

Thoracic splenosis: diagnosis without invasive investigations

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Keywords

99 m Technetium sulphur colloid scan, chest pain, lung mass, splenosis, thoracic splenosis.

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Clinical Image

A 62-year-old female was referred for investigation of multiple lung and abdominal masses, with malignancy suspected. She initially presented to a regional emergency department with severe, acute, left-sided chest and back pain. She had no past medical history, with the exception of a splenectomy following a road traffic collision 43 years before. A computed tomography (CT) scan illustrated four

Key message

This case report describes a case of thoracic splenosis. Splenosis is often interpreted as malignancy on initial imaging. Case reports described in the literature reveal that diagnosis is most often confirmed with invasive investigations. A 99 m technetium-labelled sulphur colloid scan when used with single photon emission computed tomography/computed tomography (SPECT/CT) is highly specific for splenic tissue and more readily available and time efficient than other modalities used for this purpose. Awareness of this may prevent unnecessary or dangerous invasive diagnostic procedures.

well-circumscribed homogenous masses of equal density – two within the thorax, the largest of which was 46 mm, retrocardiac, and adherent to the pericardium; one of 36 mm in the aorto-pulmonary window (see Fig. 1A); and two small nodules within the left upper quadrant of the abdomen. The spleen was noted to be absent. A blood film was of note as no Howell-Jolly bodies, target cells, or other evidence of hyposplenism were present.



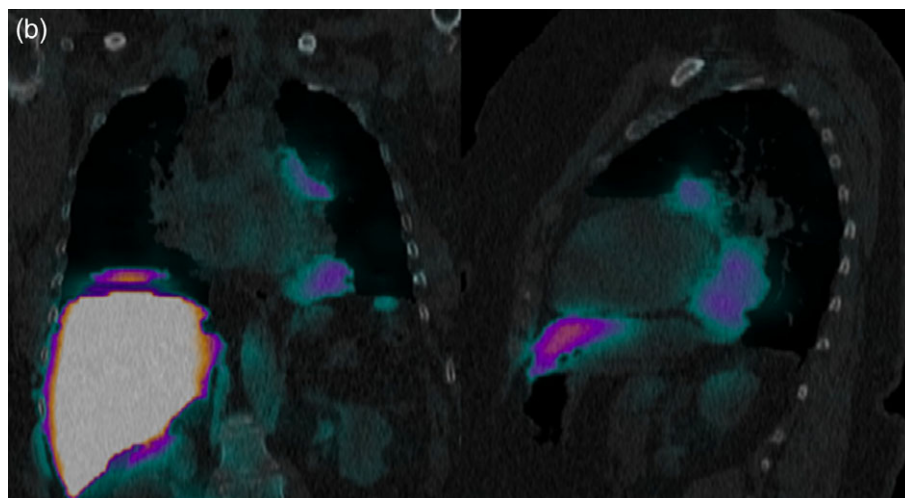


Figure 1. (A) Contrast-enhanced computed tomography (CT); arrows indicate thoracic splenoses and abdominal splenosis. (B) ^{99m}Tc sulphur colloid scan with single photon emission computed tomography/computed tomography (SPECT/CT). Uptake can be seen in the liver and within the two lobulated soft tissue masses within the left thorax, and one of two nodules can be seen in the left upper abdomen.

Thoracic splenosis was suspected, and a ^{99m}Tc sulphur colloid scan was performed to confirm the diagnosis (Fig. 1B).

In conclusion, splenosis occurs when the ectopic splenic tissue is displaced through the abdomen or other cavities following splenectomy for either trauma or medical reasons. Thoracic splenosis is rare, almost always occurring in patients who have experienced traumatic splenectomy, where diaphragmatic disruption has also occurred [1]. People with splenosis are usually asymptomatic and are diagnosed incidentally, often many years after their splenectomy [2]. Thoracic splenosis is usually found adhered to pleural surfaces, but parenchymal splenosis may occur following lung laceration or chest tube insertion during trauma management [1]. Most case reports document the use of video-assistant thoracoscopic surgery (VATS) or imaging-guided biopsy as a means of definitive diagnosis. However, imaging alone may also make a definitive diagnosis.

A ^{99m}Tc sulphur colloid scan is considered the gold standard for detection of splenosis, being highly specific due to reduced uptake in the normal liver. With the emergence of improved resolution of planar/single photon emission computed tomography/computed tomography (SPECT/CT) scans, ^{99m}Tc sulphur colloid scintigraphy can be a reliable means of differentiating splenic tissue from non-splenic tissue [3]. Technetium-labelled sulphur colloid is taken up by the reticuloendothelial system after intravenous injection; therefore, is taken up readily by the liver and spleen. Despite not being as specific as heat-damaged red cell scintigraphy, it has the advantage of being more readily available, simpler, and less time consuming [4].

Our patient presented with chest and back pain, which is an unusual presentation of splenosis. Fukahara presented their case of a 50-year-old male presenting with chest pain, finding a $13 \times 3.0 \times 8.0$ cm lesion adhered to the parietal pleura over the pericardium during surgical

resection. It had demonstrated interval change in size on serial imaging. It was postulated that their patient's pain was caused by mass effect and irritation of the pericardium [5]. We postulate that our patient's chest pain may have been caused by spontaneous haemorrhage or infarct in this large and highly vascular ectopic splenic tissue given the acute and short-lived nature of the pain.

In a time when the use of CT is more prevalent, splenosis is more frequently encountered, usually incidentally. Increased awareness of this phenomenon and its available imaging modalities to confirm diagnosis will prevent unnecessary and potentially dangerous invasive diagnostic procedures.

Disclosure Statements

No conflict of interest declared.

Appropriate written informed consent was obtained for publication of this case report and accompanying images.

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