S-2 On Diagnosis of Diffuse liver Disease

Diagnostic Value of Liver Scintigraphy for Chronic Diffuse Liver Disorders, with Special Reference to Correlation with Histological Finding

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Diagnostic value of liver scintigraphy for diffuse liver disorders, especially for chronic liver diseases, is assessed by correlating histological findings with scintigraphic findings.

Liver scintigrams of 229 cases with biopsy performed at III Department of Internal Medicine were reviewed for analysis.

Liver scintigraphy was done using 200-300μCi of ^{198}Au-colloid or 1.5mCi of ^{99m}Tc-phytate with rectilinear scanner (SCC-150S with Crystal 5ϕx2, or SCC-230SA with Crystal 3ϕx2 inches, Shimazu). Focusing collimator with 37 holes was used for ^{198}Au, and that with 55 holes for ^{99m}Tc. Scintigraphic findings were evaluated by scores defined according to the grade of abnormality as follow;

1. Figure of the liver.
2. Visualization of the spleen.
3. Visualization of the bone marrow.

Scores of these abnormal findings were multiplied, and were given as Scinti-Scores.

On the other hand, biopsied materials were evaluated by scores same as scintigrams and Histological-Scores were caliculated.

Result

Histological-Scores showed that liver cirrhosis has the highest scores, chronic hepatitis, active form, next, inactive form, the third.

Scinti-Scores showed the same orders.

Next, distribution of each case by histological and scintigraphic scoring showed close relationship between scintigraphic and histological abnormalities.

Summary

Close relationship between Histological-Scores and Scinti-Scores was noted in this study.

The differential diagnosis of inactive, active form of chronic hepatitis and liver cirrhosis is possible with this relatively objective and easy scornig method.

S-3 On Diagnosis of Biliary Tract Disease

^{99m}Tc-labeled Cholescintigraphic Agents: Fundamental Studies and Clinical Evaluation

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Fundamental and clinical studies were performed on the ^{99m}Tc-laveled cholescintigraphic agents (^{99m}Tc-panicillamin, ^{99m}Tc-HIDA and ^{99m}Tc-pyridoxylidene glutamate).

Pencillamin (Pen) was was labeled with ^{99m}Tc by our simple resin-Sn^{++} method; after mixing penicillamin, $^{99m}TcO_4^-$ and Sn^{++} adsorbed resin in a syringe for 2 min, the mixture was passed through a millipore filter and the filtrate was ready to use.

Tissue distribution studies after 1mCi of ^{99m}Tc-Pen i.v. in mice showed a rapid increase in radioactivity in the gallbladder bile reaching the ratio of the gallbladder to liver of 200:1 at 45 min. Other organs did not show significant radioactivity.

Cholescintigram of normal subjects showed high concentration of radioactivity in the gallbladder at 2-3 hrs after i.v. of 4 mCi of ^{99m}Tc-Pen.

HIDA was synthesized from IDA and chlorodimethylacetanilide and labeled with ^{99m}Tc by $SnCl_2$.