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Case Report

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Acute Intestinal Obstruction Due to Internal Hernia: A Case Report from the Department of General Surgery, Koundara Prefectural Hospital

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ABSTRACT

Introduction: Internal hernias are a rare cause of acute intestinal obstruction. Diagnosis is often made intraoperatively. Emergency abdominal CT scanning can aid in preoperative diagnosis and guide therapeutic management. We report a case managed at the General Surgery Department of the Koundara Prefecture Hospital.

Case Report: A 48-year-old patient with no significant medical history was admitted to the emergency department presenting with signs of intestinal obstruction that had been ongoing for three days. A plain abdominal X-ray revealed multiple small-bowel air-fluid levels; a CT scan was not performed due to unavailability. The patient underwent emergency surgery following stabilization, and an internal abdominal wall hernia was diagnosed intraoperatively. The incarcerated bowel loop was not necrotic; the surgical procedure consisted of releasing the loop and closing the hernial orifice. The postoperative course was uneventful.

Conclusion: Internal hernia is a rare cause of acute intestinal obstruction in adults in our daily practice. The diagnosis is most often made intraoperatively. It should be considered in adult patients presenting with isolated air-fluid levels and no history of abdominal surgery or intraperitoneal infection. Emergency abdominal CT scanning can aid in preoperative diagnosis and guide therapeutic management.

Keywords:

Internal hernia, Acute intestinal obstruction, Computed Tomography (CT), X-ray, Laparotomy.

Introduction

Internal hernias are protrusions of abdominal hollow viscera through an intraperitoneal orifice located within the abdominal cavity [1]. They often present as acute intestinal obstruction, frequently involving an ischemic component due to vascular strangulation [1,2]. Published series indicate that they account for 0.2% to 5.8% of cases of acute intestinal obstruction [3]. The various types of internal hernias are typically classified according to their relative frequency and anatomical location [1]:

- Internal hernias occurring through a normal or physiological peritoneal orifice
- Internal hernias occurring through an abnormal peritoneal orifice

Preoperative diagnosis is challenging; however, emergency Computed Tomography (CT) can assist in diagnosis and guide therapeutic management [2]. Treatment is surgical [4]. We report this case, managed in the General Surgery Department of the Koundara Prefecture Hospital, to contribute to the understanding of the diagnostic and therapeutic characteristics of this condition.

Case Report

A 48-year-old female patient with no significant medical history was admitted to the emergency department presenting with a 3-day history of twisting-type umbilical pain, associated with bilious vomiting and cessation of bowel movements and flatus.



Figure 1: Diffuse abdominal distension.

Physical examination revealed diffuse abdominal distension (Figure 1) with tenderness most marked at the umbilicus and right hypochondrium; hernial orifices were clear, and digital rectal examination revealed an empty rectal ampulla.

A plain abdominal X-ray revealed multiple air-fluid levels consistent with small bowel obstruction; a CT scan could not be performed due to unavailability. Laboratory tests showed leukocytosis (18,400 cells/mm³), a C-reactive protein (CRP) level of 61 mg/L, and electrolyte imbalances, while urea and creatinine levels were normal. A diagnosis of acute intestinal obstruction was made, but due to worsening abdominal tenderness, an emergency exploratory laparotomy was indicated. A midline laparotomy bypassing the umbilicus revealed significant small bowel distension (Figure 2).



Figure 2: Small bowel distension.

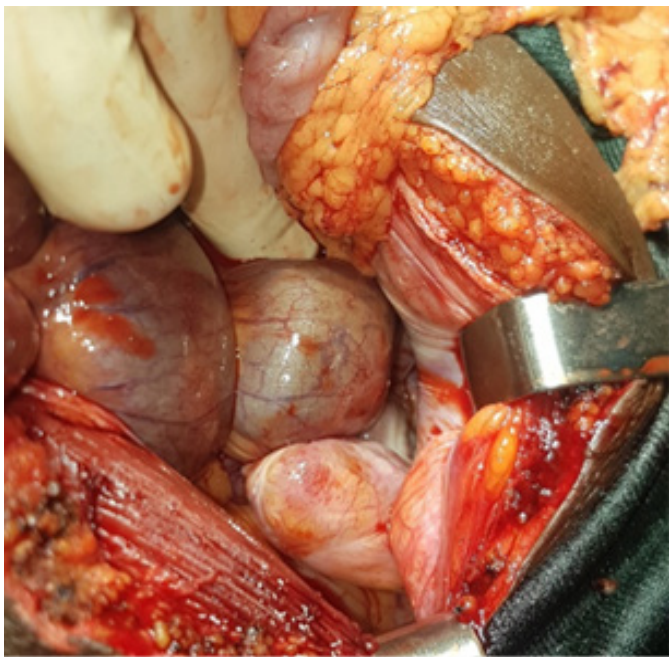


Figure 3: Incarceration of an ileal segment in an inextensible fibrous peritoneal ring.

An ileal segment was incarcerated within an inelastic fibrous peritoneal ring (Figure 3). The incarcerated loop showed ecchymosis over a length of 5 cm, although the constriction zones were not necrotic (Figure 4). The hernial orifice in the peritoneum measured 3 cm in diameter (Figure 5). The surgical procedure consisted of releasing the incarcerated small bowel and excising the peritoneal ring, followed by suturing the site. The postoperative course was uneventful.



Figure 4: Bruising and serosal injury of the incarcerated loop over a length of 5 cm.

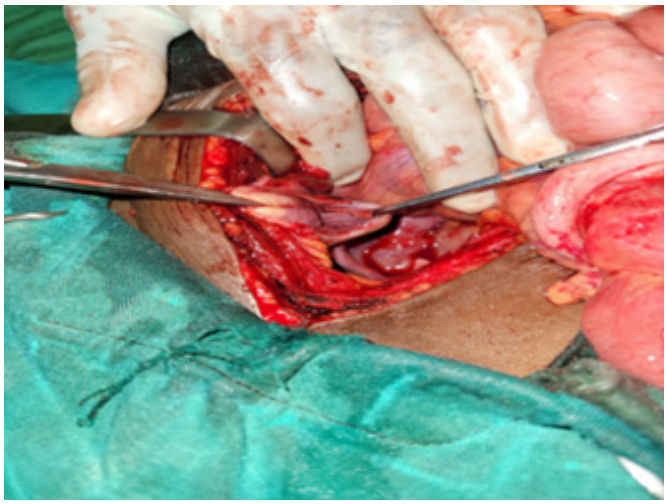


Figure 5: The hernial orifice, located on the peritoneum, measured 3 cm in diameter.

Discussion

Internal hernias are protrusions of abdominal hollow viscera into an intraperitoneal orifice, while remaining within the abdominal cavity [1]. They are a rare cause of acute intestinal obstruction in adults [5]. It is a rare condition, with an overall incidence ranging from 0.2% to 2% in autopsy series [2]. Preoperative diagnosis is rarely achieved due to the lack of specific clinical signs [6, 7]. In most cases, the diagnosis is made during an episode of severe acute pain or an obstructive syndrome, as in our case. The diagnosis should be considered in young patients with no history of abdominal surgery or intraperitoneal infection who present with small-bowel-type air-fluid levels [6]. Abdominal CT scanning—which was not performed in our patient is the gold-standard imaging modality for acute intestinal obstruction in a patient with an "unscarred" abdomen [1,8]. It is a highly effective tool, enabling an accurate

diagnosis of internal hernia in 77% of cases, with a sensitivity of 63% and a specificity of 76% [8]; CT scanning also allows for the diagnosis of intestinal ischemia, which necessitates urgent laparotomy [9]. An abdominal CT scan must never delay urgent surgery when clinical or laboratory signs of intestinal distress are present; once the diagnosis is established, emergency surgery is required to perform release of the small bowel loop, with or without intestinal resection depending on its viability [10].

Conclusion

Internal hernia is a rare cause of acute intestinal obstruction in adults in our daily practice. Diagnosis is most often made intraoperatively. It should be considered in adult patients presenting with isolated air-fluid levels and no history of abdominal surgery or intraperitoneal infection. Emergency abdominal CT scanning can aid in preoperative diagnosis and guide therapeutic management. Treatment is surgical.

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