relation between serum Au-Ag and serum α-fetoprotein concentration on logarithmic paper seems to be negative correlation. In cases of 18 ou of 27 cases of hepatocellular carcinoma Au-Ag were detected, and in 13 of 18 cases liver cirrhosis was combined. Au antigenemia was shown in 3 cases of hepatocellular carcinoma without cirrhosis of the liver.

Change of α-fetoprotein Concentration in Serum of Patients with Various Types of Liver Disease

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The concentration of α-fetoprotein in serum of patients with various types of liver disease was examined by the method of radioimmunoassay. The concentration of this protein in serum of normal adults was below 10 mg/ml.

In 17 of 19 patients with hepatoma, the concentration of this protein markedly elevated and in 15 of them it reached 9500 to 342000 mg/ml, but in only two of them the concentration of this protein was below 10 mg/ml.

In about 45 per cent of patients with liver cirrhosis or chronic hepatitis, elevation of the concentration of α-fetoprotein in serum was observed. In about 50 per cent of acute hepatitis, the concentration of this protein elevated at the 1st to 4th week.

In all of three patients with subacute hepatitis, the concentration of this protein elevated and reached 240 to 1360 mg/ml.

In many cases of acute hepatitis which the concentration of this protein in serum markedly elevated, the clinical courses were prolonged.

The Relationship with Australia Antigen and α-Fetoprotein in Diffuse Liver Diseases

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We investigated the relationship with Australia antigen (Au-Ag) and α-fetoprotein (AFP) in 350 cases of diffuse liver diseases, including 20 cases of acute hepatitis, 221 cases of chronic hepatitis and 99 cases of liver cirrhosis.

Au-Ag was measured by solid phase radioimmunoassay (Austria125-Kit) produced by Dainabott laboratories.

AFP was measured by two antibodies method (α-Feto-125-Kit) produced by Dainabott laboratories, and the values above 20 ng/ml were evaluated as positive.

A summary of results was shown below.

1) Among 350 cases with diffuse liver diseases, 242 did not have the Au-ag and 98 had the Au-ag.

In the groups of Au-ag-positive, 39 cases (40%) were AFP-positive, whereas in the
groups of Au-ag-negative, 53 cases (22\%) were AFP-positive.

This difference was significant (P<0.001).
2) There were no correlation between the Au-ag titer and the values of AFP, but recognized that there were correlation in acute hepatitis of the good prognose.
3) After this, We continue investigating the relationship with Au-ag and AFP, including Au-antibody.

Non-Erythropoietic Component of Early Labelled Bilirubin in Patients with Cirrhosis and Acute Hepatitis (Recovery Stage)

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Non-erythropoietic component of early labelled bilirubin was studied in 7 acute infectious hepatic patients (in recovery state), 18 cirrhotic patients and in 7 control subjects with plasma and bile, after injection of 2.5 \( \mu \)Ci of \([4-^{14}C]\) \( \delta \)-aminolaevulinic acid intravenously. All cases were examined in the nonicteric stage (total serum bilirubin below 1.5 mg/dl). The mean cumulative radioactivities in 4 hours in the control subjects were \( 29.6 \pm 4.7 \times 10^3 \) C.P.M./mg × hrs. in plasma, and \( 27.0 \pm 1.2 \times 10^3 \) C.P.M./mg × hrs. in bile.

In acute hepatitis patients (in recovery stage), the mean cumulative radioactivities in 4 hours in both plasma and bile were approximately twice as large as that in control subjects. (P<0.001 and <0.005 respectively.) In cirrhotic patients with large size liver scintigrams, the mean cumulative radioactivities in both plasma and bile were approximately 1.4 times as large as that in control subjects. (P<0.001 both in plasma and bile.)

In cirrhotic patients with medium sized liver scintigrams, the mean cumulative radioactivities in both plasma and bile were approximately the same as that in control subjects.

In cirrhotic patients with markedly small sized liver scintigrams, the mean cumulative radioactivities in both plasma and bile were approximately one half as large as that in control subjects. (P<0.01 both in plasma and bile.)

In the cirrhotic patients, two peaks of bilirubin activities were observed in many cases in both plasma and bile. The more the cirrhosis advanced with the liver reduced in size, the more the cases showed two peaks.