contrast to $T_3$, serum levels of $T_3$ were more than 2ng/ml in most of the hypermetabolic patients. In hypothyroid patients treated with $T_3$, $T_4$ or desiccated thyroid, serum levels of $T_3$ and $T_4$ were quite variable according to the preparations and doses of thyroid hormone administered and to the duration of the treatment. For example, serum $T_3$ was increased to the hyperthyroid range within several hours after the administration of $T_3$ and declined to the normal or hypothyroid range thereafter. Only the level of TSH correlated well with clinical features of metabolic state.

It is suggested, therefore, that serum $T_3$ is a good index for hypermetabolic and serum TSH or $T_4$ for hypometabolic state, although, it is very important for the diagnosis to consider the history and the physical examination of the patients in addition to the in vitro test.

**Evaluation of Serum Thyroxin Binding Capacity from Tetrasorb and Triosorb Values**

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From the well-known influence of serum thyroxin binding capacity (TBC) upon Tetrasorb ($T_4$) and Triosorb (RSU) values, it would seem that $T_4$/RSU reflects TBC. On the other hand, Nakajima proposed in 1971 a value (TBC Index) $=1/2$ RSU-0.65 as an indicator of TBC. In the present study, usefulness of these two values in evaluating TBC was studied on the basis of $T_4$ and RSU values in 72 hyperthyroid, 122 normal and 16 hypothyroid subjects. The results obtained were as follows.

1. In normal subjects, $T_4$/RSU and TBC Index were in close positive correlation with $T_4$ with coefficients of correlation of 0.88 and 0.73 respectively. $T_4$/RSU could be expressed by an equation $T_4$/RSU=0.42$T_4$-0.045 and TBC Index could be expressed by an equation TBC Index=0.848$T_4$-5.575.

2. In the majority of hyperthyroid patients before treatment, $T_4$/RSU and TBC Index were significantly less than the values derived from the equations with corresponding $T_4$ values. In the majority of hypothyroid patients $T_4$/ RSU and TBC Index exceeded the values expected from the equations.

3. In the majority of samples of pregnant women, $T_4$/RSU and TBC exceeded and in the majority of samples of hypoproteinemic patients $T_4$/RSU and TBC Index were less than the expected values for corresponding $T_4$.

4. In hyper- and hypothyroid patients, $T_4$/RSU and TBC Index approached the expected values after treatment.

It appears, therefore, that both $T_4$/RSU and TBC Index (Nakajima) can be used as good indicators of serum TBC when evaluated as functions of $T_4$. 