

Detection of Noncalcified Splenic Hemangioma by Radionuclide Bone Scan

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Incidental accumulation of bone-scanning agents in a noncalcified splenic hemangioma was observed on a bone scan performed for staging carcinoma of the prostate in a 68-yr-old man. This entity may be considered in the gamut of splenic activity on bone scans.

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Hemangioma is the most common benign neoplasm of the spleen (1). Nevertheless, reports in the imaging literature have been infrequent. We present an unusual case in which a bone scanning agent was localized in a pathologically proven, noncalcified splenic hemangioma.

for staging. Sections through the upper abdomen revealed a large, intrasplenic mass, measuring 11 cm × 12 cm × 13 cm, with inhomogeneous contrast enhancement. An ultrasound examination performed 1 yr earlier, for unrelated indications, has shown an enlarged spleen of mixed echogenicity. An old splenic hemorrhage was assumed and no further workup was

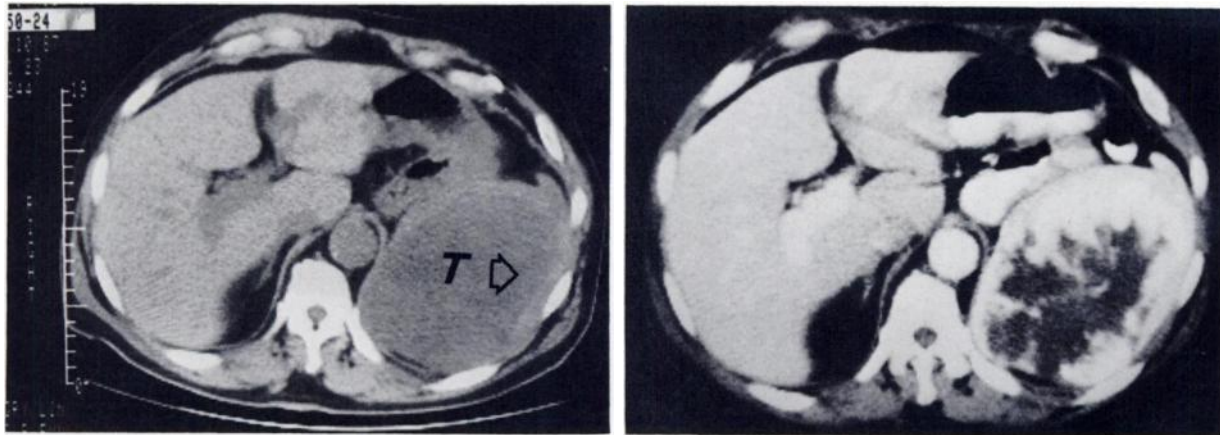


FIGURE 1

CT images of the spleen before (A) and after (B) i.v. and oral contrast administration demonstrate a large splenic tumor (T) with intense peripheral enhancement and central nonenhancement. A rim of uninvolved parenchyma is seen anterolaterally (arrows).

CASE REPORT

A 68-yr-old man with prostatic carcinoma underwent a computed tomography (CT) scan of the abdomen and pelvis

undertaken at that time. Six months after the first CT scan, a repeat CT with rapid infusion of i.v. contrast material demonstrated enlargement of the splenic mass to 11 cm × 14 cm × 15 cm. There was intense peripheral enhancement with an irregular nonenhancing center (Fig. 1). A technetium-99m (^{99m}Tc) HDP bone scan, performed for evaluation of osseous metastases, revealed abnormal accumulation of activity in the left upper quadrant of the abdomen (Fig. 2). The patient subsequently underwent splenectomy. Pathologic examina-

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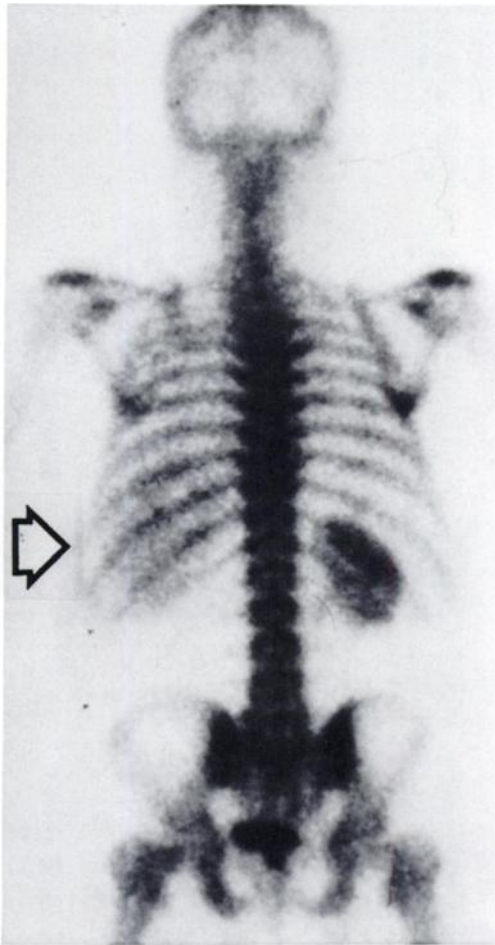


FIGURE 2
Posterior image from a [^{99m}Tc]HDP bone scan shows abnormal accumulation of radionuclide in the spleen (arrow). The left kidney is surgically absent.

tion of the specimen revealed a splenic hemangioma with benign proliferation of vascular channels in the periphery of the lesion and necrotic material in the center (Fig. 3).

DISCUSSION

The incidence of splenic hemangioma at autopsy ranges from 0.1–14% but the majority are asymptomatic (2). Only a small percentage of these become clinically evident, most in a serendipitous fashion. Consequently, the largest study of hemangiomas of the spleen in the radiologic literature reports only ten cases (1).

The CT scan in our patient demonstrated peripheral enhancement of an intrasplenic mass in a manner typical of hepatic hemangiomas (3). Although it is reasonable to expect that splenic hemangiomas will enhance in a similar fashion, we found reports of only two previous cases of hemangioma of the spleen presenting this appearance (2,4). The rapid growth of the

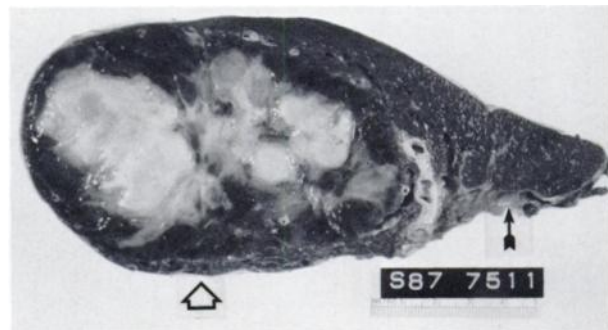


FIGURE 3
Gross photograph of the sectioned spleen shows the mass with a dark periphery and a white central region (open arrow). Note the normal splenic parenchyma of the uninvolved upper pole (closed arrow).

tumor shown by CT (one-third increase in volume over a 6-mo period) is unusual for splenic hemangiomas (1).

Ultrasonography yielded a nonspecific pattern of inhomogeneous echoes. This is not unexpected since splenic hemangiomas display a variety of sonographic appearances depending upon the histology. Sonography may be helpful in confirming the intrasplenic nature of the lesion (1).

Hemangiomas of the spleen typically appear as focal defects on radiocolloid scans (1) although a focal “hot spot” has been described (5). Increased accumulation of bone scanning agents has been seen in a large hepatic hemangioma (6) and in a densely calcified splenic hemangioma (7). Our case appears to be unique in its depiction of a noncalcified splenic hemangioma on radionuclide bone scan. This entity may be added to the gamut of splenic activity on bone scans.

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