

Determination of Total Iron-binding Capacity (TIBC) of the Serum by Removing Serum Iron (SI)

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SI was removed by CG 120 Type 3 powder after acidification with ascorbic acid. The acidified serum resin mixture solution was centrifuged and iron free supernatant solution was obtained. The rate of elimination of SI increased by increasing the temperature and incubation time, but the binding capacity was lost at higher temperature. Transferrin was not denaturated below 37°C and less than 10 minutes at pH 5.5. The rate of elimination of SI at room temperature was more than 95% after 10 minutes with 0.2 g of resin.

Iron binding to iron free transferrin and removal of unbound iron ion were performed as a routine radioiron method for the determination of unsaturated iron-binding capacity of the serum.

TIBC thus obtained was 279 ± 27 for 10 normal female subjects and TIBC as an addition of SI by colorimetry and UIBC with radioiron was 279 ± 29 .

This simple direct method of determination of TIBC would be used for the routine hematologic study.

Correlation of Myocardial Photoscanning and Selective Coronary Angiography and Electrocardiography

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By directly injection ^{131}I -MAA into the coronary artery via a selective coronary catheter, scanning was carried out. As compared with the conventional method, the uptake of isotope into other organs was remarkably limited, and the ischemic area of the myocardium was distinctly demonstrated. The safety of injection of ^{131}I -MAA into the coronary artery was confirmed in the experiment and the method was clinically used in 30 cases. All cases complained no symptom. Our method could diagnosed angine & high posterior infarction which could not diagnosed by other methods. In the present era in which extensive surgical treatment for

various ischemic heart disease has been widely carried out, the selective coronary angiography is an indispensable method. Although coronary angiography visualizes obstruction, stenosis and sclerosis of the main coronary artery and its branches, the state of blood flow through the heart tissue itself is beyond the capacity of this method. Myocardial scanning, on the other method, is able to clarify the severity and site. However, it is not possible to clarify the changes in the coronary artery itself by the myocardial scanning.

Combination of these two methods would certainly provide a reliable method of diagnosis.