

Fundamental Studies of Liver Scintigram

—Colloidal Size and Spleen-Liver Ratio—

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Spleen image in liver scintigram changes with different size of radiocolloidal particles. Spleen image is not so well revealed in normal liver scintigram with ^{198}Au -colloid, but with $^{99\text{m}}\text{Tc-Sn}$ -colloid.

Spleen-liver ratios of radiocolloid incorporated in mice were compared in radioactivity per gram at 30 minutes after i.v. injection of four kinds of clinical agents.

The S/L ratio were 0.09 ± 0.24 in ^{198}Au -

colloid (50\AA), 0.083 ± 0.26 in ^{198}Au -colloid (300\AA), 0.321 ± 0.090 in $^{99\text{m}}\text{Tc-Sn}$ -colloid (500\AA) and 0.150 ± 0.021 in $^{99\text{m}}\text{Tc-Sn}$ -phytate (colloidal size unknown).

As the results of these experiments. The colloids of the larger particles are more incorporated in the spleen. However, there is no significant difference in S/L ratio between 50\AA and 300\AA colloid. These are corresponding to clinical reports of other authors.

Respective Measurement of Liver-and Spleen-Clearance Rate and Delineation of the Spleen by Simultaneous Administration of $^{99\text{m}}\text{TC-SN}$ and ^{198}AU Colloids

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In the measurement of liver clearance with radiocolloid, extrahepatic uptake makes the result sometimes uncertain. The usage of $^{99\text{m}}\text{Tc-Sn}$ and ^{198}Au colloids, which showed different uptake rate in the liver and the extrahepatic component, made it possible to

differentiate respective uptake rate of the radiocolloids in each organs. Following the intravenous administration of the mixture of these colloids, measurements of radioactivities were made with a scinticamera, connected to a video-recorder and CDS 4096, until liver-