Internal hernias account for 0.5 - 4.1% of all bowel obstruction. Although uncommon, it is an important differential diagnosis. Internal hernia through the foramen of Winslow (IHFW) is even rarer, accounting for 8% of internal hernias.\(^1\) The nonspecific symptoms of IHFW often result in delayed treatment, which is responsible for a high mortality rate of up to 49%.\(^2\) In the past, the treatment has been laparotomy with reduction of the herniated bowel and resection of gangrenous bowel.

We report a case of IHFW in which multi-detector computed tomography (MDCT) enabled rapid, accurate anatomical diagnosis and excluded acute complications. It was followed by laparoscopic reduction, and the outcome was excellent.

**Case report**

A 48-year-old woman with no history of previous abdominal surgery presented with sharp epigastric pain of sudden onset, which she had experienced for 3 hours. The pain was persistent and progressive, with vomiting and a sensation of increased abdominal fullness. The patient had had episodes of postprandial abdominal pain and fullness during the past year, but the symptoms had resolved spontaneously. Physical examination in the emergency department revealed local tenderness with mild rebound in the epigastric area. The results of blood tests and biochemical investigations were normal. A plain abdominal radiograph revealed a cluster of distended loops of small bowel filled with air in the upper middle abdomen. Small-bowel obstruction was suspected, and dual-phase MDCT including the abdomen and pelvis, with intravenous but no oral contrast medium, was performed (Fig. 1). It revealed a cluster of dilated sections of ileum in the lesser sac, with redirection of the accompanying superior mesenteric arterial branches and narrowed afferent and efferent loops at the foramen of Winslow located opposite, i.e. between the inferior vena cava and the lesser omentum. An internal hernia of ileum through the foramen of Winslow without ischaemia was made by means of multi-detector computed tomography. Emergency laparoscopic bowel reduction was performed. The postoperative course was uneventful, and the patient recovered rapidly.

**Internal hernias through the foramen of Winslow are extremely rare. Prompt diagnosis and early surgical reduction are vital to prevent bowel gangrene and avoid resection. We report a case of ileal hernia through the foramen of Winslow in a 48-year-old woman. She presented to the emergency department with acute epigastric pain, and rapid and definitive pre-operative diagnosis of internal hernia of ileum through the foramen of Winslow without ischaemia was made by means of multi-detector computed tomography. Emergency laparoscopic bowel reduction was performed. The postoperative course was uneventful, and the patient recovered rapidly.**

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The postoperative course was uneventful, and the patient was discharged 3 days later.

Discussion

An internal hernia is a viscus protruding from its original position through a mesenteric orifice. Internal hernia is a rare cause of bowel obstruction, and only 8% of cases are IHFWs.[1]

The foramen of Winslow, the communicating foramen between the lesser sac and the greater peritoneal cavity, is about 3 cm in size and located anterior to the inferior vena cava, posterior to the lesser omentum (containing the hepatic artery, portal vein and bile duct), caudal to the hepatic caudate lobe, and cephalad to the duodenal bulb. IHFW can occur at any age, but is most frequent between the 3rd and 6th decades. It is more common in males than in females (ratio 2.5:1).[1,3]

Predisposing factors for IHFW include an enlarged foramen of Winslow, a long small-bowel mesentery, a persistent ascending mesocolon, an elongated right hepatic lobe, a change in intra-abdominal pressure, and a large, mobile gallbladder. The incarcerated organs of IHFW in order of frequency are small bowel (63%), caecum, distal ileum and ascending colon (30%), transverse colon (6%) and gallbladder (1%).[4]

The symptoms of IHFW are nonspecific and variable, ranging from indistinct abdominal pain that occurs spontaneously and then resolves to an acute abdomen in the form of bowel obstruction, and only 8% of cases are IHFWs.[1]

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The symptoms of IHFW are nonspecific and variable, ranging from indistinct abdominal pain that occurs spontaneously and then resolves to an acute abdomen in the form of bowel obstruction, with a narrowed afferent loop (Al) passing through the foramen of Winslow. The stomach (S) is displaced anteriorly and laterally, and the bowel loops (black B) show dilatation proximal to the afferent loops.

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avoiding resection of gangrenous loops of bowel. No consensus on suturing the foramen of Winslow has been established, as this procedure carries a risk of injury to the common bile duct, portal vein and hepatic artery proper. Right hemicolectomy may be performed if there is a mobile ascending colon with a long right mesocolon, to prevent recurrence.

Internal hernias through the foramen of Winslow are extremely rare, and the diagnosis can easily be missed or delayed, leading to the necessity for bowel resection and a high mortality rate. A high degree of clinical suspicion, with rapid pre-operative diagnosis by means of a simple diagnostic imaging tool, MDCT, is mandatory for early laparoscopic reduction and a good prognosis.

REFERENCES