



MANAGEMENT OF LEFT PARADUODENAL HERNIA - A CASE REPORT

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ABSTRACT

Paraduodenal hernias are rare type of internal hernias also known as Treitz hernia or Mesocolic hernia that occur due to congenital anomaly in rotation of the midgut. The anomaly is either malrotation of midgut or failure of mesentery of ascending colon to fuse with parietal peritoneum. The presenting symptoms can range from mild abdomen pain to small bowel obstruction and gangrene. The hernias can be left or right sided depending upon their relationship with the mesenteric vessels of small bowel.

Internal hernias, including paraduodenal hernia (the most common), pericecal, foramen of Winslow and inter sigmoid hernias, account for approximately 0.5 to 5.8% of all cases of intestinal obstruction and are associated with high mortality rate.

We present a case of left paraduodenal hernia occurring in 40yr old male patient who presented with complaints of mass and pain in left side of abdomen for 1 week. CT imaging was done which showed clusters of dilated bowel segments with displaced mesenteric vessels at hernial orifice. After evaluation diagnosed as left paraduodenal hernia and through laparoscopy bowel loops decompressed from the fossa of Landzert and hernial sac repair done. Post operative period was uneventful and was discharged after 3 days.

Paraduodenal hernias are rare causes of small bowel obstruction which can be difficult to diagnose clinically and require cross sectional imaging for diagnosis. These hernias occur due to congenital anomaly of malrotation of the small bowel and fusion of mesentery. Surgical correction is done electively or on emergent basis with open or laparoscopic technique depending upon the clinical scenario and availability of laparoscopy.

KEYWORDS : Hernia, Internal hernia, Left para duodenal hernia, Fossa of Landzert, Small bowel obstruction.

INTRODUCTION :

Herniation of intestinal loops through congenital or acquired openings within the mesentery or peritoneum is called internal hernia. One such hernia is para duodenal hernia and it is the most common internal hernia constituting 53% of internal hernias.

Para duodenal hernias are also known as mesocolic hernia. It occurs 3 times more common in men than women (M:F ratio 3:1). They are two types right sided para duodenal hernia with 25% incidence and left with 75%.

Left para duodenal hernia is a congenital defect with an occurrence of approximately 1-2% of the population. Most patients are diagnosed between 4th and 6th decades of life. It causes 0.2-0.9% of all cases of intestinal obstruction. Internal hernias are rare hence pose a significant diagnostic and therapeutic challenge for both radiologist and clinicians.

Classification:

There are numerous classifications of internal hernias and more acceptable one is by Welch. Classified as 8 types: left para duodenal, right para duodenal, foramen of Winslow, pericecal, sigmoid mesocolon related, transmesenteric, transomental, supra vesical and pelvic hernias.

Pathogenesis:

Para duodenal hernias are congenital and derive from embryonic peritoneal anomalies and associated with abnormal internal rotation.

Left para duodenal hernia is posterior to the inferior

mesenteric vein and left branches of middle colic artery situated to the left of the 4th part of the duodenum.

The initial rotation of the midgut behind and then left to the superior mesenteric artery and comes to lie in the left side of the abdomen behind the mesentery of the descending colon leads to development of left para duodenal hernia.

The small bowel loops especially jejunal loops prolapse through and into the left portion of the transverse mesocolon. Hence the loops trapped within the mesenteric sac. It leads to small bowel obstruction, ischemia and perforation predisposing to high mortality.

CASE PROFILE :

A 40 year old man presented to the emergency department with complaints of mass and pain in the left side of abdomen for one week duration with vomiting. He also denied any history of weight loss or recent changes in his bowel habits. He had no previous significant past medical or surgical history. However he described an episode of abdominal pain 3 years back. On examination no abnormality noted in the abdomen. Laboratory studies, abdominal X-ray and ultra sonogram were unobstructive. Contrast enhanced computed tomography showed cluster of non dilated jejunal and proximal ileal loops noted in the left upper quadrant anterior to the left anterior para duodenal fossa displacing the distal body of pancreas antero-superiorly and the inferior mesenteric vein noted passing anteromedially consistent with left para duodenal hernia. Since ours is a tertiary hospital with laparoscopic facility, we proceeded with laparoscopic repair of the hernia sac after small bowel decompression. At laparoscopic repair, herniation of small bowel (distal

duodenum and proximal jejunum about 60cm) through the foramen of Landzert was found. The entrapped intestinal loop was reduced and the bowel was found to be healthy. Inferior mesenteric vein identified and subsequent repair of the defect was done. The patient had uneventful post operative recovery and discharged home 3 days later.No abnormal presentation found during follow up so far.

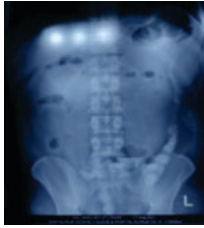


Image 1 Radiograph Of The Abdomen - Left Paraduodenal Hernia.

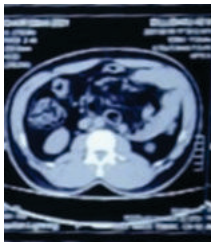


Image 2- Transverse view of CT abdomen image showing the cluster of the small intestine.



Image 3- Image Showing Laparoscopic Ports Inserted.



Image 4- Bowel Loop Through The Foramen Of Landzert.



Image 5 - Reduction of contents

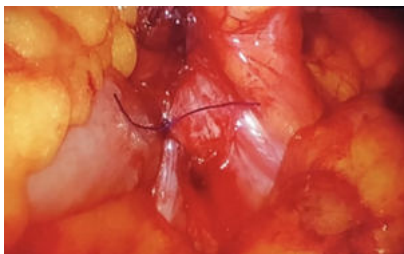


Image 6- Closure Of Para Duodenal Hernial Sac



Image 7 - Image Showing Post Operative Status Of The Patient.

DISCUSSION :

Paraduodenal hernia was first described by Neubauer in 1796 (7). He described it as a peritoneal developmental defect and later Treitz described the paraduodenal fossa through which the hemi-al sac protrudes hence also known as Treitz Hernia.

Left sided hernias are more common compared to the right and there is a slight male preponderance.⁴Right paraduodenal hernia occur due to the malrotation of the midgut and failure of fusion of mesentery to the parietal peritoneum. This creates a hernial defect. Left paraduodenal hernia occurs due to the malrotation of the midgut when it initially rotates posterior and then left to the superior mesenteric artery and lies behind the descending colon mesentery.³

Clinical features of para duodenal hernias are non specific ranging from vague epigastric discomfort to recurrent intestinal obstruction. The associated risk of strangulation and intestinal infarction is more than 50% over the course of life time. The high rate of mortality associated with these complications make early diagnosis indispensable and justifies the role of abdominal computed tomography in the diagnosis of paraduodenal hernia.

Multi slice computed tomography yields high resolution multi-planar images which give precise information about the pathology and aids in early diagnosis and appropriate surgical planning.

The true incidences of these hernias are difficult to establish as many cases are either completely asymptomatic or misdiagnosed as functional gastro intestinal abnormalities. The mortality rate of paraduodenal hernia in acute setting is 20%. Even though barium studies demonstrates para duodenal hernias ,computed tomography remains the gold standard of imaging modality for early diagnosis. Computed tomography having sensitivity of 95-100% and specificity of 95%.

Angiography too has a role in diagnosis, with features of displacement of the jejunal arteries in the upper left quadrant of the abdomen.

Unresolved obstruction may lead to sinister complication like ischemia and perforation. Hence surgical management must be planned immediately if features of obstruction present through emergency laparotomy. The type of repair can be closure of hernial defect, enlargement of the defect and resection of the sac. The advantages of laparoscopic surgery is decrease in post operative pain, reduces morbidity and early resumption too good. The cause of these hernias is an embryonic disorder in terms of lack of connection of both peritoneal folds from the 6th to 11th week of gestation. Spontaneous reducibility is also in literature, leading to chronic and recurrent symptomatology. Many clinicians are unfamiliar with this rare entity. The over all difficulty in the diagnosis of this uncommon condition is compounded further by the the transient nature of herniation. Hence computed tomography scan should be taken at the time of patient having symptoms.

CONCLUSION :

Left para duodenal hernias are difficult in diagnosis and that requires a high degree of suspicion from the clinician and confirmation with contrast enhanced computed tomography. Essential components of surgical management includes bowel decompression. obliteration of the hernia defect by closure or widening. Unrecognized left paraduodenal hernia leads to delayed surgery, which can cause intestinal perforation, peritonitis and even death. Computed Tomography of the abdomen helps us to make an accurate diagnosis and perform timely surgery which is done depending up on the patients presentation, electively or on emergent basis with open or laparoscopic technique.

CONFLICTS OF INTEREST :

There are no conflicts of interests.

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