

and radioiodinated rose bengal were used in differential diagnosis of hepato-biliary disorders. Christie et al. have commented on the disappearance rate of colloidal radiogold in liver cirrhosis. These authors have found that the disappearance tended to be abnormally delayed in liver cirrhosis. Recently, the present author has carried out a control study on this subject, and has been also to confirm the observation. According to Shaldon et al. extrac-

tion of colloidal particulates becomes reduced in liver cirrhosis due to the formation of intrahepatic arteriovenous shunts.

So it appears that the disappearance rate is an excellent index of the hepatic blood flow and of the efficiency of the hepatic extraction of colloidal particulates. Furthermore, changes in the hepatic blood flow and extraction have been shown to be rather specific of certain pathophysiologic conditions by Murray et al.

### Clinical Application of Scinticamera (3) Function Test of the Liver and Bile Duct

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Time sequence of the bile excretion was studied on 41 cases, including 22 with jaundice, by using  $^{131}\text{I}$ -Rose Bengal.

In normal cases the average excretion time was 30 minutes to the gallbladder, 45 minutes to the bile duct and 60 minutes to the digestive tract.

The results obtained under pathological conditions were as follows:

#### 1. Congenital choledochus atresia (3 cases)

No sign of entry into the extra-hepatic duct was found. The appearance of renal shadow in the early stage was very important same as to Taplin, who reported this finding as pathognomonic.

We have experienced a case of leukaemic hepatic necrosis, in which early renal appearance was also prominent. The mechanisms of renal appearance should be subjected

in the future study, in connection with the possibility of differential diagnosis of congenital bile duct atresia from childhood hepatitis.

High dependency between alkaline phosphatase in serum and RI excretion time was confirmed.

#### 2. Cholelithiasis with jaundice

No cholecystogram was obtained, instead RI retention in the choledochus and excretion into the digestive tract was positive.

#### 3. Metastatic liver disease

No pathology was found.

#### 4. Cholelithiasis dilatation (one case)

The finding was most striking and pathognomonic. The size of the cholecyst increased enormously with time reaching maximum at 3 hours and continued same for a considerable period of time.

### An Experimental Study on Detectability of Filling Defects in the Liver Phantom and the Effect of Respiratory Movement on it by using Scintillation Camera

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#### (Introduction)

We reported before the detectability of fill-

ing defect in the liver phantom containing  $^{99m}\text{Tc}$ ,  $^{131}\text{I}$ ,  $^{198}\text{Au}$  by using a rectilinear scan-