Determination of Immunoreactive Insulin with Immunoassay Kits

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Some problems on the radioimmunoassay procedure for estimating the serum insulin were discussed in this paper by using two kind of kits; the one was obtained from Radiochemical Center (RCC) and the other from Dainabot Radioisotope Lab. (Dainabot).

When the procedure was made according to the indication, no difference was observed between both kits in the sensitivity (1 μ/ml in the concentrations below 100 μ/ml), reproducibility, variation through estimating the same sample (within 10% in the concentration of 100 μ/ml), recovery test (93%), or dilution test. Although microfiltration and centrifugation were indicated by RCC and Dainabot respectively as the method for separating insulin bound with antibody from free insulin, it was possible to switch the procedure each other for the estimation of serum insulin. However, employing microfiltration the estimated value was higher as compared to that with centrifugation, therefore higher value was obtained in the kit from RCC as compared to that from Dainabot in case that same sample was estimated according to their indications. Haemolysis or repeated freeze and thawing of serum lowered the estimated value. The value estimated was higher in the heparinized plasma (100 μ/ml blood) as compared to that serum. Although not only the time required for process was longer but pipetting was frequent in the kit from Dainabot, the centrifugation for separation was simple comparing to microfiltration in the kit from RCC. It was necessary to examine not to defreeze the antibody of the kit from Dainabot during mailing or preserving. Economically, the kit from Dainabot was cheaper than the other.

From these results, it is sufficiently possible to use both kits for estimating the serum insulin, however, as they have advantages and disadvantages in the procedure, stability of antibody, or economy, the selection of the kits might be made considering the conditions or equipments of the laboratory.

Symposium VI. Diagnosis of Malignant Tumors

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Techniques and Information Analysis

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On the diagnosis of the malignant tumors by using radioisotope techniques, the scintigram procedures are supposed to be the best way at present. In this technique, the two opposit mechanisms are applied on the diagnosis of the morphological changes by malignant tumors. One of them is on the positive DEPOSIT technique according to the nature