TSH BINDING INHIBITING ANTIBODY (TBIAB), SERUM CONCENTRATION OF THYREOGLULIN (Tg) AND T3 SUPPRESSION TEST IN TREATED PATIENTS WITH GRAVES' DISEASE.

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The correlation between TBIAB, the concentrations of serum Tg and the results of T3 suppression test in treated patients with Graves' disease were investigated. In patients with Graves' disease who become euthyroid with the treatment of antithyroid drug, TBIAB was measured and T3 suppression test was undertaken. The concentrations of serum Tg were measured in the patients who were negative for anti-Ty antibody in serum.

A positive correlation was observed between serum concentration of Tg and TBIAB. The concentrations of serum Tg were increased in all the patients with positive TBIAB.

A positive correlation was observed between the thyroidal uptake of I-123 after the administration of 75µg T3 daily for 7 days and TBIAB. All the patients with positive TBIAB were unsuppressive to T3. The concentrations of serum Tg in T3 unsuppressive patients were significantly higher than those in T3 suppressive patients. It seems that there are relationships between the increase of serum concentration of Tg and TBIAB and between T3 suppressibility and TBIAB in patients with Graves' disease.

CLINICAL SIGNIFICANCE OF Tc-99m PERTECHNETATE EARLY UPTAKE RATE IN THYROID SUPPRESSION TEST.

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Eighty two patients with hyperthyroidism on antithyroidal agents were studied to determine the usefulness of thyroidal Tc-99m pertechnetate(Tc) early uptake rates in T3 suppression tests. Following suppression by T3 for 8 days, each patient was administered Tc of 300 micro Ci intravenously and thyroidal 20 min uptake rate was measured with a scintillation camera and a computer system. Simultaneously, I-131 20 min uptake rate was measured by the same way as Tc. True injected counts were obtained by using a neck phantom. In 92 studies of the 82 patients, Tc uptake rates were shown highly to correlate to I-131 uptake rates (r=0.92). A study on 64 patients revealed a significant relation between required dose of antithyroidal agent and Tc uptake rate. In a study of 46 patients, titers of antimicrosomal antibody were found to depend fairly on Tc uptake rates. These findings indicate that in T3 suppression test, Tc-99m pertechnetate early uptake rate has a significant potency to select appropriate treatment and estimate prognosis in antithyroidal treatment, hence a replacement of I-131 early uptake rate.

ACUTE CHANGES IN THYROID HORMONES AFTER I-131 TREATMENT IN GRAVES' DISEASE.

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Twentyone hyperthyroid patients were followed with serum thyroid hormone and Tg levels for 10 days after I-131 treatment. One group (3 patients) had decreases of hormone levels at Days 1-3. Other group (18 patients) had decreases of hormone levels at Days 3-7. On the other hand, Tg levels increased in most of patients. There was no correlation between the dose of I-131, the initial T3 and changes in serum Tg levels in these groups. And there was no correlation of changes in thyroid hormone levels with rate of decrease in goiter weight 1 year after I-131 treatment. This suggests that I-131 may have some effects on mechanism in release of thyroid hormone.

THE NEW PLAN OF I-131 TREATMENT FOR GRAVES' DISEASE.

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One thousand and six hundred twenty patients were treated with an averaged I-131 dose of 7500 rad from 1963 to 1967 and we surveyed of 208 patients out of 1620 patients 10 years after I-131 treatment. (I-131 high dose therapy) In the same way, 655 patients were treated with an average I-131 dose of 3000 rad from 1975 to 1976 and surveyed of 264 patients out of 655 patients 3 or 6 years after I-131 treatment. (I-131 low dose therapy) Compared the result of I-131 high dose therapy with I-131 low dose therapy, we obtained that the result of I-131 treatment was influenced by goiter weight. So, we make the new plan of I-131 treatment for Graves' disease that the dose of this treatment correspond with goiter weight.