In cases of acute hepatitis Autoradiography revealed that α₂-M, α₂-HS, CP, α-Lipo and β₁-E are more increased than those of healthy man and Pre, Hp and γ-M decreased. In chronic hepatitis β₁-AC increased and pre β₂-M, β₁-E decreased. In liver cirrhosis α₂-M, α₂-HS, CP, β₁-AC and β₁-E are increased, and pre and HP decreased. In Single Radial immunodiffusion by using Antisera plate similar results were obtained.

Dynamic Distribution Study of Hepatobiliary System with

131I Labelled BSP by Aid of Computer
—Mainly with Respect to the Cases of Constitutional Jaundice—

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The scintillation camera is employed for dynamic function studies with 131I labelled BSP mainly with respect to the differential diagnosis of the constitutional jaundice.

Method: After injection of 131I-BSP 120 μCi time dependent images of the liver are obtained with scinticamera.

Then, by assuming a three compartments model, kinetic analysis of 131I-BSP distributions in various organs are calculated based upon disappearance curve of 131I-BSP radioactivity in the serum, time dependent curve of radioactivity over the liver and urinary excretion of 131I-BSP in attempts to clarify the kinetic distribution of 131I-BSP and the time dependent pool size of 131I-BSP in each compartment such as serum pool, liver pool and the other pool.

Subjects: 40 cases of various liver diseases including 6 cases of Dubin-Johnson’s syndrom, 3 of Gilbert’s disease and one of suspected Roter type.

Results: A) Time dependent images of the liver with scinticamera. In the cases of Gilbert’s diseases, normal patterns were obtained. In the case of Roter type, heart pool scan was obtained untill 20 minutes after injection of 131I-BSP, but the following excretion of radioisotope from the liver was normal. In the cases of Dubin-Johnson’s syndrom, the excretion of radioisotope from the liver were very slow, so the liver images were obtained quite deeply after 24 hours and the images of gallbladder were obtained more slowly, but the excretion of 131I-Rosebengal were not so impaired. The dissociation of the manner of excretion with above two radiopharmaceuticals will be one of the basis of the diagnosis of Dubin-Johnson’s syndrom.

B) Kinetic analysis.

The individual values for the fractional rate constant for distribution and metabolism of I-BSP are expressed as k₆₁, k₆₂, k₁₂, k₁₃, k₂₁, and k₃₁. In controls, the calculated rate constant of k₆₂, expressing the excretion from liver into bile duct, is 0.00071 ± 0.000256 min¹. In the cases of Dubin-Johnson’s syndrom, remarkable decrease in the values of k− and biliary excretion of 131I-BSP is showed, but the second rising curve in time dependent curve of 131I-BSP radioactivity in serum is not demonstrated.