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REEVALUATION OF COLLOID LIVER SCINTIGRAPHY - DETECTABILITY OF THE SPACE OCCUPING LESION -. T. Fukuda, Y. Inoue, Y. Minamikawa, T. Takemoto, H. Nakajima, S. Yahata, H. Ochi and Y. Onoyama Department of Radiology, Osaka City University Hospital. Osaka

Detectability of the space occupying lesion (SOL) on colloid liver scintigram was reevaluated in 79 cases in which both scintigraphy and CT examination were done at the almost same time. Comparing scintigram and CT image, we investigated 1) detectability of SOL on scintigram in patients with respiratory movement, and 2) false negative cases on scintigram although CT demonstrated SOL. Results: 1) Porta hepatitis was evaluated for detectability of SOL on scintigram. The size and depth of the Porta hepatitis were measured by CT image. The detectability of the Porta hepatitis on scintigram correlates with its size and depth from the liver surface. When the tumor size is 2cm in diameter and its depth is less than 4cm, when the size is 3cm and the depth is less than 4.5cm, the tumor is seen as SOL on scintigram. 2) There were 16 false negative. In 6 out of 16, tumor was less than 2cm in diameter and deeply seated. Six lesions were not detected although these were more than 3cm in diameter and located in near surface of the liver: 4 in the most lower portion of the right lobe and 2 adjacent to the spine.

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CLINICAL SIGNIFICANCE OF ^{99m}Tc -HIDA SCINTIGRAPHY FOR HEPATIC NEOPLASMS AND DETECTION OF THEIR DISTANT METASTASIS. T. Yasunaga, Y. Hirota, T. Tsuchigame, S. Ueno and M. Takahashi Department of Radiology, Kumamoto University Hospital, Kumamoto

The clinical significance of ^{99m}Tc -HIDA scintigraphy for twelve hepatic neoplasms and detection of three distant metastases was studied in relation to ^{99m}Tc -phytate scintigraphy, AFP and angiography. In eleven patients with hepatoma, there was no marked difference in the distribution of ^{99m}Tc -HIDA and ^{99m}Tc -phytate within liver. But, in two of three patients with bone and lung metastases, ^{99m}Tc -HIDA concentrated remarkably in the metastatic lesions. Abnormal uptake of ^{99m}Tc -HIDA had no relation to AFP and findings of angiography. In one case of focal nodular hyperplasia, uptake of ^{99m}Tc -HIDA was similar to normal liver.

These results suggest that ^{99m}Tc -HIDA scintigraphy is useful for detection of distant metastases, but useful for diagnosis of hepatic lesions of hepatoma.

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Tc-99m MAA ARTERIAL INJECTION LIVER SCANNINGS IN LIVER DISEASES. S. Furui, K. Yoshikawa, K. Tsuchiya, N. Yashiro, J. Nishikawa, K. Machida, M. Iio Department of Radiology, Tokyo University Hospital. Tokyo

Tc-99m MAA arterial injection liver scannings (Tc-99m MAA AILS) were performed in 26 cases with liver diseases, including 18 hepatomas, 2 cavernous hemangiomas, 1 metastatic tumor and 5 other pathological conditions. Each examination was performed following hepatic arteriography. Tc-99m MAA (10mCi) was injected through the catheter placed in the proper hepatic artery. Dynamic study and static study were carried out. Using Scintipac 1200, shunt indexes (Lung count/Total count %) were estimated on static images.

In all of 21 liver tumors, localized accumulations of Tc-99m MAA were demonstrated on static images. Locations of hot areas were well correlated with hypervascular tumors visualized on arteriography. Hot areas were also seen in 2 of 3 cases with liver cirrhosis (LC) without liver tumors. Dynamic studies demonstrated AV shunt and AP shunt in 2 cases with hepatoma with IVC extension and portal vein extension respectively. Hepatoma group and LC group showed relatively high shunt indexes compared with non-LC cases. Significantly high shunt indexes were observed in above 2 cases with hepatoma.

In conclusion Tc-99m MAA AILS were proved to be effective for detection of hypervascular liver tumors, and assessment of AV shunt and AP shunt in hepatomas and other pathological conditions.

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Tc-99m MAA ARTERIAL INJECTION LIVER SCANNING OF HEPATOMA: AN AID FOR TRANSCATHETER ARTERIAL EMBOLIZATION THERAPY. K. Yoshikawa, S. Furui, K. Tsuchiya, K. Ohtomo, T. Machida, N. Yashiro, J. Nishikawa, K. Machida, M. Iio Department of Radiology, Tokyo University Hospital. Tokyo

Tc-99m MAA arterial injection liver scannings were performed on 18 cases of hepatoma. Both dynamic and static RI studies were carried out following conventional arteriography. In 12 of 18 cases shunt indexes were estimated on static images using Scintipac 1200. Transcatheter embolization therapy was performed in 11 of 18 cases using Spongel particles with 1-2mm ϕ or Gelform powder with over 595 $\mu\phi$.

Angiography demonstrated portal vein and IVC extension in two cases. Dynamic RI studies demonstrated AP and AV shunt respectively. In the former angiography demonstrated severe AP shunt and 100% occlusion of main portal vein trunk and then embolization therapy was not carried out. In the later AV shunt was not demonstrated angiographically. In this case RI study guided the embolization therapy to select larger embolic materials because of marked AV shunt on dynamic RI study and high shunt index.

In conclusion Tc-99m MAA arterial injection liver scanning was proved to be useful in estimating the degree of AV and AP shunt in hepatomas, and to be of aid in selecting the adequate size of embolic material for transcatheter embolization therapy.