

the margin of the liver can be delineated automatically in each liver scintigram and 22 parameters can be extracted automatically by computer itself. Using those 22 parameters, differential diagnosis was performed using BMD (Biomedical Computer Program). When all cases are used as the training group, over all accuracy rate of the

computer diagnosis is 96%. When about 2/3 cases are used as the training group, residual 1/3 cases are used as the testing group, accuracy rate of testing group is 85%.

This study proved that completely automatic computer differential diagnosis with good results is possible.

Combined Liver-Kidney Scintigraphy in Evaluation for An Inferoposterior Defect on ^{99m}Tc -Colloid Liver Scan

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Combined liver-kidney scintigraphy was performed to evaluate an inferoposterior defect on ^{99m}Tc -colloid liver scan. Liver-kidney image was obtained about one hour after intravenous infection of 2 mCi of ^{99m}Tc -Sn-Colloid and 4 mCi of ^{99m}Tc -DMSA.

In normal case, no separations were found between liver-spleen and kidneys, and therefore such findings were considered to be abnormal.

In present study, twenty-nine cases showed a clear-cut defect at inferoposterior portion on ^{99m}Tc -colloid liver scan. In seventeen cases, that defect was found to be a normal right renal indentation by a combined scintigram finding. How-

ever, in remained twelve cases, combined scintigraphy revealed the pathological lesion. Three out of 12 cases were extrarenal lesions, and another nine lesions were renal lesions.

From the present study, the clinical significance of combined liver-kidney scintigraphy was considered to visualize the direct relationship between liver-spleen and kidney, and it could be especially applied to decide the defect at inferoposterior portion whether it was a normal renal indentation or a pathological finding. Moreover whether renal lesions or extrarenal lesions could be decided from the contour of right kidney.

Investigations on Left Lobe Abnormalities of Colloid Liver Scan

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In the interpretation of liver images, knowledge of the anatomy and physiology of the liver and its surrounding structures may often permit definitive diagnosis of abnormality seen. There are some reports about false positive liver image of the right lobe by surroundings, but there are few about the abnormality of the left lobe images. The thin and flexible left lobe is easily compressed and deformed by surroundings.

Retrospective discussion was made on 7 cases in which colloid liver scan showed focal defect

in the left lobe. Causes of these defects were proved by other radionuclidic examination, contrast angiography, operation or autopsy.

Case I: Spleen-scan revealed a large splenic cyst corresponding to the focal defect of the left lobe.

Case II: Accumulation of ^{67}Ga -citrate to the area of focal defect, high level α -Fetoprotein and contrast angiography proved hepatoma.

Case III: Operation proved aplasia of the left lobe, which was difficult to diagnose even by