CASE REPORT

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.

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.\(^2\)\(^5\)\(^6\)\(^7\)\(^8\)\(^9\) 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 pain\(^11\) or hemoptysis\(^12\) may...
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.\(^2,7,8\)

**REFERENCES**