International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Para-Duodenal Hernias: Early and Late Presentations

Dr. C Priyadarshini

MS., Madurai Medical College

Abstract: ***Background: Internal hernias, defined as a protrusion of viscus through an intraabdominal aperture without traversing fascial planes, cause 0.6% to 5.8% of small bowel obstructions. Para duodenal hernias comprise 50% of all congenital internal hernias. They are more common in men at a 3:1 ratio, and despite their congenital nature, they most commonly present in the third or fourth decades of life. They are either left (75%) or right sided (25%), and distinct in their pathogenesis. Case report: Two patients with variable presentation of paraduodenal hernias are encountered. A 49 year old male patient with vague abdominal pain for 1 day in the left upper quadrant of abdomen. CT images showed features suggestive of left paraduodenal hernia with features suggestive of small bowel obstruction. A 24 year old male patient with severe abdominal pain and persistent vomiting for 2 days with diffuse tenderness and guarding. CT images showed features of strangulated left paraduodenal hernia. Emergency laparotomy was done in both cases. Reduction of the contents and Hernial orifice closure was done in the first patient. Resection of gangrenous small bowel and Double barrel ostomy was done in the latter patient. Conclusion: Due to the rarity and their varying presentations, morbidity and mortality rates vary greatly. Knowing congenital forms of internal hernia is important in recognizing acutely life-threatening obstructions or diagnosing the etiology of chronic abdominal pain. Timing of presentation and Early use of CT imaging and early intervention decides the prognosis and outcome of the patients.***

Keywords: Internal hernia, Paraduodenal hernia, Intestinal obstruction, Abdominal pain, CT imaging, Laparotomy, Ostomy

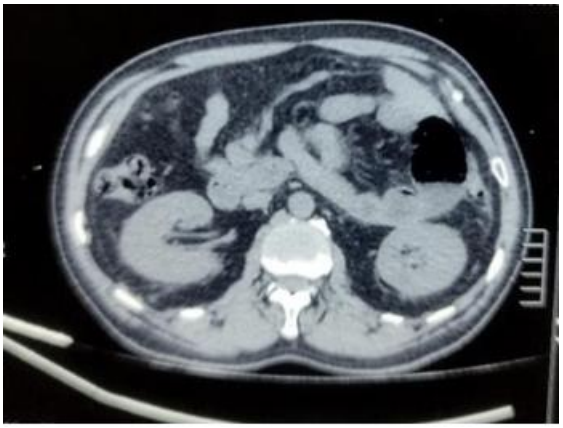
1. Background

Intestinal obstruction is a commonly encountered surgical condition. Internal hernias cause 0.6% to 5.8% of small bowel obstructions. A Para-duodenal hernias (PDH) are considered the most frequent type of congenital internal hernia [1]. Left para-duodenal hernia (hernia of Landzert) is about three times more common than the right counterpart (Waldayer's hernia) [2]. Landzert's fossa is posterior to the inferior mesenteric vein and left branches of middle colic artery. The space is typically obliterated during the 5th to 10th weeks of gestation as the left colonic mesentery, inferior mesenteric vein, and ascending left colic artery fuse with the retroperitoneum while the small bowel is simultaneously undergoing its 270-degree counterclockwise rotation around the superior mesenteric artery (SMA). The fossa to the left of the fourth part of the duodenum is the area where the small bowel loops (usually jejunum) herniates through and into the left portion of the transverse mesocolon. The initial rotation of the midgut behind and then left to the superior mesenteric artery and PDH can lead to bowel obstruction, ischemia, and perforation with a high mortality [6]. Clinical diagnosis of PDH is a challenge as symptoms are entirely non- specific. They usually affect males more than females (3:1) [9, 10]. Most patients are diagnosed between the 4th and 6th decades of life and the mean age of diagnosis is 38.5 years [2]; 75% of mesocolic hernias occur on the left side and 25% on the right side [11]. We are reporting two cases of PDH and their management based on their presentations.

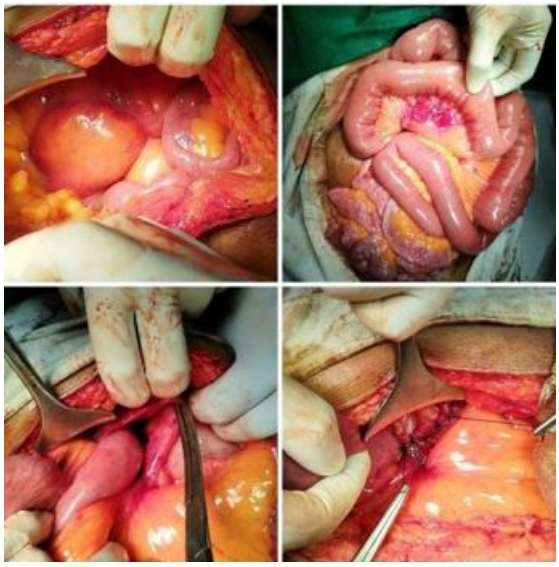
2. Case Presentation

Case 1

A 49 year old man presented with left upper abdominal pain for 1 day. The pain was vague, dull aching without nausea and vomiting. He has a past medical history of diabetes treated with oral hypoglycemic agents for 4 years. No previous abdominal surgeries. Patient vitals are stable. Per abdomen – Diffuse tenderness in the left hypochondrium; no guarding / rigidity. The results of complete blood count, blood sugar, renal function tests are normal. His abdominal CT scan showed a cluster of dilated small bowel loops in left anterior pararenal space; inferior mesenteric vein is stretched and seen the medial and anterior aspect of hernial sac; Maximum diameter of dilated small bowel loops measures 3.7 cm with features of obstruction. Patient planned for Emergency laparotomy. Intra operatively, small bowel loops are found to be herniating into a defect behind the mesocolon. Inferior mesenteric vein forms the medial and anterior margin of the defect. The entrapped intestinal loop was reduced, and the defect was repaired. Patient started on liquid diet on POD-1. And Soft solid diet on POD 2. Postoperative period was uneventful. Patient discharged on 3rd Postoperative day.



CT imaging showing clustering of dilated small bowel loops in left anterior para renal space

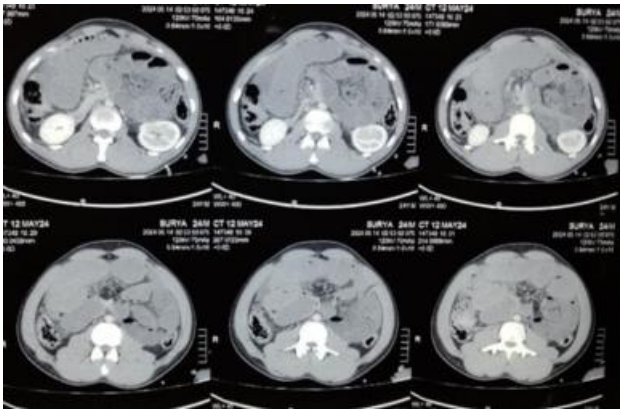


Intraoperatives images: a) Herniating small bowel segments; b) Reduction of herniated segments; c & d) Closure of defect

Case 2

A 24-year-old man presented with severe abdominal pain, persistent bilious vomiting for past 2 days. Per Abdomen – Diffuse tenderness in all quadrants and Guarding present. Vitals are unstable. Fluid resuscitation and Bicarbonate correction was done to correct hypotension and acidosis. Total count and renal function tests are elevated. CT imaging done and it shows cluster of small bowel loops in the left pararenal space with engorgement of mesenteric vessels. Max diameter – 3.9 cm. Areas of small bowel loops appears hypoenhancing and edematous showing the signs of strangulation. Patient resuscitated and planned for emergency laparotomy. Intraoperatively, dilated small bowel herniating into Landzerts fossa noted. Herniated contents are reduced. From DJ flexure, Proximal 20 cm of jejunum

is found to be viable and edematous. Upto 200 cm of small bowel found to be gangrenous. Resection of gangrenous bowel is done. Anastomosis could not be done. Double barrel ostomy done and patient shifted to SICU in intubated state. Patient was extubated on postoperative day 1. Started on liquid diet on Day 2, Soft solid diet on Day 3. In the view of high ostomy output, TPN was administered. Electrolyte abnormalities are corrected. Patient tolerated oral feeds and Ostomy output was reduced Patient discharged on POD-8 and planned for reversal later.



Intraoperative images: A) Dilated gangrenous small bowel loops; B) Herniation of small bowel loops behind left mesocolon noted and reduced. C) Thorough laparotomy done D) Left paraduodenal hernial sac

3. Conclusion

Knowledge of congenital forms of internal hernia is important in recognizing acutely life- threatening obstructions or diagnosing the etiology of chronic abdominal pain. Due to the rarity and their varying presentations, morbidity and mortality rates vary greatly. Timing of presentation and Early CT imaging and early intervention decides the outcome of the patients. Prognosis and recovery depend on the degree of herniation, strangulation, and ischemia of the involved bowel.

References

[1] Blachar A, Federle MP, Dodson SF. Internal hernia: clinical and imaging findings in 17 patients with emphasis on CT criteria. Radiology. 2001; 218(1):68–74.
[2] Khan MA, Lo AY, Vande Maele DM. Paraduodenal hernia. Am Surg. 1998; 64(12):1218–22.
[3] Husain A, et al. Internal Hernia through Paraduodenal Recess with Acute Intestinal Obstruction: A Case Report. Indian J Surg. 2012;74(4):354–5.
[4] Zonca P, et al. Treitz's hernia. Hernia. 2008;12(5):531–4.
[5] Armstrong O, et al. Internal hernias: anatomical basis and clinical relevance. Surg Radiol Anat. 2007;29(4):333–7.
[6] Martin LC, Merkle EM, Thompson WM. Review of internal hernias: radiographic and clinical findings. AJR Am J Roentgenol. 2006;186(3):703–*17*.
[7] Bartlett MK, Wang C, Williams WH. The surgical management of paraduodenal hernia. Ann Surg. 1968;168(2):249.
[8] Hassani KI, et al. Left paraduodenal hernia: A rare cause of acute abdomen. Pan Afr Med J. 2014;17(2):230.
[9] Palanivelu C, et al. Laparoscopic management of paraduodenal hernias: mesh and mesh-less repairs. A report of four cases. Hernia. 2008;12(6):649–53.

[10] Takeyama N, et al. CT of internal hernias.Radiographics. 2005;25(4):997.
[11] Ross D, Cawich SO. A case of a paraduodenal hernia. Int J Surg Case Rep. 2010;1(2):19.
[12] Blachar A, et al. Radiologist performance in the diagnosis of internal hernia by using specific CT findings with emphasis on transmesenteric hernia. Radiology. 2001;221(2):422–8.
[13] Al-Khyatt W, et al. Acute intestinal obstruction secondary to left paraduodenal hernia: a case report and literature review. World J Emerg Surg Wjes. 2013;8(1):1–5.
[14] Socas MM, et al. Atypical left paraduodenal hernia. Rev Esp Enferm Dig. 2006;98(6):473