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CLINICAL EVALUATION OF Tl-201 UPTAKE RATIOS IN NODULAR GOITER - ROLE OF DELAYED SCAN
K. Suzuki, M. Mashimo, K. Nishimura and T. Miyamae
Saitama Medical School, Saitama.

We studied 60 nodular goiter patients who were performed both Tl-201 thyroid scan and pathological study. They were classified into 3 groups by histological type: 17 cases of malignant tumor (M group), 20 cases of benign non-cyst group and 23 cases of cyst group. Cystic or fibrotic change of benign nodular goiter was included in C group. Tl-201 scan was performed at 10 min. (early scan) and 3 hr. (delayed scan) after I.V. injection. At the same time, radioactivity was recorded on computer. We counted Tumor/Background (T/B) ratio by Sawa et al. and recorded on computer. We counted Tumor/Background (T/B) ratio by Sawa et al. and recorded on computer.

The results were summarized in 14 groups. Since 1975, 37 patients with malignant tumor were treated with I-131 after surgical operation. The patient who was surgically treated and had lymph node metastasis was regarded as patient with malignant tumor. The patient who had a history of thyroid surgery or had undergone any form of radiation therapy before I-131 was excluded.

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The usefulness of Tl-201 for differential diagnosis of thyroid disease was studied, using 164 subjects, a part of the 429 patients scanned with \( ^{131}I \). (163 cases) or \( ^{239}U \) (266 cases), who were further examined with Tl-201 scan for differentiation. Of the subjects, 42 cases (25%) had the following diseases confirmed by tissue diagnosis after operation, etc.: 10 cases of malignant thyroid tumor and 32 cases of benign tumor (including 1 case of thyroiditis and 5 cases of adenoma-like tumor). This study also used additional 30 subjects who were clinically diagnosed as chronic thyroiditis.

Initially, the optimum delay time for the delayed scan technique was studied. It was found that 63% of the cases are analyzable for residual activity at 1 hour, 87% at 2 hours and virtually 100% at 3 hours. Therefore, we employed 2 hours as standard delay time and increased the time only in unclear cases. Counts at 1, 2 and 3 hours were plotted graphically by setting the same ROI for both the lesion and control parts of the thyroid gland. The rate of count reduction was calculated from the graph to determine its significance for differential diagnosis.

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RESULT OF RADIOIODINE I-131 THERAPY FOR THYROID CANCER.
K. Tsutsui, K. Satoh, H. Muraki and M. Nakazawa
Cancer Center Niigata Hospital, Niigata.

Since 1975, 37 patients with differentiated thyroid cancer have been treated with I-131 after surgical operation. The patient who was surgically treated and had lymph node metastasis was regarded as patient with malignant tumor. The patient who had a history of thyroid surgery or had undergone any form of radiation therapy before I-131 was excluded.

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I-131 AND ACTINOMYCIN-D FOR METASTATIC THYROID CANCER. S. Okuyama, Tohoku Rosai Hospital, Sendai.

For the purpose of reducing radioisotopic dosage in the internal irradiation therapy, actinomycin-D was incorporated to I-131 regimen.

An oral dose of 10mCi of I-131 was given in a case of thyroid cancer with skeletal metastases postoperatively, and 100 micrograms of actinomycin-D was given on the third and fourth day. This schedule was repeated 3 times in 6 weeks. Pains in the smaller bone foci regressed in due course of time. Two large lesions were additionally irradiated externally.

The patient remains free of signs of cancer metastasis for 1 year after end of the irradiation. Possibly this I-131 and actinomycin-D as combined in small doses can be useful and convenient enough.