



Case report

Subcutaneous Splenosis Presenting 37 years post-traumatic splenectomy; A Case Report

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ABSTRACT

Introduction: The term splenosis refers to autotransplantation of splenic tissue in ectopic sites. Ectopic splenic tissue may be found in the liver, thorax, pelvis and subcutaneous tissues following traumatic splenectomy. Although clinically insignificant, local symptoms such as abdominal pain may arise. In this paper we report a case of subcutaneous splenosis presenting 37 years post-traumatic splenectomy.

Case presentation: A 40-year-old medically free lady presented to our institution with a surgical history of post-traumatic splenectomy at the age of three and two cesarean sections. She complained for nonpainful right upper quadrant soft mass that has been stable in size over the years. Her laboratory results, including peripheral blood smear, were all within normal limits and no asplenic changes were detected. SPECT scan confirmed extraperitoneal splenosis in right upper quadrant.

Discussion: Splenosis is an acquired form of ectopic splenic tissue that is defined as an auto-transplantation of a viable splenic tissue. It commonly occurs after traumatic rupture of the spleen. Splenosis has been widely reported around the world with an incidence of 16–67% after traumatic splenic rupture or splenectomy. Subcutaneous splenosis is an extremely rare condition, mostly observed in abdominal surgical scars. It is believed to follow laparotomy for splenectomy where splenic cells auto-implant or spread hematogenously at different locations.

Conclusion: Subcutaneous splenosis is a rare consequence of post-traumatic splenectomy that can manifest itself up to three decades after. Although concerning to the patient and alarming to the surgeon as it may resemble more serious entities such as abdominal wall sarcoma, surgical removal of asymptomatic splenosis is subject to the location of mass and patients' wishes.

1. Introduction

The term splenosis was first used by Albrecht in 1862 to describe autotransplantation of fragments of splenic tissue following splenic trauma or splenectomy [1]. The reported incidence of splenosis ranges from 16 to 62% post traumatic splenectomy [2]. Shattered fragments of splenic tissue may implant in neighboring tissues such as: diaphragm, abdominal and pelvic organs [3,4]. Typically, ectopic splenic tissue are clinically insignificant [5]. However, splenic nodules may result in local symptoms such as: abdominal pain and intestinal obstruction [6]. Herein, we describe a case of 40 year old lady presenting with splenosis

as soft tissue abdominal wall mass more than thirty years post traumatic splenectomy. This work has been reported in line with the SCARE criteria [7].

2. Case presentation

Herein, we present a case of a 40-year-old woman who is otherwise medically free known to have no allergies. Her surgical history is significant for splenectomy at the age of three after motor vehicle accident (MVA). She also had two cesarean sections. She presented to our hospital complaining of a nonpainful right upper quadrant soft tissue mass that

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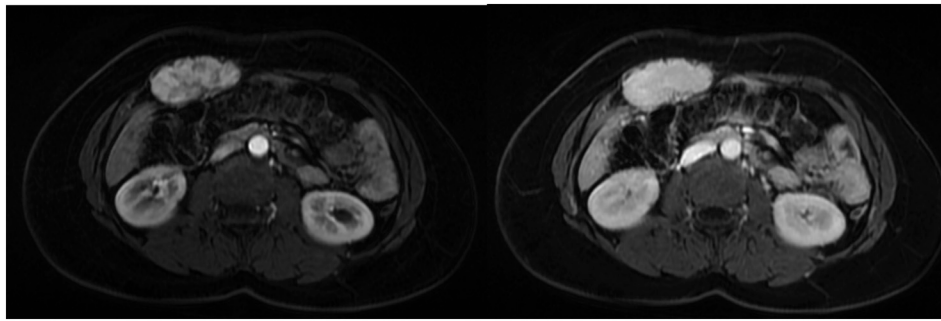


Fig. 1. Arterial phase on the Right and Delayed Phase on the left both showing extraperitoneal large right upper quadrant mass within the rectus sheath measures 6.6 cm × 2.4 cm × 7 cm.

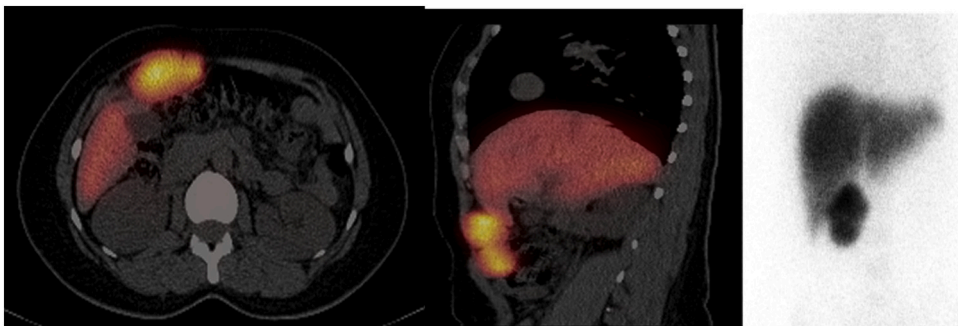


Fig. 2. Focal activity localized to soft tissue lesion in the right upper quadrant measuring 2.6 cm × 6.2 cm × 6.3 suggestive of large splenosis.

has been stable in size for years. Abdominal examination revealed scars of her previous surgeries and non-tender soft tissue right upper abdominal mass with no palpable lymph nodes. In addition, the mass was found to be well-demarcated, bi-lobulated, smooth and measuring 4.00 cm in height by 7.00 cm in width. Furthermore, the mass was still palpable after the patient was made to tense her abdominal wall muscles, confirming its subcutaneous location. Laboratory investigations including complete blood count, metabolic panel, and liver function test were all normal. For further assessment of the nature of the mass, abdominal computed tomography (CT) scan was obtained. It showed a mass in the right rectus sheath with no lymph node enlargement, that is worrisome of sarcoma or splenosis (Fig. 1). To better characterize the mass, we performed SPECT and spleen scan. Findings of SPECT scan were suggestive of extraperitoneal splenosis in the right upper quadrant adjacent to the abdominal wall (Fig. 2). To confirm the activity of ectopic splenic tissue, we examined the patient's peripheral blood smear for Howell-Jolly and Heinz bodies. The patient's blood smear analysis was lacking any asplenic changes. We addressed the patient's concerns and explained that this rare sequela of post-traumatic splenectomy does not necessitate any intervention at this point. Furthermore, the patient was offered surgical excision as the area is prone to trauma, yet she opted to preserve the splenic function with clear understanding of the associated risk and when to seek medical help.

3. Discussion

Splenosis is an acquired form of ectopic splenic tissue that is defined as an auto-transplantation of a viable splenic tissue. It commonly occurs after traumatic rupture of the spleen [5]. Splenosis has been widely reported around the world with an incidence of 16–67% after traumatic splenic rupture or splenectomy [2]. The average interval between the traumatic event to diagnosis is 29 years [8]. Splenosis has been described as auto-implant in different anatomic locations; thorax, pancreas, pelvis, liver, cerebrum, and subcutaneous tissue. Subcutaneous splenosis is an extremely rare condition, mostly observed in

abdominal surgical scars. It is believed to follow laparotomy for splenectomy where splenic cells auto-implant or spread hematogenously at different locations [9]. Splenosis is generally asymptomatic, and symptomatology is based on location. Abdominal wall splenosis, however is commonly an incidental finding. Differential diagnoses of abdominal wall mass include lipoma, leiomyoma, sarcoma, hematoma, hemangiomas, desmoid tumor and surgical scar seeding. Abdominal wall splenosis has also been described in the literature following surgical removal of the spleen, and it can be confused with the aforementioned differentials. Foci of splenosis display normal attenuation of normal splenic tissue on CT. Similarly on MRI, the intensity and enhancement of the splenic nodules resemble that of normal splenic tissue [10]. Imaging features of splenosis seen on MRI are compatible with implanted splenic tissue but has a discreetly different architecture, with plenty of red pulp and little white pulp, when compared with the normal spleen [11]. Tc 99 m-tagged heat-damaged red blood cell scintigraphy is the best imaging technique to establish the final diagnosis as it will show splenic implants, avoiding unnecessary biopsies or surgeries [12]. The sensitivity of SPECT/CT was shown to be superior to planar imaging in a study of 7 cases published by Horger et al. [13]. This finding goes in line with Schillaci et al.'s work which proposed the potential superiority of SPECT/CT in detecting accessory spleen/splenosis [14].

The splenic tissue present in our case is functionally active, as evidenced by the absence of Howell-Jolly bodies, Heinz bodies and other erythrocytes abnormalities in the peripheral smears of many asplenic patients with splenosis [12]. Management of this rare entity is conservative and surgical treatment is only indicated when patient is symptomatic [15].

4. Conclusion

Subcutaneous splenosis is a rare consequence of post-traumatic splenectomy that can manifest itself up to three decades after. Although concerning to the patient and alarming to the surgeon as it may resemble more serious entities such as abdominal wall sarcoma.

The decision to operate on such asymptomatic case is influenced by location of mass and patients' wishes.

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Ethical approval

Case reports are exempt from ethical approval at our institution.

Consent

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