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ANALYSIS OF FALSE-NEGATIVE LIVER SCAN REGARDING THE PRESENCE OF SPACE OCCUPYING LESION. A.Kubo, Y.Takaqi, K.Machida, T.Iinuma, Y.Tateno, F.Shishido, T.Matsumoto, N.Katsuyama, K.Kawakami, T.Nakajuma, 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.

By analysing the data from Efficacy-1 Committee, Japan Radioisotope Association, we considered the factor of false-negative interpretation in the liver scans contained space occupying lesions (SOL). Of 406 liver scans collected, 124 had SOL in the liver. In 23 of 124 cases with SOL, more than half of 11 physicians interpreted negative or probably negative about the existence of SOL in the liver (false-negative ratio, 18.5%, sensitivity, 81.5%). Seven of 23 false-negative cases had solitary SOL, and in 5 of 7, their size were smaller than 3 cm in diameter. Remaining 16 multiple SOL cases, 8 had immunelable lesions. Nineteen cases were metastatic liver tumors, in 17 of 19 primary lesions were gastrointestinal carcinoma. Most of cases (21 of 23) had no evidence of liver cirrhosis in final diagnosis, and showed no deformity of liver configuration on liver scans.

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HEMODYNAMICS OF THE HEPATIC CAVERNOUS HEMANGIOMA. D.Hamanaka, K.Nishimura, K.Togashi, K.Murata, H.Furunishi, K.Kawanishi, T.Sakamoto, E.Yabumoto, T.Yamazaki, \*M.Fujii, T.Fujita, Y.Ishii, K.Torizuka and \*\*T.Imoto. Shiga University of Medical Science, \*Kyoto University and \*\*Zinko Hospital. Otsu and Kyoto.

RI angiography performed to four hepatic cavernous hemangiomas containing one Kassa-bach-Merrit syndrome. RI angiography used in vivo labeling Red Blood Cell and take a picture of early and late phase image (30 minutes). The figure of cavernous hemangioma represent that the defect in early phase and gradually increasing accumulation in late phase. Activity in the normal liver tissue and cavernous hemangioma reverses after about 10 minutes. This sign manifested both the slow blood flow and giant vascular bed of the cavernous hemangioma. We say "the late filling appearance." It is one of the criteria diagnosing hemangioma by non-invasive method.

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USEFULNESS OF GA-67 SCAN IN AFP LOW PRODUCING HEPATO-CELLULAR CARCINOMA. K.Suzuki, M.Mashimo and T.Miyamae. Saitama Medical School. Moroyama, Saitama.

There have been a study of correlation of serum alpha-fetoprotein (AFP) level and Ga-67 citrate uptake in hepato-cellular carcinoma by Kyoto university group (1974). High AFP level (over  $10^4$  ng/ml) have been determined by the double diffusion method. We detected AFP level by the RIA method and compared the correlation of lower AFP level and Ga-67 uptake. Histologically proved thirty hepato-cellular carcinoma patients were included in this study. Early scan (10 min.) and delayed scan (48 hr.), using a scinticamera (LPOV) or a scintiscanner, was performed after the intra-venous injection of 2.0 mCi (74 MBq) of Ga-67 citrate. Patients were classified into three groups by AFP level; low level group ( $200\text{ng/ml}$ ), middle level group ( $200-1000\text{ng/ml}$ ) and high level group ( $1000\text{ng/ml}$ ). There were no correlation between AFP level and Ga-67 uptake. Ga-67 scintigraphy is useful in diagnosis of AFP low producing hepato-cellular carcinoma. Early scan is helpful tool in differential diagnosis of metastatic liver tumor.

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EVALUATION OF PORTAL CIRCULATION AND LIVER FUNCTION IN HEPATIC CIRRHOSIS WITHOUT VARICES.

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The portal circulation has been analysed with serial scintiphotograms and hepatocardial time activity curves in the early phase (0 to 120 sec) of per-rectal portal scintigraphy in our previous reports. Using the technique of per-rectal portal scintigraphy, mesurement of shunt index was carried out in 67 cases with various liver disease mostly consisting of 37 cirrhotic patients.

Results; 1) In 15 of 17 cases with esophageal or gastric varices, the shunt indexes showed over 40%. 2) The shunt indexes ranged widely from 2.6% to 77.4% in 20 cases without varices. In 10 of these cases, the shunt indexes were less than 10% and they showed a favorable prognosis. But in 3 of these cases, the shunt indexes were more than 40% and the varix was formed in one of them within one year.

In conclusion, our per-rectal portal scintigraphy is a useful and noninvasive method to analyse the portal circulation in the hepatic cirrhosis without esophageal or gastric varices.