

In 56 cases whose diagnoses were determined by operation, biopsy or autopsy, sequential liver-abdominal scanning were performed after injection of 600  $\mu\text{Ci}$  of  $^{131}\text{I}$  RB or 400  $\mu\text{Ci}$  of  $^{131}\text{I}$  BSP. In normal fasting subjects, radioactivity started to accumulate over the region of the gall-bladder and increased in density by time. Excretion into intestine was observed after fatty meal. In postprandial state, the gall-bladder was not clearly visualized. But intestinal excretion was observed 20 min. after injection.

In medical jaundice, disturbance of hepatic uptake of the dye was observed as delayed clearance of heart blood pool. However in cases with plasma bilirubin below 12 mg/dl, intestinal excretion was visualized within 24 hours, mostly within 7-8 hours. Liver activity decreases diffusely, that is the most important features of medical jaundice including intra-hepatic cholestasis.

In cases of partial obstruction such as choledocholithiasis, abnormal increase of density near the main bile duct system or hilar region was shown. Liver activity decreased from peripheral area of the liver. These signs are thought to indicate bile stasis above the site of passage disturbance of bile. In cases with high degree partial obstruction, these characteristic findings appeared 2-3 days after injection.

In cases with complete obstruction, intestinal excretion was not visualized during observation for 4-5 days.

No excretion was observed in cases with very severe jaundice due to liver cirrhosis superimposed by acute alcoholic hepatitis.

Visualization of kidney did not have a diagnostic value, since in cases with severe jaundice due to either medical or surgical causes kidney was visualized.

## Hepatoscintigram of the Biliary Diseases

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Characteristic findings in hepatoscintigram of the biliary diseases are left lobe enlargement, splenic visualization, incomplete central defect and right lower edge defect.

In this study, the diagnostic significance of left lobe enlargement, splenic visualization and incomplete central defect was investigated. One hundred and seventy-three cases of the hepatic diseases and sixty-four cases of the biliary diseases were involved.

The results were as following;

(1) Left lobe enlargement had closely correlated with widened bile duct in the biliary diseases, while with sero-flocculation changes in the hepatic diseases.

(2) Splenic visualization had closely correlated with the diffuse chronic liver diseases such as liver cirrhosis and chronic hepatitis.

(3) Incomplete central defect was characteristic of the biliary diseases, such as carcinoma of the bile duct and the pancreas head, while rare in the hepatic diseases.