

Sp (2 doses/day, for 3 days) even reduce the biliary excretion of cadmium ( $11.8 \pm 0.6$ ,  $n=4$   $p < 0.05$ ).

It was concluded that the effect of Sp on the biliary excretion of mercury is a specific effect on mercury only.

### Diagnosis of Focal Lesions on Liver Scintigraphy

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From March in 1971 to October in 1976, 920 patients were studied with liver scintigraphy using  $^{198}\text{Au}$  or  $^{99\text{m}}\text{Tc}$  colloid. On 568 cases of these final diagnoses were confirmed by operation biopsy or necropsy.

Space occupying lesion (SOL) was found in 158 cases of 568—41 with primary hepatoma, 100 with secondary liver cancer and 17 with other miscellaneous conditions. 82.9% of cases with primary hepatoma had solitary or bilateral SOL and 60.6% showed moderately or strongly increased shadow of spleen. On the other hand, 63% of cases with secondary liver cancer had multiple SOL and 91.5% showed slight or negative splenic shadow.

$^{67}\text{Ga}$  citrate scan and  $\alpha$ -fetoprotein (AFP) from December in 1975 to October in 1976, were

studied on 38 patients with hepatic cancer—7 with hepatocellular carcinoma, 3 with cholangioma, and 28 with metastatic carcinoma. Definite accumulation of the radionuclide was noted in the lesions of 15 out of 38 total cases.—All of 7 with hepatocellular carcinoma, 8 of 28 with metastatic carcinoma which histology was identified as the undifferentiated or poorly differentiated type.

AFP was elevated in 5 out of 7 cases with hepatocellular carcinoma, and 3 of 28 with metastatic carcinoma.

The combination studies with both  $^{99\text{m}}\text{Tc}$  colloid and  $^{67}\text{Ga}$  citrate scintigraphy, and AFP determination were quite informative in differentiating hepatocellular carcinoma from other focal lesion in the liver.

### The Hepatic Scan In The Chronic Liver Diseases

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The liver scans were studied on 81 patients with diffuse parenchymal liver diseases, all of which were diagnosed with aids of laparoscopic findings and histological examinations as follow; 11 cases of chronic active hepatitis (CAH), 15 of chronic inactive hepatitis (CIH), 6 of fatty liver (FL), 6 of drug induced phospholipidosis (DIP) and 43 of liver cirrhosis, including 25 of posthepatic cirrhosis (PHLC), 14 of postnecrotic cirrhosis (PNLC) and 4 of nutritional cirrhosis (NLC). After the intravenous administration of  $^{198}\text{Au}$ -colloid, the clearance rate of the colloid from blood ( $T_{1/2}$ ) was measured with arm-counter. On the anterior scan, left and right widths were measured according to Hisada, and left/right ratio (L/R) was calculated. The mean value of  $T_{1/2}$  was as follow;

12.1 min for PNLC, 10.8 min for NLC, 8.7 min for PHLC, 8.0 min for DIP, 7.5 min for CAH and 6.3 min for CIH.  $T_{1/2}$  of PNLC was significantly larger than that of PHLC or CH. L/R of PHLC was 0.79, DIP 0.74, PNLC 0.64, FL 0.63, CAH 0.62, NLC 0.61 and CIH 0.60 respectively. L/R of PHLC was significantly larger than that of PNLC or CH. Furthermore, in case of PHLC, a good correlation was observed between the value of L/R and the degree of the histological changes of the liver such as inflammatory infiltration in glisson's capsule and fibrosis. These results suggest that the liver scan findings and the value of  $T_{1/2}$  may show characteristic patterns depending on the types of liver cirrhosis and chronic hepatitis.