

# Case Report

## Étude de cas

### SPONTANEOUS INTERNAL HERNIATION THROUGH THE FORAMEN OF WINSLOW: A CASE REPORT

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A 41-year-old woman, who presented with acute onset of generalized peritonitis, was found to have a segment of strangulated small bowel incarcerated in the lesser peritoneal sac through the foramen of Winslow. The strangulated small bowel was reduced and resected. The predisposing factors for this condition as mentioned in the literature were not present in this case. In particular, the herniation was associated with a small foramen of Winslow and the presentation was one of rapidly developing peritonitis.

On a constaté qu'une femme de 41 ans qui s'était présentée avec un début aigu de péritonite généralisée avait un segment d'intestin grêle étranglé incarcéré dans l'arrière-cavité des épiploons, où il avait pénétré par le hiatus de Winslow. On a procédé à une réduction et à une résection de la partie étranglée de l'intestin grêle. Les facteurs qui prédisposent à ce problème selon les écrits n'étaient pas présents dans ce cas. Plus particulièrement, on a associé l'herniation à un petit hiatus de Winslow et le problème s'est manifesté sous forme d'une péritonite d'évolution rapide.

Like other causes of internal herniation, herniation through the foramen of Winslow is notoriously difficult to diagnose. It usually presents acutely in association with intestinal obstruction, and the diagnosis is revealed only at operation. We report such a case in which the patient presented urgently with peritonitis.

#### CASE REPORT

A 41-year-old woman presented with a 12-hour history of diffuse abdominal pain. She had nausea but no vomiting and had passed a normal stool the night before. Her past health was excellent and she had had no pre-

vious abdominal operation. She denied any similar attacks of pain in the past.

Her body temperature was 37.8 °C and she looked ill. Abdominal palpation indicated generalized peritonitis. Abdominal radiographs showed a few dilated small-bowel loops in the centre of the abdomen. The complete blood count revealed leukocytosis with a leukocyte count of  $15.1 \times 10^9/L$ . Peritonitis was diagnosed.

At operation within 4 hours of hospital admission, a segment of small bowel was found to be incarcerated in the lesser sac through the foramen of Winslow (Fig. 1). There was a tight fibrous peritoneal band in the gastro-

hepatic ligament at the free anterior edge of the foramen, resulting in considerable narrowing. The hernia was

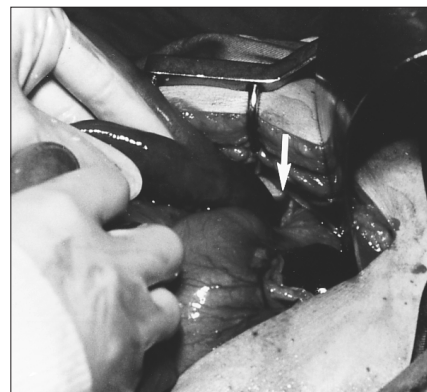


FIG. 1. Operative view of the hernia through the foramen of Winslow (arrow).

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reduced by traction on the small bowel. The small-bowel loop was nonviable and was therefore resected. The tight fibrous band was divided to prevent recurrence. The patient made a smooth recovery and was symptom-free 6 months later.

## DISCUSSION

Herniation through the foramen of Winslow represents one of the rarest types of internal herniation. Only about 90 cases had been reported up to 1966.<sup>1</sup> Interestingly, this condition has also been reported in animals.<sup>2</sup>

In the present case a loop of small bowel was involved in the hernia. This represents the commonest type of herniation through the foramen of Winslow (53%).<sup>3</sup> Other structures that have been reported include the cecum and ascending colon,<sup>4</sup> the transverse colon, a Meckel's diverticulum and the gallbladder.<sup>5</sup>

Various congenital predisposing factors have been postulated in the development of this rare condition.<sup>1</sup> They include the following: atrophic greater omentum; short transverse mesocolon; a long mesentery of the small intestine; abnormalities of intestinal rotation and a large foramen of Winslow.

Sudden alterations in intra-abdominal pressure, such as during weight-lifting, are thought to induce a pressure difference between the greater and lesser peritoneal sacs, precipitating the herniation across the foramen. An obstructive lesion distal to the herniated segment, for example a sigmoid carcinoma, is also considered to be a possible precipitating factor since this condition was present in three reported cases.<sup>1</sup>

None of these predisposing and precipitating factors were present in our patient. Instead, a tight fibrous band at the free edge of gastrohepatic

ligament was found guarding the entrance anteriorly. Contrary to the literature, the herniation in our case was associated with a small foramen of Winslow, which was narrowed by the fibrous peritoneal band.

Similar to most previous reported cases, the herniated intestine was reduced without difficulty in the present case. However, reduction of the herniated segment could present technical difficulty, and there have been reports in which the intestine could not be reduced at operation or even at autopsy.<sup>6,7</sup> Evidently there is an anatomic reason: the free edge of the lesser omentum with its contained vital structures (common bile duct, hepatic artery and portal vein) guards the foramen anteriorly and posts limitations to attempts at enlarging the foramen.

If the intestine cannot be reduced by gentle traction, the lesser sac should be opened either through the gastrocolic ligament or the gastrohepatic ligament. Pressure on the incarcerated segment of bowel from within the lesser sac and traction on the intestine from outside the foramen will successfully reduce the hernia in most instances. If reduction still proves difficult or impossible with this manoeuvre, Kocherization of the first and second parts of duodenum should allow forward mobilization of the duodenum and head of pancreas, with resultant enlargement of the foramen.<sup>8</sup> Needle or catheter decompression of the incarcerated intestine or enterectomy in situ within the lesser sac<sup>9</sup> has also been practised but should rarely be needed.

In Erskine's review<sup>1</sup> most patients presented with a brief history of abdominal pain and distension, and the usual clinical picture was that of intestinal obstruction. This contrasts with our case in which the patient presented with rapidly developing peritonitis.

There have been no reports of reoperation for reduction of a second herniation through the foramen of Winslow. Whereas some surgeons preferred to close the foramen with sutures,<sup>8</sup> most would elect to do nothing. In these cases, presumably, the foramen would be closed by adhesions due to inflammatory reaction.

## References

1. Erskine JM. Hernia through the foramen of Winslow. *Surg Gynecol Obstet* 1967;125:1093-109.
2. Engelbert TA, Tate LP Jr, Bowman KF, Bristol DG. Incarceration of the small intestine in the epiploic foramen. Report of 19 cases. *Vet Surg (US)* 1993;22:57-61.
3. Hoeffel JC, Zimberger J, Pocard B, Hoeffel C. Demonstration by computer tomography of a case of internal small bowel herniation. *Br J Radiol* 1992;66:1045-6.
4. Schuster MR, Tu RK, Scanlan KA. Caecal herniation through the foramen of Winslow: diagnosis by computed tomography. *Br J Radiol* 1992; 65:1047-8.
5. McCrea AN. Herniation of gallbladder through the foramen of Winslow. *Br J Surg* 1951;38:386.
6. Treves F. Clinical lecture on hernia into the foramen of Winslow. *Lancet* 1888;2:701.
7. Blevis LS, Van Patter HT. Hernia through the foramen of Winslow. *Can Med Assoc J* 1963;88:89-92.
8. Dorian AL, Stein GN: Hernia through foramen of Winslow; report of a case with preoperative roentgen diagnosis and successful surgical management. *Surgery* 1954;35(5): 795-801.
9. Higgins PM, Eadie DG. Herniation through the foramen of Winslow. *Ann Surg* 1965;161:592-6.