used for each assay. 8-anilino-1-napthalene sulfonic acid was used to block T_3-TBG binding.

For the separation of antibody bound T_3 from free T_3, dextran coated charcoal was used, and effects of temperature and protein concentrations on adsorption of charcoal were examined.

From these results, assay conditions of T_3 radioimmunoassay were established and the minimal detectable amount of T_3 with this system was 0.25ng/ml.

The results of 100 serum samples assayed by this method and double antibody method were extremely agreed.

No significant difference in assay precision was found between two methods.

Study of T3-Radioimmunoassay

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The clinical usefulness of radioimmunoassay for the determination of serum triiodothyronine (T3) was studied with a comparative evaluation of total T4 in various thyroid diseases. Influence of the intravenous injection of TRH on the T3 was also studied. The assay was run with duplicated method and the "bound" and "free" was separated by dextrancoated charcoal. Of the reproducibility of this method, the intraassay precision was $\pm$8.5 to 9.6% and the interassay precision was $\pm$3.8 to 4.1% (in low T3 range) and was $\pm$4.8 to 8.8% (in high T3 range).

In 108 serum samples obtained from 102 patients, T3 value showed a significant correlation with total T4, indicating that T3-radioimmunoassay was an useful index for thyroid function.

The mean $\pm$S.E. in 11 normal males aged 27yr. in average was 1.33 ± 0.07 ng/ml and was 1.23 ± 0.07 ng/ml in 13 normal females aged 26 yr. in average. On the other hand in 34 aged subjects from 65 yr. to 91 yr., it was 0.46 ± 0.04 ng/ml, and was significantly lower ($p<0.001$) than that of young normal subjects. The data suggest that serum level of T3 tends to decrease with aging.

In untreated 19 patients with hyperthyroidism, the mean $\pm$S.E. was 4.24 ± 0.42 ng/ml, whereas in those with hypothyroidism was 0.75 ± 0.19 ng/ml.

In the study of influence of TRH on the serum level of T3, the authors could not obtain any conclusive results because of much individual variations.