CASE REPORT

An interesting cause of collapse in a patient with chronic pancreatitis

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SUMMARY

A 55-year-old man attended the emergency department following an episode of collapse. He was known to have chronic pancreatitis and a pancreatic pseudocyst. He had recently been recumbent due to chronic abdominal pain. On arrival he was unwell. Baseline observations revealed an oxygen saturation of 87% on room air, pulse 115 bpm and blood pressure 86/57 mm Hg. Physical examination was unremarkable except for mild abdominal tenderness. He was started on high-flow oxygen, intravenous fluid and broad-spectrum antibiotics. A chest x-ray was unremarkable. Massive pulmonary embolus was considered a likely diagnosis. The patient underwent an urgent CT pulmonary angiogram (CTPA). As this was undertaken as an urgent investigation straight from the resuscitation area a d-dimer test was not performed. The CTPA showed no evidence of pulmonary embolism but demonstrated a subdiaphragmatic collection. An arterial phase abdominal CT scan was thus performed, which confirmed a large subcapsular splenic haematoma and splenic vein thrombosis. The patient was resuscitated with blood products and transferred for splenic artery embolisation.

BACKGROUND

Massive pulmonary embolus (PE) was a likely diagnosis on the basis of low oxygen saturations, tachycardia, hypotension, a normal chest x-ray and a recent episode of recumbence. Even though a CTPA scan did not reveal the suspected diagnosis, it did lead to the correct diagnosis.

Although spontaneous splenic rupture is rare, increased awareness is beneficial as it is a life-threatening condition, which is eminently treatable.

This case also highlights the role of interventional radiology as an alternative to surgery to achieve haemostasis.

CASE PRESENTATION

A 55-year-old man attended the emergency department following an episode of collapse while shopping. He had recently been an inpatient with an exacerbation of chronic pancreatitis. He was awaiting drainage of a pancreatic pseudocyst and has been taking regular oral morphine for chronic abdominal pain. He had been recumbent for the week preceding the collapse due to abdominal pain, but denied any significant acute increase in pain severity. He denied any other recent symptoms except for a productive cough.

On arrival the patient looked unwell. Baseline observations revealed oxygen saturations of 87%

on room air, pulse 115 bpm, blood pressure 86/57 mm Hg and temperature 36.7°C. His chest was clear, heart sounds were normal and palpation of the abdomen revealed mild general tenderness. He was fully alert and orientated.

INVESTIGATIONS

A chest x-ray showed no consolidation or pleural effusion. An ECG demonstrated sinus tachycardia with no other acute changes. An arterial blood gas on 15 litres of oxygen per minute revealed a pH of 7.42, pCO₂ 4.3k Pa, pO₂ 10.3k Pa, HCO₃⁻ 20.4 mmol/l, BE -1.4 mmol/l and lactate 1.2 mmol/l.

CTPA showed no evidence of PE but revealed a large left-sided subphrenic collection. A subsequent abdominal CT scan showed a large intracapsular splenic haematoma (figure 1).

Laboratory blood test results, which became available after the CTPA, showed haemoglobin of 74 g/l, creatine 78 mmol/l and urea 14.5 mmol/l.

DIFFERENTIAL DIAGNOSIS

Pulmonary embolus and sepsis.

TREATMENT

High flow oxygen, intravenous fluids and antibiotics were started.

Definitive haemostasis was achieved by splenic artery embolisation.

OUTCOME AND FOLLOW-UP

The patient was resuscitated with blood products and transferred for splenic artery embolisation after the final diagnosis was reached. Following the intervention he was transferred to the intensive care unit. He has subsequently been discharged from intensive care and is continuing his recovery in a hospital ward.

DISCUSSION

Splenic complications occur rarely in patients with acute pancreatitis.¹⁻⁴ These complications include intrasplenic pseudocyst, subcapsular haematoma and splenic rupture.

Spontaneous splenic rupture is a rare complication of pancreatitis. Possible mechanisms include splenic vein thrombosis, perisplenic adhesions, pancreatic pseudocyst erosion into the spleen and acute inflammation of ectopic intrasplenic pancreatic tissue.

Acute and chronic pancreatitis is thought to account for 20% of traumatic splenic ruptures, with mortality estimated at 12%.⁵⁻⁷

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Figure 1 CT scan image showing large intracapsular splenic haematoma.

Data regarding incidence and clinical features of splenic complications of chronic pancreatitis are rare.

An observational cohort study recruited 500 consecutive patients with chronic pancreatitis.⁸ These patients were seen as outpatients once a year, or when required for symptoms or complications thought to be due to chronic pancreatitis. This study identified 11 patients (2.2%) with splenic complications. This represented one case for every 371 patient-years of follow-up. Of these four patients (0.8%) suffered a splenic rupture, highlighting the rarity of this presentation.

This paper also describes the features of patients presenting with splenic complications of chronic pancreatitis. Left-upper quadrant pain was present in 10 of the 11 patients. Left-sided pleural effusion was present in three of five patients with intrasplenic pseudocysts. Circulatory collapse was present in three of the four patients with splenic rupture.

Recognition of the possibility of splenic complications secondary to pancreatitis is important as surgical or radiological intervention can be life saving.

Learning points

- ▶ Spontaneous splenic rupture is a recognised rare complication of chronic pancreatitis and can present with collapse.
- ▶ The diagnosis can be difficult to make based on findings from physical examination, and a low threshold for CT imaging is recommended.
- ▶ Recognition of the possibility of splenic complications secondary to pancreatitis is important as emergency surgical or radiological intervention may be life saving.
- ▶ Interventional radiology offers an alternative to surgery to achieve haemostasis.

Competing interests None.

Patient consent Obtained.

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