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Parietal Splenosis Mimicking a Pulmonary Adenocarcinoma Metastasis: A Case Report

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Abstract

Splenosis refers to the heterotopic auto implantation of splenic tissue following splenic trauma. While few articles have been published on this topic, and few attempts have been made to codify the management of splenosis, its incidence is on the rise as coelioscopy is more used and the management of splenic trauma is starting to adopt a conservative approach.

We report the case of a left lumbar splenosis mimicking a pulmonary carcinoma metastasis following a post-traumatic splenectomy.

Keywords: Splenosis; splenic trauma; metastasis.

Introduction

A post-traumatic rupture of the splenic capsule frees fragments of splenic tissue which can auto-implant anywhere on the abdominal cavity. Intrathoracic implantation is also possible if there is a concomitant diaphragmatic laceration.

We report the case of a left lumbar splenosis following a year-old traumatic rupture of the spleen with splenectomy.

Observation

Mr T.M, a 67-year-old male with a history of chronic smoking for 40 years and a year-old post-traumatic splenectomy following a knife assault. Patient was admitted for the management of a painful basithoracic swelling evolving for a couple of months.

Clinical examination showed a solid left posterior basithoracic mass (painful upon light palpation) and a median laparotomy scar.

A thoraco-abdominal CT was performed showing a right apical lobar tissular mass with irregular margins, in contact with the first intercostal space with no extra-pleural fat separation. The mass measured 20*22mm, with latero-aortic, right hilar and subcarinal adenopathy, of which the biggest measured 15mm. Imaging also showed 4 superior right parenchymal circular, dense nodules, measuring 11mm for the biggest in addition to a left parietal lumbar mass and several hepatic angiomas (figure 1 and 2).

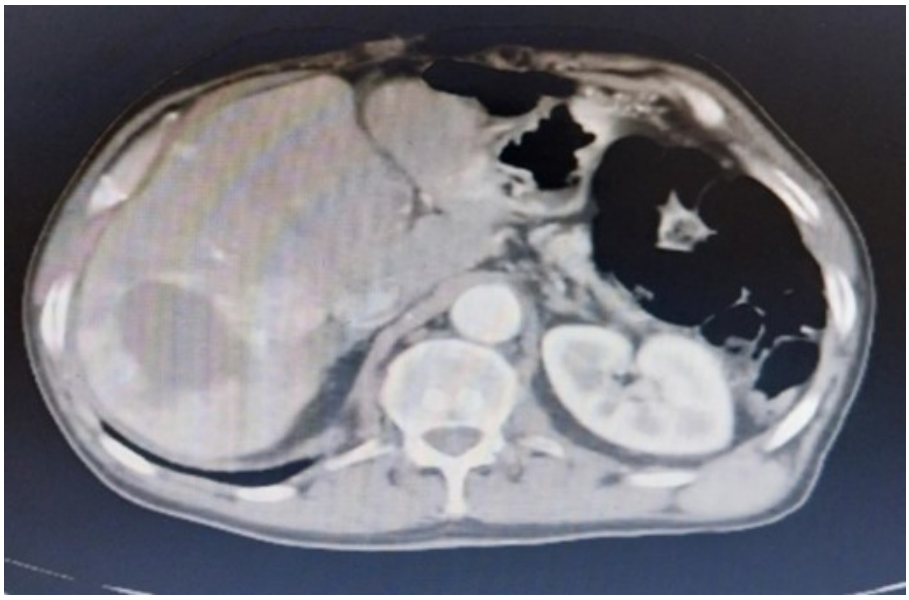

Figure 1: Abdominal CT image showing a left lumbar tissular lesion.

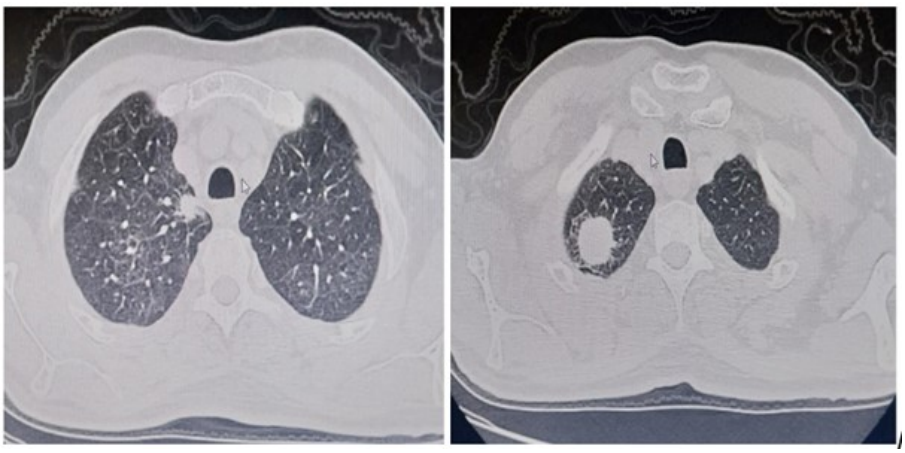

Figure 2: Chest CT images showing a superior right lobar tumoral mass with a nodule in the same lobe

Guided biopsy and histological examination of the left parietal mass showed encapsulated splenic tissue. The guided biopsy of the pulmonary lesion was in favor of a papillary and acinar pulmonary adenocarcinoma.

Patient was then referred to oncology for further management.

Discussion

Initially described by Shaw and Shafi in 1937 upon postmortem examinations [1], splenosis refers to the heterotopic auto implantation of splenic tissue following the traumatic or surgical rupture of the spleen capsule. It concerns 26 to 76% of patients with a history of splenic trauma and is located in the thorax in 18% of the cases [2,3]. However, the frequency of splenosis is thought to be significantly higher than had been estimated as it is often asymptomatic. Although splenosis is usually discovered incidentally either on imaging or per operatively, patients may present with nonspecific pelvic pain, symptoms of intestinal occlusion or a gastric/hepatic/renal/thoracic mass syndrome [4,5]. A thorough exploration of the patient's history is essential as the time between the spleen trauma and discovery of the lesions can range from 6 to 43 years according to recent literature findings [5,6,10,11]. In our case, the time was only one year, which was heavily in favor of malignancy compared to splenosis.

Splenosis nodules are always multiple and vary in size, usually under 3cm but can progressively become bigger. They do not have a proper vascular hilum and are vascularized by small arteries from nearby tissues. In most cases, splenosis nodules are located in the peritoneal cavity with a predilection for some organs: small intestines, the greater omentum, the mesentery and the parietal peritoneum [7]. Rare locations were also described: intrahepatic, pancreatic, subcutaneous on an old scar [8], cerebral, scrotal, ovarian and, in the case of concomitant diaphragmatic laceration, intrathoracic. Thoracic splenosis is exclusively located in the left hemithorax, usually on the diaphragmatic pleura or the mediastinum, rarely on the pulmonary parenchyma [9]. Usually, thoracic splenosis is also associated with an abdominal localization of the heterotopic implant.

Conventional imaging (ultrasound, unenhanced CT) lacks specificity and does not confirm the splenic nature of the nodules. Technetium 99m labeled heat-denatured erythrocytes (^{99m}Tc-DRBC) scan allows a definitive diagnosis of splenosis due to the phagocytic abilities of the splenic tissue [10].

Thoracic Splenosis often mimics neoplastic diseases, either of the pleura or the pulmonary mesenchyma. Similarities with mesothelioma, schwannoma and even lymphoma have also been observed [11,12]. A guided biopsy, either Tru-Cut® or following thoracoscopy is recommended for the definitive diagnosis and to eliminate a neoplastic malignancy. Needle biopsy is not recommended as it can falsely point towards a lymphoproliferative disease if the examined material contains a high concentration of lymphocytes.

Also, differential diagnosis varies, whether gynecological or abdominal. In some cases, splenosis can be commonly confused with an accessory spleen. Their differences are mainly macroscopic and histologic, as the accessory spleen is usually unique and pedicled with a vascular hilum and its histologic structure is similar to that of a normal spleen [7].

Management of splenosis is not codified. Nonetheless, the general consensus is that the surgical ablation of the heterotopic nodules is not recommended for asymptomatic patients. It is suggested in various studies that the functional activity of these cells have immunological properties and can prevent post-splenectomy sepsis [13,14]. However, these properties require a minimal residual volume of the spleen [15]. It should be noted that splenosis can lead to recurrence in patients with hemopathies who underwent a curative splenectomy. In this case, the complete surgical removal of the splenosis nodules is indicated, as is the case for symptomatic splenosis.

Conclusion

Awareness of splenosis as a potential diagnosis in patients with a history of splenic trauma and past rupturing of the splenic capsule is important to avoid unnecessary invasive treatments. In our case however, a guided biopsy was necessary considering the patient's history of chronic smoking and the radiological findings.

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