Laparoscopic Approach to a Rare Cause of Small Bowel Obstruction: Left Paraduodenal Hernia

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INTRODUCTION

- Paraduodenal hernias account for **0.2 – 0.9%** of intestinal obstructions but represent **the most common congenital internal hernia**.[1]
- They arise from **abnormal midgut rotation**, creating peritoneal or mesenteric defects involving the mesocolon through which small bowel may herniate.[2]
- **Left paraduodenal hernias** typically occur through the **fossa of Landzert,** a congenital defect located left of the fourth portion of the duodenum.[3]
- Left-sided paraduodenal hernias are **more common** than right-sided paraduodenal hernias (through the fossa of Waldeyer).[2]
- Delayed diagnosis carries a high risk of **strangulation and mortality**, making early surgical interventions critical.[1]

CASE PRESENTATION

28-year-old woman with a history of obesity, diabetes type 2, hypertension, hyperlipidemia, and no prior abdominal surgeries presented with two days of worsening upper abdominal pain, nausea, and projectile vomiting. Imaging included a CT abdomen and pelvis, which visualized a high-grade proximal small bowel obstruction with an internal hernia.

OPERATIVE APPROACH

- Diagnostic laparoscopy with adhesiolysis performed.
- Identified viable small bowel loops incarcerated within a left paraduodenal defect posterior to the descending mesocolon (**Figure 2A**).
- Mesenteric lymphatic congestion without ischemia was noted.
- Incarcerated bowel was carefully reduced and the fossa of Landzert was clearly visualized (**Figure 2B**).
- The defect was closed bidirectionally using 2-0 Stratafix Prolene sutures (**Figure 2C**).

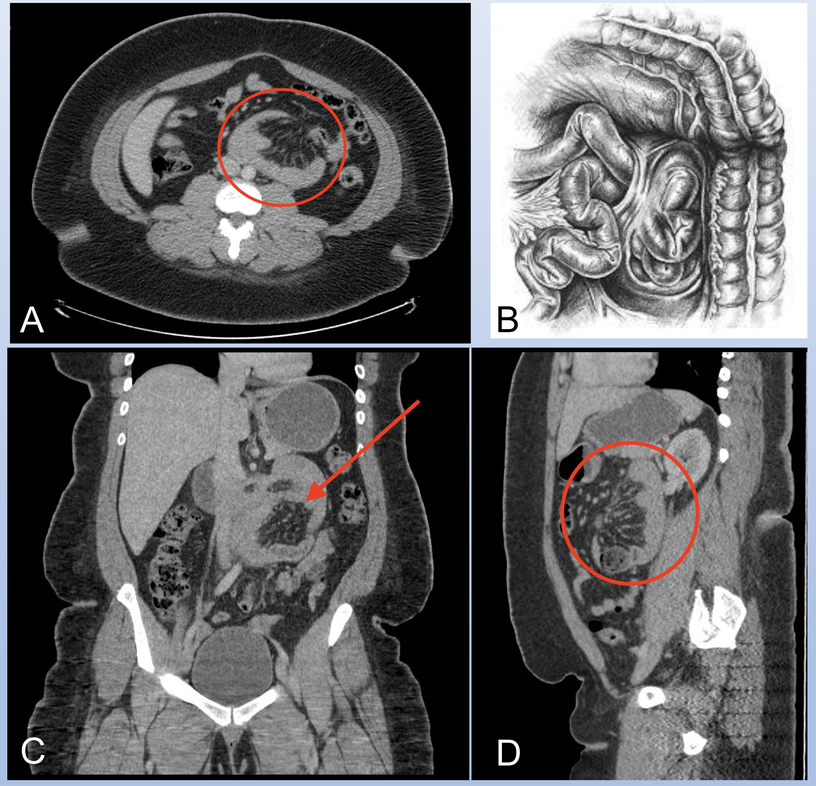

Figure 1: (A) Axial, (C) coronal, (D) sagittal imaging of the abdomen demonstrating loops of small bowel within left paraduodenal hernia (red circles and arrow). (B) Illustration of a left paraduodenal hernia with small bowel incarcerated within Landzert's fossa, graciously borrowed by AlSafadi R, Smyk D. Fatal Bowel Obstruction Due to Paraduodenal Hernia: A Case Report. *Pediatr Dev Pathol*. 2023;26(3):321-323.

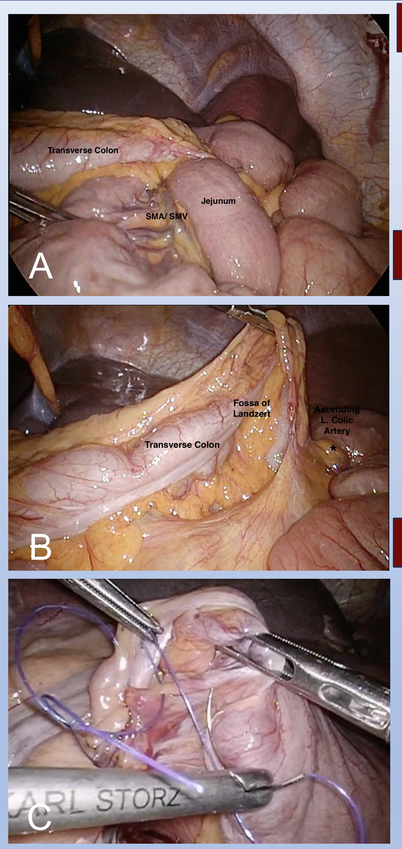

Figure 2: (A) Left paraduodenal hernia present with small bowel and some transverse colon prolapsed into Landzert's fossa. (B) Status post hernia reduction, exposing Landzert's fossa. (C) closing Landzert's fossa with 2-0 Stratafix Prolene

RESULTS

- Procedure completed laparoscopically without complication
- No bowel resection required
- Patient tolerated post operative diet advancement
- Discharged on postoperative day 3 after meeting al milestones

CONCLUSIONS

- Paraduodenal hernia should be considered in small bowel obstruction in patient without prior surgery
- CT imaging is important, but diagnosis is often intraoperative
- Laparoscopic reduction and defect closure is safe and effective
- Early intervention presents ischemia, strangulation, and mortality

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DISCLOSURES

- This presenter has no financial disclosures