

LIVER SCANNING AND THE INTRAHEPATIC GALLBLADDER: CASE REPORT

Richard C. Schulz, John B. Shields, James W. Fletcher, and Robert M. Donati

*St. Louis Veterans Administration Hospital
and St. Louis University School of Medicine, St. Louis, Missouri*

Hepatic focal defects identified with ^{99m}Tc -sulfur colloid imaging procedures are nonspecific. This report describes a case of an ectopic gallbladder localized by cholecystography and ^{131}I -rose bengal studies in a patient with cirrhosis and suspected intrahepatic neoplasm.

The focal area of diminished activity in hepatic scintigraphy may represent mass lesions, reparative processes, and occasionally normal variants (1-3). Technical performance factors, extrahepatic impingement on the liver, and the aberrant location of a normal structure within the liver have produced focal defects in liver images (1-3). This report illus-

trates the scintigraphic appearance of gallbladder ectopia, a rare example of abnormal placement within the liver of a normal structure.

CASE REPORT

A 51-year-old white man with proven alcoholic cirrhosis was admitted with massive gastrointestinal bleeding from esophageal varices. After the patient had been stabilized, he was evaluated for an elective surgical portacaval shunt. Contrast radiologic studies demonstrated vascular patterns characteristic of cirrhosis but not of a neoplastic mass. The distorted anatomy did not permit identification of the cystic artery or the gallbladder.

Radionuclide images of the liver (^{99m}Tc -sulfur colloid) revealed irregular distribution of radioactivity and a focal area of decreased activity in the anterosuperior part of the right lobe (Fig. 1A). Subsequently, the image obtained 6 hr after the administration of ^{131}I -rose bengal demonstrated a focal area of retained activity in the right lobe that corresponded to the defect on the previous RES study (Fig. 1B). This area was thought to represent the gallbladder. A ^{67}Ga scan also demonstrated a persistent focal defect in the same area. Three months prior to this study an oral cholecystogram revealed the gallbladder to be positioned abnormally high: in the dome of the liver. The fundus was directed in a superior and medial direction (Fig. 2). The radionuclide and radiologic studies confirmed an ectopic intrahepatic gallbladder.

DISCUSSION

Congenital abnormalities of the gallbladder have been reviewed by several authors (4-7) and the

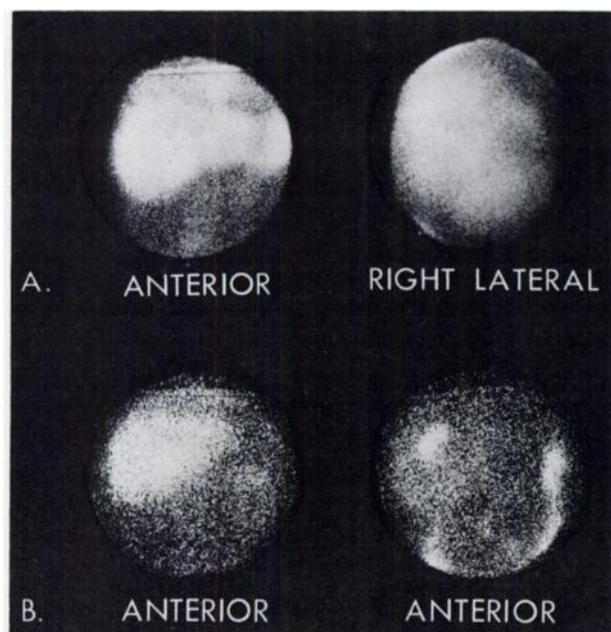


FIG. 1. (A) Technetium-99m-sulfur colloid study showing focal defect in liver; (B) ^{131}I -rose bengal study 1 hr (left) and 6 hr (right) following injection. Note the activity in gallbladder on 6-hr study in same position as focal defect on ^{99m}Tc -sulfur colloid scintiphoto.

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For reprints contact: R. C. Schulz, Nuclear Medicine Service (172-JC), St. Louis VA Hospital, St. Louis, Mo. 63125.



FIG. 2. Oral cholecystogram demonstrating ectopic position of gallbladder. Note superior and medial direction of fundus.

intrahepatic gallbladder specifically by McNamee (8). The most common abnormal locations are the left lobe intrahepatic, transverse, retroplaced, or "floating" gallbladders. Less frequent locations have been reported in the falciform ligament (9), in the anterior abdominal wall (10), and between the superior surface of the liver and the anterior chest wall (11). Intrahepatic localization is the second most frequent anomaly of location (7).

Although focal defects in the hepatic scintigram usually represent mass lesions, false-positive studies are not infrequent. These may be the result of various intrinsic and extrinsic abnormalities, technical errors, or normal variants (1-3). In this patient the liver image demonstrated a nonspecific focal area of diminished uptake in a patient with known cirrhosis

and suspected malignancy. Contrast ateriography revealed evidence of cirrhosis but the distorted anatomic picture did not permit identification of the cystic artery or the gallbladder silhouette. No mass lesions were identified. The focal abnormality found on the ^{99m}Tc -sulfur colloid study corresponded to the ectopically located gallbladder demonstrated by the oral cholecystogram. Persistent activity in the same area after administration of ^{131}I -rose bengal confirmed the anterosuperior location of the gallbladder. Gallbladder ectopia, although rare, should be considered in the differential diagnosis of focal defects on ^{99m}Tc -sulfur colloid studies. Confirmation by means of ^{131}I -rose bengal studies emphasizes its complementary usefulness in conjunction with other studies, particularly when the patient has a superimposed disease process.

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