

The Determination of Serum IgE Levels by the Combined Use of Single Radial Immunodiffusion and Radioisotope Immunodiffusion

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Immunoglobulin E (IgE) levels in the serum were measured by the combined use of single radial immunodiffusion method (for high concentration samples) and radioisotope immunodiffusion method (for low concentration samples).

For the latter procedure, ^{125}I labeled IgE was used as a marker. Ten to thirty days after an application of the tracer (marker) IgE in the immunoreaction well of dilute antibody incorporated gel layer, 8 μl of test serum or the standard IgE was applied in the same well for immunodiffusion. After 48 hours' immunodiffusion in room temperature, the gel layer was dried and subject to radioautography. The quantitation of the serum IgE was carried out on the radioautography on the basis of Mancini's principle.

Among 207 serum samples obtained from patients with positive skin test for schistosoma japonica, 33 samples contained more than 800 U/ml IgE by radiodiffusion method and 35 were positive (more than 1000 U/ml) by single radial

immunodiffusion method. Thirty one samples were in the range between 500 to 800 U/ml.

Among 67 samples obtained from patients with liver diseases and with negative skin test, 10 were more than 800 U/ml by radioimmunodiffusion and 11 were more than 1000 U/ml by non-isotope method.

The high IgE values in hepatic diseases patients were often associated with the increase in SGOT and SGPT. In a patients followed up for several months, the high IgE levels was rather transient and decreased rapidly almost in parallel with the fall of SGOT.

Although isotope method showed the tendency to give slightly lower values than by the non-isotope method in the range between 800 to 1000 U/ml, with this method, the low concentration samples down to 25 U/ml have become measurable, where conventional immunodiffusion method can't be used.