

# Trapped in the Fossa: A Case of Left Paraduodenal Hernia

## Case Report

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### Abstract

Left paraduodenal hernia (LPDH) is the most common internal hernia and a rare cause of small bowel obstruction, with potential for serious complications if not identified early. We report the case of a 30-year-old male who presented with acute abdominal pain and recurrent vomiting. Contrast-enhanced CT revealed clustered and dilated jejunal loops in the left paraduodenal region with preserved mural enhancement, and convergence of mesenteric vessels through the hernia neck, findings consistent with LPDH. This case highlights the importance of considering LPDH in young patients with unexplained small bowel obstruction and underscores the pivotal role of CT in early detection to prevent ischemia and perforation.

**Keywords:** Left Paraduodenal Hernia; Internal Hernia; Small Bowel Obstruction; Computed Tomography; Exploratory Laparotomy

## Introduction

Internal hernias are rare causes of small bowel obstruction, constituting up to 5.8 % of cases but often leading to strangulation if undiagnosed [1]. Internal hernias are defined by the herniation of a viscus through a normal or abnormal peritoneal or mesenteric aperture within the confines of the peritoneal cavity [2]. Although historically uncommon, their incidence has been increasing due to the rise in complex abdominal surgeries such as liver transplantation and bariatric procedures [1].

Paraduodenal hernia (PDH) represents the most frequent variant of internal hernias, responsible for over 50% of cases [1,2]. PDHs are classified into left and right types, with left paraduodenal hernia (LPDH) being more common [2]. LPDH is characterized by herniation of small intestine into the fossa of Landzert, a space posterior to the inferior mesenteric vein and ascending branch of left colic artery. Ovali et al. described a case of transient LPDH in which small-bowel loops were intermittently seen within this characteristic

location, emphasizing the variable and sometimes reversible radiologic appearance of this entity [2,3,4,5].

Clinical presentation is often nonspecific, ranging from vague abdominal pain to acute intestinal obstruction [1,3]. Contrast-enhanced multidetector CT is the diagnostic modality of choice, as it provides characteristic imaging features and guides surgical management [4,5].

We present a case of LPDH diagnosed on CT and confirmed surgically, underscoring the importance of early recognition to prevent ischemic complications.

## Case Report

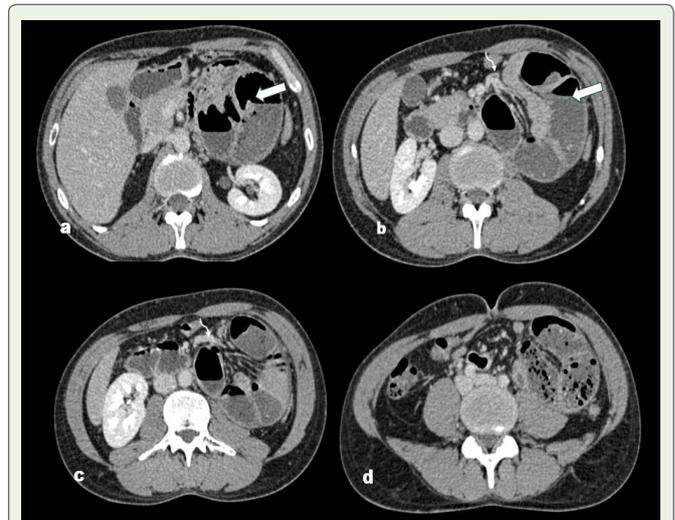
A 30-year-old male presented to the surgical department with a one-day history of abdominal pain that was insidious in onset, gradually progressive, and continuous. The pain was accompanied by 5–6 episodes of non-projectile vomiting containing food particles. There was no history of fever, weight loss, diarrhea, or dysuria. On

examination, the patient was hemodynamically stable; abdominal evaluation revealed diffuse tenderness with guarding, and bowel sounds were notably muffled on auscultation. The patient reported a previous episode of jaundice six months earlier, managed symptomatically, along with similar intermittent abdominal complaints in the past. Patient was advised erect abdominal radiogram (Figure 1) which revealed a few localized dilated bowel loops with air–fluid levels in the left upper paramedian region, suggestive of localized small bowel obstruction without evidence of Pneumoperitoneum. For further evaluation, a contrast-enhanced CT (CECT) scan of the abdomen and pelvis was performed (Figure 2) (Figure 3). The study demonstrated clustered and dilated jejunal loops within the left paraduodenal region, contained in a well-defined hernia sac, with preserved normal bowel wall enhancement and normal wall thickness. The mesenteric vessels were observed to converge and traverse through the hernial neck, without signs of vascular engorgement, thrombosis, or compression. Considering the clinical presentation and characteristic radiological findings, a diagnosis of small bowel obstruction secondary to a left paraduodenal internal hernia was established. The patient subsequently underwent exploratory laparotomy and was managed surgically.

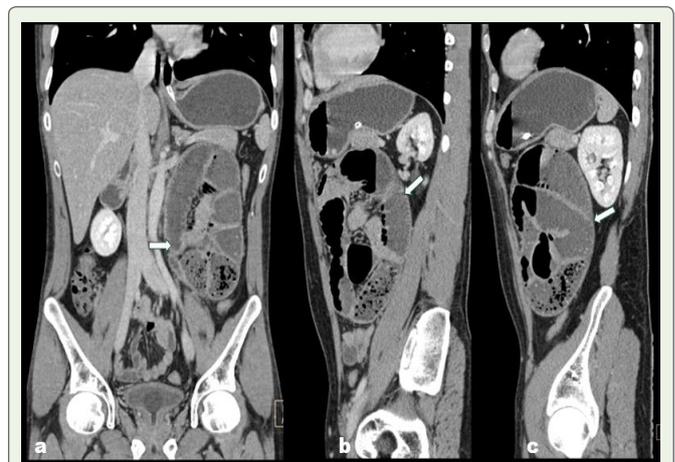
**Discussion**

Paraduodenal hernias were the most common type of internal hernia, accounting for approximately 53% of all cases [1]. PDH is further classified into left-sided (approximately 75%) and right-sided (25%) variants. Left paraduodenal hernia (LPDH) results from incomplete fusion of the descending mesocolon with the posterior parietal peritoneum, leading to formation of the fossa of Landzert, a potential space near the duodenojejunal junction through which bowel loops can herniate [2,3,4,5].

Clinically, paraduodenal hernia typically manifests with nonspecific symptoms, including vague epigastric discomfort, chronic postprandial pain, or recurrent and acute episodes of small bowel obstruction. Some cases may even be discovered incidentally on imaging [1,3,4]. While barium studies historically demonstrated



**Figure 2: (a–d):** Axial contrast-enhanced CT images of the abdomen show a cluster of dilated jejunal loops in the left paraduodenal region. The jejunal loops within the hernia sac appear crowded but maintain normal wall thickness and enhancement. The mesenteric vessels are seen converging and passing through the hernia neck. The white arrow indicates the hernia sac containing jejunal loops, while the curved arrow highlights the mesenteric vessels near the hernia neck.



**Figure 3: ((a: Coronal; b & c: Sagittal):** Coronal and sagittal CECT abdominal images show a cluster of dilated jejunal loops in the left paraduodenal region. The loops within the hernia sac appear crowded while maintaining normal wall thickness and enhancement. The white arrow indicates the hernia sac containing the dilated jejunal loops.



**Figure 1:** Erect abdominal radiograph demonstrates localized dilatation of a few small-bowel loops in the left upper paramedian region, showing multiple air–fluid levels consistent with small-bowel obstruction.

characteristic findings such as clustering of small bowel loops and delayed transit in the left upper abdomen, contrast-enhanced CT has become the diagnostic modality of choice in modern practice [2,4,5]. On CT, small bowel loops are often clustered in variable locations, such as adjacent to the duodenojejunal junction, between the stomach and pancreas, or between the transverse colon and left adrenal gland, posterior to the pancreatic tail, or within the left anterior pararenal space. Associated findings include dilated loops with air–fluid levels, displacement of adjacent viscera, and occasionally stretching, engorgement, or torsion of mesenteric vessels, which predispose to ischemia or perforation [1,4,5].

Diagnosis can be challenging due to the intermittent nature of herniation [3]. Spontaneous reduction has been documented in rare instances, initially described on barium studies and later reported in a single CT-documented case [2,3]. This highlights the dynamic character of PDH and emphasizes the need for a high index of suspicion. Prompt surgical intervention is essential, as unresolved obstruction carries a significant risk of morbidity and mortality from ischemia and perforation [1,4,5].

### Conclusion

Left paraduodenal hernia, though uncommon, is the most frequent type of internal hernia and an important cause of small bowel obstruction in young adults. Its clinical presentation is often nonspecific, making imaging—particularly CT—vital for diagnosis. Early recognition is essential, as delayed diagnosis may lead to

ischemia or perforation. Surgical exploration remains the definitive treatment, with excellent outcomes when performed promptly.

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