Splenic pathology on CT: A pictorial review
Dr Ishaana Munjal, Dr Eman Hafez, Dr James Graham

Background
- The aim of this review is to demonstrate the variety of pathologies affecting the spleen, and their typical appearances.
- We present a spectrum of cases, including diffuse appearances after trauma: delayed haemorrhage after minor trauma, splenic haematoma in major trauma, hyposplenism related to sickle cell disease.
- We also present cases of focal splenic lesions, where the differential diagnosis includes abscess, splenic "cyst", haemangioma or metastases.

Methods and materials:
A study of CT cases through our regional radiology centre. CT is a reasonable first line test in determining splenic pathology, with MRI or biopsy being used to problem-solve.

Spontaneous splenic rupture
- A young male patient presented with upper abdominal pain, cholestatic liver function tests, microcytic anaemia and early satiety.
- CT demonstrates a large splenic haematoma in the context of splenomegaly.
- This was investigated and was likely to be due to underlying haematological malignancy.

Learning point: Spontaneous rupture of the spleen is much less common than traumatic rupture, and is more likely associated with splenomegaly. [1]
Causes include haematological malignancy, infection (particularly involving EBV and CMV viruses) and pancreatitis.

Traumatic splenic haematoma
- A young, fit and well male presented with left sided abdominal pain and no history of trauma. CT demonstrates a large splenic haematoma.
- On revisiting the clinical history, the patient gave a history of minor trauma to his left side when playing sport weeks previously.

Learning point: Presentation of splenic haematoma post-trauma can be sub-acute. Splenic injury can account for 49% of all organ injuries [2].

Spontaneous splenic rupture
- Incidental finding of a small splenic lesion in a patient investigated for sepsis.
- On follow up imaging this appeared characteristic of a splenic infarct.

Learning point: There are a wide range of causes, including hypercoagulable states, embolic events and haematological disease. [4]

Spontaneous splenic rupture
- A young, fit and well male presented with left sided abdominal pain and no history of trauma. CT demonstrates a large splenic haematoma.
- On revisiting the clinical history, the patient gave a history of minor trauma to his left side when playing sport weeks previously.

Learning point: Presentation of splenic haematoma post-trauma can be sub-acute. Splenic injury can account for 49% of all organ injuries [2].

Spontaneous splenic rupture
- Incidental finding of a slowly enlarging fluid-density structure in the lower pole of the spleen, in the context of previous endometrial cancer.
- This was thought to be suspicious for a serosal deposit.

Learning point: MRI can be used as a problem solving tool. MRI demonstrates a simple 'cystic' structure with no features of metastases.
- Simple cystic structures in the spleen are not uncommon: 80% are pseudocysts, with true epithelial cysts representing 20%. [6]

Splenic infarction
- A patient with known sickle cell disease presents with abdominal pain.
- Previous ultrasound had not been able to identify the spleen.
- On follow up imaging this appeared characteristic of a splenic infarct.

Learning point: Learning point: Autosplenectomy can be painless or present with recurrent episodes of abdominal pain due to multiple infarcts. Most commonly seen in homozygous sickle cell disease.[3]

Learning point: Learning point: Autosplenectomy can be painless or present with recurrent episodes of abdominal pain due to multiple infarcts. Most commonly seen in homozygous sickle cell disease.[3]

Conclusion:
- Although blunt abdominal trauma is a common cause for a radiologist’s evaluation of the spleen, splenic pathologies are often incidental findings. These are often well demonstrated on CT, and MRI and biopsy can be used as problem solving tools.
- We highlight the importance of adequate clinical history, which is critical in interpretation of splenic pathology, including presence or absence of trauma, systemic diseases leading to either bleeding or clotting (sickle cell disease, thrombocytosis).