

CLINICAL EVALUATION OF HEPATIC SCINTIANGIOGRAPHY

Hideo Mitsuhashi and Yoshiteru Ogawa

School of Medicine,

Asahikawa Medical College, Asahikawa.

Hepatic scintiangiography is very useful for the qualitative diagnosis of the hepatic tumors which demonstrated scintigraphically so-called space occupying lesions of the liver.

METHODS AND MATERIALS:

1. The patients were placed supine under a camera detector head (TOSHIBA, GCA-401 type) to view the anterior projection of the liver.
2. After the rapid intravenous injections of 10 mCi of ^{99m}Tc -phytate, scintigrams were obtained using GAMMA IMAGER (TOSHIBA) at 2 sec intervals for 50 sec. Thereafter, static hepatic scintigrams were obtained 30 min after injection.
3. Between April 1977 and September 1978, 669 patients were referred for hepatic scintigraphy. In 36 of these patients, the diagnosis was confirmed histologically, 8 patients with hepatoma, 8 patients with metastatic carcinoma of the liver, 3 patients with multiple cyst of the liver, 1 patient with hepatic abscess, and 16 patients with liver cirrhosis.

RESULTS:

CORRELATION BETWEEN DIAGNOSIS AND
VASCULARITY BY SCINTIANGIOGRAPHY

Vascularity	Hypervascular	++.....Hepatoma
		+.....Metastases
		+ or -....Liver cirrhosis
	Avascular.....	Cyst, Abscess

Diagnosis	No. of patients	Hypervascular				Avascular
		++	+	+	-	
Hepatoma	8	7			1	
Metastases	8	2	5	1		
Cyst	3					3
Abscess	1					1
Liver cirrhosis	16		12	4		

SUMMARY:

Hepatic scintiangiography is a simple, clinically useful method for the diagnosis of space occupying lesions of the liver, especially in differentiating between hepatoma and cystic liver.

USE OF HEPATIC RI ANGIOGRAPHY AND ^{201}Tl TUMOR SCAN FOR THE QUALITATIVE DIAGNOSIS OF SPACE OCCUPYING LESION IN THE LIVER

Tetsuo Nakajima*, Bunmei Kado*, Mizuyoshi Sakura*,

Yasuhito Sasaki** and Teruo Nagai***

*Saitama Cancer Center, **St.Marianna University

School of Medicine and ***Gunma University School of Medicine.

The purpose of this paper is to evaluate the usefulness of hepatic RI angiography and ^{201}Tl tumor scan in the qualitative assessment of space occupying lesions in the liver.

The RI angiography was taken with 5 sec intervals following intravenous injection of 4 mCi of ^{99m}Tc -phytate. Three to 4 projections of static liver images were taken thereafter. In RI angiography 2 sequential images after the appearance of the abdominal aorta were used for the evaluation of arterial phase (A). Two frames after arterial phase were regarded as venous phase (V). Vascularity in the area of subsequent focal defect is classified as (+), (0) or (-) according to increased, same or decreased radioactivity, respectively as compared with radioactivity in the surrounding liver tissue. ^{201}Tl tumor scintigraphy was started 10 min after the intravenous injection of 2 mCi of ^{201}Tl -chloride. Tl scan is interpreted as positive when accumulation of radioactivity in the region of a focal defect in colloidal liver scan is increased or equivalent to the radioactivity in the rest of the liver. Negative Tl scan shows decreased accumulation of radioactivity in the area of focal defect.

The following results were obtained :

1. Increased vascularity in both arterial and venous phases or A(+)V(-) in hepatic RI angiography indicates high probability of primary hepatoma, although A(+) was shown in 38 % of metastatic tumors.
2. ^{201}Tl tumor scan in the present series was positive in all cases of primary hepatoma and negative in all of metastatic tumor.
3. For the differential diagnosis of primary hepatoma and hepatic metastasis Tl scan was more useful than Ga scan, as Ga scan was positive in 4/4 cases of hepatoma and 2/5 of metastasis.
4. Both hepatic RI angiography and Tl tumor scan seem to reflect the vascularity of intrahepatic localized lesions.