IMAGING CORNER

Hepatic Haemangioma: A Diagnostic Dilemma with an Easy Solution

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Introduction

Hepatic Haemangioma is the most common benign liver tumour. There are two types of haemangiomas: capillary haemangioma and cavernous haemangiomas. The term "giant haemangioma" is reserved for lesions larger than 5 cm. Given the abundance of vascular structures around the liver, SPECT/CT hybrid imaging with ^{99m}Tc labelled Red Blood Cells (RBCs) constitutes an excellent modality for localization and characterization of hepatic haemangiomas.

Keywords: Hepatic haemangioma; SPECT/CT; ^{99m}Tc labelled red blood cell (RBC)

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Discussion

A 79 year old male was referred for 99m-Tc labelled red blood cell (RBC) imaging for the characterisation of a large hepatic incidentaloma discovered on MRI. Patient was injected with 770MBq of ^{99m}Tc RBC. After initial dynamic and static images, he underwent SPECT/CT of abdomen for better localisation of the lesion seen on planar images. Hepatic haemangioma has a prevalence of 3-20% in the general population.[1] Most lesions are asymptomatic and discovered as "incidentalomas" on routine imaging. However, large lesions (>10 cm) may present with upper quadrant pain due to distention of the Glisson's capsule, haemorrhage, infarction or torsion.[1,2] Hybrid 99m-Tc RBC with SPECT/CT scan is a valuable tool for localizing and characterising haemangiomas, specifically in regions with multiple large vascular structures like the hypochondria and thorax.[3]

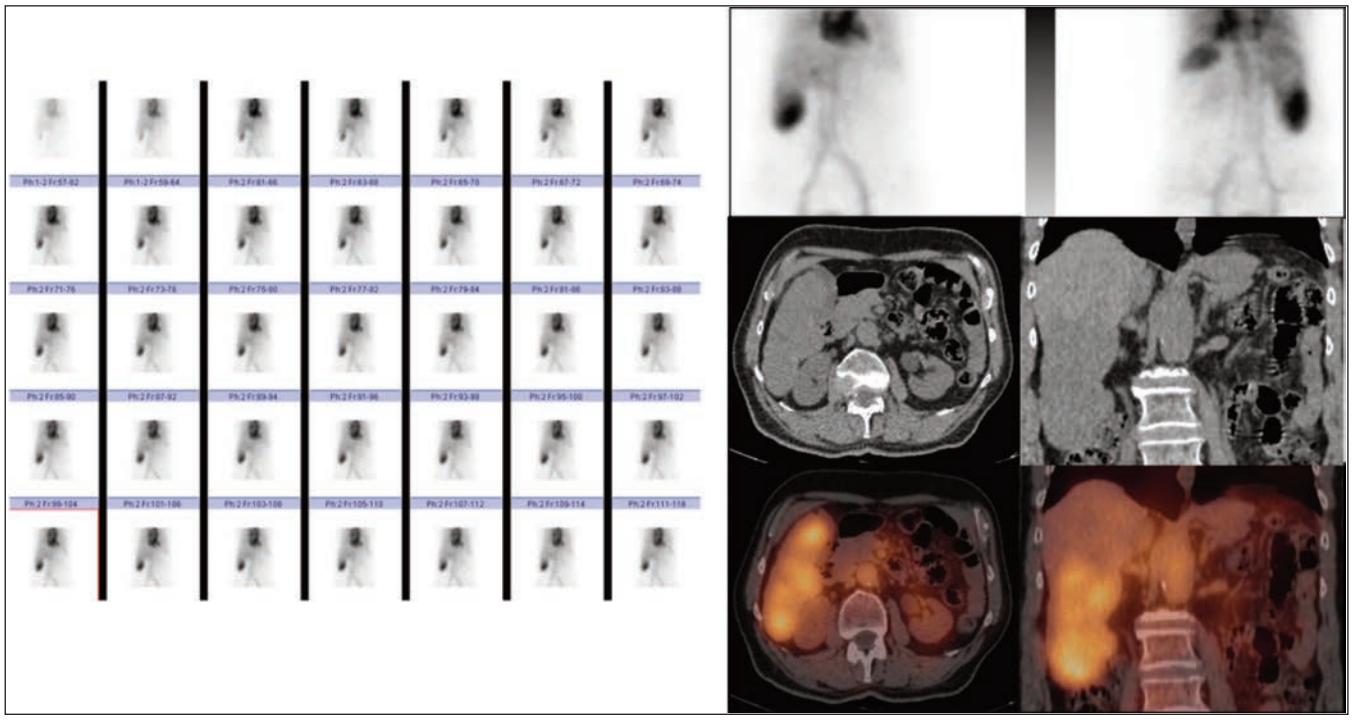

Figure: Initial dynamic (A) and static images (B) show focal increased tracer uptake in hepatic segment VI/VII (B, green arrow). Unenhanced axial (C) and coronal (D) images showed an ill-defined avid involving segment VI/VII (green circle) which measured 10.3 cm in maximum dimensions. This lesion showed increased tracer uptake as seen on fused axial SPECT/CT (E) and coronal (F) images (green circles).

Historically, ^{99m}Tc RBC scan has been used as an effective, simple, noninvasive yet specific imaging modality for differentiating haemangiomas from other hepatic lesions.[4] Conventional radiological imaging such as MRI is occasionally not able to differentiate between these hyper vascular lesions and malignancy or focal nodular hyperplasia. However,^{99m}Tc RBC scan with SPECT/CT can solve this diagnostic dilemma in many such cases.[5] This holds especially true for lesions greater than 2 cm in which sensitivity of ^{99m}Tc RBC scan with SPECT/CT is comparable to that of MRI.[6] This was seen in our patient in whom conventional radiological modalities were not conclusive. However,^{99m}Tc RBC scan with SPECT/CT effectively characterised this lesion as haemangioma. Therefore, ^{99m}Tc RBC scan with SPECT/CT still plays an important role in these patients in whom undue potentially fatal biopsies of these hyper vascular lesions can be avoided.

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