



## Metastatic Malignancy Mimics: A Rare Case of Traumatic Splenosis Mimicking Intra-Abdominal Malignancy

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### Abstract

A case of incidental finding of multiple enhancing peritoneal and hepatic nodules is described, the differentials considered and the causative aetiology reviewed.

### Clinical Presentation

A 57 year-old caucasian male presented to the Emergency Department after being woken from sleep with right sided pleuritic chest pain. His past medical history was unremarkable. He had no risk factors for venous thromboembolism and reported no systemic symptoms. He had no drug allergies and took daily tamsulosin. He has a performance status of 0, and lived with his wife, working full time as a site manager. He was a current smoker, with a pack history of 30 years.

Respiratory and abdominal examination was unremarkable. Heart sounds were normal with no additional murmurs. All peripheral pulses were present and equal. Blood pressure was 124/65. There was no chest wall tenderness and his calves were soft and non-tender.

### Investigations

Full blood count was normal; renal function was within normal limits, and a Troponin of 4 ng/L (within normal range). Lactate was not elevated. Electrocardiogram on admission showed a left bundle branch block with no dynamic change on serial studies. Chest radiograph was unremarkable.

CT angiogram did not show any evidence of aortic aneurysms, filling defect, stricture, narrowing or dissection. All branches of the thoracic and abdominal aorta were well-opacified. However, a 30 mm arterially enhancing lesion in the liver located between the falciform ligament and the left lobe of the liver was noted, along with multiple arterially enhancing peritoneal nodules.

### Differential diagnosis

The differential for multiple, arterially enhancing lesions within the abdomen and thorax lies within the spectrum of a malignant aetiology, with a differential lying between a haematological malignancy, such as lymphoma, and disseminated solid organ malignancy.

### Outcome and follow up

On review of the images, it was noted that the nodule bore similar enhancement characteristics to the spleen which was it lobulated and small. There were subtle abnormal appearances of the inferior left ribs and right iliac crest. This raised the possibility of primary trauma with nodules described representing intraabdominal and intrahepatic splenosis rather than primary malignancy.

A denatured red blood cell scan was suggested (Figure 1 and 2) This demonstrated a small splenic residue lying posteriorly in the left upper quadrant, multiple peritoneal nodules over the diaphragm, surface of the liver and in the anterior abdominal wall, all of which showed high scintigraphic activity. These were felt likely to be splenunculi. On further questioning the patient reported a history of abdominal trauma as a teenager when he underwent a partial splenectomy after splenic rupture. No further follow up was required.

### Discussion

Splenosis is defined as heterotopic implantation of splenic fragments following splenectomy or splenic trauma [1]. It can occur anywhere within the abdomen. The incidence of splenosis has been quoted as between 56% to 67% in patients following a traumatic splenic injury [2].

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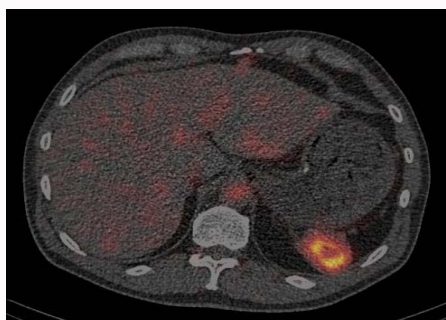
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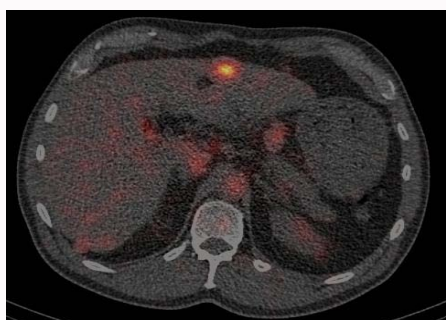
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**Figure 1:** Denatured red blood cell scan.



**Figure 2:** Small splenic residue lying posteriorly in the left upper quadrant.

Splenuosis, as a relatively asymptomatic condition, often goes undiagnosed, with the majority of cases being diagnosed at a later date; the mean time interval from splenectomy to detection of splenuosis being 25 years [3].

The pathophysiology is thought to be due to either direct seeding of splenic tissue or haematogenous spread. Radiological assessment is complicated by the fact that on CT, splenuosis appears much like malignancy, with arterially enhancing soft tissue deposits. However,

the use of denatured red blood cells with Tc-99m labelling utilises the functionality of the reticuloendothelial system in order to localise and characterise ectopic splenic tissue. Further characterisation can be with MRI using SPIO: this shows a loss of signal intensity on T2 weighted a sequence which is in contrast to tumour, which does not demonstrate signal loss. Surgical exploration with diagnostic laparoscopy or laparotomy allows further characterisation of lesion in cases of clinical uncertainty. Crucially, there needs to be clinical suspicion as to the nature of the lesion in order to allow appropriate investigation to be requested in order to avert the need for exploratory surgery.

Splenuosis may be associated with bowel obstruction due to compression or lesion torsion. It is an otherwise benign entity and therefore no treatment is required.

## Learning Points

1. A rare mimicker of a malignant lesion that demonstrate arterial enhancement and appears as a soft tissue lesion on cross-sectional imaging is ectopic splenic tissue.
2. This case highlights the way in which both radiological and scintigraphic studies can be used to clarify abnormal findings, and diverted the patient away from intensive workup.

## References

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