

Test on Hepatic Functions with ^{131}I -BSP

—With special reference to the changes in uptake rate of ^{131}I -BSP after loading of BSP—

K. KANDA and T. SAITO

Department of Internal Medicine, Minami-Osaka Hospital, Osaka

A. TANAKA, N. YAMANAKA and H. AKAGI

Department of Radiology, Osaka Medical College, Osaka

Purpose of Study: Determination of hepatic uptake of ^{131}I -BSP has remarkably contributed to simplification of hepatic function tests.

However, considerable overlapping was seen in the results between normal subjects and in patients with hepatic disease.

For removal of this overlapping, an evaluation of the rate of hepatic uptake of ^{131}I -BSP after loading of non-radioactive BSP was discussed in this report.

Method: The radiographs (of liver and head) with ^{131}I -BSP were firstly recorded, and the disappearance rate of ^{131}I -BSP and the retention rate of ^{131}I -BSP at 30 minutes were calculated.

Four days later, after loading of BSP in a dose of 3 mg per Kg body weight, each coefficient was determined in the same manner.

Results:

1) The disappearance rate of ^{131}I -BSP and the retention rate at 30 minutes (%) were 0.150 ± 0.017 , 2.18 ± 0.73 in normal subjects, 0.052 ± 0.040 , 35.85 ± 25.48 in acute hepatitis at its

peak, 0.129 ± 0.020 , 3.53 ± 1.61 in acute hepatitis at its relief stage, 0.109 ± 0.036 , 7.77 ± 6.63 in chronic hepatitis and 0.054 ± 0.022 , 23.97 ± 13.88 in hepatocirrhosis.

2) After loading of BSP coefficients were 0.124 ± 0.012 , 3.40 ± 1.21 in normal subjects, 0.031 ± 0.023 , 45.94 ± 24.67 in acute hepatitis at its peak, 0.091 ± 0.021 , 8.16 ± 4.83 in acute hepatitis at its relief stage, 0.068 ± 0.024 , 15.07 ± 10.67 in chronic hepatitis and 0.031 ± 0.014 , 35.37 ± 14.87 in hepatocirrhosis.

3) By the method of loading of BSP in a dose of 3 mg per Kilo, the overlapping of the disappearance rate of ^{131}I -BAP between normal subjects and patients with chronic hepatitis was only 3.6%.

On the other hand, without loading of BSP, it was 50%.

4) Hence, the determination of hepatic uptake of ^{131}I -BSP after loading of BSP is a useful method for diagnosis of functions of latent hepatic disturbances.