

# Hernia de Blandin tipo II: una causa infrecuente de abdomen agudo

Debra Nielsen<sup>1</sup>, Adriana Garcia<sup>2</sup>, Dolores Daneri<sup>3</sup>, Maria Sofia Thomas<sup>4</sup>, Juan C. Patron Uriburu<sup>5</sup>

Hospital Británico, Buenos Aires, Argentina

1 Residente de Coloproctología

2 Jefa Servicio de Imágenes

3 Cirujana Staff de Coloproctología

4 Ex Residente de Coloproctología

5 Jefe del Servicio de Coloproctología

## ABSTRACT

Internal hernias are the third cause of acute abdomen. Only 8% of them correspond to hernias of the foramen of Winslow. When they present as acute intestinal obstructions, mortality can rise to 49%. We present the case of a 63-year-old woman with no history of abdominal surgery, with pain of 48 hours' duration, associated with inability to evacuate gas and vomiting. High-resolution computed tomography showed swirling mesos at the subhepatic level, and the cecum ascending and transverse colon occupying the lesser sac, displacing the stomach towards the left subphrenic space. With suspicion of hernia of the foramen of Winslow, exploratory laparoscopy converted to laparotomy was performed. The contents were reduced to the greater sac and, due to signs of ischemia, right colectomy and ileo-transverse anastomosis were performed. The hiatus of Winslow was occluded with the greater omentum. There is limited published evidence on this pathology, so the aim of this work is to contribute to the dissemination of this rare cause of acute abdomen.

**Keywords:** *Bladin's hernia, Winslow foramen hernia, intestinal obstruction*

## INTRODUCTION

Internal hernia is the protrusion of a hollow viscus through a natural abdominal orifice. They are the third cause of acute obstructive abdomen. Like other types of hernias, they can be strangulated, compromising blood supply and, therefore, the vitality of the organs, so the mortality rate for this condition reaches between 36 and 49%.<sup>1</sup>

Winslow hiatal hernias correspond to 8% of all internal hernias. Since their initial description in 1823 by Philippe Fréderique Blandin, fewer than 30 cases have been published in the literature.<sup>2</sup>

## CASE

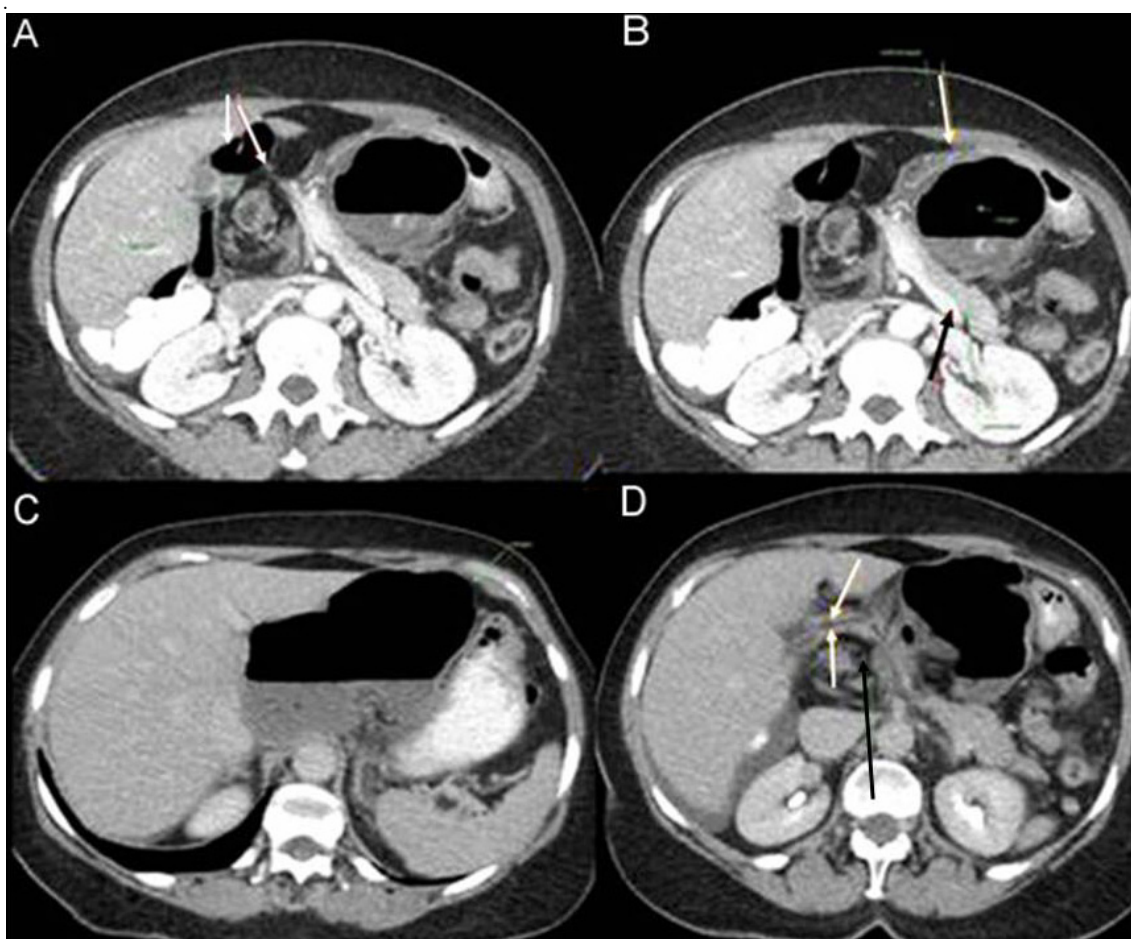
A 63-year-old female patient came to the emergency room with abdominal pain of 48 hours' duration, acute onset, associated with nausea and failure to eliminate gas for 12 hours. She had no personal history of pre-existing diseases or previous surgeries. Physical examination revealed a soft abdomen, slightly painful in the upper region, with no signs of guarding or peritoneal irritation. Laboratory tests showed no pathological findings. A high-resolution computed tomography with intravenous contrast showed a swirled mesentery and rotation of the vascular axis at the subhepatic level. The right colon and proximal portion of the transverse colon were identified occupying the lesser sac, with displacement of the stomach. There was little subhepatic free fluid and absence of pneumoperitoneum (Figs. 1 and 2). With these findings, a hernia of the foramen of Winslow was

suspected. A 63-year-old female patient came to the emergency room with abdominal pain of 48 hours' duration, acute onset, associated with nausea and failure to eliminate gas for 12 hours. She had no personal history of pre-existing diseases or previous surgeries. Physical examination revealed a soft abdomen, slightly painful in the upper region, with no signs of guarding or peritoneal irritation. Laboratory tests showed no pathological findings. A high-resolution computed tomography with intravenous contrast was requested, which showed a swirled mesentery and rotation of the vascular axis at the subhepatic level. The right colon and proximal portion of the transverse colon were identified occupying the lesser sac, with displacement of the stomach. This was associated with the presence of little subhepatic free fluid and absence of pneumoperitoneum (Figs. 1 and 2). With these findings, a hernia of the foramen of Winslow was suspected. A 63-year-old female patient came to the emergency room with abdominal pain of 48 hours' duration, acute onset, associated with nausea and failure to eliminate gas for 12 hours. She had no personal history of pre-existing diseases or previous surgeries. Physical examination revealed a soft abdomen, slightly painful in the upper region, with no signs of guarding or peritoneal irritation. Laboratory tests showed no pathological findings. A high-resolution computed tomography with intravenous contrast was requested, which showed a swirled mesentery and rotation of the vascular axis at the subhepatic level. The right colon and proximal portion of the transverse colon were identified occupying the lesser sac, with displacement of the stomach. This was associated with the presence of little subhepatic free fluid and absence of pneumoperitoneum (Figs. 1 and 2). With these findings, a hernia of the foramen of Winslow was suspected. Low-pressure endoscopic reduction was attempted without success, achieving progress to the transverse colon. Exploratory laparoscopy was decided upon. Small bowel loops were distended. At the level of the right hypochondrium, hernia of the cecum, ascending colon, and transverse colon through the foramen of Winslow was confirmed (Fig. 3 A). Reduction maneuvers with atraumatic forceps were attempted without success, and signs of ischemia were observed in the serosa of the colon (Fig. 3 B), so conversion to laparotomy was performed. The contents were reduced to the greater sac and a right colectomy was performed with ileotransverse anastomosis and occlusion of the foramen of Winslow with the greater omentum. The patient evolved favorably and was discharged on the fourth postoperative day without complications.

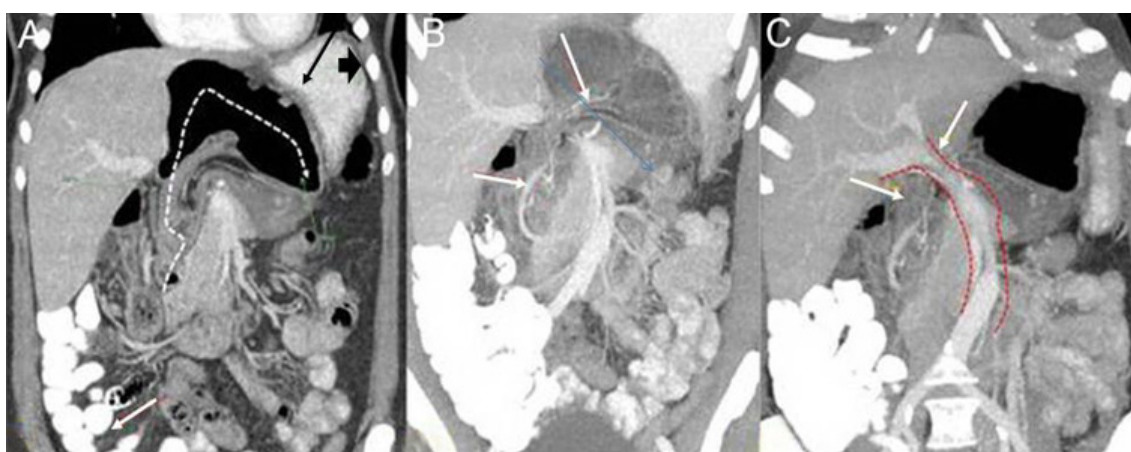
The authors declare no conflicts of interest. **Debra Nielsen. [debranielsen@gmail.com](mailto:debranielsen@gmail.com)**

Received: October 22, 2023. Accepted: April 18, 2024

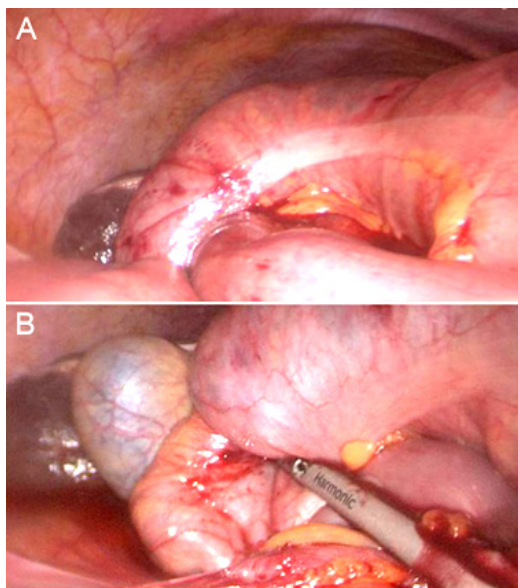
Debra Nielsen <https://orcid.org/0000-0001-8697-5690>; Adriana Garcia <https://orcid.org/0009-0001-3836-1157>; Dolores Daneri <https://orcid.org/0000-0002-2496-1928>; Maria Sofia Thomas <https://orcid.org/0000-0002-6545-851x>; Juan C. Patron Uriburu <https://orcid.org/0000-0001-5893-4429>



**Figure 1.** Contrast-enhanced computed tomography. Axial plane. **A.** Mesenteric fat passing through the hiatus of Winslow surrounding the colonic walls (arrows). **B.** Cecal contents in the internal hernia, displacement of the stomach forward (white arrow) and the pancreas backward (black arrow). **C.** Cecum located between the left lobe of the liver and the stomach. **D.** The passage of hernial contents (black arrow) causes deformation of the hepatoduodenal ligament (white arrows).



**Figure 2.** Contrast-enhanced computed tomography. Coronal plane. **A.** The colonic content of the internal hernia is seen, with the cecum (black arrow) displacing the gastric fundus (black arrowhead) and the absence of the right colon in the abdomen (white arrow). **B.** Ileocolic artery with an abnormal course running cephalad to the lesser sac, accompanying the cecum. **C.** The passage of the hernial contents deforms the hepatoduodenal ligament through which the hepatic artery, portal vein, and biliary tree run (arrows).



**Figure 3.** Initial exploratory laparoscopy. **A.** The obstructed hernia of the cecum, ascending colon, and transverse colon is seen through the hiatus of Winslow. **B.** After unsuccessful reduction maneuvers with atraumatic forceps, signs of ischemia are observed in the serosa of the colon and conversion to laparotomy is decided.

## DISCUSSION

The foramen of Winslow is a natural orifice that connects the greater peritoneal cavity and the lesser sac. It is bordered anteriorly by the bile duct, the common hepatic artery and the portal vein, posteriorly by the inferior vena cava, superiorly by the caudate lobe of the liver and inferiorly by the duodenum. Hernias of the foramen of Winslow, also called Blandin's hernias, are extremely rare, constituting only 8% of all internal hernias.

There are underlying causes that predispose to their formation, such as a small intestine with exaggeratedly long mesos, hyperlaxity or absence of the colonic coalescence fascia and an atypically wide foramen of Winslow. However, the trigger for herniation of the contents would be a sudden change in the pressure of the larger peritoneal cavity in relation to that of the lesser sac.<sup>3</sup>

According to their content, they have been classified as type I: small intestine (65% of cases), type II: terminal ileum, cecum and ascending colon (25%), type III: transverse colon (7%) and type IV: bladder and other viscera of the abdominal cavity (3%).<sup>4</sup> Typically, they present as a picture of abrupt onset nonspecific abdominal pain, associated with vomiting and lack of elimination of gas, which may or may not be accompanied by leukocytosis and elevated acute phase reactants such as CRP and erythrocyte sedimentation rate. Often, these symptoms are preceded by a history of chronic epigastric discomfort and repeated subocclusive symptoms, until an acute blockage occurs and it becomes a typical picture of intestinal obstruction.<sup>5</sup>

Arriving at a preoperative diagnosis of an internal hernia is difficult and imaging studies play a fundamental role. Plain

abdominal x-ray can be useful if it shows the displacement of the gastric bubble by an intestinal loop with air content, associated with small bowel obstruction. The cecum and ascending colon may be absent from their usual topography. High-resolution computed tomography with intravenous contrast is undoubtedly the method of choice for the diagnosis of this entity. Among the possible findings are: a) presence of mesenteric fat between the inferior vena cava and the portal vein (Fig. 1 D), b) air in the lesser sac (Figs. 1 B and 1 C and Fig. 2 A), c) absence of ascending colon in the right abdomen (Fig. 1 A) and/or d) deformed or elongated hepatoduodenal ligament (Fig. 1 D). To identify the ligament, it is necessary to identify the hepatic hilum, which is formed by the portal vein, the hepatic artery and the bile duct (Fig. 2 C).

The resolution is strictly surgical. Endoscopic reduction, despite being performed at low pressure, carries a higher risk of perforation in case of ischemia in the obstructed segment and is not recommended in this context. Although the evidence is overwhelming regarding the management of hernial contents, comparable to that of any other natural or incisional hernia (reduction to cavity and eventual resection if ischemia occurs), it is not as clear regarding the management of the Winslow hiatus to prevent recurrence. The delicate structures that delimit the foramen generate great difficulty in its occlusion. Although there are no reported cases of recurrence, this maneuver is tempting if hyperlaxity of the fascia is the triggering cause. Pexy of the mobile viscera to the parietal peritoneum is proposed as a possible alternative, when resection of the incarcerated content is not necessary.

## CONCLUSION

Internal hernias of the foramen of Winslow are rarely suspected. Treatment is surgical and early approach is the key to reduce morbidity and mortality, which can reach up to 49% when they present as acute intestinal obstruction with associated ischemia.

As described in this clinical case, laparoscopic reduction of the hernia content can be challenging, so definitive resolution is usually achieved by laparotomy. The benefit of occluding the foramen of Winslow to prevent recurrence is not yet defined. More case reports with long-term follow-up are needed to conclude on its usefulness.

## REFERENCES

- Jansen YJL, Nieboer K, Senesaël E, Van Bael K, Allaeyns M. Internal herniation through the foramen of Winslow: a case report. *Acta Chir Belg.* 2020;120(2):136-38.
- Leung E, Bramhall S, Kumar P, Mourad M, Ahmed A. Internal herniation through foramen of Winslow: a diagnosis not to be missed. *Clin Med Insights Gastroenterol.* 2016;9:31-3.
- Chandrasekhar D, Droger A, Baatz M, Chapuis T, Fox-McClary DJ. A Twisted cecum: herniation and volvulus of the cecum through the epiploic Foramen. *Cureus.* 2022;14(8):e27754.
- Moris D, Tsilimigras DI, Yerokun B, Seymour KA, Guerron AD, Fong PA, et al. Foramen of Winslow hernia: a review of the literature highlighting the role of laparoscopy. *J Gastrointest Surg.* 2019;23(10):2093-99.
- Welaratne I, Nasoodi A. A rare cause of obstructive jaundice: cecal herniation through the foramen of Winslow. *J Clin Imaging Sci* 2018;8:24.