

ture or 10–30°C.

- (2) It seems that 72% PVF contained T_3 - ^{131}I is more stable than 65% PVF contained T_3 - ^{131}I .
- (3) These PVFs contained T_3 - ^{131}I are able

to be used clinically, and as the test of ^{131}I - T_3 by using them will become simpler than the previous one because it can be easily made by adding only serum.

Experience of Abrrant Thyroids

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5 cases of aberrnat thyroid glands seen in Radioisotope-clinic Kyushu University Hospital from 1960 till 1965 are reported. In all cases thyroid glands are not at normal region of neck, but at tangeubasis region.

Their ^{131}I scitigrms and roentgenogrms taken with 200 and 250 kvp. X ray were showed.

Case No., Name, Age, Sex, Chief complaint, Basal Metabolic Ratio, ^{131}I Up Take Ratio (past 24 hours), Value of Triosorbe Test of the following are:

- Case 1. R.K., 13Ys, Female, Stopping feeling at nose, -8.5%, 4.9%.
- Case 2. N. I., 20.Ys., Male, Stopping feeling

at nose and pharynx, +10%, 2.1%, (at center of neck), 8.1% (tangeubasis region).

- Case 3. S. I., 32.Ys., Female, Stopping feeling at tangeubasis region, +11%, 3.4%.

- Case 4. K. K., 20.Ys., Female, Tumor at tonguebasis region, -9%, 18.4%.

- Case 5. H. S., 42.Ys., Female, Light dyspnea, -6%, 19%, 32.7%.

This disease had been diagnosed only by histological examination traditionally, but has been diagnosed easily by nuclear application recently.

Statistical Observation of Thyroid-Scintigram

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Since the April of 1960 till the March of 1965, Thyroid-Scintigrams of about 2300 have been performed and classified into several groups in the Department of Radiology, University of Tokyo. The total Thyroid-Scintigram in each year, was devided by sex and that of female was about four times than that of male.

Next, an about 1200 of Scintigram, which had a clinical diagnosis, was devided by disease and that of Hyperthyroidism and

Nodular goiter are more frequent than others. Position, size and defect of a Scintigram have important clinical merits. About position of a normal thyroid-sintigram, a right lobe is higher than left lobe at the overpole in about the 75%. And a underpole of right lobe is lower or same level or higher than the underpole of a left lobe.

Therefore, symmetrical form of thyroid-scintigram is considered to be in less number.

About size of scintigram, normal thyroid

scintigram and a hyperthyroid scintigram are classified comparing an area of right lobe with that of left. The former is more in 8~10 cm², and reduces the number to in small area. The latter is more in 10~12cm² and more.

In the next place, the scintigram were classified into five groups, that is, normal type, small defect type, lobe defect type, abnormal type and unclassified type, and comprised with diseases. Most of scintigrams show suitable tendency as expected, but in some instance, they could not be classified and they were in the column of unclassified type. This fact must be noticed. According to an up-take rate, hyperthyroidism were divided into a normal type and other types. By this classification, the former increases the number accompanied with the increase of

up-take rate, but the latter is irregular in number. By all account, about 1200 scintigram accompanied with clinical diagnosis was classified and position and size of normal scintigram was noticed.

As to the size, a normal group and a hyperthyroid group were recognized their variance. And an unclassified type seems to occur easily in the time when a rather smaller quantity of the I¹³¹ was given to the patient. Therefore, it seems to be better to give a smaller quantity of the I¹³¹, in usual but the fact that the unclassified scintigrams rise easily in these case must be noticed.

A condition of defect of the thyroid-scintigram could not be classified by the nature of tumors in present, so that this part may be studied in future.

IV. Liver and Brain

Studies of the Reticuloendothelial System (RES)

- 1) Improved Method for the Measurement of the Phagocytic Capacity of the RES in Man
- 2) Changes in the Phagocytic Capacity of the RES in Viral Hepatitis and other Hepatic Disorders

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By the previous report we have evaluated the method to prepare ¹³¹I labelled aggregated albumin (AA) for the study of RES function in man. Eventhough this initial study was quite successful for the first reliable measurement of human hepatic RES function and observed increased RES capacity in certain bacterial infections and decreased RES capacity in certain viral infections, however, there remain certain problems to overcome. (1) ¹³¹I label has not enough shelf-life to make long time follow up study of the patients possible. (2) Conditions of production of AA was not stable and reproducible enough and was too complicated with 2 step heatings. (3) Carrier aggregated albumin was produced in hospital lab. with more simplified

method than the one applied on the production of labelled AA. Therefore the maximum phagocytic capacity thus obtained was likely to be overestimated, because of the inequality of carrier AA with labelled AA. (4) Original sample handling steps to remove free iodide in serum were rather complicated including resin column treatment, thus reducing counting efficiency and making sometimes difficult the application of automatic sample counting system.

This time we made some complete improvement on our previous method. (1) ¹²⁵I labelling was used instead of ¹³¹I, causing several advantages such as higher counting efficiency, longer shelf-life and the decrease in dose and radiation. (2) Single step heat-