

Fetoprotein positive hepatoma, by radioimmunoassay. Their levels rised immediately and after 3-5 months they changed positive by single radial immunodiffusion.

Levels in acute hepatitis with jaundice were very high within one month after the appearance

of jaundice. But they fell in parallel with the levels of the transaminase and the bilirubin.

Levels in the active type of acute hepatitis were higher than the inactive type.

Levels in the hepatitis and liver cirrhosis were changed in parallel with the transaminase.

Study of Scintiphotos of Liver Cancer

Part 1. About α -Fetoprotein

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Frontal and right lateral scintiphotos of 26 pathologically confirmed liver cancers, including 15 primary liver cancers (P.L.C.) and 11 metastatic liver cancers (M.L.C.), were analyzed, and correlated with their α -fetoprotein contents in blood. The scintiphotos were made by a gamma camera after intravenous injection of ^{198}Au -colloid. P.L.C. seemed likely to develop in contracted livers, and M.L.C. in enlarged livers. The contracted livers, in which P.L.C. developed, was disposed to produce small space-occupying lesions (S.O.L.), while the enlarged liver of the M.L.C. tended to produce large S.O.L. . S.O.L. of the P.L.C. was inclined to develop in the posterosuperior portion of the

right lobe of the liver. The S.O.L. of M.L.C. was likely to develop in any part of the liver. The number of S.O.L. of P.L.C. was almost always limited to one, while those of M.L.C. numbered 2 or more. Visualization of the spleen was about 64% in P.L.C., and 40% in M.L.C. . The α -fetoprotein determination was positive in 9 cases of 15 in P.L.C., and it was negative in all cases of M.L.C. .

In 15 cases of P.L.C. there were 9 cases of pathologically confirmed liver cirrhosis, and 3 cases presented pathologically no cirrhosis and the rest were not confirmed.

Serum Alpha-fetoprotein and Hepatic Scintigram in Patients with Liver Diseases

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Radioimmunoassay of serum alpha-fetoprotein and camera images of the liver were evaluated for the early diagnosis of hepatoma.

Among 20 patients with histologically diagnosed hepatoma, serum alpha-fetoprotein were positive in 100%, 53%, and 55% using radioimmunoassay, single radial diffusion, and double diffusion, respectively.

Alpha-fetoprotein was found in about 50% of active chronic liver diseases by radioimmunoassay, most of these values were less than 320 nanograms per ml. of serum, whereas in 95% of hepatoma showed alpha-fetoprotein higher than 320 nanograms per ml. of serum.

In hepatic scintiphotos, definite cold area was demonstrated in 70% of patients, whose serum