

SPLENIC ACCUMULATION OF ^{99m}Tc -DIPHOSPHONATE IN A PATIENT WITH SICKLE CELL DISEASE: CASE REPORT

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Splenic accumulation of ^{99m}Tc -diphosphonate is shown in the bone scan of a patient with sickle cell disease. This uptake is assumed to result from splenic infarction and subsequent calcification. The conventional liver-spleen scan with ^{99m}Tc -sulfur colloid shows no splenic activity, and a radiograph shows calcification in the left upper quadrant of the abdomen in the expected anatomic location of the spleen.

subsequent calcification. The calcifications on the radiograph in the region of the spleen in a patient with long-standing sickle cell disease were probably due to previous splenic infarctions. The absent splenic uptake of ^{99m}Tc -sulfur colloid was thought to result from the marked reduction of functional reticulo-

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CASE REPORT

A 56-year-old black woman was admitted for sickle cell crisis. She had had numerous sickle cell crises since childhood, and her hemoglobin analysis was 72% Hb SS, 25% Hb F, and 3% Hb A2.

In the evaluation for possible septicemia, a bone scan was performed to rule out osteomyelitis. The bone scan, made with 15 mCi of ^{99m}Tc -diphosphonate, showed an area of increased uptake in the left upper quadrant of the abdomen (Fig. 1). Subsequently a liver-spleen scan, made with 3 mCi of ^{99m}Tc -sulfur colloid, showed normal uptake over the liver but none over the spleen. A plain abdominal radiograph (Fig. 2) showed calcification in the left upper quadrant, the expected anatomic location of the spleen.

DISCUSSION

From the combined results of the bone scan, liver-spleen scan, plain radiograph, and the diagnosis of sickle cell crisis, the increased uptake of ^{99m}Tc -diphosphonate in the left upper quadrant of the bone scan was thought to be due to splenic infarction and

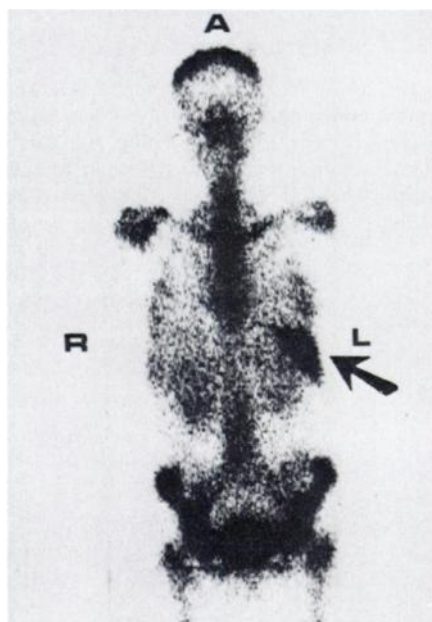


FIG. 1. Bone scan (^{99m}Tc -diphosphonate) shows spleen-shaped region of increased activity (arrow) in left upper quadrant of abdomen.



FIG. 2. Radiograph of left upper quadrant of abdomen shows calcification in splenic region (arrows).

endothelial tissue after numerous previous splenic infarctions.

Extrasosseous uptake of radioactive bone-seeking agents has been well established for carcinoma (1,2),

lymphoma (3), myositis ossificans (4), metastatic calcification (5), and myocardial infarction (6). Splenic uptake of bone-seeking agents has also been shown in Hodgkin's disease (3). In our case, the absence of ^{99m}Tc -sulfur colloid uptake in the spleen could be confused with congenital or postsurgical absence of the organ. Accumulation of ^{99m}Tc -diphosphonate in splenic infarction, which applies especially to patients with sickle cell disease, should not be confused with a skeletal lesion.

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