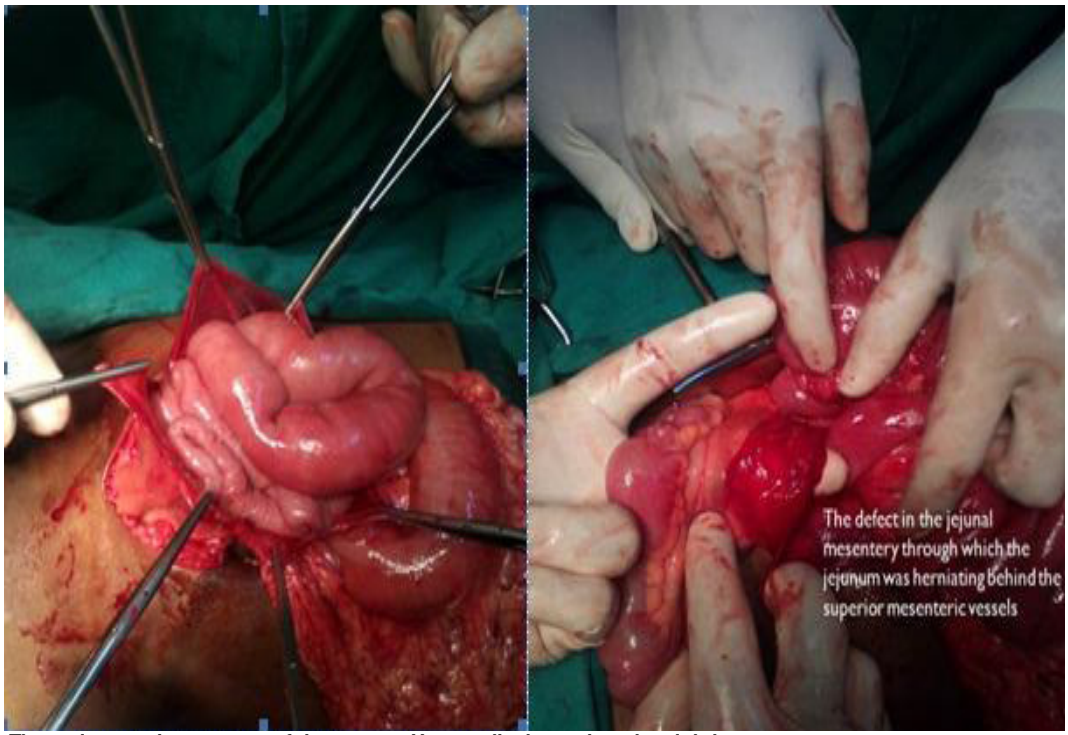
A 19yr old male presented with abdominal distention, vague abdominaldiscomfort and vomiting for 3 days. Abdominal distention was graduallyincreasing. He had vomited for one day – 2 episodes which was Bilious, not bloodstained, non faeculent. He had vague abdominal pain which was intermittent andcolicky in nature. Patient also gave history of three episodes of similar abdominalpain in the past which subsided spontaneously. There was no past h/o anyabdominal surgery. On examination, he was hemodynamically stable and hisabdomen was distended. There was a vague fullness over the right side of theabdomen. Bowel sounds were audible.X-ray abdomen erect showed distended small bowel loops suggestive of smallbowel obstruction. CT abdomen was taken, it showed a cluster of proximal smallbowel loops encapsulated in the right mid-abdomen which show an abrupt pointof transition at the level of L3 vertebra; mesenteric vessels were seen convergingtowards the point of transition and were clustered at the medial aspect of theencapsulated sac; the mesenteric fat within the sac showed stranding and thebowel loops within were dilated. The DJ flexure was not clearly seen and Superiormesenteric vein was seen ventral to Superior mesenteric artery. An Impressionwas givenas ?*Right para duodenal hernia with? Associated mal-rotation of gut.*Patient was put on conservative management with Naso gastric tube suction andnil by mouth. He improved after a day and the distention started to reduce. Hepassed 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 suggestingmalrotation of midgut and most of the proximal jejunal loops seen bundled overthe right side of the abdomen. The caecum was in normal position. It wasreported 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 wasdone which revealed the 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 about 10 ×7 insize. 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 thenormal position and were fixed .Intra-op diagnosis of transmesenteric internalhernia due to malrotaion (non-fixity of DJ flexure) was arrived at. The herniatingjejunum was reduced to the left side and the mesenteric defect was closed inlayers 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 vesselsand to its normal anatomical position thereby reducing risks for future volvulus.Appendicectomy 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 only0.2 -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 bowelloops. Transmesenteric hernia is a type of internal hernia[2] . In this a defect isnoted in the small bowel mesentery. These mesenteric defects can be congenitalor acquired. Incidence is about 6-8% of all internal hernias. Other sites of internalhernias are paraduodenal (50%), pericaecal, foramen of Winslow, supra/perivesical, intersigmoid, trans omental, peri rectal and postoperative mesentericdefects[3],[4]. Mesenteric defects are commonly seen in the small bowelmesentery(70%) with about 53% in the ileocaecal region[5] [6].Majority of internal hernia through trans mesenteric defects are reported ininfants or children, often with an associated intra-abdominal anomaly

mostcommonly being intestinal Artesia [7].In adults, acquired defects due to bluntabdominal trauma or post surgical defects are commonly seen. However, in ourcase, the mesenteric defect was congenital and was also associated with a thirdphase arrest of rotation of gut with the DJ flexure on the right side. But thecaecum was fixed to the right side in our case.Mesenteric defects may be asymptomatic and only an incidental findings in adultsundergoing laparotomy. In some case they may present as life threateningstrangulating internal hernias [8]. Mesenteric defects occurs approximately 1 inevery 500 live births. Most cases of malrotation in adults are detected only atemergency laparotomy for intestinal obstruction due to midgut or ileocecalvolvulus or for other conditions. Only some patients may give a prior history ofrecurrent vague abdominal pain with bilious vomiting suggestive of intermittentsmall intestinal obstruction or volvulus.A high index of suspicion is needed to diagnose congenital mesenteric defectswith features of intestinal obstruction in the absence of obvious external herniaor previous abdominal surgery. Operative management consists of timelylaparotomy, reduction of the contents and resection of bowel if it isgangrenous. [2] The mesenteric defect or rent should always be closed. Mesentericvessels near the edge of the defect should be carefully preserved. In this patientthe herniating jejunum was brought to its normal anatomical position and theduodenum was fixed in the left side of the midline in its normal position. Thismaneuver restored normal anatomy and we presume, reduced the risk of futurevolvulus.

CONCLUSION

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

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