

A Rare Case of Internal Hernia Through Foramen Of Winslow – Case report

Dr Heena A. Doshi^{1@*}, Dr Ashwin Kulkarni^{2@}, Dr Aakash Jariwala^{1#}, Dr Neha A. Doshi^{3\$}, Dr Chandrashekhar Jadhav^{1@}, Dr Vaishnavi S. Joshi^{1@}

¹Resident, ²Professor, ³Physiotherapist

@ Department of General Surgery, Vedantaa Institute of Medical Sciences, Dahanu, Palghar, Maharashtra, India

#Department of General Surgery, DY Patil University, Navi Mumbai, Maharashtra, India

\$Bharati Vidyapeeth, Pune, India

*Corresponding author:

Dr Heena A. Doshi

Resident, Department of General Surgery, Vedantaa Institute of Medical Sciences, Dahanu, Palghar, India

Email:- heenaanil1997@gmail.com

ABSTRACT

Introduction: The foramen of Winslow, otherwise known as the epiploic or omental foramen, is a normal orifice that allows virtual communication between the greater and lesser peritoneal cavities. Hernias through the foramen of Winslow are extremely rare.

Method: We present a case of a patient with strangulated ileum herniated through the foramen of Winslow.

Case summary: A 36-year-old man presented to the hospital with complaint of acute epigastric pain since 1 day and 6-7 episodes of vomiting. An emergency computed tomography scan revealed a loop of ileum in the lesser sac. Emergency laparotomy was performed, a herniated loop of ileum that had become strangulated at its entry to the lesser sac via the foramen of Winslow was observed. The loop of ileum was reduced but was nonviable, which had to be resected with a primary anastomosis. The patient's postoperative recovery was uneventful.

Results: Hernias through the foramen of Winslow are extremely rare. Delayed diagnosis is often observed, resulting in bowel strangulation and high mortality.

Conclusion: Herniation through the foramen of Winslow is a difficult diagnosis and must not be missed. Early cross-sectional imaging and surgical intervention are advised in order to reduce morbidity.

Keywords: Resection and anastomosis, bowel strangulation, epiploic foramen, foramen of winslow, internal hernia

INTRODUCTION

Internal hernias are a rare but significant cause of small bowel obstruction, accounting for approximately 0.6% to 5.8% of all cases of intestinal obstruction.¹ They are defined as the protrusion of a viscus through a peritoneal or mesenteric aperture without crossing the boundaries of the abdominal wall.² These apertures may be either congenital or acquired in origin. Among internal hernias, herniation through the Foramen of Winslow-also referred to as the epiploic or omental foramen-is extremely uncommon, representing only around 8% of internal hernias and merely 0.08% of all abdominal hernias.^{3,4}

The foramen of Winslow is a natural anatomical communication between the greater and lesser sacs of the peritoneal cavity. It is bordered anteriorly by the portal triad (common bile

duct, portal vein, and hepatic artery), posteriorly by the inferior vena cava, superiorly by the caudate lobe of the liver, and inferiorly by the first part of the duodenum.⁵ Despite its anatomical significance, hernias involving this foramen are rare due to the narrow and well-supported nature of the opening.

Clinical presentation of a hernia through the foramen of Winslow is often nonspecific, commonly mimicking other causes of acute abdomen. This diagnostic challenge, coupled with the potential for bowel strangulation and ischemia, contributes to a high mortality rate, which has been reported to range from 31% to 50% in untreated or delayed cases.⁶ As such, early

recognition and prompt surgical intervention are critical, often requiring resection of necrotic bowel when present.⁷

Take Home Message
Foramen of Winslow hernia, though rare, is a surgical emergency that can be easily missed.
Nonspecific symptoms demand a high index of suspicion.
Early CT diagnosis and prompt surgery are crucial to prevent bowel strangulation and improve outcomes.

We report a rare case of internal hernia through the foramen of Winslow, aiming to highlight the clinical features, diagnostic approach, and surgical

management of this uncommon yet potentially fatal condition.

CASE REPORT

A 36-year-old male presented to the emergency department with acute onset of epigastric pain for one day, accompanied by 6-7 episodes of vomiting. He had no history of abdominal surgery, trauma, or chronic gastrointestinal symptoms.

Physical examination revealed localized tenderness in the epigastric region without signs of guarding or rebound tenderness. His vital signs were within normal limits, and laboratory tests showed a mild leukocytosis.

A contrast-enhanced computed tomography (CT) scan of the abdomen was performed. Axial and coronal views revealed a loop of ileum within the lesser sac. Specifically, a green arrow marked the afferent limb entering the lesser sac and a red arrow showed the efferent loop exiting it. Coronal imaging demonstrated reduced enhancement of the herniated bowel loop (superior arrow), in contrast to the well-perfused loops in the abdominal mesentery (inferior arrow). Additionally, the stomach was displaced to the left (middle arrow), indicating the presence of mass effect due to the herniated bowel.

Based on the clinical and radiological findings, an emergency laparotomy was undertaken. Intraoperatively, a segment of distal ileum was found herniated into the lesser sac via the foramen of Winslow. The herniated loop was congested and nonviable due to strangulation at the foramen. The bowel was reduced with difficulty, and a segmental resection followed by primary anastomosis was performed.

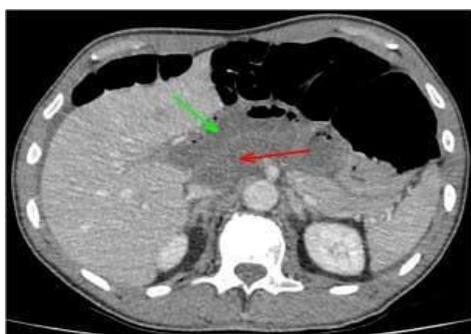


FIGURE 1: Contrast-enhanced computed tomography (CT) scan: Axial View



FIGURE 2: Contrast-enhanced computed tomography (CT) scan: Coronal view

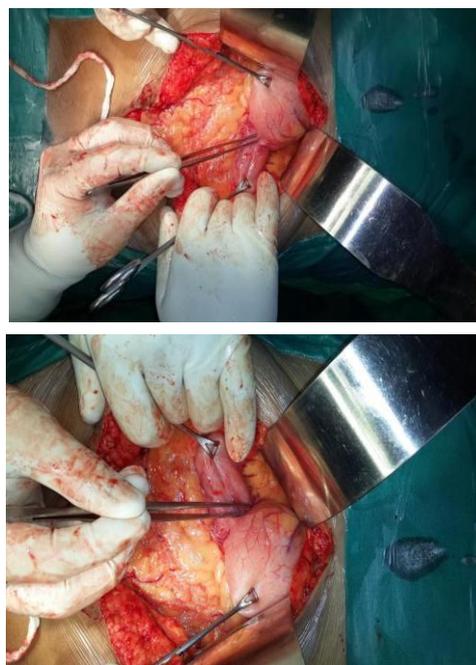


FIGURE 3: Intraoperative view of bowel loop herniating through foramen of Winslow. The patient had an uneventful postoperative recovery. Bowel function returned on the third postoperative day, and he was discharged on postoperative day six. At follow-up, the patient remained asymptomatic, and there was no evidence of recurrence.

DISCUSSION

Herniation through the foramen of Winslow is an exceedingly rare cause of intestinal obstruction, accounting for only a small percentage of internal hernias.^{1,4} This rarity is partly due to the anatomical features of the foramen, which is typically kept closed by normal intra-abdominal pressure and the surrounding visceral structures.⁵

Patients often present with nonspecific symptoms such as epigastric pain, vomiting, and signs of small bowel obstruction. In some cases, symptoms may mimic gastric outlet obstruction due to compression of the stomach by herniated bowel loops.⁶ As a result, delayed diagnosis is common, and bowel strangulation may occur, increasing the risk of mortality significantly-reported between 31% and 50%.^{2,6}

Preoperative diagnosis remains difficult and is achieved in only about 10% of cases. Cross-sectional imaging, especially contrast-enhanced CT, plays a crucial role. Classic signs include bowel

loops located between the inferior vena cava and portal vein (posterior to the hepatoduodenal ligament), with possible signs of vascular compromise such as reduced enhancement, bowel wall thickening, and mass effect displacing the stomach.⁷

Definitive treatment is surgical, and urgent laparotomy is often required. Surgical management involves careful reduction of the herniated bowel and assessment for viability. In cases of ischemia or necrosis, bowel resection with anastomosis is mandatory. Closure of the foramen of Winslow is controversial due to the proximity of critical vascular structures such as the portal vein, bile duct, and hepatic artery.³

Ultimately, early diagnosis through imaging and timely surgical intervention following prompt resuscitation are essential to minimize morbidity and prevent complications like sepsis and bowel loss.^{2,6}

CONCLUSION

Foramen of Winslow hernia, though rare, should be considered in the differential diagnosis of acute abdomen and small bowel obstruction, especially when imaging reveals abnormal bowel positioning in the lesser sac. Early recognition through cross-sectional imaging is crucial to prevent life-

threatening complications such as strangulation and bowel necrosis. Prompt surgical intervention remains the cornerstone of management. This case highlights the importance of timely diagnosis and operative treatment in improving patient outcomes in such rare internal hernias.

REFERENCES

1. Ghahremani GG: Internal abdominal hernias. *Surg Clin North Am.* 1984, 64:393-406. 10.1016/S0039-6109(16)43293-7
2. Martin LC, Merkle EM, Thompson WM: Review of internal hernias: radiographic and clinical findings. *AJR Am J Roentgenol.* 2006, 186:703-717. 10.2214/AJR.05.0644
3. Standring S: *Gray's Anatomy, The Anatomical Basis of Clinical Practice.* 41st (ed): Elsevier, 2015. <http://shop.elsevier.com/books/gray-anatomy/standring/978-0-7020-5230-9>.
4. Blachar A, Federle MP, Dodson SF: Internal hernia: clinical and imaging findings in 17 patients with Emphasis on CT criteria. *Radiology.* 2001, 218:68-74. 10.1148/radiology.218.1.r01ja5368
5. Salar O, El-Sharkawy AM, Singh R, Speake W: Internal hernias: a brief review. *Hernia.* 2013, 17:373-377. 10.1007/s10029-012-1023-1
6. Newsom BD, Kukora JS: Congenital and acquired internal hernias: unusual causes of small bowel Obstruction. *Am J Surg.* 1986, 152:279-285. 10.1016/0002-9610(86)90258-8
7. Mathieu D, Luciani A: Internal abdominal hernias. *AJR Am J Roentgenol.* 2004, 183:397-404. 10.2214/AJR.183.2.1830397