CASE REPORT

Golfer's swing leads to a spontaneous subcapsular liver haematoma

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SUMMARY

We report the rare case of a patient presenting with a spontaneous hepatic subcapsular haematoma after playing golf. The patient had no underlying predisposing conditions. A CT scan of the abdomen/pelvis demonstrated a 1 cm deep low-attenuation subcapsular collection around the anterolateral aspect of the liver. The patient was treated conservatively and was discharged from inpatient care after 72 h. This is only the second reported case of a spontaneous subcapsular haematoma.

BACKGROUND

Subcapsular hepatic haematoma is a rare condition usually associated with pregnancy or trauma to the liver capsule. We are only aware of one other spontaneous case that has been reported previously.

CASE PRESENTATION

An 81-year-old Caucasian man presented to the emergency department with a sudden onset of epigastric pain while playing golf. The pain was severe, constant in nature, radiating to the back and aggravated by movement. Associated symptoms included nausea and one episode of vomiting. His medical history included monoclonal B lymphocytosis, hypothyroidism and left renal agenesis. Regular medication was thyroxine only. The patient was an ex-smoker (stopped at the age of 40) and drank 2 units of alcohol a week. He had no short-term or long-term memory loss. On examination, the patient was in obvious discomfort and was pale. He was haemodynamically stable with a heart rate of 53 and a blood pressure of 106/54 mm Hg. Oxygen saturations were 96% on room air and the patient was afebrile. There was no evidence of jaundice or lymphadenopathy. His abdomen was not distended, and no signs were elicited on palpation, suggestive of upper abdominal localised peritonitis. There was no palpable abdominal aortic aneurysm, renal angle tenderness or spinal tenderness. The digital rectal examination was normal. Cardiovascular, respiratory and neurological examinations were normal.

INVESTIGATIONS

Laboratory results demonstrated a haemoglobin (Hb) 153 g/L (range 130–180), white cell count $16.5 \times 10^9/L$ (range 3.5–11), platelets $188 \times 10^9/L$ (range 130–450). The patient had a normal renal, liver and coagulation screen, normal troponin, amylase and C reactive protein. His ECG showed sinus bradycardia with sinus arrhythmia, but there

were no ischaemic changes. His erect chest radiograph showed normal heart and lung fields with no pneumoperitoneum, and a supine abdominal radiograph was found to be unremarkable. A CT scan of the abdomen and pelvis and a CT angiogram were organised and demonstrated a 1 cm deep subcapsular collection around the anterolateral aspect of the liver with a minimal amount of fluid extending along the paracolic gutter and around the caecum, consistent with a subcapsular haematoma (figure 1). There was no aneurysmal dilation of the major arterial tree or dissection flaps, and no inflammatory change of the bowel, although diverticular disease was noted. The left kidney was absent, consistent with his history of renal agenesis. There were no focal abnormalities of the right kidney, adrenals, spleen or pancreas, no lymphadenopathy, no intra-abdominal or pelvic gas and no bony destructive lesions.

DIFFERENTIAL DIAGNOSIS

There is a wide-ranging differential diagnosis for acute epigastric pain. Common causes include medical conditions such as pneumonia, myocardial infarction, hepatitis, dyspepsia and peptic ulcer disease, while common surgical conditions include: acute pancreatitis, musculoskeletal injuries, biliary colic, acute cholecystitis, gastric/duodenal perforations and leaking abdominal aortic aneurysms. Less common surgical differentials include intestinal

Figure 1 Axial CT scan with arterial contrast showing a 1 cm deep subcapsular collection around the anterolateral aspect of the liver (arrow).

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obstruction or ischaemia, hepatic haematomas and abdominal aortic dissections.

TREATMENT

The patient was treated conservatively with intravenous fluids, antibiotics and analgesia.

OUTCOME AND FOLLOW-UP

The patient was discharged home 72 h later, clinically back to his baseline and pain-free. He has not re-presented up to this point, a month after diagnosis.

DISCUSSION

A subcapsular haematoma arises when the potential space between the two layers of the liver capsule fills with blood. The underlying aetiology is varied. It has been frequently described in pregnancy as a complication of pre-eclampsia and (haemolysis, elevated liver enzymes, low platelet count) (where it is associated with a high mortality rate of approximately 16%).^{1 2} Other common causes include trauma to the liver capsule^{3 4} and iatrogenic injuries following endoscopic retrograde cholangiopancreatography, cholecystectomy, liver biopsy and lithotripsy.^{5–13} Finally, it can also occur as a result of the underlying liver lesions such as metastases,¹⁴ infection (diastomiasis¹⁵), anatomical variation,¹⁶ coagulopathies¹⁷ and vasculitides.¹⁸ This case is unusual as none of the aforementioned risk factors were present. We are only aware of one other spontaneous case in the literature, but in that case the patient was anticoagulated and there was no history of physical exertion as was seen in our case.¹⁹

This case highlights that clinical diagnosis can be difficult, as the symptoms and signs are non-specific. Radiological adjuncts such as ultrasound, CT or MRI are useful in arriving at the diagnosis. CTs are particularly useful in an acute setting as they can define the extent and age of the haematoma. During the first 24–72 h, acute haematomas are hyperattenuating on non-enhanced CT scans, decreasing in attenuation thereafter.³

Although rare, subcapsular hepatic haematomas do have the potential to rupture, which can rapidly lead to haemodynamic compromise and death. Therefore, a period of close observation is required in the acute setting. There should be a low threshold for performing interval radiological imaging such as CTs, particularly if there is any deterioration in haemodynamic status or a drop in Hb. In the presence of haemodynamic compromise, despite resuscitation or in the presence of a rapidly expanding haematoma, an intervention should be undertaken. In the first instance, interventional radiology in the form of an arterial embolisation should be attempted.^{2 11 18} A surgical intervention should be considered where either a radiological intervention has failed or the haemodynamic compromise is life-threatening. However, as in the case we have described, the majority of non-ruptured spontaneous hepatic haematomas in haemodynamically stable patients can be managed conservatively.^{4 20} This was highlighted in this case where serial imaging was not required owing to the patient's symptoms resolving with conservative management and remaining haemodynamically stable during admission.

Learning points

- ▶ Subcapsular hepatic haematoma is a rare cause of epigastric pain.
- ▶ It can occur without any predisposing factors.
- ▶ Radiological imaging is the best diagnostic modality.
- ▶ In haemodynamically stable patients, it can be managed conservatively.
- ▶ Regular appraisal of the patient is required in the acute setting and interval imaging should be considered.

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