

on the day of surgery, while slightly increased on the 1st postoperative day, had maximal increase on the 3rd postoperative day then gradually returned nearly to the preoperative level by the 5th or 7th day of surgery.

In 22 cases of non-toxic nodular goiter (20 cases were performed enucleation and 2 cases with unilateral hemithyroidectomy), the resin uptake of $^{131}\text{I}-\text{T}_3$ after surgery revealed in-

crease in almost all cases. These effects, which commenced on the day of postoperation, were maximal on the 3rd postoperative day, then returned to or nearly to the preoperative level by the 5th or 7th postoperative day.

By these results, it was suggested that postoperative alternations of $^{131}\text{I}-\text{T}_3$ resin uptake was influenced by various type of thyroid disease and operative methods.

Change of TBC and Resin Sponge Uptake After the Administration of TSH and T_3

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It was investigated that whether or not TBC changed accompanying with the change of thyroid function after the administration of TSH (Thytronal 10 USP) or T_3 (100 ug/day), and if it did so, the changes of Resin Sponge Uptake (RSU) corresponded to TBC.

High TBC were obtained in hypothyroid subjects and the values overlapped with that of normal and hyperthyroid subjects.

Unsaturated TBC were not overlapped between each groups and TBC were nearly saturated with endogenous thyroid hormone in hyperthyroid subjects.

RSU were high in hyperthyroid subjects

and overlapped in normal and hypothyroid subjects.

Correlation between unsaturated TBC and RSU were obtained.

In TSH responded group, there were no differences of regression coefficients between unsaturated TBC and RSU before and after TSH injection.

In TSH responded group, PBI increased and it was likely that TBC decreased and RSU increased but the increase of RSU was not significant.

In normal subjects, RSU decreased slightly with the administration of T_3 for 7 days.

^{131}I -Triiodothyronine Resin Uptake Test as an In-vitro Test of TSH Response of the Thyroid Gland

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To examine the availability of ^{131}I -triiodothyronine resin sponge uptake (RU) in serum as a test of response of the thyroid gland to exogenous TSH, it was compared with the thyroidal uptake (TU), which is routinely used, as TSH-test in a total 80 euthyroid volunteers and patients with some thyroidal diseases.

Both tests were simultaneously performed before and 24 hours after TSH (thythopar 5 USP) injection and increase of RU more than 3% was judged as positive response.

The results of both tests corresponded in 63% of all cases, but in 78% of euthyroid volunteers among them.

It seemed to be noteworthy that RU and

TU of the patients with the cerebral palsy of spastic type corresponded only in 21%, while those of the patients with the cerebral palsy of athetotic type did in 83%, but this reason is at present unknown.

Of 7 patients of pituitary dwarfism, RU and TU after TSH were both increased in 5 cases and not changed in one case, but in another case only TU was increased without change in RU.

Both RU and TU in a case of dwarfism with primary hypothyroidism were not changed

after TSH.

The discrepancy between RU and TU as the indices of TSH-response, observed in some of the investigated cases, seems to be similar phenomenon as that between PBI and TU after TSH, which has been occasionally noted by other authors.

On this investigation, especially in the cases of dwarfism, it will be concluded that the in-vitro test of TSH-response of the thyroid gland by means of RU be available.

The Follow-up Studies with Triosorb Test After ¹³¹I Treatment for Hyperthyroidism

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Recently, we have made follow-up studies, with Triosorb test (T_3 test) in relatively short intervals, on the cases administered iodine-¹³¹I (¹³¹I) for the treatment of hyperthyroidism.

The distributions of the values of T_3 test (T_3 values) obtained from 233 euthyroid, 43 hyperthyroid and 15 hypothyroid cases were as follows: the euthyroid cases ranged from 17.5 to 40.0% and 94% of them were found in between 22.5% and 35.0%, the hyperthyroid ranged from 35.0% to 67.5% and the hypothyroid ranged from 15.0 to 25.0%.

The serum obtained from the patient after the administration of ¹³¹I contains radioactivity for some time. In such cases, T_3 test was performed with a blank test.

Generally speaking, immediately after or sometimes even a month after the administration of ¹³¹I there was a tendency to keep T_3 values somewhat higher than its original level.

Among the patients who became euthyroid, some showed a gradual decrease in T_3 values to normal level. Some others showed relatively steep drop and reached once to hypothyroid level, demonstrating sometimes mild and transient hypothyroid symptoms for a short time; then, T_3 values went up to normal level. In one case, T_3 values were kept continuously high for 2.5 months; then, showed a gradual decrease to normal level.

In two cases on whom hyperthyroidism recurred, T_3 values were found not so high. In one case, T_3 value was only 34.6% with ¹³¹I uptake 64.8% and BMR +34%. In another case, T_3 value was 39.5% with ¹³¹I uptake 74.5%, BMR +43% and PBI 11.9 μ g/dl. To both cases administered 30 mg. of Balance daily for about 5 weeks; then, T_3 values as well as other laboratory test in both returned to normal level without re-administration of ¹³¹I.

In cases who became hypothyroid, one showed T_3 values kept completely normal for about 8 months; then, decreased to hypothyroid level suddenly, showing myxedema. In another case, T_3 values were kept definitely high (45%) with clear hyperthyroid symptoms even in 2 months after the administration; then, it dropped suddenly to 16% within 2.5 weeks, showing gradual manifestation of myxedema.

In the cases that became hypothyroid, the increase in T_3 values immediately after the administration of ¹³¹I were not so higher than the original levels. However, this is not conclusive because the number of induced hypothyroid was too small.

As a conclusion, changes in T_3 values with the lapsing of time after the administration of ¹³¹I were so variable in each case that, from the T_3 values within one or two months