CASE REPORT

Idiopathic spontaneous lesser sac haematoma: a perplexing case of abdominal apoplexy

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SUMMARY

A 37-year-old woman presented with a 3-hour history of back pain, nausea and vomiting and an episode of syncope. A fluid collection in the lesser sac was detected on ultrasound and CT scan. Emergency laparoscopy and subsequent laparotomy were performed and a large blood clot was evacuated from the lesser sac. No identifiable source or predisposition to bleeding was found. She made a full recovery postoperatively. There are few reported cases of spontaneous intraperitoneal haemorrhage. In a third of cases, there is no identifiable source of bleeding. Unfortunately, patients present late with non-specific symptoms and a prompt diagnosis is difficult to make. The case reiterates the importance of awareness of lesser sac haematoma formation; an unusual clinical entity with a high morbidity and mortality rate. A high index of suspicion, radiological adjuncts and appropriate surgical intervention, especially in unstable patients, is essential for a good outcome.

BACKGROUND

Idiopathic spontaneous intraperitoneal haemorrhage (ISIH), historically referred to as abdominal apoplexy, is rare, with a high mortality rate, often due to a combination of difficulty in diagnosis and delayed presentation.¹ So far, there have been a few reported cases of spontaneous lesser sac haematoma, with most being linked to coagulopathies, trauma and malignancies. Without surgical

intervention, the mortality is dangerously high. This report describes a case of idiopathic spontaneous lesser sac haematoma and reviews the presentation, investigations including imaging and management.

CASE PRESENTATION

A 37-year-old Caucasian woman presented to the emergency department with a history of back pain, nausea and vomiting for 3 hours and an episode of syncope in this time. She was previously asymptomatic and well. The patient had undergone an uneventful caesarean section 13 weeks earlier and a laparoscopic cholecystectomy 5 years ago. She was also known to have Graves' disease and osteoarthritis of the spine. There was no history of blunt trauma, pancreatitis, abdominal aortic or visceral artery aneurysm as well as solid organ malignancy. Her family history revealed autoimmune conditions: her mother suffered from pernicious anaemia and coeliac disease and her maternal aunt was diagnosed with multiple sclerosis. She did not take any regular medication when she presented but had been taking Carbimazole 30 mg twice daily and Propranolol 40 mg twice daily until two months previously. She was self-employed, lived with her partner and three children and did not smoke or drink alcohol. On inspection, the patient appeared to be in pain and unable to lie flat on her back. Her abdomen was soft, tender on the right side with no localising signs. She was haemodynamically unstable with a blood pressure of 89/60 and was mildly tachycardic with a pulse of 99. Other observations were within the normal range.

INVESTIGATIONS

The patient was admitted with an initial diagnosis of appendicitis. However, her blood tests did not match the clinical picture: raised white cell count of $28 \times 10^9/L$, low haemoglobin of 113 g/dL, mildly elevated platelet count of $408 \times 10^9/L$, normal amylase of 37 and C-reactive protein of <3 . Urinalysis was unremarkable. An ultrasound scan of the abdomen revealed a 9.6×3.8 cm collection in the lesser sac and moderate amount of free fluid in the abdomen and pelvis with normal appearances of the pancreas liver, spleen and kidneys. Given the diagnostic uncertainty, a CT scan of the abdomen was requested which showed a 10×5 cm collection in the lesser sac and moderate amount of free fluid in the abdomen and pelvis (figures 1 and 2). There was no CT evidence of visceral artery aneurysm, pancreatitis or solid organ lesions. Unfortunately,

Figure 1 Abdominal CT scan in axial view showing soft tissue density abnormal area (10×5 cm) between the stomach and body and tail of pancreas (labelled by arrow on the left). There is evidence of moderate ascites in abdomen and pelvis (labelled by arrow on the right).

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Figure 2 Abdominal CT scan in coronal view showing lesser sac haematoma between the stomach and body and tail of pancreas (labelled by arrow).

no iodinated contrast was given which could have delineated the collection in more detail. During the initial period of assessment, her haemoglobin fell to 85 g/dL. The patient was subsequently taken to theatre for an emergency laparoscopy. This revealed the presence of blood in the right subphrenic space and right paracolic gutter, causing the stomach to be pushed anteriorly.

DIFFERENTIAL DIAGNOSIS

Trauma

- Splenic artery aneurysm
- Pseudoaneurysm of pancreatic or splenic artery
- Coagulopathy
- Idiopathic spontaneous lesser sac haematoma

TREATMENT

A laparotomy was performed. Haemoperitoneum was confirmed and a large clot evacuated from the lesser sac. A thorough examination of the spleen, splenic artery, pancreas, stomach and duodenum was carried out for a possible source of bleeding. No source of bleeding was found. Finally, an extensive lavage was carried out.

OUTCOME AND FOLLOW-UP

The patient made an excellent recovery postoperatively and was discharged after 4 days. In this time, there were no positive results obtained from a comprehensive screening for bleeding diatheses and autoantibodies. The patient is awaiting follow-up with a haematology specialist.

DISCUSSION

Most cases of intraperitoneal haemorrhage result from an identifiable aetiology like trauma or malignancy. In a handful of cases reported, the intraperitoneal haemorrhage appears to be spontaneous and idiopathic.^{2,3} Risk factors for spontaneous

bleeding tendencies can arise from coagulopathies and platelet disorders, the latter being more likely to result in bleeding into the intraperitoneal space. The patient was screened for Von Willebrand Factor (vWF) deficiency, a more common platelet disorder, by measuring the vWF titre. Her vWF level was within the normal range and so ruled out a platelet disorder. However, since VWF is an acute phase reactant protein, it may be elevated in the acute inflammation,⁴ making it possible that serum levels within a normal range represent an acutely elevated titre in a patient with deficient clotting factor, thus obscuring an underlying bleeding diathesis. This is unlikely in this case however, given the normal clotting profile, platelet count and uncomplicated surgical history. The latter included her relatively recent caesarean section. While admitted under the general surgeons, the on-call obstetric team also reviewed the patient and found no association between the current presentation and the caesarean section performed 3 months ago, in conjunction with a normal pelvic ultrasound scan. A study suggested that underlying hypertension and abdominal aortic atherosclerosis could be a risk factor for ISIH.⁵ Eighty per cent of 425 patients identified with haemoperitoneum were found to be hypertensive. However, in this case, the patient was not known to suffer from hypertension.

There was significant uncertainty about the content of the intraperitoneal collection prior to exploratory laparotomy. CT scanning has high sensitivity for the detection of intraperitoneal blood⁶ with radiological signs like sentinel clot and active arterial extravasation to detect the source. Different tissues on CT are differentiated using the attenuation value. The administration of intravenous contrast can be helpful as active arterial extravasation of contrast (higher attenuation than free or clotted blood) indicates active bleeding.⁷ In this case, neither the content of the abdominal collection nor the source of the bleed was identified on CT scan. One of the limitations was the use of a non-contrast scan to investigate the abdomen and this reiterates the importance of using appropriate radiological adjuncts to help make an accurate diagnosis. The absence of an identifiable source of bleeding is not unusual. Literature suggests that in approximately a third of published ISIH cases, the source of bleeding was not identified on CT scan or even during exploratory laparotomy.⁸ In this instance, there was no source of bleeding identified despite a thorough investigation of all the abdominal viscera during exploratory surgery. Her recent caesarean section was deemed not to be related to the haematoma. The principle learning points from this case are to suspect ISIH early and to avoid delaying explorative surgery in an unstable patient. Haematomas may remain asymptomatic until the haemorrhage becomes extensive. Patients then present with non-specific abdominal pain, nausea and vomiting.⁹ Studies have shown that without surgical intervention, the mortality is dangerously high.¹⁰ Recent studies have shown embolisation to be successful in the treatment of some cases of intraperitoneal haemorrhage like ruptured aneurysms and in

Learning points

- ▶ Although very uncommon, awareness of these diagnostic dilemmas aid in a better patient outcome.
- ▶ Early CT scan remains an integral step in the preoperative management.
- ▶ A low threshold for laparotomy with or without laparoscopy in such diagnostic conundrums is recommended

postoperative bleeding events. However, many district general hospitals like George Eliot Hospital do not have the required facilities and only tertiary centres provide this service; therefore if suspected, prompt diagnosis and transfer from district general hospitals are indicated.^{11–13}

Contributors NDC undertook the literature review and edited the case report. AN and KM were involved in the patient care. AN wrote the initial case report, which was revised by KM and BP.

Competing interests None declared.

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