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An Atypical Case of Primary Mesocolic Hernia Presenting As Acute Intestinal Obstruction

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Abstract: We report a case of a fifty four year old gentleman presenting with acute intestinal obstruction, eventually diagnosed as primary mesocolic hernia. The diagnosis along with its mode of presentation, site of presentation and absence of any predisposing factors or associated features constitute a rarity in this age group.
Keywords: primary mesocolic hernia, primary trans mesentric hernia, internal hernia, intestinal obstruction.

INTRODUCTION

Primary mesocolic hernia, a subtype of trans mesentric hernia is a rare entity in itself, and as a cause of acute intestinal obstruction, that too in a fifty four year old male subject, warrants a closer look. There are very few case reports of Internal Hernia but that occurring without any predisposing factors or associated features is extremely unique in this age group. Hence we are reporting this case.

Internal Hernia is defined as protrusion of viscera through a normal or abnormal opening within the boundaries of the peritoneal cavity. The hernial orifice may be a preexisting anatomic structure, such as the foramen of Winslow, or a pathologic defect of congenital or acquired origin [1].

Internal hernia is an infrequent cause of small bowel obstruction (SBO) with a reported incidence of up to 5.8% of all cases of intestinal obstruction, with paraduodenal hernias (PDHs) representing 50% of the 500 cases published up to the year 2000 [2, 3]. Other types of internal hernia are Mesocolic/Tranmesenteric (TMH), Supra/Peri vesical, Intersigmoid, and Foramen of Winslow and Transommental hernias [4-6].

Transmesenteric hernia (TMH) consists of protrusion of a loop of bowel through the mesentery of the small bowel, the transverse mesocolic, the pelvic (sigmoid) mesocolic, or the falciform ligament. [1] TMH can be either congenital or acquired and accounts for 5% to 10% of all cases of Congenital Internal Hernias (CIH) [1].

CASE REPORT

A fifty four year old gentleman presented to our Emergency Department with a history of diffuse abdominal pain and vomiting of three days. He had a past history of recurrent attacks of sub-acute intestinal obstruction but used to get subsided with medication. There was no history of prior abdominal surgery.

General survey revealed tachycardia. Some dehydration was evident clinically. Abdominal examination revealed distention, diffuse tenderness with hurried intestinal peristaltic sound (IPS).

Plain abdominal X-ray revealed dilated small bowel loops in the upper abdomen. No air fluid levels were evident. Hemogram was within normal limits. Serum electrolytes showed mild hypokalemia. Abdominal ultrasound revealed dilated fluid-filled loops of small bowel with minimal ascites.

Patient was adequately resuscitated and then explored. Exploratory laparotomy revealed minimal peritoneal fluid with internal herniation of the terminal ileum and caecum into supra-colic compartment through a defect in the transverse mesocolon, left of inferior mesenteric vein. Gut was found viable after being subjected to warm moist mop and 100% oxygen for 15 minutes.

Transverse colon was found displaced dorsally and ascending colon medially. No malrotation abnormalities were found. The constricting ring was incised away from inferior mesenteric vein, as it was getting difficult to reduce the contents. Transverse mesocolon was repaired with interrupted non-absorbable sutures.

DISCUSSION

The chief objective of outlining this case report was to highlight the range of suspicion one should have when dealing with acute intestinal obstruction. In addition there are few peculiarities in this case which

attracts attention. Primary mesocolic hernia is a rare type of TMH. Primary TMH is common in children but here the patient was an adult aged fifty four years.

Fig 1: Plain abdominal X-ray revealing dilated small bowel loops in the upper abdomen.

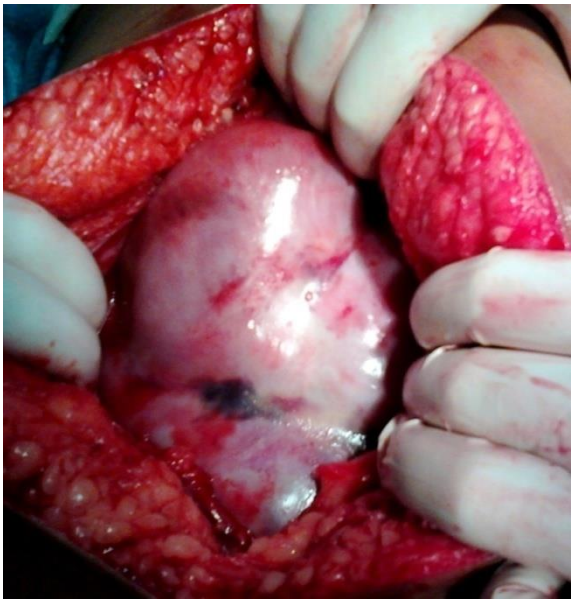

Fig 2: First look of adhered loop of small bowel on exploration

Fig 3: Adhesiolysis of gut loops and reduction of gut loops being done.

Fig 4: Reduced viable gut.

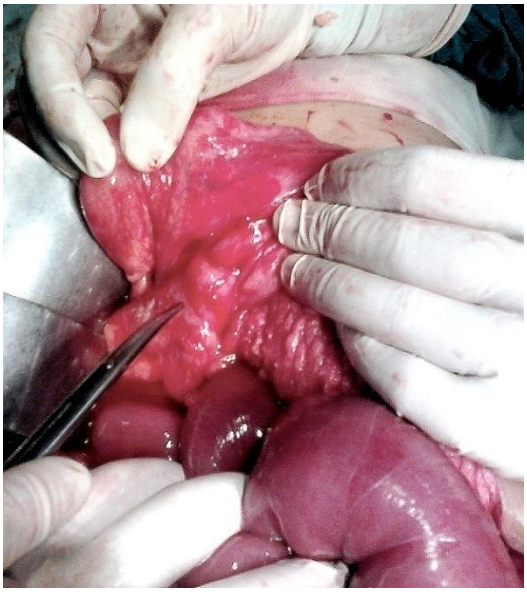

Fig 5: Inferior Mesentric Vein (pointed by tip of hemostatic forceps) right to the gap in mesocolon

Primary TMH in children is often associated with intestinal atresia, or mesenteric ischemia [7]. In contrast, most TMHs in adults are related to predisposing factors, including previous surgery (Eg. Roux-en-Y Gastric Bypass), abdominal trauma, and peritonitis [1]. In this case there were neither any associated neither features nor any predisposing factors.

Jamal *et al.;* reported 70% of TMHs occurred through defects in the small bowel mesentery, [7] with ileocecal defects accounting for 53%, but here it's found through the mesocolon, left of inferior mesenteric vein.

Transverse mesocolic defects are bound by the vascular arch formed by the middle and left colic arteries and particular care needs to be taken during operation.

Because most mesenteric defects are small and there is no limiting hernia sac, a large portion of the small bowel can herniate through a tight opening. The resulting pressure of the herniated bowel and its thickened mesentery compresses the vessels lying in the free margins of the mesenteric defect and results in early incarceration and strangulation of the loop forming the margin of the defect. Furthermore, the herniated segment of bowel can undergo volvulus, which is more commonly seen in TMH than in other types of internal hernias. So, a high index of suspicion, early diagnosis and prompt management is warranted.

CT scan may show a cluster of small bowel loops, SBO, and central or posterior displacement of the colon. Mesenteric vessels may be stretched, crowded, engorged, and have a "whirl sign." Signs of volvulus or mesenteric ischemia, including bowel wall thickening, twisting or engorged mesenteric vessels, or free fluid, may be the predominant CT findings and denote a delayed diagnosis [7, 8].

CONCLUSION

As this case presented with abdominal distension, recurrent vomiting and other features of acute intestinal obstruction, he was initially resuscitated and stabilized. Taking into consideration his past history of recurrent SBOs and current clinical parameters, it was decided to intervene surgically. Postoperative period was uneventful with a good recovery.

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