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QUANTITATIVE ANALYSIS OF VESICOSPINCTER DYSFUNCTION DETECTED BY BILIARY SCINTIGRAPHY. T. Muraki, H. Yamada, J. Nagashima, M. Tanno, H. Toyama, and K. Chiba. Tokyo Metropolitan Geriatric Hospital.

We had evaluated the relationship between the gallbladder function and excretion into the intestine in overnight fasting patients by biliary scintigraphy. Vesicosphincter dysfunction was defined as abnormally rapid intestinal excretion of activity together with non or delayed visualization of the gallbladder.

In this report we presented a method for quantitative analysis of vesicosphincter dysfunction. The analysis was made on fifteen chronic liver disease, thirty biliary disorder such as gallstone, chronic cholecystitis or GB malignancy, and fifteen normal controls. Intestinal excretion index (I.I.) was calculated as follows;

$$I.I. = \frac{\text{activity over the intestinal region}}{\text{total activity}}$$

The 60 minute's I.I. were as follows;

0.27 to 0.60 in chronic liver disease

0.44 to 0.66 in biliary disorder

0.02 to 0.11 in normal control

(0.048 ± 0.036)

All patients with chronic liver disease showed intestinal excretion index more than 0.30. Abnormality of vesicosphincter function was present in chronic liver disease such as liver cirrhosis as well as biliary diseases.

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HEPATOBIILIARY SCINTIGRAPHY IN SEGMENTAL BILIARY OBSTRUCTION. T. Aburano, K. Yokoyama, J. Taki, H. Seki, M. Ohguchi, N. Tonami, K. Hisada and O. Sui*. Kanazawa University, Kanazawa and Tokushima University, Tokushima.

Ten patients with intrahepatic stone were examined. Hepatobiliary scintigraphy was done by the intravenous administration of Tc-99m IDA or PMT, and serial images were taken from 5min. to 3hours after administration. Seven out of 10 patients with intrahepatic stone showed the delayed filling and prolonged retention of the radioactivity of the involved intrahepatic duct (incomplete obstruction). Two out of 10 patients showed no visualization of the involved duct (complete obstruction). The remained one patient showed no abnormalities on serial images. To evaluate the diagnostic efficacy of these findings in segmental obstruction, the sensitivity of the visualization of intrahepatic biliary tree were also examined in 29 patients without hepatobiliary disease. All of primary branches (hepatic duct) and 7%-45% of secondary branches were visualized in the patients without hepatobiliary diseases.

From the present results, the diagnostic determination of incomplete segmental obstruction of primary and/or secondary branch, and complete obstruction of primary branch was easy because of the characteristic scintigram findings, although the determination of complete obstruction of secondary branch was difficult.

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EVALUATION OF THE POSTOPERATION AND THE BENIGN STENOSIS OF PAPILLARY REGION WITH Tc-99mEHIDA CHOLESCINTIGRAPHY. T. Nakanishi, K. Mukouda, S. Sasaki. Clinical Radiology. H. Kawakami. The First Department of Internal Medicine. S. Katsuta. Radiology Hiroshima University School of Medicine. Hiroshima.

Advantage of Tc-99mEHIDA scanning is able to obtain serial and functional image from biliary tract to intestine. We have evaluated 150 patients with biliary tract diseases, including analytical studies of 30 patients with post-operation and 42 patients with benign biliary tract diseases. After injection of Tc-EHIDA 4mCi, a scintiphoto was obtained every 5 min for 30 min and every 10 min for 90 min. Results were as follows.

- 1) Delay of radioactivity from biliary tract to bowel transit and pooling image of common bile duct were shown in the patients with stenosis of papillary region.
- 2) The time of intestinal excretion was less than one hour the post-operative patients without jaundice.

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STUDY OF THE USEFULNESS OF LIVER SCINTIGRAPHY FOR THE DIAGNOSIS OF CHRONIC HEPATITIS---COMPARED WITH HISTOLOGICAL FINDINGS. T. Kimura, K. Wada, A. Suzuki, M. Ishizawa, Y. Komatsu, T. Osanai, M. Ohkawa, Y. Sakata, Hiroaki University. Hiroaki.

For the diagnosis of chronic hepatitis, the histological findings were indispensable. To evaluate the grade of liver damage, we compared the liver scintigraphy by using Tc-99m-Sn-colloid with histological findings. From Jan. in 1981 to Nov. in 1982 the scintigraphy and liver biopsy were carried out on 26 cases consisted of 20 male, and 6 female. The average of the age was 34 (16 to 67). 11 cases out of 26 were the patients with chronic active hepatitis, 6 were with chronic inactive hepatitis, and 9 with persistent hepatitis.

Liver scintigraphy was performed in 15 min. after the intravenous injection of 3 to 5 mCi of Tc-99m-Sn-colloid. By the computer system of Ohio Nuclear Sigma 410, it was calculated the uptake of liver (L), spleen, and bone marrow (B) and the ratio between them. The grade of histological findings were defined as peacemeal necrosis (PN), portal fibrosis (PF), and mobilization of Kupffer's cells by our criteria. As the result of this study, it was correlated between PN and the ratio of L/B, and between PF and the ratio of L/B. It is concluded that the liver scintigraphy, such as the ratio of L and B, reflects PN and PF, and is exceedingly useful for the diagnosis of chronic hepatitis.