Herniation of the liver through sternotomy incision

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Section: Abdominal imaging
Area of Interest: Abdomen
Procedure: Computer Applications-Detection, diagnosis
Imaging Technique: CT
Special Focus: Acute Case Type: Clinical Cases
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Patient: 90 years, female

Clinical History:

Female patient, 90 years old. The patient presented at the Emergency Department with epigastric pain, nausea and vomiting. History of hernia after sternotomy.

Imaging Findings:

CT with intravenous contrast was performed in venous and late phases, in which an epigastric hernia containing part of the left hepatic lobe was observed. The herniated liver parenchyma showed hypodense appearance in venous phase (Fig. 1 and 2) and isodensity in late phase, due to vascular compromise. Hernia contained minimal free fluid (Fig. 3). The patient underwent emergency surgery, the hernia was reduced and repaired with a mesh. The evolution was satisfactory, and the patient was discharged four days later.

Discussion:

Herniation of the liver is uncommon. Hepatic herniation through the abdominal wall is a very rare phenomenon. Liver herniation through subxiphoid incision is a rare complication after median sternotomy. Most cases have been secondary to trauma (associated with diaphragmatic rupture) and congenital diaphragmatic hernias have also been described [1]. Herniation of the liver through the sternotomy incision usually occurs 2 to 3 years after surgery. The most frequent risk factors are obesity, postoperative infection and female gender [3]. The clinical presentation of liver herniation through an anterior abdominal wall hernia tends to be non-acute, probably because the hernial orifice is usually large and this makes strangulation of herniated contents difficult [1]. The most common symptoms are abdominal pain, nausea and vomiting and an epigastric hernia on physical examination [1]. The CT is the indicated imaging technique to diagnose and assess the extent and characteristics of the hernia. CT with intravenous contrast also helps us to know the situation and viability of the hepatic parenchyma [3]. The treatment of these hernias will depend on clinical condition of the patient. In asymptomatic patients conservative treatment can be performed, and in cases where symptoms are present surgical treatment is the method of choice. Surgery is performed to correct the defect wall (open surgery or laparoscopy) [2].

Differential Diagnosis List: Herniation of the liver through sternotomy incision, Abdominal wall neoplasia,
Abdominal wall haematoma

**Final Diagnosis:** Herniation of the liver through sternotomy incision

**References:**


Figure 1

Description: Aspect of the hernia before surgery. Origin: Olaizola A, Department of Surgery, Hospital Bidasoa, Hondarribia.
Figure 2

Description: Herniated liver during surgery. Origin: Olaizola A, Department of Surgery, Hospital Bidasoa, Hondarriba.
Figure 3

Description: Herniated liver during surgery. Origin: Olaizola A, Department of Surgery, Hospital Bidasoa, Hondarribia.
Description: Liver herniation through epigastric hernia. Herniated parenchyma showed hypodense appearance. Origin: Torena, J.A. Departmente of Radiology, Hospital Bidasoa, Hondarribia
**Description:** Liver herniation through epigastric hernia. **Origin:** Torena, J.A. Department of Radiology, Hospital Bidasoa, Hondarribia
Description: Herniated liver parenchyma showed isodense appearance.
Minimal free fluid in the hernia. Origin: Torena, J.A. Department of Radiology, Hospital Bidasoa, Hondarribia.