Laparoscopic resection of a large hepatic cyst compressing the inferior vena cava

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DESCRIPTION

A 67-year-old man presented with sudden onset shortness of breath that began while playing golf.

Abdominal examination revealed a large mass extending to the umbilicus. CT pulmonary angiography demonstrated a pulmonary embolus and a

Figure 1 Axial section of abdominal CT reveals a large

Figure 2 Coronal section of a T2-weighted MRI showing compression of the inferior vena cava by a large hepatic cyst.

Figure 3 Intraoperative images demonstrating (A) large hepatic cyst on the right lobe of the liver, (B) excision of hepatic cyst laparoscopically, (C) inferior vena cava compression from large cyst with no evidence of thrombosis and (D) cholecystectomy.

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large hepatic cyst (figure 1). MRI confirmed a 20 cm hepatic cyst in the right lobe compressing the inferior vena cava (IVC; figure 2). A smaller cyst (5 cm) and gallstones were also visualised. Hydatid serology and tumour markers (CA19-9 and α -feto protein) were negative. The patient underwent an uncomplicated laparoscopic resection of the hepatic cyst and a cholecystectomy (figure 3). To prevent further pulmonary embolism, the patient was warfarinised prior to surgery and bridging anticoagulation with intravenous heparin was used to provide antithrombotic coverage preoperatively. Intermittent pneumatic compression and foot pumps were used intraoperatively and warfarin was reintroduced for 3 months after surgery. Final histology showed a cyst of epithelial origin.

The IVC maintains an intimate association with the liver. IVC compression leading to thrombus formation and pulmonary embolism is rare.¹ Causes include hepatobiliary malignancy and benign causes such as large cysts.¹ Liver cysts are classified as simple or complex.² Investigations, including tumour markers, hydatid serology and multiple imaging modalities are essential in determining pathogenesis. Treatment is indicated in large or symptomatic cysts.³ Percutaneous drainage, laparoscopic marsupialisation and resection are all suitable techniques. This case highlights that large hepatic cysts can cause IVC compression leading to pulmonary embolism. Surgical resection is required to relieve compression, with laparoscopic techniques yielding good outcomes.

Learning points

- ▶ Large liver cysts can cause IVC compression predisposing to thrombus formation and pulmonary embolism.
- ▶ A thorough investigation by means of tumour markers, hydatid serology and multiple imaging modalities help determine etiology.
- ▶ Treatment options include percutaneous drainage, marsupialisation and resection which may be performed either by open or laparoscopic technique.

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