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QUANTITATIVE STUDIES OF LIVER SCINTIGRAPHY FOR DIFFUSE LIVER DISEASE. S.Endo,K.Yamada, S.Yoshioka,J.Hatazawa,T.Matsuzawa and Y.Sasaki. Dept.of Radiology and Nuclear Medicine, The Research Institute for Tuberculosis and Cancer, Tohoku University and Sasaki Hospital Sendai and Furukawa.

Diagnosis of the diffuse liver disease on the liver scintigraphy depends on the naked eye except Spleen/Liver ratios. We attempt to evaluate the uptake of the bone marrow and the inhomogeneous uptake of the liver by quantitative method. 43 patients were given 5mCi/60Kg b.w. of Tc-99m phytate. LFOV Gamma camera with Scintipac 1200 was used. The count of the liver and the spleen was taken from the ROI which showed more than 50% of the maximum count of each organs. The count of the bone marrow was taken from the lumber portion. Bone marrow/Liver ratios(B/L) are well correlated with the S/L ($r=0.90$). B/L and S/L are inversely proportional to Albumin/Globulin ratios (A/G) each other ($P<0.01$). S/L is linearly proportional to ICG also. To evaluate the inhomogeneous uptake of the liver, the differential calculus program was used. The frequency of the pixels which show more than 175 was calculated. We called it "inhomogeneity index" here. "Inhomogeneity index" is linearly correlated with S/L and A/G. From these results, the following conclusions were obtained that S/L, B/L and "inhomogeneity index" are objective for the diagnosis of the diffuse liver disease, and they are useful in the clinic.

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NORMAL AREAS OF DECREASED ACTIVITY ON THE LIVER SCINTIGRAM. N.Katsuyama,K.Kawakami K.Machida,A.Kubo,Y.Takagi,T.Iinuma,Y.Tateno, F.Shishido,T.Matsumoto,T.Nakashima,K.Murata, M.Iio,T.Yamazaki,N.Arimizu,G.Uchiyama. Jikei Uni.School of Medicine, Tokyo Uni., Keio Uni., National Institute of Radiological Sciences, Saitama Cancer Center, Tokyo Metropolitan Geriatric Hospital, Tokyo Women's Uni. School of Medicine and Chiba University. Tokyo, Chiba and Saitama.

406 liver scintigrams from 8 institutions were interpreted by 11 doctors who specialize nuclear medicine. We discussed about normal areas of decreased activity on a liver image. In a group with SOL in the liver, positive rates of interpretation of normal areas of decreased activity is significantly low, as compared with other group without SOL. The positive rates between each interpreter were variously different. From these results, we consider that a presence of normal areas of decreased activity does not so influence on the interpretation of SOL in the liver.

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SCINIGRAPHIC PATTERN, BLOOD FLOW INDEX AND HISTOLOGIC PICTURE OF HEPATIC LESIONS. Akira Asahara, Yoshifumi Honma, Yuichi Oasa, Tohru Tachibana, Hiroshi Ueyama*, Katsushi Nanbu*, and Hideo Ueda**. Dept. of Radiology and Digestive Disease Med.*, Director**. Central Hospital of Japanese National Railways. Tokyo.

Hepatoscintigraphy is a useful means of diagnosing space occupying lesions in the liver as well as the morphological status of the organ as a whole. However, this radiodiagnostic procedure is believed to provide pathological information of relatively less diagnostic importance about hepatic lesions. In this sense, it was felt worthwhile to make a retrospective study of hepatoscintigrams of those cases of established histological diagnosis (by liver biopsy, operation and autopsy) chosen from a series of cases undergoing scintigraphy and hepatogram. Such an attempt was considered to contribute to estimation of the histopathological nature of hepatic lesion from findings of routine radiologic examinations on the basis of the relationships between hepatoscintigraphy and histological findings and between hepatic blood flow and pathology. From 365 cases undergoing hepatoscintigraphy and hepatogram simultaneously 118 in which histological diagnosis was established within a short period of time were chosen for the study. Scintigrams obtained in these cases were found to have a considerable degree of disease specificity and to be classifiable.

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ANALYSIS OF FALSE-POSITIVE LIVER SCAN REGARDING THE PRESENCE OF SPACE OCCUPYING LESION. A.Kubo,Y.Takagi,K.Machida,T.Iinuma,Y.Tateno,F.Shishido,T.Matsumoto,N.Katsuyama,K.Kawakami,T.Nakajima,K.Murata, M.Iio and T.Yamazaki. Keio University School of Medicine, Tokyo University School of Medicine, National Institute of Radiological Sciences, Jikei Medical College, Saitama Cancer Center, Tokyo Metropolitan Geriatric Hospital and Tokyo Womens Medical College.

Clinical efficacy of liver scan has been investigated by Efficacy-1 Committee, Japan Radioisotope Association. Utilizing the data from the committee, we examined what causes false-positive in liver scan in spite of the absence of space occupying lesion in the liver. Of 406 liver scans, 282 had no space occupying lesion in the liver. Of them, 24 were misdiagnosed as positive or probably positive by more than half of 11 physicians (false positive ratio 9%, specificity 91%). Of 24 false-positive cases, 10 were severe liver cirrhosis having highly deformed right lobe and/or cirrhotic nodules. Other factors causing false-positive were extrinsic processes that deform the liver such as gall bladder enlargement, choledochal cyst and physiological pitfalls. The liver scan performed with a gamma camera had less false-positive ratio (7.9%) than that performed with a scintiscanner (10.6%).