

Summary

Results of Radioiodine Therapy in Patients with Pulmonary Metastases of Differentiated Thyroid Cancer

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Factors affecting the effect of ^{131}I treatment and survival after pulmonary metastases in patients with differentiated thyroid cancer, were studied. Between 1984–1999, pulmonary metastases was observed in 51 out of 153 patients with differentiated thyroid cancer at our institution. Of these 41 patients had papillary and 10 follicular thyroid cancer. There were 37 females and 14 males with mean age (\pm S.D.) of 50.5 ± 19.0 years. These 51 patients were subjected to ^{131}I therapy. The effect of ^{131}I treatment and the prognostic values of the following variables were examined: sex, age at the time of ^{131}I treatment, histologic type of cancer, size of pulmonary metastases on CT, total-body scintigraphy with ^{201}Tl and ^{131}I , serum thyroglobulin levels and presence of metastases in distant sites other than lung. The effect of ^{131}I treatment was evaluated by means of changes in the number and size of metastatic shadows on chest CT and by serum thyroglobulin levels. The minimum duration of follow-up was 12 months. Therapeutic ^{131}I dose scans revealed detect-

able uptake in 25 of 51 patients. Therapeutic ^{131}I dose uptake was achieved more frequently in patients under 40 years of age and in those with follicular cancers. Of the 51 patients, 13 were evaluated to be treated successfully. Those under 40 years of age, with ^{131}I uptake in the lung and presence of other metastases showed a good response to treatment than others. Follicular cancer showed a more significant association with coarse type of lung metastases (> 5 mm in diameter on chest CT) and good ^{131}I uptake than papillary cancer. Of all the variables studied, the best prognosis for survival was demonstrated by increased ^{131}I uptake in pulmonary metastases. These results indicate that age, ^{131}I uptake and presence of other metastases are important factors in predicting the effect of ^{131}I treatment for pulmonary metastases of differentiated thyroid cancer.

Key words: Thyroid cancer, ^{131}I therapy, Pulmonary metastases.