Clinical Studies on Portal Perfusion Scintiscanning with $^{131}$I-Macroaggregated Albumin

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This method was developed by Prof. Ueda and his coworkers at Tokyo University in 1965. I have evaluated this very useful and original technique by using it for the examination of portal circulatory kinetic on patients with portal hypertension and splenomegaly. We have examined 24 cases over 4 years; 7 cases of cirrhosis of the liver with splenomegaly, 14 cases of Banti’s syndrome and one case each of hemolytic anemia, malignant lymphoma and primary biliary cirrhosis with portal hypertension.

The hump of hepatoactigram was observed in almost all cases of cirrhosis, but not detected in any of the other cases. The presence of intrahepatic shunt, which was interpreted from the hump, was observed specifically in the patients with cirrhosis of the liver. We couldn’t find any difference in the lung image appearance in cases of cirrhosis and Banti’s syndrome. However, the shunt index calculated by Kitani’s equation was significantly higher in the former. There was no significant correlation between the shunt index and any of the pressures at portal system such as wedged hepatic vein pressure, portal vein pressure and intrasplenic pressure.

We recognize and would like to emphasize the clinical significance of this examination for the observation of the intrahepatic and extrahepatic shunt and its quantitative evaluation.

Dynamic Studies on the Hemodynamics by Scintiphotosplenoprontography: Measurement of Regional Hepatic Blood Flow Using $^{133}$Xe

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A new technique for estimating regional hepatic blood flow using the inert gas washout technique and scintillation camera following injection of $^{133}$Xe into the spleen was presented.

The present studies were carried out in 28 patients. On injection of 5 to 15 mCi of $^{133}$Xe in saline solution less than 2 ml, was made into the spleen. The sequential radioisotopic images were recorded on magnetic tape in a digital images of $64 \times 64$ matrices (time increment: 1 sec, total time: 120 sec) using an on-line minicomputer system. When the magnetic tape was replayed, two areas of interest corresponding to the right and left hepatic lobes were set over the digital scintiphotoograph, and then washout curves over the both areas of the liver were obtained. Hepatic blood