Diagnosis of Hepatic Hemangioma by 99mTc-RBC Scintigraphy

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The evaluation of space occupying hepatic mass on scintigraphy is a common clinical problem. It is assumed that 99mTc-RBC rapid-sequence-flow study and blood-pool images are necessary for the accurate diagnosis of hemangiomas.1-43.

We report a case of hemangioma which showed typical peripheral-to-central accumulation of 99mTc-RBC on serial scintiangiogram of the liver.

**Case Report**

A 54-year-old women in good health presented with a huge palpable mass in her right upper quadrant of abdomen. Her history gave no evidence of any abdominal disorder. Liver function tests were within normal limits. A 99mTc-phytate hepatoscintigram showed a large cold area in the right lobe (Fig. 1). After in vivo labelling of red blood cells with 20 mCi of technetium pertechnate, scintiangiogram and delayed static images were obtained. The scintiangiogram showed increased peripheral flow (Fig. 2). The sequential blood pool

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Fig. 1. 99mTc-phytate hepatoscintigram shows a large cold area in the right lobe.
images showed gradual increase in blood pool activities toward the center (Fig. 3). The 90-minute image showed homogeneously increased activities, the density of which was slightly greater than the adjacent normal liver (Fig. 4).

**Discussion**

Cavernous hemangioma is the most common benign liver tumor and differential diagnosis from other space occupying hepatic mass is critical. The appearance of hemangioma on \(^{99m}\)Tc-phytate hepatoscintigram and sonographic image are non-specific and the specificity of hemangioma on CT appearance is still being debated.\(^4\),\(^7\).

Hepatoscintigraphy with \(^{99m}\)Tc-RBC has recently been recommended for the detection of hemangiomas. Front et al\(^5\) concluded that decreased flow on early image and increased blood pool activity on 1–2 hr delayed image are characteristic of hemangioma. They believed that the flow study was noncontributory and not needed to differentiate hemangioma from other focal liver lesion. But, Rabinowitz et al\(^5\) concluded that both the
flow pattern and delayed blood-pool images are necessary for the accurate diagnosis of hemangiomas. They experienced some cases of hepatoma showing increased blood-pool activity on delayed images and increased blood flow. So they concluded that increased blood pool activity with discordant flow not seen with any other type of lesions than hemangioma.

Our case showed increased peripheral flow on scintiangiogram and gradually increasing blood pool activity on the sequential blood-pool images using $^{99m}$Tc-RBC. We confirmed that peripheral increase in flow on scintiangiogram and progressively increasing blood-pool activity on sequential blood-pool images are characteristic of hepatic hemangioma.

REFERENCES


