

Splenic rupture as complication of acute pancreatitis

Published on 12.09.2015

DOI: 10.1594/EURORAD/CASE.12890

ISSN: 1563-4086

Section: Abdominal imaging

Area of Interest: Spleen Pancreas

Imaging Technique: CT

Special Focus: Haemorrhage Inflammation

Tissue characterisation Case Type: Clinical Cases

Authors: D Pai, A Aslanyan

Patient: 40 years, male

Clinical History:

A 40-year-old patient was admitted with epigastric pain and vomiting. 2 weeks before, the patient was admitted with acute pancreatitis. On examination, the patient had generalised abdominal tenderness and did not allow deep palpation.

Pulse was 115, blood pressure was 129/91. Hb was 92 (140 on previous admission).

Imaging Findings:

An unexpected finding was the presence of a huge left subscapular splenic haematoma (Figures 1, 2 and 3).

The majority of the haematoma was contained within the capsule but was circumferential. Slightly high attenuation fluid in the pelvis and around the liver was most likely to represent blood in the peritoneal cavity.

No acute adjacent rib fracture was demonstrated.

Normal opacification of the splenic artery was seen.

The distal splenic vein was poorly opacified. There was normal opacification of the portal vein confluence.

No evidence of acute pancreatitis.

The earlier CT with IV contrast which was performed when the patient was diagnosed with acute pancreatitis 2 weeks before (Figures 4 and 5), showed the features of acute pancreatitis. There was stranding of fat around the distal pancreas and a small amount of fluid around the tail of the pancreas. The spleen was within normal limits (Figure 6).

These findings had resolved on the current CT.

Discussion:

A. Background

Spleen involvement in acute pancreatitis can vary from splenic pseudocysts, haematomas, intrasplenic haemorrhage, splenic infarction and splenic rupture. [1]

Splenic rupture is usually caused by a blunt trauma but there are other non-traumatic causes which are quite rare such as haematological, infectious and oncological causes. Spontaneous rupture of a previously healthy spleen is extremely rare. However there are a few cases in the literature which describe spontaneous splenic rupture in patients with acute pancreatitis. [2]

Different mechanisms have been suggested so far: 1) Perisplenic adhesions 2) Splenic vein thrombosis, 3) Pancreatic pseudocysts erosion into the spleen 4) Acute inflammation. [3]

Most patients with splenic complications of pancreatitis will present with non-specific features of either pancreatitis or pseudocysts. Important signs such as increasing pain in the left upper quadrant, referred pain to the left shoulder

or left upper quadrant mass, tachycardia and pyrexia can suggest splenic involvement. [1].
The prevalence of splenic complications in pancreatitis tends to be higher in men. [1]

B. Clinical Perspective

This case aims to remind the radiologists of splenic complications in acute pancreatitis.

C. Imaging Perspective

Splenic lesions in pancreatitis are increasingly more recognised and easily reported with CT. [1]

D. Outcome

The patient was diagnosed with spontaneous splenic haematoma with the recent history of acute pancreatitis. The patient was put on the emergency surgical list for laparotomy and splenectomy for large subcapsular haematoma. 1500ml of blood was evacuated and the patient received 2 units of RBC transfusion post-operatively. The patient also developed a new collection in the left upper quadrant 8 days post-splenectomy, which was drained. The patient was also followed-up by the haematology team for vaccinations and long term antibiotic course.

E. Take Home Message, Teaching Points

Splenic complications should be ruled out in any patients with acute abdominal pain who were known to have acute pancreatitis in the recent past.

Differential Diagnosis List: Spontaneous splenic haematoma as a complication of acute pancreatitis., Splenic haematoma, Intrasplenic haemorrhage, Splenic rupture, Splenic infarction

Final Diagnosis: Spontaneous splenic haematoma as a complication of acute pancreatitis.

References:

- Patil P, Khalil A, Thaha M (2011) Splenic parenchymal complications in pancreatitis. Journal of Pancreas 12(3): 287-291 (PMID: [21546711](#))
- Debnath J, Sonkar S, Sharma V et al (2014) Spontaneous rupture of spleen masquerading as acute pancreatitis. American Journal of Emergency Medicine 394.e1-394.e3 (PMID: [24268850](#))
- Toussi H, Cross K, Sheehan S et al (1996) Spontaneous splenic rupture: a rare complication of acute pancreatitis. British Journal of Surgery 83(5):632 (PMID: [8689204](#))

Figure 1

a



Description: Splenic haematoma **Origin:** Radiology Department, Scunthorpe General Hospital, Scunthorpe, UK

Figure 2

a



Description: Splenic haematoma **Origin:** Radiology Department, Scunthorpe General Hospital, Scunthorpe, UK

Figure 3

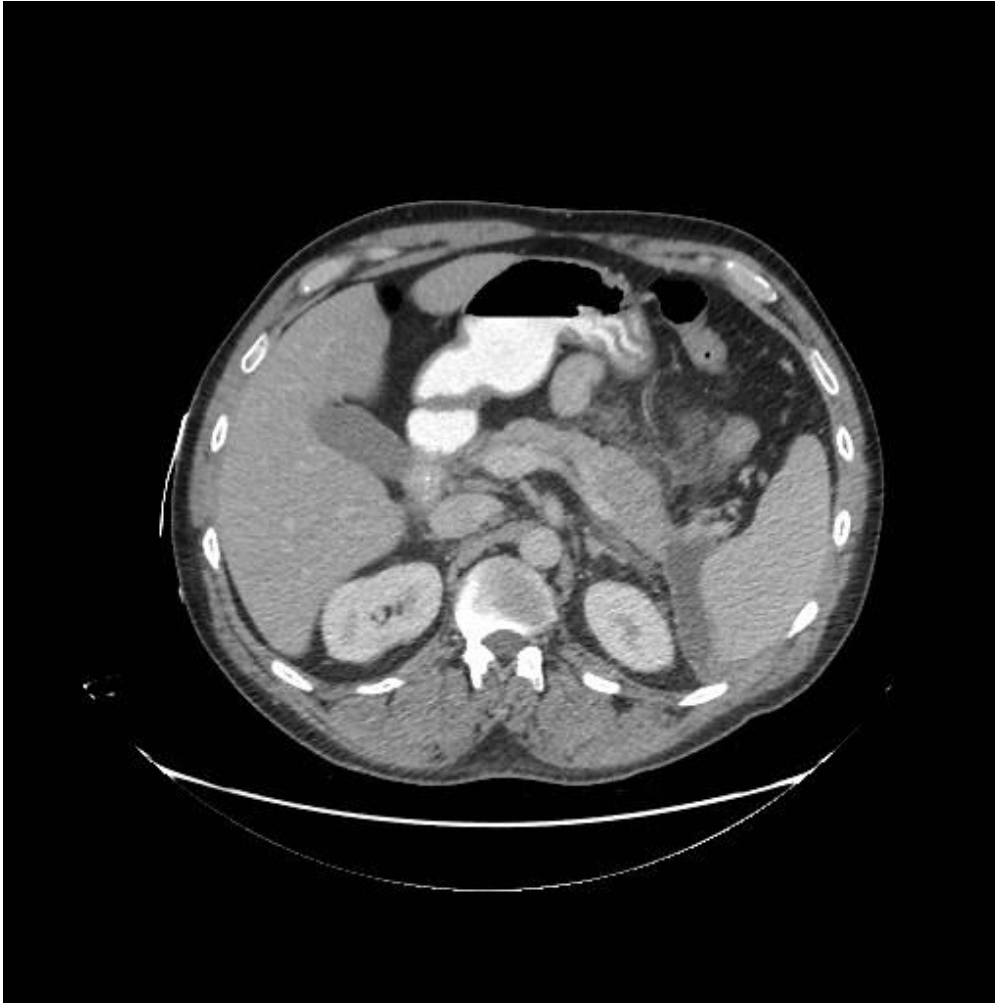
a



Description: Splenic haematoma **Origin:** Radiology Department, Scunthorpe General Hospital, Scunthorpe, UK

Figure 4

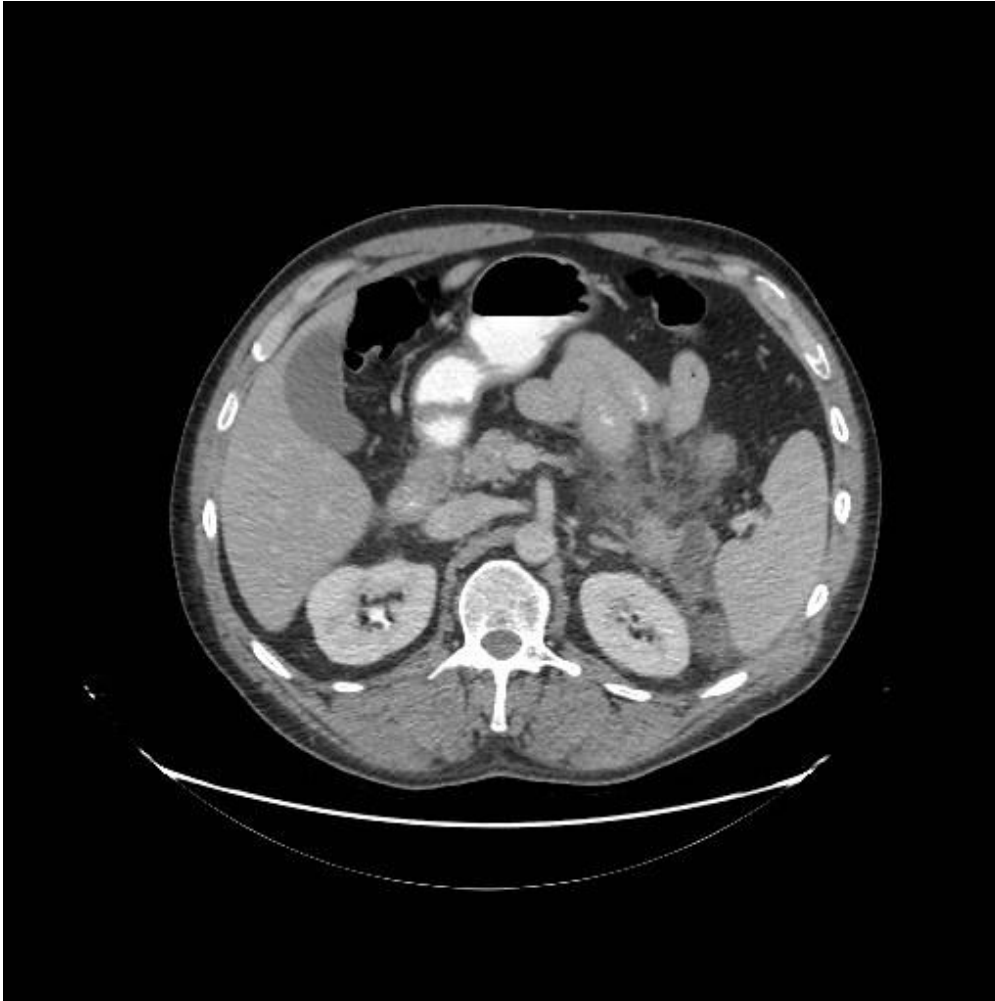
a



Description: Previous acute pancreatitis **Origin:** Radiology Department, Scunthorpe General Hospital, Scunthorpe, UK

Figure 5

a



Description: Previous acute pancreatitis **Origin:** Radiology Department, Scunthorpe General Hospital, Scunthorpe, UK

Figure 6

a



Description: Normal spleen in previous acute pancreatitis **Origin:** Radiology Department, Scunthorpe General Hospital, Scunthorpe, UK