

Noninvasive Diagnosis of Posttraumatic Thoracic Splenosis

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Thoracic splenosis is a rare occurrence that has usually been diagnosed by invasive procedures to allow a pathologic diagnosis to be reached. A firm diagnosis can now be made with the help of new, noninvasive imaging techniques. We report the case of a 34-year-old man with a history of severe thoracic-abdominal injury, including rupture of the spleen and left diaphragm. During computed tomography of the thorax related to a different diagnosis, nonspecific nodules were observed, although the patient was asymptomatic. A suspected diagnosis of thoracic splenosis was confirmed by technetium-99 sulfur colloid scintigraphy.

Key words: *Splenosis. Thoracic trauma. Splenic rupture. Diaphragmatic rupture.*

Diagnóstico no invasivo de la esplenosis torácica postraumática

La esplenosis torácica es una entidad poco frecuente, que habitualmente se diagnostica mediante técnicas invasivas que proporcionan un diagnóstico anatomopatológico. Con el desarrollo de nuevas técnicas de imagen puede realizarse en la actualidad un diagnóstico seguro por métodos no invasivos. Presentamos el caso de un paciente varón de 34 años con antecedente de traumatismo toracoabdominal grave, con rotura esplénica y diafragmática izquierda, al que de forma casual, y encontrándose asintomático, se le hallaron nódulos inespecíficos en una tomografía computarizada torácica. Con la sospecha clínica de esplenosis torácica, se realizó una gammagrafía de coloide de sulfuro marcada con ^{99m}Tc metaestable que confirmó el diagnóstico.

Palabras clave: *Esplenosis. Traumatismo torácico. Rotura esplénica. Rotura diafragmática.*

Introduction

Thoracic splenosis is a rare condition that requires the diagnosing physician to maintain a high index of suspicion. Thoracic splenosis should be suspected when left-sided lesions, which are usually multiple, are present in patients with a history of splenic and diaphragmatic rupture from thoracoabdominal injury. Although diagnosis has long been based on the pathologist's evaluation, imaging techniques now allow a firm diagnosis to be reached by noninvasive methods.

Case Description

A 34-year-old man with a history of thoracoabdominal injuries sustained 15 years earlier, including hemothorax and splenic rupture requiring emergency splenectomy, was diagnosed with primary cutaneous B-cell lymphoma. In a computed tomography scan for staging (Figure 1), a paraesophageal retrocardiac mass measuring 4 cm in diameter

was found, along with multiple pleural nodules measuring less than 1 cm in diameter, on the left side and in paravertebral fat. Given the history of thoracoabdominal injury, the diagnosis was suspected thoracic splenosis and technetium-99 marked (Tc-99m) sulfur colloid scintigraphy was performed (Figure 2). The image revealed uptake by lesions that had been identified by computed tomography. The lesions remained unchanged 9 months after chemotherapy to treat the lymphoma, and 3 years after the diagnosis of thoracic splenosis the patient was asymptomatic without treatment.

Discussion

Thoracic splenosis develops as a result of simultaneous rupture of the spleen and the diaphragm, usually as a result of injury. A few reported cases without diaphragmatic rupture have been attributed to the passing of splenic tissue across the diaphragm into the thoracic cavity.^{1,2} The incidence of splenosis after splenic rupture is 76%.³ The incidence after diaphragmatic rupture is estimated to be 18%.⁴

A search of the literature in English yielded reports of some 30 cases.^{2,5-9} The first, by Shaw and Shafi,¹⁰ appeared in 1937. Thoracic splenosis is usually a fortuitous finding in radiographs taken in asymptomatic patients, although pleuritic pain¹¹ or hemoptysis¹² may

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Figure 1. Computed tomography scan of the thorax, showing several masses on the left side.

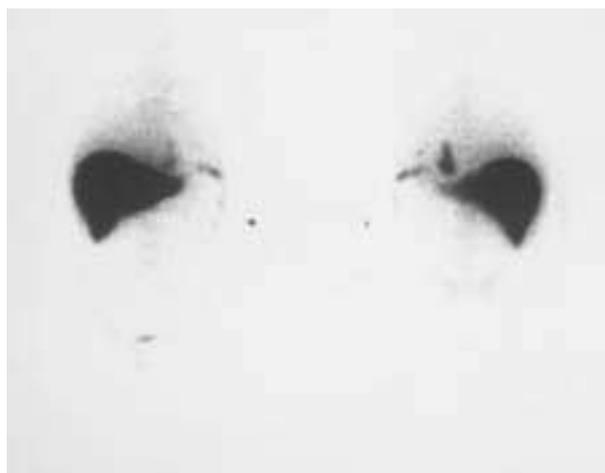


Figure 2. Technetium-99 sulfur colloid scintigraphy showing the uptake by intrathoracic nodules and masses that confirmed the suspected diagnosis of thoracic splenosis.

present. Splenic implants typically appear as multiple small pleural or subpleural nodules up to 3 cm in diameter, although some may be larger and form masses^{7,9,13} and may even establish themselves inside the pulmonary parenchyma.⁵ The nodules are composed of normal splenic tissue but, unlike accessory spleniculi, they have neither their own hila nor capsules.^{2,5} Splenic function may be partially, if not totally, recovered, depending on the amount of ectopic splenic tissue present.^{6,7,14}

When a diagnosis of thoracic splenosis is suspected based on clinical signs, it is usually confirmed by studying tissue samples obtained by such invasive measures as thoracotomy, video-assisted thoracoscopy, or Tru-cut needle biopsy.¹⁵ Fine-needle biopsy is not recommended because of the risk of bleeding. It is now well-established, however, that a diagnosis can be reached using imaging techniques.³⁻⁹ Only 9 cases reported in the literature have been diagnosed in this way without resorting to invasive techniques to obtain a confirming pathologic diagnosis. Images are usually obtained by scintigraphy using Tc-99m sulfur colloid, indium-111-marked platelets, or Tc-99m-labeled heat-damaged erythrocytes. We use the first of these options in our hospital whenever splenosis or accessory spleniculi are suspected.

Therefore, taking a thorough medical history that yields information suggesting a diagnosis of thoracic splenosis can render exploratory surgery unnecessary. Finally, if the patient is asymptomatic, most authors are in favor of taking a wait-and-see approach, with careful clinical and radiologic follow-up.^{2,6,7,9}

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