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Presentation of a Congenital Internal Hernia Through The Foramen of Winslow

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ABSTRACT

Internal hernias are a relatively uncommon occurrence, with herniation through the Foramen of Winslow constituting only up to 0.1% of all abdominal hernias. Here, we present a case where a 66-year-old female presented to the ED with increasing abdominal pain and nausea. CT imaging showed signs of an internal hernia through the Foramen of Winslow, and the diagnosis was confirmed with direct visualization during exploratory laparoscopy. A right hemicolectomy was also performed due to ischemic changes and to decrease the chances of recurrence.

In our case, due to the rarity of this condition, the diagnosis was initially missed by the Emergency Physician. In addition, A clear standard of care regarding treatment and prevention of recurrence has yet to be established. Further documentation of these cases and their outcomes following surgery could contribute to more rapid identification, fewer missed diagnoses, and better outcomes for patients.

BACKGROUND

Herniations through the foramen of Winslow are exceptionally uncommon and constitute 8% of all internal hernias and only 0.08% of all hernias, with less than 200 reported cases in the literature since its discovery. This type of hernia was first reported by Blandin in 1834, who incidentally discovered it during a post-mortem autopsy examination, and has only been reported in the literature less than 200 times since then[1].

Several anatomic anomalies are thought to predispose one to herniations through the foramen of Winslow. These anomalies include: (i) an unusually large foramen; (ii) abnormally long mesentery of the small bowel, or existence of a persistent ascending mesocolon; (iii) an absence of attachment of the caecum or ascending colon to parietal peritoneum; (iv) an extended and elongated right lobe of the liver that can mediate the passage of intestinal loop through the foramen; (v) an abnormal gastrohepatic ligament; (vi) malrotation or incomplete rotation of the intestine[2].

Patients usually present with signs and symptoms of bowel obstruction, typically acute, with mid-epigastric pain, nausea, and vomiting. Strangulation of the bowel and ensuing necrosis is usually associated with more severe pain on presentation. Direct hepatic pedicle compression in some cases has resulted in signs and symptoms of obstructive jaundice in patients with this type of hernia[3]. In our case, the patient first presented with right upper quadrant (RUQ) pain, which led to the discovery of an internal hernia through the Foramen of Winslow upon further workup.

CASE PRESENTATION

The patient was a 66-year-old female with no significant past medical history, who presented to the emergency department (ED) with worsening RUQ pain and nausea for four days. Ultrasound imaging of her liver and gallbladder was unremarkable at the time and she was discharged by the emergency physician with a prescription for pantoprazole. She returned the next day with no improvement on the medication and worsening pain. A computed tomography (CT) scan of her abdomen and pelvis revealed swirling of the mesentery with portions of the ascending and transverse colon in the region of lesser sac, suspicious for an internal hernia [Figure 1]. All labs and vitals that were obtained while in the ED were within normal limits. Physical examination was notable only for a mildly distended abdomen, with tenderness to palpation in the RUQ and supra-umbilical region.

Based on these findings, the patient was taken to the operating room (OR) for a diagnostic laparoscopy. Upon first visualization, the cecum and appendix were noted to be absent from their normal anatomic location. The mid-distal portions of the transverse colon were visible but, the majority of the proximal transverse and ascending colon had herniated through the Foramen of Winslow into the lesser sac. The internal hernia was then entirely reduced, evidenced by the cecum and appendix returning to view along with the proximal transverse colon. It was noted that the entire length of ascending colon had no lateral peritoneal attachments and was only attached to its elongated mesentery.

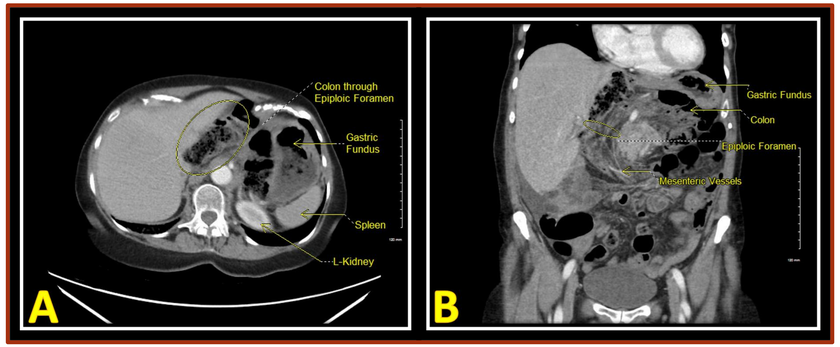


Figure 1. Labeled axial (A) and coronal (B) views of the patient's CT scan, identifying the concerning features for colonic herniation through the Foramen of Winslow into the Lesser Sac.

The amount of redundant colon and mesentery and small working space made orientation and a full assessment of the bowel very difficult thus, the decision was made to convert to an exploratory laparotomy. A small midline incision was made down to the fascia and the abdomen was entered without issue. The small bowel was run in its entirety from the Ligament of Treitz to the terminal ileum, with no abnormalities found. The ascending colon was again noted to have no lateral attachments, which significantly increased the risk of recurrence. The decision was then made to perform a right hemicolectomy, with an anti-peristaltic side-to-side functional end-to-end anastomosis. After patency and hemostasis were confirmed, the intra-abdominal cavity was thoroughly irrigated with sterile saline, and the fascial layer closed with 0-loop PDS suture bi-directionally. This skin was closed with staples, and the patient awakened and transferred to the Post-Anesthesia Care Unit (PACU) in stable condition.

Post-operatively, the patient remained hemodynamically stable and progressed well. The incision sites remained clean, dry, and intact without signs of infection. She had a return of bowel function on post operative day 1, was tolerating a diet, passing gas, and ambulating well. The patient was discharged in stable condition to follow-up in the surgeon's office as an outpatient.

DISCUSSION

Hernias of the Foramen of Winslow are often poorly diagnosed. Of the cases confirmed through surgery, less than 10% were diagnosed preoperatively. This leads to a delay in appropriate medical and surgical management, which ultimately results in mortality rates as high as 36% to 49%[1]. Medical imaging, particularly CT scan is the diagnostic test of choice. The presence of air and fluid in the lesser sac, stretching of the mesenteric vessels posterior to the portal vein and anterior to the inferior vena cava, anterolaterally displaced stomach, or an absent ascending colon in the right lateral paracolic gutter are some of the reported findings[4].

The very first recorded laparotomy on a Foramen of Winslow hernia was performed by Treves in 1888[5]. Foramen of Winslow hernias are usually corrected through open surgery with simple traction. In more difficult cases, gastrocolic or gastrohepatic ligaments need to be opened, in which a wide Kocher maneuver can be used[6].

The lack of lateral peritoneal attachment may have been what allowed this hernia to occur and also increased the risk of recurrence. This was mentioned earlier as a risk factor for this type of hernia. Due to some concerns regarding possible ischemic changes and in an effort to prevent recurrence, we opted for a right hemicolectomy in this patient. Other alternatives to prevent recurrence involve utilizing a cecopexy, in which the cecum is surgically attached to the anterolateral abdominal wall, or suturing the Foramen of Winslow closed. Due to the rarity of this condition, there is still no clear consensus regarding a standard approach for the prevention of recurrence[7,8]. Currently, the form of repair used is up to the discretion of the surgeon performing the case[9]. Further documentation of this type of hernia in the literature, as well as the outcomes and recurrence rates following surgery, may help pave the way towards a clearer standard of care.

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