

## HYBRID SCINTIGRAPHY OF A RARE SPLENIC HAMARTOMA

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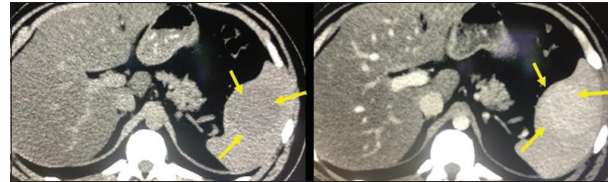
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Splenic hamartoma, also known as splenoma, splenic adenoma, or nodular hyperplasia, is a rare benign splenic tumour. It is composed of disordered vascular channels with abnormal mixture of red or white splenic pulp. Mostly it is asymptomatic and encountered incidentally at imaging, surgery, or autopsy. Radiologically, hamartomas are almost identical to haemangioma. In such circumstances, radiolabeled blood pool imaging and radiocolloid scintigraphy help to differentiate the two entities. We present a case of asymptomatic splenic lesion on hybrid radionuclide imaging with single-photon emission computed tomography-computed tomography, findings suggestive of hamartoma.

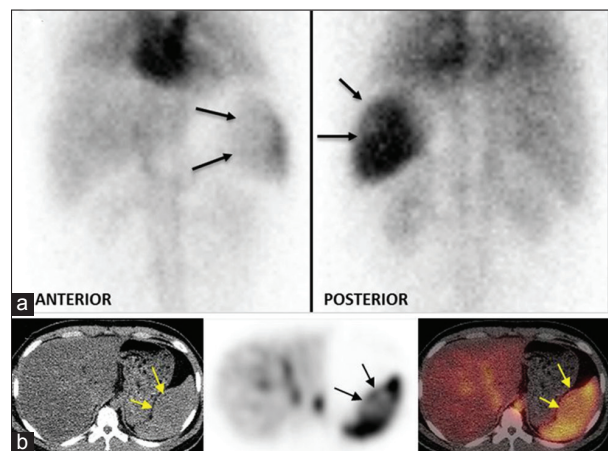
A splenic mass was incidentally discovered in a 27-year-old man on ultrasound abdomen while investigating for deranged liver function tests. CT scan was performed which showed well circumscribed, rounded isodense splenic lesion [Figure 1] along with a smaller lesion in liver.

The patient was completely asymptomatic. Imaging findings raised the possibility of haemangioma though not typical; therefore, the patient was referred to the department of nuclear medicine for radiolabeled red blood cell (Tc-99m RBC) scintigraphy. Tc-99mRBC scan was performed using modified *in vivo* method [Figure 2]. Scintigraphic findings did not favour the diagnosis of a haemangioma, which typically shows increased blood pool activity. Radiocolloid scan was considered for further evaluation after intravenous injection of Tc-99m-phytate revealing increased uptake within the splenic mass [Figure 3], favouring the diagnosis of splenic hamartoma.

Splenic hamartoma is a primary benign solid tumour first described by Rokitsky, in 1861.<sup>[1]</sup> Few cases have



**Figure 1:** Contrast-enhanced computed tomography scan showed an enlarged 6 cm splenic lesion with diffuse, homogenous retention of contrast in the venous phase (right)

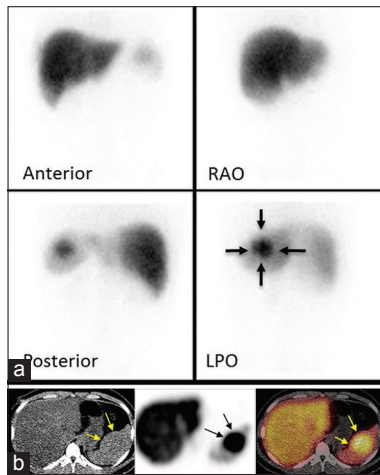


**Figure 2:** Tc-99m-labelled red blood cell scan; (a) planar static and (b) delayed axial single-photon emission computed tomography-computed tomography images showed reduced blood pool activity within the enlarged splenic lesion as compared to the normal splenic parenchyma

been described in literature with an incidence of 0.13% on autopsy.<sup>[2]</sup>

Hamartoma is composed of disordered vascular channels with abnormal mixture of red or white splenic pulp. It is classified into two subtypes; white pulp type consists of abnormal lymphoid tissue, and red pulp type constitutes abnormal sinuses similar to red pulp. Most commonly the tumour is composed of both subtypes.<sup>[3]</sup>

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**Figure 3:** Tc-99m-phytate scan; (a) planar static and (b) axial single-photon emission computed tomography-computed tomography images showed intense focal tracer uptake in the enlarged splenic lesion (arrows) relative to the adjacent normal splenic parenchyma, making the diagnosis of splenic hamartoma most likely

Importance of imaging lies in the need to differentiate them from other benign vascular tumours such as haemangioma, and malignant lesions of spleen such as lymphoma and metastasis.

Most splenic hamartomas are solid masses which appear hyperechoic on conventional ultrasound with or without cystic changes. On CT, they appear as isodense or hypodense with heterogeneous contrast enhancement relative to adjacent normal parenchyma. They appear isointense on T1-weighted magnetic resonance images and heterogeneously hyperintense in T2-weighted images.<sup>[4,5]</sup>

Detection of reticuloendothelial cells, a typical pathological feature of splenic hamartoma, is essential for diagnosis. These cells are mainly phagocytic. Tc-99m-labelled colloid is readily phagocytosed by reticuloendothelial cells showing uptake within the tumour, making this modality an important diagnostic tool.

Splenic hamartoma should be kept in the differentials of solitary splenic lesions in the absence of any malignancy. Imaging features may suggest the diagnosis; however, final diagnosis must be confirmed on histology. Splenectomy may be considered in symptomatic cases with rapid increase in size or hematological disorders. Our patient was managed conservatively without any surgical intervention and is being closely followed up on imaging.

#### Conflict of Interest

The authors declare that they have no conflict of interest.

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