INTRODUCTION

An internal abdominal hernia is, a protrusion of abdominal viscera through a defect in the peritoneum or mesentery [1, 2]. The defect can be acquired or congenital [1, 2]. Abnormal embryonic rotation of the midgut persisting after birth results in a congenital internal hernia [1]. Para-duodenal hernias (PDH) are the most common type of congenital internal hernia [3]. Left para-duodenal hernia (hernia of Lanzert) is about three times more common than the right counterpart (Waldayer’s hernia) [4, 7]. Left para-duodenal hernia (LPDH) is a congenital defect with an occurrence of approximately 2% of the population. It arises from the fossa of Landzert [5-9]. Para-duodenal hernia is either asymptomatic, or presents with nonspecific symptoms such as chronic abdominal pain, digestive disorders, and can result in bowel obstruction if undiagnosed [11].

We report a case of a 32-year-old male patient presenting as acute small bowel obstruction, diagnosed as left para-duodenal hernia on preoperative CECT and confirmed intra-operatively.

Case report

A 32 yr. male patient reported to the casualty with chief complaints of abdominal pain and progressive distension since 3 days. The pain was periumbilical, colicky type, gradually progressive in intensity, non-radiating and without any aggravating factors. It was partly relieved on I.V analgesics. Pain was associated with 3 episodes of bilious vomiting. Pain was associated with 3 episodes of bilious vomiting. He complained of multiple episodes dull aching abdominal pain over the last 3 years, which relieved in due time without any medication or intervention. Patient was a chronic tobacco and ganja smoker. He did not have any other significant contributory history in the past.

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On physical examination the patient had tachycardia (pulse 100/min), a B.P. of 104/70 mmHg and a respiratory rate of 19/min. On abdominal examination patient had abdominal distension, tenderness and voluntary guarding in the periumbilical region. Bowel sounds were sluggish. On the PR examination, the patient did not have any significant findings.

Ultrasonography abdomen suggested of dilated small bowel loops (diam - 4cm) with to and fro peristalsis. Abdominal radiography showed upto 4 air fluid levels. CECT suggested of small bowel obstruction secondary to left paraduodenal hernia.

Intraoperative findings revealed minimal free fluid in the abdomen and minimal contamination. The distal jejunum and proximal ileum, approximately 80 cm from the duodenojejunal junction, were found to be entrapped in a large left paraduodenal space. The neck of the sac was opened avoiding the inferior mesenteric vessels. On removal of the entrapped bowel segment, it was found to be dusky, was about 60cm in length and had feeble mesenteric pulsations. After a few minutes, after using warm mops and high concentration oxygen, the small bowel regained its normal color. The hernial orifice was left lay open. Upon inspection, there were no other signs of malrotation with normal position of ligament of Trietz. After irrigation with warm saline, pelvic drains were placed and the abdomen was closed in layers.
On POD 8, patient developed tachycardia and tachypnea. On examination, patient had distended abdomen. Drain showed minimal output, but abdominal tap revealed contaminated fluid. Urgent CECT revealed bowel ischemia with perforation and presence interbowel free fluid.

On urgent exploration, it was found that the previously conserved bowel loop of approximately 60 cm had undergone necrosis and perforation. Resection of that bowel segment was done along with an ileostomy. Subsequent post-operative recovery was uneventful.

**DISCUSSION**

An internal hernia is a protrusion of a viscus through a peritoneal or mesenteric aperture, leading to its entrapment within a compartment of the abdominal cavity.[5,7,12] They account for 0.2%–0.9% of intestinal obstructions.[6,13] Around 10% and 50% of internal hernias are discovered incidentally,[2,3] Ghahremani et al. [1] classified congenital internal abdominal herniation into paraduodenal hernia (50–55%), pericecal hernia (10–15%), transmesenteric hernia (8–10%), hernia of the foramen of Winslow (6–10%), intersigmoid hernia (4–8%), and paravesical hernia (<4%) [1]. Based on an analysis of 467 cases, Hansmann and Morton also classified the internal hernias based on location [6,15]. Liew et al listed at least 25 different anatomic sites of internal hernias.[7,12]

Paraduodenal hernias are the most common type of internal hernia having an overall incidence of approximately 50% [3,4,7].

Left paraduodenal hernia (hernia of Lanzert) is about three times more common than the right one (Waldayer’s hernia).

Left paraduodenal hernia arises from the fossa of Landzert. It is a congenital defect present in approximately 2% of the population, located to the left of the fourth part of the duodenum, posterior to the inferior mesenteric vein and left branches of the middle colic artery. Small bowel loops (usually jejenum) can prolapse posteriorly through the Lanzert fossa. Hence, the herniated small bowel loops may become trapped within this mesenteric sac [16].

Clinically, internal hernias can have a variable presentation from being asymptomatic to presenting as an acute intestinal obstruction or as chronic intermittent abdominal pain, especially after a large meal.[4,7,10]

Findings on physical examination correspond to the presentation of the hernia. [5,7,9] Preoperative diagnosis is difficult.[12] Plain abdominal radiography may demonstrate distended, dilated loops of small bowel [13]. Barium-contrast studies, if done, small bowel within the left upper quadrant. [6,7] Ultrasonography may demonstrate an abdominal mass or internal tubular cysts.[5,7] Multislice computer tomography (CT) offers high resolution and multiplanar images which may be very demonstrative and characteristic providing a precise and early diagnosis, useful for surgical treatment planning [17]. In typical CT images, PDH shows a cluster of dilated bowel segments with engorged and displaced mesenteric vessels at the hernial orifice [3].

After diagnosis, treatment should be prompt. Obstruction of the entrapped bowel can lead to ischemia and perforation. On exploratory laparotomy the steps of operation include adequate incision, reduction of the hernia content and repair of the defect.[6,7] Removal of the sac remains controversial as it is part of the mesocolon and may lead to colonic vascular impairment.

Uernatsu et al. [19] first described the minimally invasive treatment of this surgical emergency. The several advantages of laparoscopic approach included decrease in post operative pain, reduced morbidity, early food resumption (1.33 days average), shorter hospital stay (3.60 average). These benefits occurred regardless of type of intervention (elective or emergency), type of repair (closure of hernial defect with continuous or interrupted suture, enlargement of defect or resection of the sac) and type of material used (absorbable or non-absorbable, monofilament or poly-filament) [18-20].

**CONCLUSION**

- Paraduodenal hernia is a rare congenital condition. It may rarely present as cause of acute abdomen or obstruction.
- Its diagnosis is often delayed owing to its variable clinical manifestations.
- Late presentation or delay in diagnosis may lead to bowel perforation and peritonitis, which increases the risk of patient mortality.
- Radiologic investigations are helpful but should not delay definitive treatment in an unwell patient.
- Acute awareness is required, since without prompt surgical treatment the mortality can be high.

**Bibliography**


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