Thallium-201 scintigraphy in the evaluation of thyroid nodules
A retrospective study of 246 cases

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There is controversy at present concerning the value of TI-201 scintigraphy in the diagnosis of malignant thyroid nodules. The usefulness of TI-201 scintigraphy in differentiating benign from malignant nodules was evaluated retrospectively. TI-201 scintigraphy was performed in 101 patients with malignant thyroid nodules and in 145 with benign nodules. Early and late images were examined to compare TI-201 uptake in nodules and normal thyroid tissue. The visual method resulted in 74% of sensitivity and 58% of specificity for the detection of malignant nodules including incidental cancers. Excluding incidental cancers, 87% sensitivity and 58% specificity were achieved. Small cancers, including incidental cancers less than 1.5 cm in diameter and small number of viable tumor cells in a large tumor also gave negative TI-201 scintigraphic results. Forty-two percent of the benign lesions gave false positive TI-201 scintigraphic results.

It is concluded that TI-201 scintigraphy is a sensitive and useful method to use in diagnosing malignant thyroid nodules, but is not a specific method even with late scan, for the detection of malignant thyroid nodules.

Key words: thallium-201, thyroid malignancies.