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THE SIGNIFICANCE OF I-131 SCANS IN PATIENT WITH THYROID CANCER AFTER TOTAL THYROIDECTOMY.

O.Senga,M.Miyakawa,A.Sugenoya,S.Kobayashi, N.Hanamura,G.Kaneko,T.Yokozawa and F.Iida. Department of Surgery,Shinshu University, Matsumoto.

Among 69 patients with thyroid cancer after having undergone total thyroidectomy, 48 patients were studied with diagnostic I-131 whole-body scans. There were 28 patients with primary thyroid cancer and 20 patients with recurrent thyroid cancer. A dose of 2mCi I-131 was administered orally and after 24 hour the patient was scanned at 3 week after total thyroidectomy. Mean T4,T3 and TSH before I-131 scan were 2.4 μg/dl, 0.5 ng/ml and 90.7 μU/ml. Of 48 cases scanning I-131, 12 cases(25%) had abnormal accumulation of distant areas. They involved 6 primary thyroid cancer and 6 recurrent thyroid cancer. In 9 cases which had distant metastasis before operation, 5 cases(55.6%) showed an accumulation in distant metastasis by I-131 scans. In 7 cases which did not show distant metastasis before operation, they were recognized distant metastasis by I-131 scans. This results means that I-131 whole-body scan after total thyroidectomy is quite important role for advanced thyroid cancer and it is a useful procedure in finding distant early metastasis and in selecting the treatment method.

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ANALYSIS OF TBII INDEX VALUES BEFORE AND AFTER SUBTOTAL THYROIDECTOMY FOR GRAVE'S DISEASE.

T.Hoshi,I.Watanabe,I.Higuchi and S.Endo. Fukushima Medical College,Fukushima.

A number of prognostic factor relating to surgical treatment for Grave's disease have already been studied, but they can't show before operation whether a prognosis is good or not. Now, we've made a measurement of TBII(thyrotropin-binding inhibitory immunoglobulin) with the use of RIA kit and gotten a little knowledge about its clinical availability.
Next, we've performed subtotal thyroidectomy in 71 patients with Grave's disease and classified them into 3 Groups:I)euthyroid after operation, II) hypothyroidism, III)recurrence. Group I is 58%, II is 32% and III is 10% of the 71 patients. So a measurement of TBII was made in 24 cases of them. During medication of antithyroid drug and after operation, all cases except Group III of TBII index values showed a gradual decline, and a decline rate of Group II is different from that of Group I. That is, a decline curve of Group I resembles that of serum concentration of drug, and Group II does not. A half time of decline rate of TBII index correlates likely with the weight of remnant thyroid and with the preoperative values. So, negative cases through pre-and post operative course tend to remain hypothyroidism with few excepts. It seems that a measurement of TBII before operation shows the post-operative prognosis in Grave's disease.

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MEASUREMENT OF FREE T3 AND FREE T4 IN THE FIELD OF THYROID SURGERY.

S.Kobayashi, M.Miyakawa,Y.Kasuga,G.Kaneko,T.Yokozawa, N.Hanamura,O.Senga,A.Sugenoya,F.Iida. School of Medicine,Shinshu University, Matsumoto.

Serum T3 and T4 which are almost bounded with thyroxine binding protein (TBP), are influenced by binding protein. As freeT3 (FT3) and free T4 (FT4) are independent of TBP. Fomerly,the way to measure FT3 and FT4 has been complex. Recently,a handy kit of RIA was produced by Amasham. We investigated FT3 and FT4 in various states of thyroid function. FT3 and FT4 in normal subject were 4.53+0.83(mean+ SD)pg/ml,1.61+0.36ng/dl,respectively. Ratio of FT3 to T3 (FT3/T3) of normal was 0.34+ 0.07%. That of FT4 to T4 (FT4/T4) was 0.017 +0.004%. FT4/T4 in untreated Graves' was high. It means that in some cases, T4 was normal and FT4 was high. In postoperative hypothyroidism, FT3/T3 was significantly lomer than that of control. FT3 of total thyroidectomized (TX) patients promptly decreased after operation. FT3 level of 1 post operative day (POD) was about half of the preoperative value. On the other hand, FT4 was gradually decreasing untill 14 POD. TX patients who were substituted T4(150/day), T4 level of them was higher than that of control.But FT3 and FT4 were within normal range. We concluded that free and total thyroid hormone are correlative, however, ratios are not certain among various states of thyroid function in thyroid surgery.

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STUDIES ON PRODUCTION AND SECRETION OF THYROID HORMONES IN PATIENTS WITH GRAVES' DISEASE AND HYPERFUNCTIONING NODULES.

M.Miyakawa, O.Senga, G.Kaneko, N.Hanamura, T.Yokozawa, M.Kobayashi, S.Kobayashi, A. Sugenoya, F.Iida,K.Maruyama*. R.Sakai*. (2nd. Dep. of Surg., Shinshu Univ. School of Med., Dep. of Radiol. Science *.)

As thyroid hormone metabolisms have become of marking clear, the mesurements of these hormones have been developed. We have studied on the production and secretion of thyroid hormones in thyroid disorders. Materials: Graves' disease 7 patients, hyperfunctioning thyroid nodule 4 patients, Methods: Intraoperative blood samples were drawn from inferior or medial veins into a heparinized siringe. Arterialized blood were obtained simultenously from carotid artery. At the time,thyroid tissues were obtained the tissues.these were preparated from normal thyroid tissue adjecent to thyroid nodules removed at the time of thyroidectomy. The thyroid homones were extracted by Chopra(J Clin Endocrinol Metab,36:311,1973). The results were as follows: Production and Secretion of thyroid hormones were increased in patients with hyperfunctioning nodules compared to with Graves'disease treated with antithyroid drugs. As patients with hyperfunctioning nodule were non-treatment at the operation, it seems to be able to observe them,this studies were very favorable.