

Acute small bowel obstruction due to retrocecal hernia: A surgical case report

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ABSTRACT

Small bowel obstruction due to internal hernias is a well-known clinical challenge for surgeons. Among these, pericaecal hernias are particularly rare. Prompt diagnosis and timely surgical intervention are crucial to prevent complications such as strangulation and bowel necrosis. We present the case of a 64-year-old man with no prior abdominal surgery who presented to our emergency department with a history of abdominal pain and vomiting. Clinical evaluation and abdominal computed tomography scan revealed a small bowel obstruction. Following appropriate resuscitation, the patient underwent emergency laparotomy, which revealed a herniated loop of ileum through a retrocecal defect as the underlying cause of the obstruction. The herniated bowel was successfully reduced. Despite its rarity, pericaecal hernia must be kept in mind when evaluating patients with small bowel obstruction.

Key words: Abdominal pain, Bowel obstruction, Internal hernia, Retrocecal hernia

Internal hernia (IH) refers to the protrusion of intestinal loops or other intra-abdominal organs through a congenital or acquired defect in the peritoneum or mesentery [1]. Although uncommon, IH constitutes a rare cause of acute abdomen and small bowel obstruction with an incidence of 0.5–5.8% [2]. Among the various types of IH, retrocecal hernia is considered a particularly rare variant [3]. Diagnosis of retrocecal hernia can be challenging; however, computed tomography (CT) remains a valuable tool for pre-operative identification. Early diagnosis is essential to prevent serious complications such as intestinal ischemia, necrosis, or perforation. Management is primarily surgical, involving either laparotomy or laparoscopy to reduce the herniated bowel and repair the defect.

We report this case to raise awareness of retrocecal hernias as a rare and often overlooked cause of small bowel obstruction. The atypical presentation, absence of previous abdominal surgery, and the diagnostic value of CT imaging in this context highlight the importance of considering IHs in differential diagnoses to enable timely surgical management and avoid complications.

CASE PRESENTATION

A 64-year-old male presented to the emergency department with complaints of severe, crampy abdominal pain that began abruptly and progressively worsened over the past 2 days. The pain was localized to the lower abdomen, intermittent, and rated 7/10 in intensity. It was aggravated by movement and food intake, with no identified relieving factors. The patient also reported three episodes of non-bloody, non-projectile bilious vomiting within the first 24 h, occurring approximately every 6–8 h. The patient denied any prior episodes of similar abdominal pain. There was no associated fever, urinary symptoms, altered bowel habits, or rectal bleeding. His medical history was unremarkable, with no known comorbidities, prior surgeries, or history of trauma.

On physical examination, his vital signs were stable with a pulse rate of 78 beats/min and blood pressure of 120/80 mmHg, and he was afebrile. Abdominal examination revealed distension and generalized tenderness. Digital rectal examination was normal.

Routine hematological and biochemical investigations were within normal limits. Abdominal ultrasonography showed gaseous distension of bowel loops. The small bowel, especially the distal ileum, appeared dilated (Fig. 1). The mesentery looked congested, but there were no signs of ischemia or infarction.

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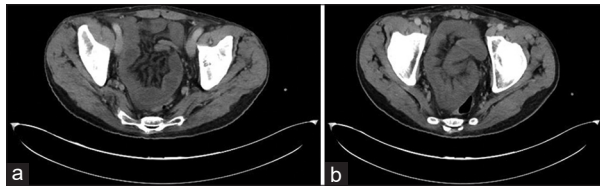


Figure 1: (a and b) Axial abdominal computed tomography scan reveals dilated small bowel loops with no signs of ischemia or infarction

Anasogastric tube was initially inserted, and supportive care was provided for 24 h. However, his symptoms progressively worsened. The patient was scheduled for an exploratory laparotomy. Intraoperatively, a segment of the ileum was discovered trapped in the retrocecal space, confirming the diagnosis of a retrocecal hernia (Fig. 2a). The trapped bowel was viable (Fig. 2a), and no resection was necessary. The orifice of the retrocecal hernia measured 10 cm (Fig. 2b). The bowel was successfully reduced. The procedure consisted of mobilizing the right colon by dissecting along the line of Toldt, effectively collapsing the retrocecal recess and closing the hernial orifice. This maneuver ensured a complete reduction of the hernia and minimized the risk of recurrence.

The post-operative course was uneventful. The patient resumed bowel function promptly and was discharged on the 3rd postoperative day. At 6-month follow-up, he remains asymptomatic with no signs of recurrence.

DISCUSSION

Although IHs are rare, with an incidence of <1%, they account for up to 5.8% of all small bowel obstructions [4]. IHs can be classified into several main types based on their anatomical location [5]. According to historical data, the most common types include paraduodenal hernias (53%), followed by pericecal (13%) hernias through the foramen of Winslow (8%), transmesenteric and transmesocolic (8%), intersigmoid (6%), and retroanastomotic hernias (5%) [5].

Pericecal hernias represent approximately 13% of all IHs. The pericecal fossa, located posterior to the cecum and ascending colon, is bordered laterally by the parietocecal fold and medially by the mesentericocecal fold [6]. Pericecal hernias are further classified into four subtypes: ileocolic, retrocecal, ileocecal, and paracecal. Among these, the most frequent presentation involves a loop of the ileum herniating through a defect in the cecal mesentery, often extending into the right paracolic gutter [6]. These hernias may result from either congenital or acquired defects in the cecal mesentery [6,7]. The retrocecal fossa is the most frequent site of pericecal hernias, accounting for approximately 74% of all cases within this subtype [8].

Retrocecal hernias typically present with recurrent episodes of lower abdominal pain, which can closely mimic appendicitis and make diagnosis challenging. However, recent literature highlights a high prevalence

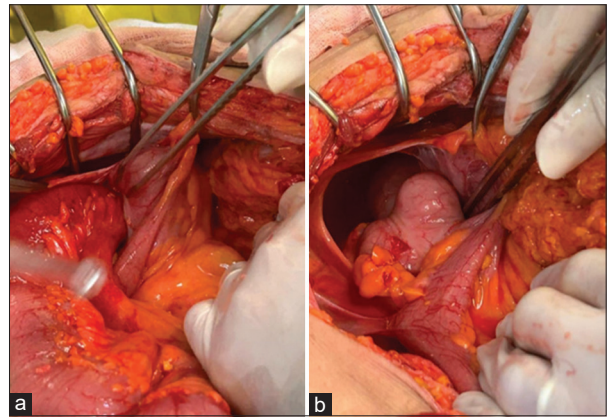


Figure 2: (a) Intraoperative findings reveal incarceration of the ileum in the retrocecal fossa, the trapped bowel was viable. (b) Intraoperative examination showed that the opening of the retrocecal hernia measured 10 cm

of obstructive symptoms associated with these hernias [9]. Pre-operative diagnosis can often be made with confidence using imaging studies. On barium enema or CT scans, pericecal hernias appear as clustered, non-mobile, and dilated small bowel loops situated posterior and lateral to the cecum, sometimes extending into the right paracolic gutter [9].

CT imaging is considered highly reliable for diagnosing IHs. The imaging typically reveals clustered ileal loops, often dilated, located posterior to the cecum, which is displaced anteriorly. A closed-loop obstruction pattern may be observed, sometimes accompanied by multiple “bird’s beak” signs. In addition, vascular changes such as congestion and stretching are evident, with vessels converging toward the hernial orifice [10]. However, in many cases, visceral internal herniation is only definitively identified during laparotomy.

The differential diagnosis of small bowel obstruction in patients with no prior abdominal surgery includes adhesions (rare in such patients), external hernias, Crohn’s disease, neoplasms, intussusception, and volvulus. In the absence of external signs and prior operations, IHs, including retrocecal, paraduodenal, and transmesenteric types, should be considered, especially when imaging suggests a closed-loop obstruction.

The intraoperative diagnosis of a retrocecal hernia is straightforward: the cecum is displaced anteriorly, and the small intestines are found trapped within a peritoneal recess located posterior to it. The standard treatment usually requires surgical management, performed either by laparotomy or laparoscopy, to free the trapped bowel and repair the hernia defect [11]. Laparoscopic surgery provides a less invasive option, which may result in a shorter hospital stay.

The management of the hernial sac depends on its size. For small sacs, simple suture closure is usually sufficient. In contrast, larger sacs, such as those seen in retrocecal hernias, require reduction by detaching the right colon from the parietal peritoneum along the plane of Toldt’s fascia.

CONCLUSION

IH is a condition that is being diagnosed with increasing frequency, and CT imaging allows for a confident diagnosis in most cases. Radiologists play a key role and are often the first to raise the suspicion; however, clinical awareness remains essential due to the rarity of this condition. The presence of bowel obstruction in an afebrile patient with no history of abdominal surgery or visible external hernia should prompt consideration of an internal hernia due to its potential for rapid progression to strangulation and bowel necrosis. Laparoscopic surgery represents an effective and feasible treatment option for this condition.

AUTHOR'S CONTRIBUTION

All authors had full access to the data, contributed to the interpretation of findings, and participated in drafting and revising the manuscript. All authors approved the final version for submission. Conception and design of study: Mohamed Ali Bahloul, Acquisition of data: Mohamed Maatouk, Aymen Mabrouk, Drafting the manuscript: Oumayma Fatnassi, Revising the manuscript critically for important intellectual content: Oumayma Fatnassi, Mounir Ben Moussa.

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