the projections of posterio-anterior, right anterior oblique in patient’s supine, both lateral and anterio-posterior in prone position. In most of cases given 3 to 5 milli-curve of $^{99m}$Tc-sulfur colloid, the scintiphotos could be taken within 30 second. In less than 3 milli-curve, the time for scintiphography was 30–180 sec. Even more than 5 milli-curve of $^{99m}$Tc-sulfur colloid, it takes about 10 sec. Therefore, 3–5 milli-curve was considered sufficient for the breath-holding liver scintiphotography. Compared with radio-gold liver scintiphotography, the contour and size of liver was more sharp and close to the real size in the breath-holding liver scintiphotography using $^{99m}$Tc-sulfur colloid, because of the limited movement of liver during to take multi-derirectional scintiphotography and that gives even better information for the diagnosis of liver disease.

Clinical Studies on Kinetics of $^{59}$Fe-Chondroitin Sulfate Iron in Chronic Liver Diseases

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It has been reported that in chronic liver diseases the clearance of colloid-iron are strikingly delayed and its corporation into the reticulo-endothelial system in liver are remarkably disturbed.

After $^{59}$Fe-Chondroitin Sulfate Iron ($^{59}$Fe-CS5 8–10 $\mu$Ci/10 mg (Fe)) were intravenously administered in five patients of chronic hepatitis, five of liver cirrhosis and normal subjects, plasma $^{59}$Fe-SSI disappearance (PCID) $t^{1/2}$, % of red cell utilization (%RCU) and the body surface counting for two weeks were observed.

Results:

1) PCID $t^{1/2}$ was 6.00 ± 0.54 min. in normal, 12.15 ± 0.57 min. in chronic hepatitis and 11.00 ± 1.19 min. in liver cirrhosis respectively.

2) Values of %RCU revealed respectively 79.90 ± 12.30% in normal, 63.95 ± 12.19% in chronic hepatitis and 71.27 ± 9.42% in liver cirrhosis.

3) Pattern of the body surface counting showed that the uptake of $^{59}$Fe in liver was lower in chronic liver diseases than in normal, it in liver cirrhosis showed further low level than in chronic hepatitis. Increased radioactivity in spleen was accompanying with the progress of the fibrosis in liver and while the radioactivity in liver decreased, it in spleen gradually inclined to higher level. The uptake in bone-marrow was the highest level in liver cirrhosis and its peak appeared at the earlier stage than in normal.

Conclusions:

From above mentioned results, while characteristic features were presented in the kinetics of $^{59}$Fe-CSI in chronic liver diseases, these in liver cirrhosis were remarkably differentiated from in chronic hepatitis.

It has been speculated that their changes depend on the abnormalities in RES in liver diseases, moreover are modified by the variation of ferrokinetics, erythropoiesis and erythrokinetics in them.