



Left para-duodenal hernia presenting as abdominal lump- A Case Report

Authors

Jayesh Kalbhande¹, Vicky Kuldeep²

¹Consultant Surgeon, ²Senior Registrar

BARC Hospital, Anushakti Nagar, Trombay, Mumbai-400094, India

Abstract

Para-duodenal hernia, a rare congenital anomaly, also known as mesacolic hernia. Para-duodenal hernia is a type of internal hernia. Internal hernias account for only 1% of all hernias, and para-duodenal hernias make up 50% of those. Since the presentation is vague, the diagnosis is a major challenge. The presentation may include chronic recurrent abdominal pain, lump in abdomen, features of partial or complete small bowel obstruction. Clinical suspicion helps in early diagnosis. CT remains the modality of choice for diagnosis. Clinical suspicion along with radiological confirmation accounts for early diagnosis followed by early exploration prevents dreadful complication and reduces mortality related with PDH.

Keywords: Left Para-duodenal Hernia.

Introduction

Para-duodenal hernia, a rare congenital anomaly, also known as mesacolic hernia. PDH is a congenital defect, which occurs due to abnormal fixation of the retro-peritoneum to the mesentery, which occurs due to malrotation of midgut.⁽¹⁾ Para-duodenal hernia is type of internal hernia. Internal hernias account for only 1% of all hernias, and para-duodenal hernias make up 50% of those.⁽²⁾ Since the presentation is vague, the diagnosis is a major challenge. We will be discussing about the case we came through in our institute.

Case Presentation

A 44 years old gentleman presented with complains of pain in the left lumbar region and central abdominal pain since last 3-4 days. It was insidious in onset, colicky in nature, non-radiating. It was aggravated on eating food. Intake

of food increases the pain, so he was not able to eat or drink anything since last 3 days. Patient also complained of inability to pass flatus or motion since last 3 days. Although there was no history of bilious vomiting, fever. Past history of multiple bouts of central abdominal pain which was managed conservatively.

On clinical examination, patient was tachycardia, tachypnoea with BP on lower side. Patient was showing clinical signs of dehydration. Wide bore iv canula was secured for fluid resuscitation followed by insertion of ryles tube and Foley's catheter. On Abdominal examination, A lump was palpable which was tender without local rise of temperature. It was occupying the left hypochondriac and left lumbar region. It was soft in consistency with smooth surface, rounded margins. No pulsation or peristaltic movement was visible. On auscultation bowel sounds were absent. Rest of the abdomen was soft. Rectum was

completely collapsed and empty. X erect abdomen was showing multiple dilated jejunal loops in the left lumbar region consistent with lump (Figure:1) with faecal bowel sign suggestive of long-term obstruction. CT scan was done with IV and oral contrast which was suggestive of left para-duodenal hernia with features of small bowel obstruction. Blood supply to bowel were maintained.

Afterwards patient was taken for exploratory laparotomy. There was an approx. 4X4 defect behind the inferior mesenteric vein. Bowel was released from the neck of and slowly bowel loops were removed from the sac. As the sac was emptied, the lump was gone. No bowel was compromised. The defect of the mesentery was closed with vicryl 2-0. The patient experienced an uneventful recovery and was discharged with complete resolution of his symptoms.



Figure 1: X Ray Erect Abdomen with multiple dilated jejunal loops clustered in the left hypochondriac region and lumbar region

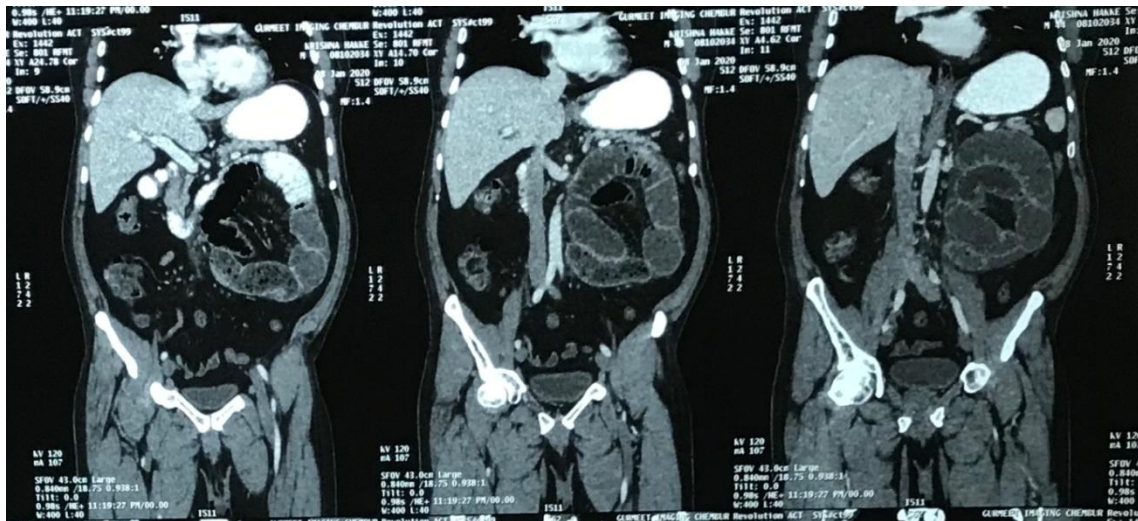


Figure 2: CT scan showing left para-duodenal hernia

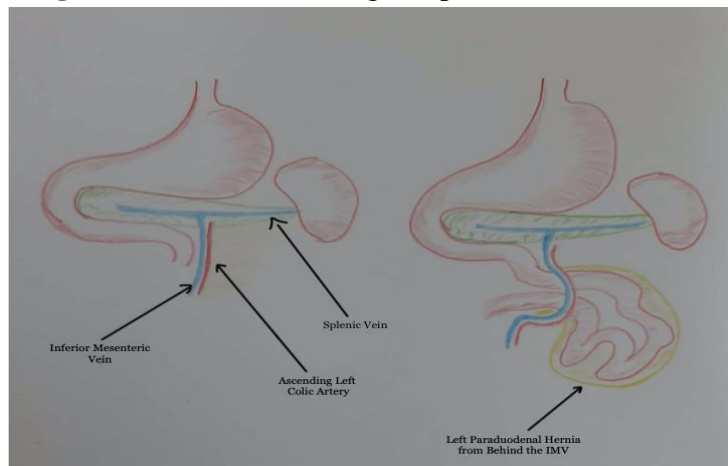


Figure 3: Showing the hernia sac coming from behind the IMV

Discussion

Para-duodenal hernia was first described by Neubauer in 1796.⁽³⁾ He described it as a peritoneal development defect. Almost a century later, Treitz described the para-duodenal fossa through which the hernia sac protrudes in PDH. The two most accepted theories regarding development of para-duodenal hernia are:

- i. Moynihan's Theory: He attributed PDH to a condition known as 'physiological adhesions', which arise at the time of return of the bowel back to the abdomen and fusion of the common dorsal mesentery with the posterior abdominal wall. This leads to the formation of fusion folds and fossae. These fossae gradually enlarge to develop PDH. The two important fossae are the fossa of Landzert (for Left PDH) and fossa of Waldeyer (for Right PDH).⁽⁴⁾
- ii. Andrew's Theory: Andrews respected Moynihan's concept of fusion folds and fossae but doubted the gradual enlargement of the fossae. He said that PDH is due to developmental fusion defects.⁽⁵⁾

Para-Duodenal hernia's are very rare, but still they account for 30-53% of all internal hernias.⁽⁶⁾ Para-duodenal hernia can be classified as left or right depending upon the fossa involved. In left para-duodenal hernia the viscus herniated through the fossa of Landzert. In right para-duodenal hernia, viscus herniates through the fossa of Waldeyer.⁽¹⁾ Left PDH is three times more common than right. Right PDH is seen more in males, with a 3:1 male-female ratio, whereas Left PDH does not have a gender bias.⁽⁶⁾

Patients present with past history of recurrent abdominal pain. The majority of presentation occurs in the 4-5th decade of life.⁽⁶⁾⁽⁷⁾ Para-duodenal hernia's present with non-specific abdominal symptoms, most common presentation being small bowel obstruction and dull colicky pain. Non-specific symptoms and lack of

familiarity with clinicians, makes it difficult to be diagnosed clinically. Clinical examination may be normal unless it produces a mass or causes intestinal obstruction.⁽⁶⁾⁽⁷⁾ Complications like strangulations and perforation accounts for mortality rates up to 44%, if not intervened surgically.⁽⁸⁾⁽⁹⁾ Regardless of the type of PDH, diagnosis is always a challenge. CT scan with IV and Oral contrast plays a key role in diagnosis. In typical CT images, left para-duodenal hernia shows a cluster of dilated bowel segments with engorged and displaced mesenteric vessels at the hernia orifice. Sac is seen behind the inferior mesenteric vein.⁽¹⁰⁾

Once the diagnosis is done, treatment should be prompt. Surgical treatment is the modality, either open or laparoscopic. Delayed treatment can lead to complication such as strangulation, perforation of the trapped bowel. Basic treatment approach being reduction of hernia content and repair of the defect in the mesentery. After adequate incision and exposure, the transverse colon mesentery to be examined for the defect. The defect through which the bowel is going should be released from the surrounding. Release incision to be given to reduce the hernia content. Resection with primary anastomosis to be done, if the bowel is compromised. With laparoscopic changing the face of abdominal surgery, the above-mentioned approach can be tried laparoscopically as well.

Conclusion

In conclusion, para-duodenal hernia is a rare congenital abnormality presenting with non-specific complaints. The presentation may include chronic recurrent abdominal pain, lump in abdomen, features of partial or complete small bowel obstruction. Clinical suspicion helps in early diagnosis. CT remains the modality of choice for diagnosis. Clinical suspicion along with radiological confirmation accounts for early diagnosis followed by early exploration prevents dreadful complication and reduces mortality related with PDH.

References

1. Townsend Jr CM. Jr, Daniel Beauchamp R, Mark Evers B, Mattox KL. Sabiston textbook of surgery: the biological basis of modern surgical practice. Elsevier,; 2012.
2. Fukada T, Mukai H, Shimamura F, Furukawa T, Miyazaki M. A causal relationship between right paraduodenal hernia and superior mesenteric artery syndrome: a case report. *J Med Case Rep.* 2010;4(1):159.
3. Brigham RA. Paraduodenal hernia. *Hernia.* 1989;
4. Moynihan BMB. On retro-peritoneal hernia. Being the 'Arris and Gale' lectures on 'The anatomy and surgery of the peritoneal fossae', delivered at the Royal College of Surgeons of England in 1897. W. Wood; 1906.
5. Andrews E. Duodenal hernia. *Surg Gynecol Obs.* 1923;
6. Khan MA, Lo AY, Maele DM Vande. Paraduodenal hernia. *Am Surg.* 1998;64(12):1218.
7. Liew KL, Choong CS, Shiau GF, Yang WC, Su CM. Descending mesocolon defect herniation: case report. *Chang Yi Xue Za Zhi.* 1999;22(1):133–7.
8. Manji R, Warnock GL. Left paraduodenal hernia: an unusual cause of small-bowel obstruction. *Can J Surg.* 2001;44(6):455.
9. Newsom BD, Kukora JS. Congenital and acquired internal hernias: unusual causes of small bowel obstruction. *Am J Surg.* 1986;152(3):279–85.
10. Iachar A, Federle MP, Brancatelli G, Peterson MS, Oliver JH, Li W. Radiologist performance in the diagnosis of internal hernia by using specific CT findings with emphasis on transmesenteric hernia. *Radiology.* 2001;221(2):422–8.