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Paraduodenal Hernia as a Differential Diagnosis of Acute Obstructive Abdomen – Case Report

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Abstract
Paraduodenal hernias are the most common type of internal hernias, accounting for a small percentage of intestinal obstruction cases. Diagnosis is challenging due to their nonspecific clinical presentation, with signs and symptoms that can be mistaken for other conditions, making computed tomography the most appropriate imaging modality. This case report presents a large left paraduodenal hernia in a patient with no relevant medical history, exhibiting a nonspecific clinical picture of intestinal obstruction. Surgical intervention was required for confirmatory diagnosis and correction of the malformation, with a fortunately favorable outcome.

Keywords: Paraduodenal Hernia; Acute Obstructive Abdomen; Laparotomy; Internal Hernia

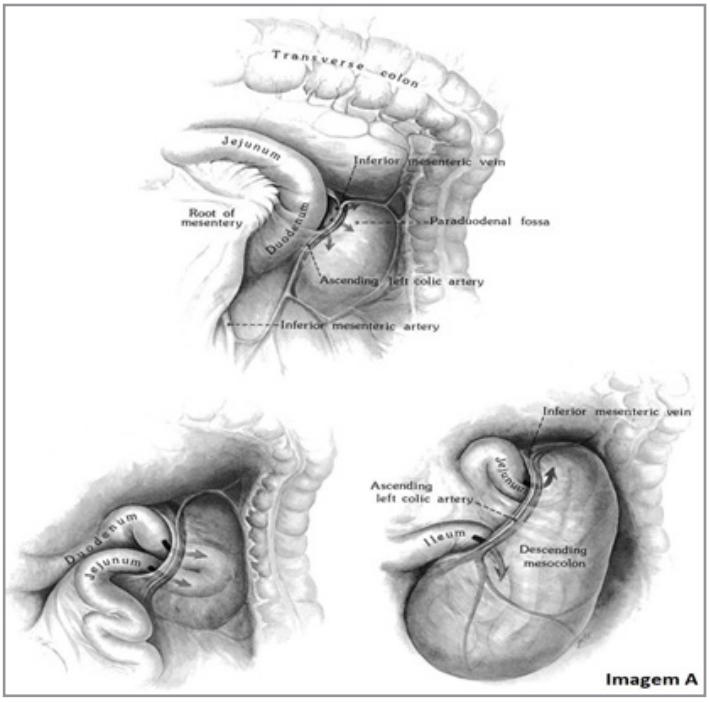
Introduction

An internal hernia is the protrusion of the intestine or other abdominal organs through a defect in the peritoneum or mesentery, potentially leading to strangulation or incarceration of the viscera [1]. A paraduodenal hernia, also known as a mesocolic hernia or Waldeyer's hernia, is a rare type of internal hernia that occurs due to a congenital defect in the mesentery of the small intestine during the rotation of the digestive tract. The small intestine invaginates into an avascular segment of the descending transverse mesocolon and becomes lodged within the hernia sac, known as Landzert's fossa or the paraduodenal fossa (Image A) [2,3]. This congenital defect results from the failure of the mesocolon to fuse with the peritoneal wall [3].

According to the literature, paraduodenal hernias account for approximately 53% of all internal hernias but only 0.2–0.9% of cases of intestinal obstruction [4]. Left paraduodenal hernias are three times more common than right paraduodenal hernias and are more frequently observed in adults, with peak incidence occurring between the fourth and sixth decades of life [2,5]. Notably, paraduodenal hernias are more prevalent in men than in women [5].

The diagnosis of a paraduodenal hernia can be challenging due to its nonspecific clinical presentation and rarity. Patients may be asymptomatic or present with symptoms such as chronic or intermittent abdominal pain, abdominal distension, nausea, and vomiting (43%) [6]. These symptoms mimic other gastrointestinal conditions, making precise diagnosis difficult. Thus, imaging studies play a crucial role in the diagnostic process, with computed tomography (CT) being particularly useful for visualizing herniated intestinal loops and identifying characteristic findings associated with paraduodenal hernias.

Once diagnosed, the treatment for a paraduodenal hernia is surgical intervention. The surgical approach aims to reduce the herniated intestinal loops back into the abdominal cavity and repair the mesenteric defect to prevent future herniation. The specific surgical technique depends on the hernia's location (right or left paraduodenal hernia) and the surgeon's preference. Laparoscopic repair has become increasingly common and is associated with shorter hospital stays, reduced postoperative pain, and faster recovery compared to open surgical repair [8].



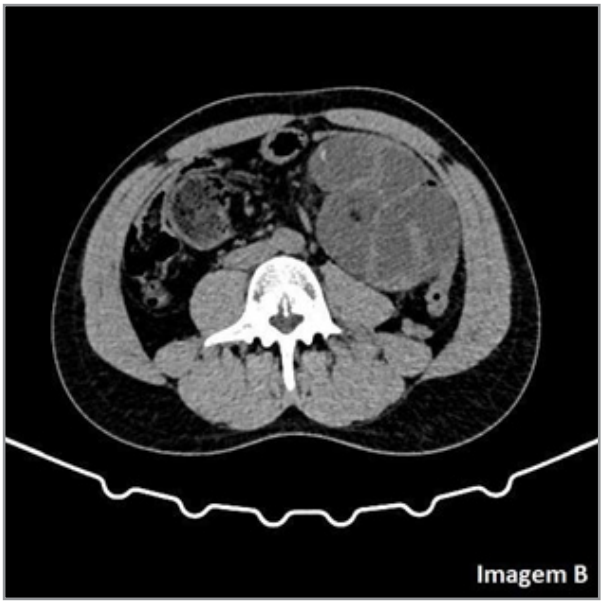
Source: Internal Abdominal Hernias. In: Dynamic Radiology of the Abdomen

During a laparotomy for the correction of a left paraduodenal hernia, manual reduction of the intestinal loops from the hernia sac is expected, allowing their release into the peritoneal cavity. This is typically accompanied by closure or resection of the hernia sac. In cases where the hernia sac is covered by adhesions and is difficult to locate or access, an incision should be made in an avascular area of the mesentery of the descending colon to open the sac, thereby facilitating the release of the small intestine into the peritoneal cavity [7].

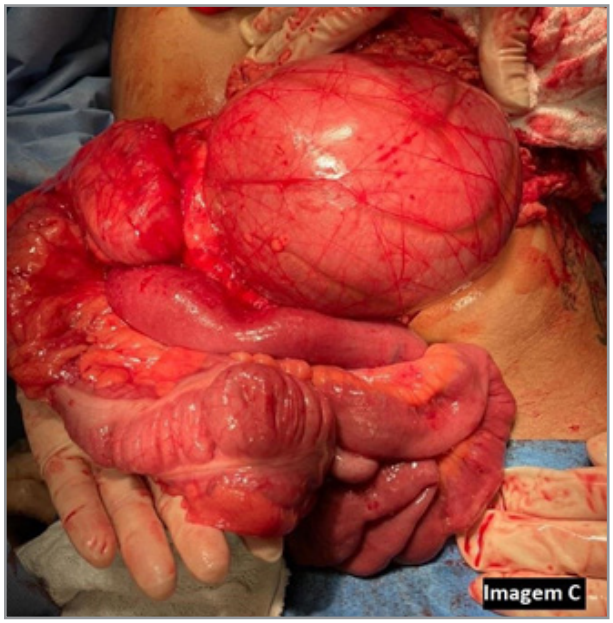
Case Report

A 30-year-old male patient was admitted to the Central Emergency Department of Santa Casa de Misericórdia de São Paulo with sudden-onset colicky abdominal pain, abdominal distension, vomiting, and constipation, consistent with acute obstructive abdomen. He reported similar selfresolving episodes during childhood.

On physical examination, the patient presented with a distended abdomen, and digital rectal examination revealed an empty rectal ampulla. An abdominal X-ray in supine and upright positions showed signs of small bowel distension. Computed tomography (CT) of the upper abdomen and pelvis identified an abrupt transition point in the caliber of the distal jejunal/proximal ileal loop, located in the left flank, consistent with an intestinal occlusion/subocclusion point. This finding caused marked upstream liquid-gas distension, associated with fecalization of the luminal contents and increased density of the adjacent mesenteric fat planes. The findings were nonspecific, and an associated bowel compromise could not be ruled out (Image B).



With the suspicion of acute obstructive abdomen secondary to a paraduodenal hernia, surgical treatment was chosen, and an exploratory laparotomy was performed. The procedure revealed small bowel loops encased by the peritoneal membrane of Landzert's fossa (Image C), with no signs of bowel compromise. The membrane was opened, the intestine was repositioned, and the defect was closed (Image D). The procedure was uneventful. The patient progressed well, tolerated oral feeding, and was discharged on the seventh postoperative day.



Conclusion

Despite its rarity, it is extremely important to recognize the clinical presentation of obstruction caused by this type of hernia, as well as to accurately interpret tomographic findings, always considering this condition as a differential diagnosis.

The surgical approach should consider the size of the hernia sac, the location of mesenteric vessels, the presence of intestinal obstruction and bowel compromise, as well as the available resources of the medical facility. In most cases, surgical intervention results in a favorable postoperative outcome.

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