RADIONUCLIDE PERFUSION OF HEPATIC METASTASES

Yeh and his colleagues recently reported (*J Nucl Med* 14: 565–567, 1973) their experience with intravenous perfusion hepatography using ^{113m}In eluate in the differential diagnosis of hepatic masses shown by ^{99m}Tc-sulfur colloid scintiphotography.

For the past 2 years we have been using a similar technique to evaluate hepatic and perihepatic masses. Instead of ^{113m}In eluate, however, we have been using 10 mCi of ^{99m}Tc-pertechnetate to perform the dynamic phase of the study.

In all of Yeh's 21 metastatic tumors of the liver, the perfusion of defects present on the colloid liver scan was reduced in radioactivity when compared with the hepatic parenchyma. We agree that the majority of metastatic lesions appear to have reduced perfusion on the dynamic study, but occasionally we have found a secondary liver neoplasm to be perfused as well as that of the surrounding hepatic parenchyma. In our 34 cases of proved metastatic lesions to the liver, we have found two metastases to have perfusion equal to that of the surrounding parenchyma. One case was malignant melanoma metastatic to the liver. The other patient had an adenocarcinoma metastatic to the liver from the adrenal gland.

Thus, in addition to hepatomas and hemangiomas, we have found that metastatic neoplasms may be well perfused when compared with the surrounding hepatic parenchyma.

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THE AUTHORS' REPLY

We agree with Rockett's statement about good perfusion occasionally seen in hepatic metastases and have noted this from the literature (*1,2*). A remark in this regard has been made in the discussion of our paper as follows: frequently, hepatoma is highly vascularized whereas cholangioma or metastatic tumor is much less vascular. However, we did not encounter hepatic metastases with good perfusion, nor melanoma metastatic to the liver, nor hepatic metastasis from adenocarcinoma of the adrenal gland in our study.

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INTESTINAL ABSORPTION OF PERTECHNETATE: CALCULATION BY THE ORAL/INTRAVENOUS PLASMA ACTIVITY QUOTIENTS AND INVERSE CONVOLUTION METHOD

The recent article by Hays (*1*) dealt with, among other subjects, the intestinal absorption of pertechnetate. This absorption was determined as follows: one dose of $^{99m}TcO_4^-$ was administered intravenously on one session and another orally in a later session. The time course of plasma activity was followed each time for 2 hr. Absorption was evaluated as the ratio of the relative plasma activity after the oral administration to that at the same time after the intravenous dose of the tracer. Some of the absorption estimates gave values coming up to 149.3% of the oral dose (Table 1, Ref. *1*). This indicates an error inherent in the method. These reported data prompted us to report our approach to the measurement of pertechnetate absorption and to point out a probable source of the error.

In our approach, intestinal absorption was evaluated in two patients. After an overnight fast, each received about 500 μCi $^{99m}TcO_4^-$ orally. After 3 days, each was given about 250 μCi of this tracer intravenously. Blood was taken at 10, 20, 30, and 45 min, and 1, 1.5, 2, 3, and 4 hr both after oral and intravenous administration of the tracer. Technetium-99m activity in 1.00-ml samples of plasma and of