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Unusual Internal Hernia: Case Report and Review of the Literature

Samuel Bamogo[1*], Eric Pappalardo[2], Anis Husset[2], Razvan Mihai Aprodu[2], Bogdan Stan-Iuga[2]

[1]Yalgado OUEDRAOGO University Hospital, Ouagadougou, Burkina Faso
[2]Victor Jousselin General Hospital, Dreux, France

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***Corresponding author:** Samuel Bamogo
Yalgado OUEDRAOGO University Hospital, Ouagadougou, Burkina Faso

Abstract | **Case Report**

Introduction: Internal hernias are a rare cause of acute intestinal obstruction, accounting for only 0.5–1% of all cases. Diagnosis relies mainly on computed tomography (CT), and treatment is surgical. ***Case presentation:*** We report the case of a 48-year-old woman with no prior medical history, admitted for acute epigastric pain with vomiting. Abdominal CT revealed ectopic small-bowel distension in the right subhepatic region, consistent with an internal hernia. Exploratory laparoscopy confirmed a subhepatic internal hernia through a peritoneal defect forming a ring between the right hepatic lobe, gallbladder, transverse colon, and cholecysto-duodeno-colic ligament. A 20-cm necrotic ileal segment was resected with primary anastomosis. Postoperative recovery was uneventful. ***Conclusion:*** Subhepatic internal hernias are extremely rare. CT imaging remains essential for preoperative diagnosis, while laparoscopy represents the preferred surgical approach.

Keywords: Internal hernia, bowel obstruction, subhepatic, laparoscopy, Dreux.

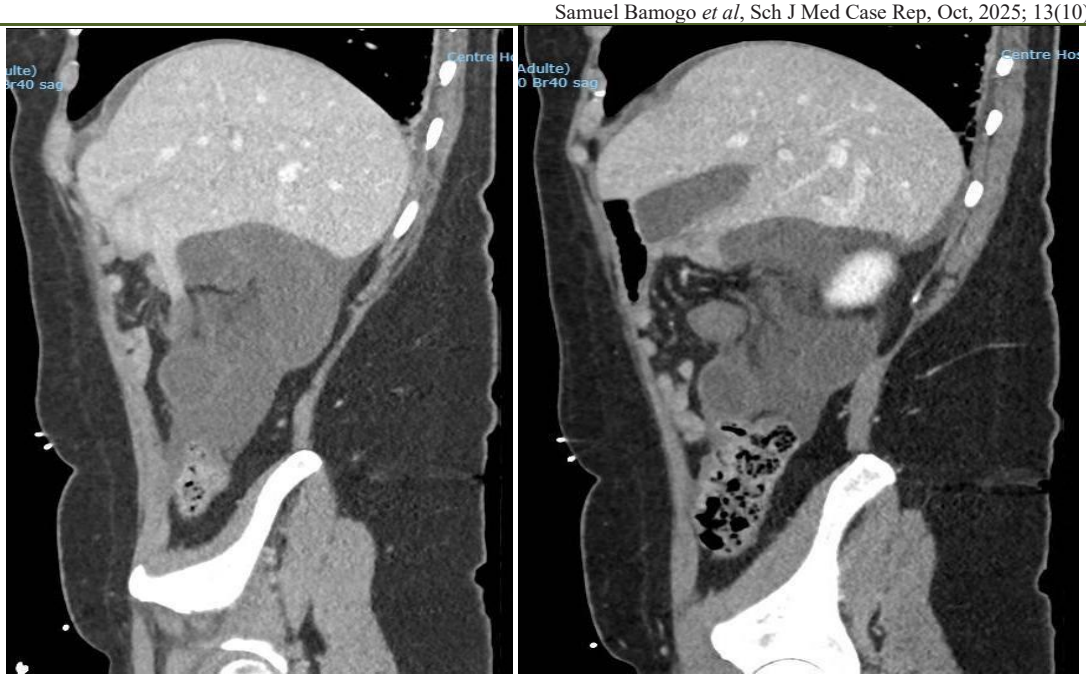
INTRODUCTION

Internal hernias are defined as the protrusion of a hollow viscus through an intra-abdominal or retroperitoneal orifice, remaining within the abdominal cavity [3,11]. They are rare, accounting for 0.5–1% of all acute intestinal obstructions [2,4]. According to Welch's classification (1958) [1,11], they are divided based on their anatomical location. We report a case of right subhepatic internal hernia, an exceptional location, in a patient with no prior abdominal surgery.

CASE PRESENTATION

A 48-year-old woman with no previous medical history presented with sudden-onset epigastric pain radiating to the right flank, accompanied by vomiting. There was no history of altered bowel habits, fever, trauma, or recent exertion. On examination, tachycardia and localized tenderness at the epigastrium and right hypochondrium with tympany were noted. Laboratory tests showed leukocytosis at 11,500/mm³. Abdominal CT revealed ectopic small-bowel distension in the right paracolic gutter passing through a subhepatic peritoneal defect, suggesting a complicated internal hernia.

Emergency exploratory laparoscopy showed hemoperitoneum in the subhepatic and right paracolic regions. A peritoneal ring was formed by the right hepatic lobe, gallbladder, transverse colon, and cholecystoduodeno-colic ligament. The incarcerated small bowel was necrotic over 20 cm. After division of the ring and complete mobilization of the right hepatic lobe, the necrotic segment was resected via a supra-umbilical mini-laparotomy with side-to-side anastomosis. Postoperative recovery was uneventful, and the patient was discharged on postoperative day 5.



A **B**

Image A and B: Subhepatic intestinal loops with the mesentery stretched over the right transverse colon

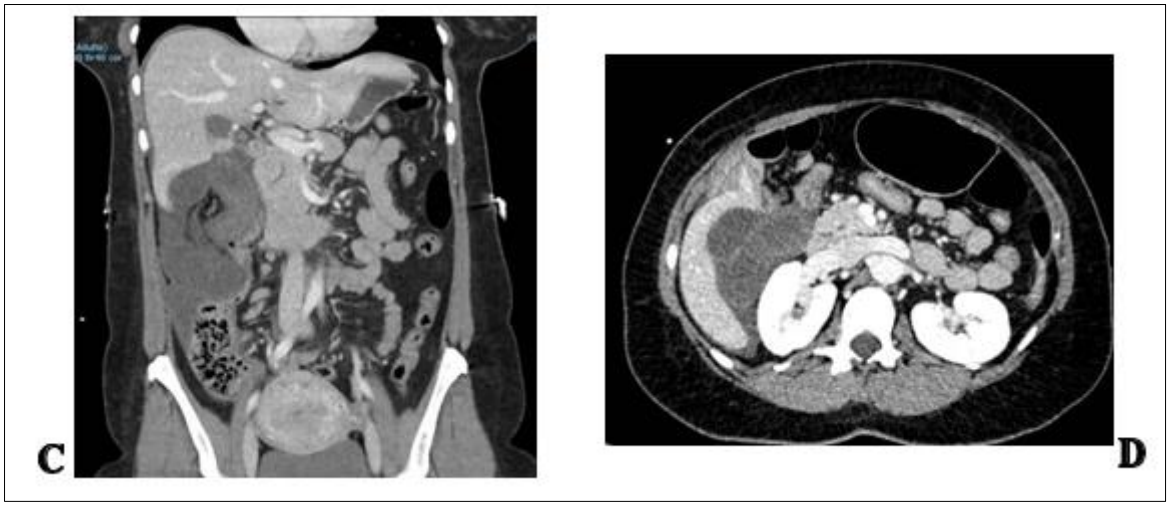


Image C and D: Important distension of the small bowel loops and ectopic positioning at the level of the right paracolic gutter through a subhepatic peritoneal defect, compatible with an internal hernia with signs of digestive distress

DISCUSSION

Internal hernias are classified according to their anatomical location, following Welch [1,11]. They can be physiopathologically grouped into two categories [1,10]: those occurring through a normal peritoneal orifice and those arising in an abnormal, congenital or acquired orifice. Our case belongs to the latter category.

Internal hernias developed in an abnormal orifice are usually grouped together in the literature [1,5,7,8]: transepiploic, transmesenteric, transmesocolic hernias and hernias of the omental cavity apart from the hernia of the omental hiatus; hernias of the broad ligament; supravesical and pararectal hernias; falciform ligament hernias. In these internal hernias developed in an abnormal orifice, the intestinal incarceration in a breach of the peritoneum is usually of variable size and may be bordered by an inextensible fibrous ring [1].

Preoperative diagnosis is challenging and should be suspected in patients with no surgical history presenting with mechanical bowel obstruction. CT is the reference imaging modality, with sensitivity ranging from 63 to 82% and specificity from 76 to 85% [6,10].

In our case, the CT scan shows images of small bowel loops under the liver with the mesentery stretched above the right transverse colon, similar to those of type I Blandin's hernia, but the absence of widening of the hiatus between the inferior vena cava and the portal vein

and the presence of intestinal loops behind the stomach rules out the diagnosis. Small bowel loops can also be seen in the right flank and iliac fossa, images which are similar to right paraduodenal hernia, but unlike in the latter case the loops are located in the right retro-colic area and the absence of a "sac-like" appearance of the herniated intestinal loops means that right paraduodenal hernia and retro-coecal hernia can be ruled out. Internal hernias developed in an abnormal orifice are of congenital origin or of an acquired nature (post-traumatic, postischaemic, post-inflammatory, etc.) [1,9]. Congenital adhesions appear to the result alterations in the normal process of intestinal rotation during embryonic development [9].

Management involves reduction of herniated bowel, resection of necrotic segments, and correction of the hernia defect. Laparoscopy is the preferred approach unless hemodynamic instability requires conversion [2].

CONCLUSION

Internal hernias are rare and heterogeneous. They should be considered in any patient with intestinal obstruction and no prior surgical history. CT imaging allows precise localization and assessment of bowel viability. Surgical management is mandatory, and laparoscopy is the preferred approach when the patient's condition permits.

HIGHLIGHTS

- Subhepatic internal hernias are extremely rare and can cause acute intestinal obstruction.
- CT imaging is essential for preoperative diagnosis and evaluation of bowel viability.
- Laparoscopy is the preferred surgical approach when patient condition allows.
- Surgical treatment includes reduction of herniated bowel, resection of necrotic segments, and correction of the hernia defect.
- Early diagnosis and timely surgical intervention are critical to prevent morbidity.

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