



LEFT PARADUODENAL HERNIA : A RARE CAUSE OF ABDOMINAL PAIN

Surgery

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ABSTRACT

Paraduodenal hernia are rare hernias in which the small bowel herniates behind the mesocolon. Most commonly presents in 4th to 5th decades and have 0.6% to 5.8 % risk of small bowel obstruction. These occur due to incomplete rotation of midgut and have been classified as left and right according to their position from midline. Left paraduodenal hernia is small bowel herniation through Landzert fossa. This fossa is formed by two peritoneal folds lateral to 4th part of duodenum and behind inferior mesenteric vein and ascending left colic artery. The Patient can present with chronic, intermittent abdominal pain in the OPD or can even present as acute intestinal obstruction with strangulation of bowel content. We report a case of left paraduodenal hernia in a 14 year old boy who presented in the Surgical OPD.

KEYWORDS

Left Paraduodenal hernia, Laparoscopic reduction, OPD presentation.

INTRODUCTION

Paraduodenal (mesocolic) hernia are rare hernias in which the small bowel herniates behind the left mesocolon. Most commonly presents in 4th to 5th decades and have 0.6% to 5.8 % risk of small bowel obstruction^{1,2}. These occur due to incomplete rotation of midgut and have been classified as left and right according to their position from midline. Left paraduodenal hernia is small bowel herniation through Landzert fossa. This fossa is formed by two peritoneal folds lateral to 4th part of duodenum and behind inferior mesenteric vein and ascending left colic artery³. Right Paraduodenal occurs due to herniation of bowel into the potential space known as Waldeyer fossa. The Patient can present with chronic intermittent, self resolving, central abdomen postprandial pain in the OPD or can even present as acute intestinal obstruction with strangulation of bowel contents. CECT is the investigation of choice. Surgical intervention is needed for the closure of defect either as an elective or emergency procedure depending on the presentation of the patient. We report a case of left paraduodenal hernia in a 14 year old boy who presented in the Surgical OPD.

Case Report

A 14 Year old boy with no known comorbidity presented to us in surgical OPD with complaints of pain on & off in the left upper abdomen for the past 03 years. The pain was moderate in intensity, intermittent, colicky in nature, non radiating and was not associated with any vomiting. The pain used to increase after taking meals and used to relieve on its own. Patient was passing stool and flatus. He had no past history of fever, jaundice or dyspepsia. There was no history of any abdominal surgery in past. He had no history of any addiction. On examination, his vital parameters were within normal limits with BP- 118/76 mm of Hg, PR- 82/min. On systemic examination, the chest was bilaterally clear, S1-S2 was heard on auscultation with no added sound. On per abdomen examination the abdomen was soft, nontender, not distended with no guarding or rigidity. There was no visible or palpable lump present. Bowel sounds were present with normal frequency and intensity. Blood parameters were within normal limits with Hb -14.8 gm/dl, TLC-10000/mm³, total bilirubin-1.0 mg/dl, serum alkaline phosphatase- 96U/L and serum amylase - 43U/L. Chest and Abdominal X rays were normal in study. USG Whole abdomen also revealed normal study. CECT Whole abdomen was done in view of recurrent abdominal pain and was suggestive of clustering of proximal jejunal loops in the left anterior pararenal space, displacing the inferior mesenteric vein anteriorly, likely left anterior paraduodenal hernia.

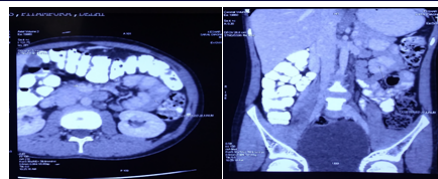


Figure1&2: Clustered jejunal loops with inferior mesenteric vein lying anteriorly.

Laparoscopic reduction of herniating bowel with primary closure of defect was done while being careful not to injure the inferior mesenteric vein. Intraoperative findings (as shown in fig 3,4,5,6,7) were: a) About 100 cm length of jejunal loop was found to be entrapped inside the hernia sac with inferior mesenteric vein lying at the edges of sac and anterior to bowel loop.

b) The entrapped jejunal loop was edematous with no ischaemic changes seen. Post op period was uneventful and the patient was discharged in a good state of health on post op day 2.

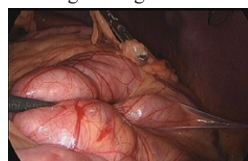


Figure 3: clustered jejunal loops inside sac

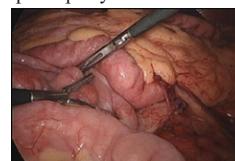


Figure 4: Delivery of the bowel loop from sac.

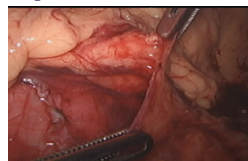


Figure 5: Sac margin

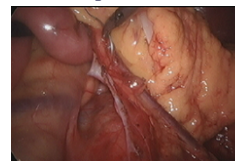


figure 6: Closure of defect



Figure 7: Odematous bowel loop delivered from the sac

DISCUSSION

Paraduodenal hernia are the most common type of internal hernias, accounting for more than 50% of reported cases⁴. Paraduodenal hernia is of congenital origin and is formed by the herniation of small bowel through the congenital defect. This defect is a potential space behind the mesocolon, formed due to fusion failure of mesocolon with the parietal peritoneum. They are more common in men with a 3:1 ratio and most commonly present in third or fourth decades of life^{5,6}. Depending on the position from the midline, it has been divided into left and right sided paraduodenal hernia.

Left paraduodenal hernia occurs due to small bowel herniation into the Landzert fossa^{7,8,9}. Left para-duodenal hernia has an occurrence of approximately 2% in the population. In general, during the 5th to 10th week of gestation this space gets obliterated as the left colonic mesentery, inferior mesenteric vein and left ascending colic artery fuses with the retroperitoneum while the small bowel is undergoing the 270 degree of counterclockwise rotation around the superior mesenteric artery¹⁰. However due to lack of fusion, this fossa develops behind these vessels and when the herniation of the small bowel occurs, it leads to anterior displacement of inferior mesenteric vein and left ascending colic artery. The Right Paraduodenal occurs due to herniation of bowel into the potential space known as Waldeyer fossa. At autopsy, the Waldeyer's fossa was found in about 1% of the population¹¹. The Right PDH develops when the pre-arterial limb aborts its counterclockwise rotation at 180 degree and the post-arterial segment continues to develop and rotates normally. As a result, the small bowel will become trapped behind and to the right of the SMA and behind the ascending mesocolon which will fail to fuse with the peritoneum of the posterior wall. Although the paraduodenal hernia is very difficult to be diagnosed because of its variable presentation, yet the patient can present with chronic intermittent, self-resolving, central abdomen postprandial pain in the OPD or can even present as acute intestinal obstruction with strangulation of bowel contents. Patients with a left paraduodenal hernia usually present in 4th – 5th decade of life with mean age of 38.5 years. Our case is unusual as he presented at an early age of 14 years. CECT whole abdomen was suggestive of left paraduodenal hernia while the other radiographic investigations and USG were within normal limits. This has reported lifetime risk of strangulation around 50% and mortality 20%^{12,13}. Once the diagnosis is confirmed, Surgery is mandatory and it aims at reduction of content, preservation of anatomy and closure of primary defect by non absorbable suture to prevent recurrence. Care should be taken not to injure inferior mesenteric vein in left paraduodenal hernia repair and superior mesenteric artery in right paraduodenal hernia repair.

CONCLUSION

Paraduodenal hernia is a rare cause of abdominal pain, prognosis of which depends on the degree of herniation, strangulation and ischemia of involved bowel. It should be considered in differential diagnosis of pain abdomen, when there is history of chronic self-resolving intermittent central abdomen postprandial pain.

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