

Experimental study of iron effect on the liver function

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The effect of iron on the liver function was studied in rats. A total of 40 rats were divided into four groups. Group 1 was given iron; Group 2, carbon tetrachloride; Group 3, a combination of iron and carbon tetrachloride; and Group 4 was the control. The changes in liver function were evaluated by using hepatobiliary and liver scintigraphy as the index of hepatocyte function and reticuloendothelial system function, respectively. Determination of liver CT number and a histological study were made at the same time.

The administration of iron activated the reticuloendothelial system function per unit of liver weight. However, because of the decrease in liver weight, the total reticuloendothelial system function did not change at all. In the group given iron and carbon tetrachloride, liver cirrhosis and siderosis in the reticuloendothelial system occurred. Dysfunction in the reticuloendothelial system was more severe in this group than in the group given carbon tetrachloride only, but hepatocyte dysfunction was more mild. It is doubtful that the administration of iron after liver dysfunction had developed, which caused acceleration of fibrosis and reduction of liver blood flow, led to the enhancement of the reticuloendothelial system dysfunction.

Key words: Iron, Liver scintigraphy, Hepatobiliary scintigraphy, Rat