EVALUATION OF CLINICAL USEFULNESS IN MEASURING SERUM FREE T₃ CONCENTRATION.

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Serum concentrations of free thyroid hormones are now recognized as important indicators of thyroid status. By using an Amerlex radioimmunoassay kit, we have examined serum levels of triiodothyronine (T₃) in patients with thyroid diseases. All 30 thyrotoxic patients showed values over 6.04 pg/ml, whereas mean±s.d. of 35 hypothyroid patients was 1.50±0.66, with 3 cases overlapping the reference values (2.48-5.40) obtained as mean±s.d. of 31 healthy controls. 4 subjects with T₃ deficiency showed normal or high-normal values.

Pregnant females tended to have decreased free T₃ levels as gestations went on. In patients with Graves' disease on antithyroid drugs, some had normal total T₃ but increased free T₃ concentrations. Their serum T₃ levels were found to be low compared to those of patients with both normal total and free T₃, suggesting that the former were still slightly hyperthyroid.

In hypothyroid patients, those after radioactive iodine therapy for Graves' disease had lower free T₃ levels than patients with untreated Hashimoto's thyroiditis. This may reflect the difference in pathophysiology of hypothyroidism in these two groups. Thus, measurement of serum free T₃ seemed to be useful in thyroid practice.

THE IMPROVEMENT OF STANDARD CURVE BY A DOUBLE ANTIBODY RADIOIMMUNOASSAY FOR CEA.

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Recently, carcinoembryonic antigen (CEA) is generally measured as tumour markers. There are three methods by Z-gell, solid phase, and double antibody in radioimmunoassay for CEA. The method of solid phase is said to be good about precision. Eiken's kit for CEA (Eiken ICL) by a double antibody is easily used and its sensitivity is as good as the method by solid phase. Standard curve (Logistic curve) of Eiken's kit is stable but height of it tends towards low a little. We attempted the improvement of standard curve to expect rise of precision and sensitivity.

Standard curve

\[
\begin{align*}
\frac{B}{N} & = \frac{B_{\text{Tracer}}}{B_{\text{Tracer}}} \times \frac{W}{W} \\
& = \frac{B_{\text{Tracer}}}{B_{\text{Tracer}}} \times \frac{W}{W} \\
& = \frac{B_{\text{Tracer}}}{B_{\text{Tracer}}} \times \frac{W}{W} \\
\end{align*}
\]

N: Non specific bound

We carried out the fundamental investigations about five standard curves.

(Reproducibility of within assay and between assay, Dilution, Recovery, Condition of incubation)

Standard curve [I] is better than the standard curve [II] in reproducibility and sensitivity. We did not have the specificity bound is included in random error about Eiken's kit.