

Nuclear Medical Investigation of 13 Cases of Chronic Hepatitis and Liver Cirrhosis which transformed into hepatoma

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During the nuclear-medical complex examination of cases of chronic hepatitis (active type) and of liver cirrhosis (mainly of OTSU type in Miyake's classification), we detected, in 13 cases, the transformation of said cases into hepatoma.

We performed operation against one egg-sized primary hepatoma on left lobe out of the above mentioned 13 cases. This patient is still alive in one year after the operation.

We carried out follow-up investigation against 13 cases.

The results are:

1. According to histologic and anatomic examination, we observed such a tendency that the hepatoma of positive HBs antigen was diffuse type whilst that of negative HBs antigen and antibody was focal type.
2. In two out of three cases of hepatoma with positive HBs antibody the antibody titer was

observed to rise high as the transformation into hepatoma came near.

3. In ^{99m}Tc -phytate liver scintigraphy, the transformation into hepatoma was observed, in 6 out of 13 cases, at the very point of inversion of ratio of activity; liver vs. spleen, or a little bit thereafter.
4. The transformation into hepatoma was observed in both the right and left lobes in 6 cases, in the right lobe only in 6 cases, and it was only in one case in the left lobe. In other words, hepatoma was detected mainly in 8 out of 13 cases, in the right lobe of liver, especially in the seventh and eighth segment of Miyake's classification.

Above findings 2, 3 & 4 are considered to be useful for detection of transformation into hepatoma from chronic liver diseases.

Clinical Studies on Liver Scintigram by Double Isotope Method

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In this report, double isotope method with Ga-67-citrate and Au-198-colloid was evaluated on liver scintigraphy, and clinical results were described.

Two mCi of Ga-67-citrate was injected intravenously two days before the examination and immediately after the injection of Au-198-colloid (300 μCi) data were collected by a gammacamera with two discriminators (Nuclear-Chicago PHO/Gamma HP 6406 type), and a central processing unit (Nova 1200 16 kwds with moving head disk 4047A, Diablo 31, graphic computer terminal 4002A, Tektronix, hardcopy unit 4601, Tektronix, and magnetic tape recorder TMZ).

Recorded data were transferred to magnetic tape for later use and the computer processed a subtraction of Au-198-colloid and background image

from Ga-67-citrate image, and displayed the lesion on CRT as positive figure.

Sixty-six cases were studied with double isotope method. These were 9.9% of 667 cases which were studied in our department for two years on scintigram with single isotope method. In 24 of 66 cases were not found any space occupying lesion with single isotope method, and 6 of 24 cases showed positive findings with double isotope method.

In 42 of 66 cases were found space occupying lesion with single isotope method, and in 16 of 42 cases were denied space occupying lesion with double isotope method.

This results showed that double isotope method was useful in liver scintigrams.