

Assessment of hepatic excretory function in chronic liver disease by hepatobiliary scintigraphy

Hisao ITOH,* Norio TAKAHASHI,* Reiko SHIMONO,** Takafumi SUGAWARA,**
Masashi KAWAMURA,** Takaharu TSUDA,** Masaaki KATAOKA,**
Atsushi IIO,** Ken HAMAMOTO,** Kanji OHSHIMA,*** and Koichi AKAMATSU***

**Department of Radiology, Matsunami General Hospital, Gifu **Department of Radiology and*

****The Third Department of Internal Medicine, Ehime University School of Medicine, Ehime*

Hepatobiliary scintigraphy was performed in 23 normal subjects and 47 patients with chronic liver disease (chronic hepatitis; n=27, liver cirrhosis; n=20) to evaluate its availability as a test of liver function. After intravenous administration of Tc-99m N-pyridoxyl-5-methyl-tryptophan, the data were acquired for 60 min and the time-activity curves of ROIs (the heart and liver) were generated. In two compartment model simulation, the early blood clearance rate (kl), late blood clearance rate (km), hepatic uptake rate (ku), hepatic excretion rate (ke), and hepatic excretion T 1/2 were calculated. There was no significant difference in those four k values in normal and chronic hepatitis. However, in liver cirrhosis each of them, except km , was lower than in normal subjects. The kl value correlated closely with the indocyanine green plasma clearance test, whereas the ke and T 1/2 values were closely correlated with the level of serum bilirubins. Only hepatobiliary scintigraphy showed the excretory function of the liver quantitatively and the ke value was helpful in detecting hepatic excretory dysfunction early in chronic liver disease before serum bilirubins increased.

Key words: Hepatobiliary scintigraphy, Tc-99m PMT, Liver function, Chronic hepatitis, Liver cirrhosis