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CASE REPORT

Internal hernia through an iatrogenic defect in the falciform ligament: a case report

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Abstract The incidence of internal hernia through a defect in the falciform ligament, mostly congenital, is very rare. In this era of minimally invasive laparoscopic surgeries, a few cases of internal hernia through an iatrogenic defect in the falciform ligament have also been reported. Here, we present a case of a 65-year-old patient who presented with acute small-bowel obstruction. The patient had undergone a laparoscopic fundoplication 4 years ago. On diagnostic laparoscopy, it was found that the cause of the intestinal obstruction was herniation of the small bowel through a window in the falciform ligament (which was probably created due to port insertion during the previous surgery of laparoscopic fundoplication). The obstruction was relieved by the division of the falciform ligament.

Keywords Internal hernia · Intestinal obstruction · Small-bowel obstruction · Falciform ligament · Iatrogenic etiology

Introduction

Internal hernia is an uncommon cause of small-bowel obstruction. Intestinal obstruction due to internal hernia is very dangerous. It may present either silently or with dull abdominal pain or with sudden acute abdominal pain. Most internal small-bowel hernias occur due to iatrogenic mesenteric defects (i.e. Peterson's, pseudo-Peterson's etc.) caused by previous surgeries. Here, we describe a case of internal hernia through an iatrogenic defect in the falciform ligament which was diagnosed intra-operatively.

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Case report

A 65-year-old lady was admitted with complaints of:

- Sudden onset of continuous vomiting, 10–12 times, bilious, since 24 h
- Colicky abdominal pain
- Constipation
- Central abdominal distension

No other relevant contributory history, other than her past history of laparoscopic fundoplication performed 4 years ago for gastro-esophageal reflux disease.

The patient was previously asymptomatic until this episode.

On examination, the patient had a pulse rate of 96/min and blood pressure of 130/80 mmHg.

Per abdomen, abdominal distension was present. The bowel sounds were hyper-peristaltic.

Per rectal examination was empty.

Other systemic examinations were normal.

Investigations:

- Complete blood count: normal
- Routine biochemistry: normal
- Electrolytes: normal
- X-ray, chest: normal
- X-ray, abdominal: multiple air fluid levels and distended small-bowel loops

– Computed tomography, abdomen: moderate dilatation of small-bowel loops

Treatment:

The patient was started on conservative management, i.e. nil by mouth, nasogastric tube decompression and intravenous fluids. However, she did not settle, even after 3 days of conservative treatment, so the decision for diagnostic laparoscopy to be performed was taken.

Findings of laparoscopy:

– Distended small-bowel loops
– Few omental adhesions with the port site of previous surgery
– Herniated small-bowel loop (Fig. 1) through a defect in the falciform ligament (which was probably created due to port insertion during the previous surgery of laparoscopic fundoplication)
– The bowel was distended proximally with an abrupt cut-off distally
– The rest of the bowel was not distended distally
– No other cause of intestinal obstruction was seen

The falciform ligament was cut (Fig. 2) to release the herniated bowel loop.

The patient had an uneventful post-operative recovery.

Discussion

An internal hernia is defined as an abnormal protrusion of a viscus through a normal or abnormal opening within the boundaries of the peritoneal cavity.

The incidence of internal hernias is 0.2–2% [6], and most of them are asymptomatic. The hernial orifice may be a pre-existing anatomic structure, such as the foramen of Winslow, or a pathological defect of congenital or acquired origin. Internal hernia is an infrequent cause of small-bowel obstruction with a reported incidence of up to 5.8% of all cases of intestinal obstruction [6].

Fig. 1 Herniated small bowel through a defect in the falciform ligament

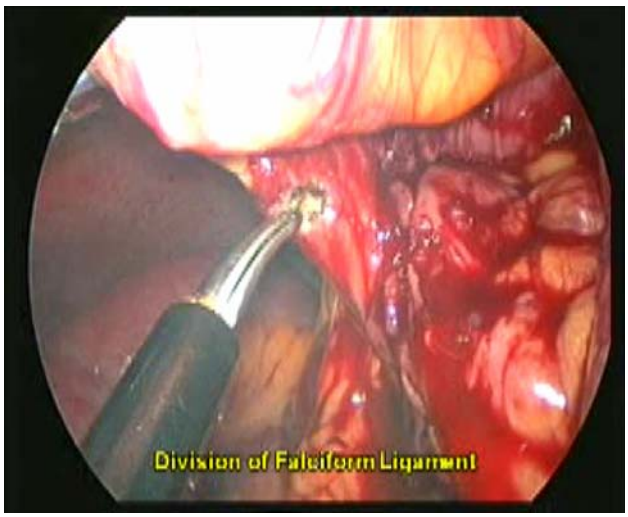

Fig. 2 Division of the falciform ligament

The different types of internal hernia and their relative incidences [4] are:

– Paraduodenal (left > right): 53%
– Foramen of Winslow: 8%
– Transmesenteric: 8%
– Transomental: 1–4%
– Pericaecal: 13%
– Intersigmoid: 6%
– Supravesical and pelvic: 6%
– Pelvic hernias include hernias through the broad ligament (4–5%), perirectal fossa and fossa of Douglas

Hernia through the falciform ligament is very rare and accounts for 0.2% of internal hernias [7]. A congenital etiology for these defects is probable [2, 7], attributable to malformation and incomplete development of the falciform ligament.

A study of the literature showed a few individual case reports of internal hernia through congenital defects of the falciform ligament. Gullino et al. [3] reported on a series of 14 cases of internal hernias, of which, two were hernias through an anomalous orifice from the absence of the falciform ligament of the liver. In recent years, a few cases of internal hernia through the falciform ligament, due to an iatrogenic defect created post-laparoscopic surgery [1, 5], has also been reported.

In the above-described case, the defect in the falciform ligament did not appear to be congenital and could, probably, be attributed to the port cannula being passed across

the falciform ligament during the surgery of laparoscopic fundoplication that the patient had undergone in the past.

References

1. Charles A, Shaikh AA, Domingo S et al (2005) Falciform ligament hernia after laparoscopic cholecystectomy: a rare case and review of the literature. Am Surg 71(4):359–361
2. Corberi O, Crespi G, Dehò E et al (1979) Internal abdominal hernia caused by anomaly of the falciform ligament (a case report). Chir Ital 31(6):1354–1359
3. Gullino D, Giordano O, Gullino E (1993) Internal hernia of the abdomen. Apropos of 14 cases. J Chir (Paris) 130(4):179–195
4. Kohli A, Choudhury HS, Rajput D (2006) Internal hernia: a case report. Ind J Radiol Imag 16(4):563–566
5. Malas MB, Katkhouda N (2002) Internal hernia as a complication of laparoscopic nissen fundoplication. Surg Laparosc Endosc Percutan Tech 12(2):115–116
6. Zissin R, Hertz M, Gayer G et al (2005) Congenital internal hernia as a cause of small bowel obstruction: CT findings in 11 adult patients. Br J Radiol 78:796–802
7. Wiseman S (2000) Internal herniation through a defect in the falciform ligament: a case report and review of the world literature. Hernia 4(2):117–120