Rare disease

Herniation of the liver via an incisional abdominal wall defect

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Summary

Herniation of the liver through an anterior abdominal wall incisional defect has rarely been described. An 81-year-old man presented to our surgical team with acute right upper quadrant abdominal pain. He had undergone coronary artery bypass grafting via a median sternotomy 7 years previously. Examination revealed gallbladder tenderness and a non-tender incisional epigastric hernia. Cholecystitis was confirmed on ultrasound. A CT scan revealed a knuckle of liver (segment II/III) herniating through an upper midline anterior abdominal wall incisional defect.

BACKGROUND

Herniation of liver segments through defects in the anterior or posterior abdominal wall, thoracic wall

or diaphragm has previously been described, with most cases occurring as congenital diaphragmatic hernias.^{1–7} Herniation of the liver through the anterior abdominal wall has very rarely been reported in either the neonatal population, where it is seen as part of omphalocele or hepatocoele,⁸ or adult population. There are only two reports of acquired hepatic herniation in surgically virgin adult abdomens,^{9 10} and four reports of liver contained within an incisional hernia.^{1 11–13} This case report describes a section of liver herniating through an anterior abdominal wall incisional defect from an otherwise normal median sternotomy wound.

The authors decided to submit this case for a number of reasons. First, we describe a case of rare pathology that does not appear to demonstrate any of the predisposing factors described in other published cases. Specifically, our patient had neither hepatomegaly nor abdominal obesity, nor did they have a history of wound infection or dehiscence. Second, we wish to highlight the fact that although this is a rare presentation, the available evidence suggests that it can be managed conservatively.

CASE PRESENTATION

An 81-year-old man presented to the surgical team with acute right upper quadrant abdominal pain. He had undergone coronary artery bypass grafting via a median sternotomy 7 years previously. The sternotomy had healed well with no postoperative wound infection or dehiscence.

Examination revealed right upper quadrant tenderness (Murphy's sign positive) in keeping with biliary disease and a non-tender incisional epigastric hernia.

INVESTIGATIONS

Cholecystitis was confirmed on ultrasound. A CT scan revealed a knuckle of liver (segment II/III) herniating through an upper midline anterior abdominal wall

incisional defect (figure 1), continuous with the lower part of the previous median sternotomy. There was no indication of hepatomegaly.

TREATMENT

The patient was treated with intravenous antibiotics and was discharged with plans for an elective laparoscopic cholecystectomy. The liver hernia required no treatment.

OUTCOME AND FOLLOW-UP

The patient sadly died from overwhelming sepsis and multiorgan failure later in the year. There was no suspicion that the liver hernia played any directly contributory role.

Figure 1 Axial CT image showing herniation of liver segments II/III (arrow).

DISCUSSION

Herniation of the sections of the liver through the anterior abdominal wall is rare. There are two reports of liver herniation in the absence of previous surgery. They were associated with previous blunt abdominal trauma and ankylosing spondylitis which was thought to be contributory owing to abnormal posture⁹ and hepatomegaly related to non-alcoholic steatohepatitis (NASH).¹⁰ In both cases, no treatment was required.

Four cases of an anterior abdominal wall incisional hernia containing liver have been described. Sheer and Runyon¹¹ describe a 45-year-old woman who had previously undergone orthotopic liver transplantation for cirrhosis due to NASH. The patient presented 2 years post-transplant with progressive upper abdominal pain and swelling. CT scanning demonstrated massive hepatomegaly, proven on biopsy as recurrent steatosis, and herniation through the abdominal incision site. Abci *et al*¹² describe a 73-year-old woman who had previously undergone both an open cholecystectomy and laparotomy who presented with right upper quadrant pain secondary to an incarcerated incisional hernia containing the left lobe of the liver. Cardiopulmonary comorbidities precluded a surgical repair. Nuno-Guzman *et al*¹ describe the case of a 70-year-old woman who had also previously undergone open cholecystectomy presenting with incisional liver hernia. A coincidental adrenal myelolipoma was considered to have exerted mass effect upon the left lobe of the liver contributing to the hernia. At the time of presentation, the patient had symptomatic choledocholithiasis with obstructive jaundice and underwent open common bile duct exploration and hernia repair.

There has only been one previous description of liver herniation into the epigastrium via the inferior portion of a sternotomy incision.¹³ The authors describe a 48-year-old woman in whom previous sternotomy was complicated by sternal dehiscence. The patient presented with mild discomfort due to herniation of a portion of the left lobe of the liver, and was managed conservatively.¹³

Our patient had neither a large laparotomy wound nor a history of sternal wound infection or dehiscence post-surgery. In almost every other case described above, the patient either had a sizeable abdominal incision, a post-operative wound complication, or hepatomegaly. Our patient is therefore unique. This is a rare hernia that can be managed expectantly.

Learning points

- ▶ Liver herniation through the anterior abdominal wall is rare.
- ▶ It may be seen in the context of trauma, hepatomegaly, previous laparotomy or complicated sternotomy wounds.
- ▶ Available evidence suggests that it can be managed expectantly.

Competing interests None.

Patient consent Obtained.

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