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DIAGNOSIS OF HEPATOBILIARY DISEASE BY Tc-99m-HEPATOBILIARY AGENTS AND ULTRASONOGRAPHY. I. Joja, T. Tamai, K. Sugita, K. Sato, M. Tanabe and M. Yamamoto. Department of Radiology, Okayama University Medical School, Okayama.

Diagnostic accuracy has improved from the early development of noninvasive modalities such as standard radiographic examinations to the more recent introduction of ultrasound, computed tomography, and radionuclide techniques. We evaluated Tc-99m-hepatobiliary agents and ultrasound in patients with suspected hepatobiliary disorders.

Method and materials: These patients group with suspected hepatobiliary disorders was composed of 60 cases; Normal in 10, gallstone in 18, biliary dyskinesia in 13, cholecystitis in 6 etc.

Tc-99m-HIDA (CEA), Tc-99m-PB-IDA (RCC) and Tc-99m-EHIDA (RCC) were prepared from a commercial kit respectively. One radionuclide of them was injected intravenously. The first perfusion image of the liver were obtained 3 seconds interval for 75 seconds.

A commercially available Toshiba liner scanner with 2.5 MHz internally focused transducer was used.

The new Tc-99m-hepatobiliary agents improve visualization of the gallbladder and biliary ducts. However, ultrasound probably continue to be more effective, since this modality depend only upon bile-duct size, whereas radionuclide techniques depend upon both size and hepatic function.

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AN APPROACH TO THE DIFFERENTIAL DIAGNOSIS OF HEPATIC TUMOR USING RADIOISOTOPES AND COMPUTED TOMOGRAPHY. Y. Yumoto, K. Tokuyama, K. Jinno, M. Morita, H. Yamamoto, T. Wada and K. Mitani. National shikoku cancer center. Matsuyama, Japan.

This study reports the evaluation of the combined use of RI and CT in 69 cases with liver tumor.

Twenty six subjects of hepatocellular carcinoma (HCC) are examined and estimated the extent and quality of the hepatic tumor using the third generation of CT (CT/T) produced by GE company. In 22 (85%) out of 26 cases, diagnosis of the extent and quality of the hepatic tumor were able to done. In 3 out of 26 cases with HCC, the extent of the hepatic tumor was not estimated, but 2 cases with HCC did not diagnosed in existence. Plain CT scan combined with both estimation of CT value and contrast enhancement will be able to differentiate liver cancer from benign hepatic tumor, furthermore the detection rate and diagnosis of the quality of hepatic tumor could improved by means of combined use of radionuclide scintigraphy, computer scintigram, subtraction scintigram and subtraction scintigram and simultaneous estimation of serum AFP, CEA and ferritin concentration.

These two techniques, well suited for cancer center, together with provide a high degree of accuracy in the differential diagnosis of hepatic tumor.

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COMPARATIVE STUDY OF SCINTIGRAPHY AND ECHOGRAPHY FOR DETECTION OF SPACE OCCUPYING MASSES OF THE LIVER. Y. HASEGAWA, S. NAKANO, K. IBUKA, K. SHIOMURA, T. KITAMURA, F. NAKAGAWA THE CENTER FOR ADULT DISEASES OSAKA

The purpose of this study is to compare the abilities of the scintigraphy and echography in detecting of space occupying processes of the liver. Since aug. 1976 to mar. 1979, 316 patients with suspicion of focal liver diseases were studied by both scintigraphy and echography. Of 316 patients, 37 were proved to have focal liver diseases, and 44 were proved or considered not to have them in the final diagnosis with necropsy, surgery, angiography, laparoscopy or follow up study. In our study, the value of the accuracy, and the false positive and negative rate were 83%, 30% and 3% in scintigraphy, and 70%, 36% and 22% in echography. All three indices showed scintigraphy to be more favorable than echography in the detection of space occupying mass in the liver. Of 5 patients with equivocal scintigraphy and abnormal echography, 4 were proved to have intrahepatic masses, whereas, only 2 of 10 patients with equivocal scintigraphy and normal echography were to have them in the final diagnosis. These results showed the complementary use of scintigraphy and echography to be beneficial in the detection of the intrahepatic masses in the cases with equivocal findings on the scintigraphy.

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LIVER IMAGES WITH Tc-99m-PHYTATE IN THE CASES WITH UNRESECTABLE HEPATIC CELL CARCINOMA. S. TERUI, H. OYAMADA. NATIONAL CANCER CENTER HOSPITAL. TOKYO.

Liver images of 17 cases with hepatic cell carcinoma that was found to be unresectable were studied retrospectively. The radiopharmaceutical used was Tc-99m-phytate. There were 14 males and 3 females. The age ranged 19 to 64, averaging 50.9yr. Modes of operation were exploratory laparotomy in 10 cases, ligation of the hepatic artery in 5, arterial infusion of chemotherapeutic agents and incomplete partial resection of the liver in one of each. Intrahepatic multiple nodular metastases and/or dissemination were the main causes of unsuccessful resection in 8 cases, hepatic cirrhosis in 4, extensive tumor invasion in 3 and distant metastases in 2. On the scintigrams, 11 cases showed defects in the right lobe, 4 in the left and 2 in the bilateral lobes. All of these defects were found to have an irregular margin. There were 6 cases which showed uneven distribution pattern in the areas where clear-cut defect was not seen. Bone marrow was visualized in 5 cases. However, the cases which showed defects in the left lobe presented neither uneven pattern or bone marrow image. As the results of this study, it is possible to say on the scintigraphic patterns of the liver whether the tumor can be resected or not when it is located in the right lobe.