

T_4 ($\mu\text{g/dl}$), and TSH ($\mu\text{ U/ml}$) were 99.4 ± 8.6 , 0.79 ± 0.12 , 11.8 ± 6.6 , 5.99 ± 3.14 in H, 99.2 ± 5.4 , 0.84 ± 0.20 , 9.0 ± 3.4 , 5.09 ± 1.45 in F and 104.5 ± 10.1 , 0.69 ± 0.38 , 8.9 ± 3.9 , 6.5 ± 2.5 in L.

Thus in all three groups, T_3 was reduced with slightly increased TSH. In some cases with H, T_4

was elevated but in F and L groups, T_4 was within normal range.

These observations are in agreement with the view that in man the liver plays a significant role on the $T_4 \rightarrow T_3$ conversion.

Clinical Study of a Radioimmunoassay for Parathyroid Hormone and Calcitonin —Differential Diagnosis in Hypercalcemia—

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Both plasma parathyroid hormone (PTH) and calcitonin (CT) in 22 subjects with hypercalcemia were measured by a radioimmunoassay technique.

(1) Among 10 patients with primary hyperparathyroidism, plasma PTH level was significantly high in bone type (5 cases), normal to modestly high in stone type (5 cases). Therefore, in the latter it was important to measure this hormone during the course repeatedly. On the other hand, plasma CT level was normal in all except one complicating the renal disfunction. Such normal CT level indicated the possibility that the reserve of CT secretion in C-cell was exhausted or that the threshold of secreting CT was set-up higher than normal.

(2) Among 12 subjects with malignant tumor, 6 cases with bone metastasis showed the slightly high CT level, while production of PTH was suppressed. Four cases with ectopic PTH producing tumor (lung carcinoma 2, renal cell carcinoma

1 and neck tumor 1) demonstrated both high PTH and CT level. From the extract of tumor tissue, only PTH could be detected. It was suspected that high plasma CT concentration was secreted from C-cell by the hypercalcemic stimulation. One case with hepatoma having no bone metastasis showed normal PTH and high CT level. In this genesis of hypercalcemia, it should be surveyed the existence of the other hypercalcemic substances such as prostaglandin E_2 , vitamin D like sterol or osteoclast activating factor. One case with multiple myeloma showed both normal PTH and CT level. This case did not exhibit any hypercalcemic features clinically and then showed normal calcium ion concentration. Myeloma protein acted as the calcium binding protein.

According, it was a useful method in differential diagnosis of hypercalcemia to measure both plasma PTH and CT by a radioimmunoassay.

Effect of Iron Deficiency Anemia on Thyroid Function

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In the course of treatment of iron deficiency anemia with iron and hyperthyroidism with radioiodine, we observed the increase of thyroid function in accordance with the recovery of iron deficiency anemia.

Case 1.

A 35 year old female patient with hyperthy-

roidism and myoma uterii with hypermenorrhea, which led to iron deficiency anemia was followed up for 4 years in the course of radioiodine therapy to the thyroid, and iron injection for iron deficiency anemia.

The change of thyroid function was paralleled with that of iron deficiency anemia, as observed