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Case Report

A rare cause of chronic intestinal obstruction, left paraduodenal hernia: A case report

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Key words: Internal hernia; intestinal obstruction; paraduodenal hernia.

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Abstract

Paraduodenal hernia, the most common type of internal herniation, is rare in the etiology of intestinal obstruction. Delayed diagnosis and surgical intervention may result in significant morbidity and mortality risk. This report presents a case of left paraduodenal hernia undiagnosed for a period of time resulting in intestinal obstruction. A young female patient was seen in the Surgical OPD With complaints of frequent abdominal pain which was colicky in type and more prominent about half hour after food intake. A left paraduodenal hernia was identified by MR Enterography findings of an encapsulated cluster of dilated small bowel loops occupying the left upper quadrant between the stomach and pancreas, and the presence of an engorged and displaced vascular pedicle at the orifice of the hernia. Per operatively, the proximal jejunum was found in the left paraduodenal fossa. After reducing the intestinal segments to the abdominal cavity, the orifice of the hernia sac was approximated by suturing. Paraduodenal hernia should be considered as a possible etiology in cases of chronic intestinal obstruction with unremarkable presentations. Surgeons should be familiar with the findings of imaging studies in case of a paraduodenal hernia. Early surgical intervention is critical to prevent the significant morbidity and mortality associated with this condition.

Introduction

Paraduodenal hernias are a type of internal hernia whereby an abdominal organ passes through a defect into another compartment within the abdominal cavity (Figure 1). These hernias are congenital and arise from anomalous rotation and fusion of mesentery and parietal peritoneum during embryogenesis. There are two types of paraduodenal hernia: the left paraduodenal hernia and the right paraduodenal hernia. Left paraduodenal hernias are three times more common than right paraduodenal hernias. Paraduodenal hernias may not cause symptoms and may be discovered incidentally, though bowel incarceration and strangulation can occur [1].

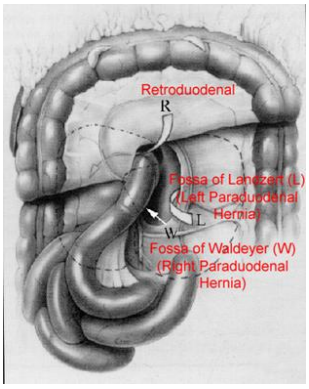


Figure 1. Anatomy of Para duodenal hernias

Left Paraduodenal Hernias

Left paraduodenal hernias penetrate the fossa of Landzert and enter the descending mesocolon. Small bowel loops pass into the left upper quadrant in a sac separate from other bowel, lateral to the distal duodenum. These hernias are distinguished by the left colic artery and the inferior mesenteric vein in the anteromedial border of the left paraduodenal hernia sac [2].

Right Paraduodenal Hernias

Right paraduodenal hernias occur through the fossa of Waldeyer into the ascending mesocolon. These hernias are lateral and inferior to the descending duodenum, forming small bowel loops in a sac that are not separable. CT may demonstrate branches of the superior mesenteric or ileocolic arteries in the ventral wall of the hernia sac [3].

Case Report

A 21-year-old female patient presented to the surgical OPD on May 8th 2015 with Complains of diffuse abdominal pain an hour or so after food intake for 1 day associated with nausea but no vomiting. She had history of similar pain in the past. On examination there was tenderness over the epigastric, left lumbar, and left iliac fossa regions. There was a small sub umbilical scar. The patient gave history of

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surgery in January 2015 for similar pain but her records were not available with her during this visit. Ultrasound study of her abdomen showed sluggish peristalsis of proximal small bowel loops which were filled with fluid or particulate material and was suggested a contrast CT scan to evaluate further. With a provisional diagnosis of small bowel obstruction she was advised admission but patient was not willing then. Medical gastroenterologist opinion was obtained on May 13th when an upper gastrointestinal scopy was done which showed features suggestive of bulbar duodenitis. She presented again in 2 days with history of Abdominal Pain and an episode of vomiting. Patient had visited a government hospital earlier on that day and had taken a CT abdomen. The report mentioned normal study. This time she brought her old records from the government hospital that showed that in January 2015 she was suspected to have an Intussusception and had undergone a D-Lap. Nothing abnormal was found. She was admitted here this time and on conservative management was asymptomatic for 5 days and discharged with an advice to review in surgery OP after an MGE review. The very next day the patient came back with complains of abdominal pain and vomiting. She was not willing for admission and Ryle's tube insertion. She came back one month later for MGE opinion which mentioned that she had a strong possibility of an obstructing lesion like a polyp in the jejunum causing intermittent obstruction with spontaneous resolution and was advised an Advised MR / CT enterography. Later she visited another private hospital for MR Enterography. The Upper gastrointestinalscopy done there showed a lax LES. The MR Enterography showed that the Jejunal loops in the left upper quadrant show thickened wall and were clumped with a Possibility of a left Para duodenal hernia. (Image 1, 2, 3, 4)

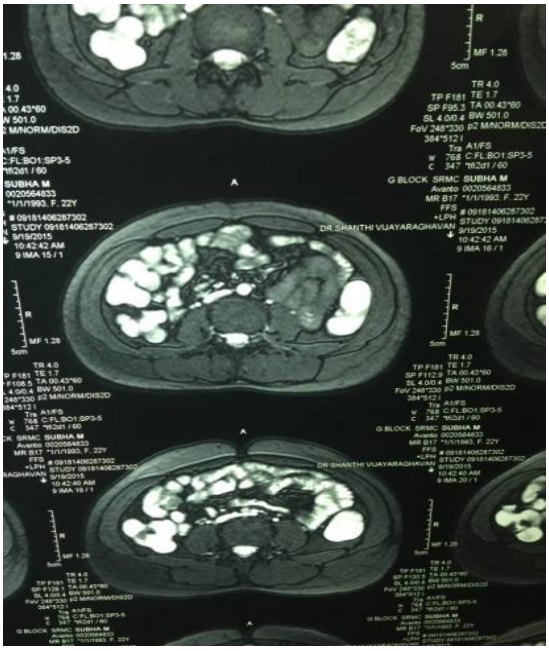


Image 1

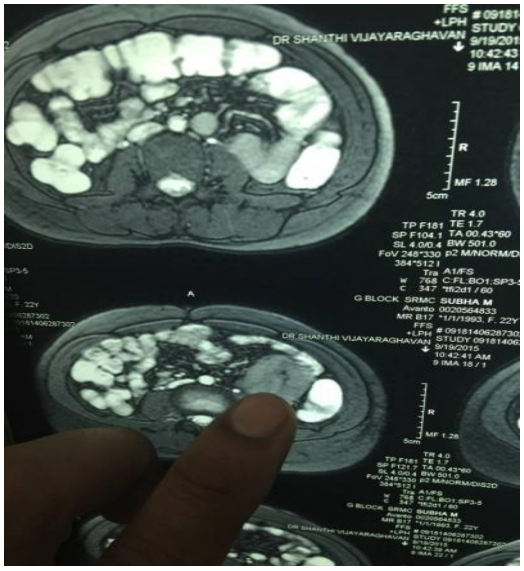


Image 2.



Image 3.



Image 4.

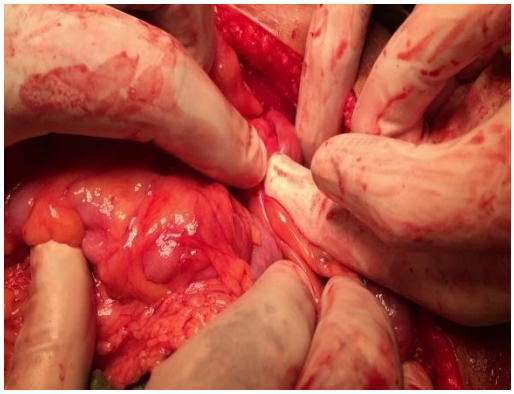


Image 5.

She came back for further management and after obtaining OB/Gynae, TB chest opinions; patient was taken up for Laparotomy with a pre operative diagnosis of Para duodenal hernia (Image 5).

Loops of the jejunum were found herniated through the para duodenal space and were carefully pulled out. The loops were checked for any features of strangulation, space occupying lesion and injury. The orifice was obliterated with vicryl stitches and abdomen was closed. Post operative period was uneventful and patient was discharged on 8th post operative day. On review the patient has been happy and symptom free since.

Discussion

Intestinal Obstruction is any condition that interferes with the normal propulsion and passage of intestinal contents. It can involve the small bowel, colon or both small bowel and colon as in generalized ileus. The Cause of obstruction can be either mechanical or functional. The Duration of obstruction could be either acute or chronic. The Extent of obstruction may be partial or complete. The Type of obstruction can be simple or complex (closed loop and strangulation).

Reviews of certain terms used in reference in this topic are

Ileus: Paralytic or functional intestinal Obstruction (Adynamic or paralytic).

Mechanical obstruction: complete or partial mechanical blockage of the intestinal Lumen. (85% SB, 15% large bowel)

Simple obstruction: one obstructing point.

Closed loop obstruction: Both the afferent and the efferent loops are obstructed.

Strangulation: where the blood supply to the affected part of the intestine is impaired more likely to sustained increased intraluminal pressure.

Small Bowel Obstruction Etiologies include Adhesions 60%, Malignancy 5%, External or Internal Hernia 20%, Volvulus 5%, Crohn's Disease and Intra-abdominal Abscess (Figure 2).

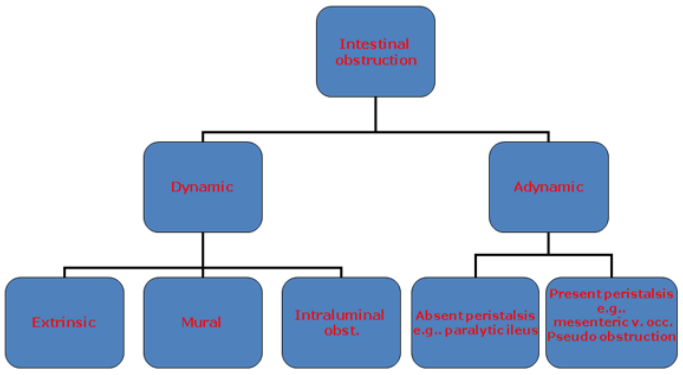


Figure 2. classification of intestinal obstruction

Intestinal obstruction is a common clinical condition that is usually suspected on the basis of clinical signs and patient history. For many decades, evaluation was based on findings at conventional radiography, with a sensitivity of 69% and a specificity of 57%. Several studies have demonstrated the value of CT in confirming the diagnosis and revealing the cause of small bowel obstruction, with a sensitivity of 94%-100% and an accuracy of 90%-95%.

Para duodenal hernias are internal hernias and a rare cause for intestinal obstruction. Para duodenal hernias constitute approximately 53% of all internal hernias. These rare hernias have unique radiological finding which allow definitive diagnosis to be made [4].

Paraduodenal hernias are a type of internal hernia whereby an abdominal organ passes through a defect into another compartment within the abdominal cavity. These hernias are congenital and arise from anomalous rotation and fusion of mesentery and parietal peritoneum during embryogenesis representing entrapment of small intestine beneath the mesentery of colon. There are two types of paraduodenal hernia: the left paraduodenal hernia and the right paraduodenal hernia.

Left paraduodenal hernias are three times more common than right paraduodenal hernias [5].

Paraduodenal hernias may not cause symptoms and may be discovered incidentally, though bowel incarceration and strangulation can occur. (Figure 3, 4, 5)

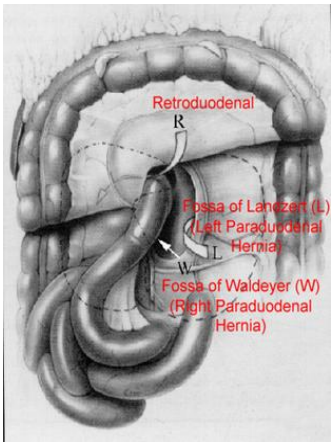


Figure 3. Anatomy Review

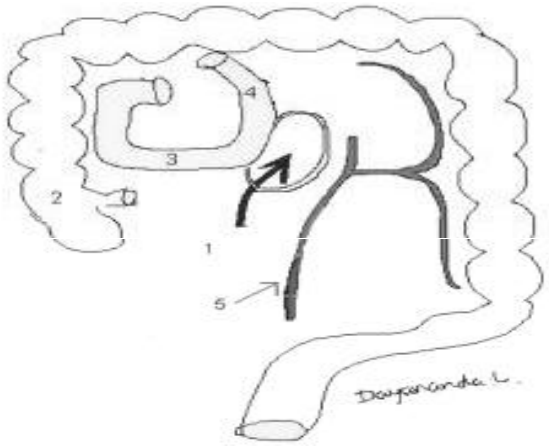


Figure 4. Anatomy of left para duodenal fossa: 1) Fossa of Landzert. 2) Colon. 3) 3rd part of duodenum. 4) 4th part of duodenum. 5) Inferior mesenteric vein.

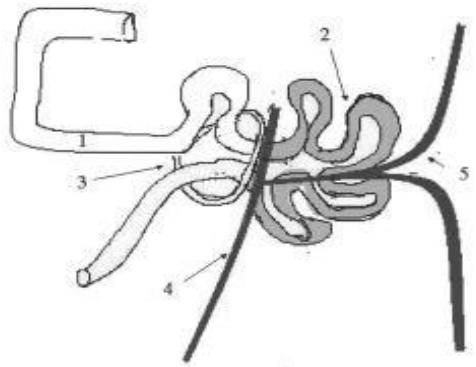


Figure 5. Anatomy of left para duodenal fossa: 1) 3rd part of duodenum. 2) Left Para duodenal hernia. 3) Fossa of Landzert. 4) Inferior mesenteric vein. 5) Tributaries of Inferior mesenteric vein.

The clinical manifestation of para duodenal hernias can be quite variable, varying from mild abdominal cramps or occasional vomiting to acute intestinal obstruction.

Postprandial pain with postural variation is a characteristic symptom.

Inferior mesenteric vein compression in left para duodenal hernias may lead to hemorrhoids

Conclusion

Para duodenal hernia, the most common type of internal herniation, is rare in the etiology of intestinal obstruction. Delayed diagnosis and surgical intervention may result in significant morbidity and mortality risk [6]. This report presented a case of left paraduodenal hernia undiagnosed for a period of time resulting in intestinal obstruction.

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