

Summary

Seven Cases of Brain Metastasis from Papillary Thyroid Carcinoma

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Brain metastases from differentiated thyroid carcinoma are extremely rare and carry a poor prognosis. We describe here clinical details of 7 cases of brain metastases from papillary thyroid carcinoma.

Of 153 patients with metastases from differentiated thyroid carcinoma (papillary in 123, follicular in 30) treated at our institution between 1981 and 1999, 7 patients (4.6%) had brain metastases. Histologically, the primary tumor was papillary carcinoma in all 7 cases. Four were males and 3 were females. The median age at first diagnosis of distant metastases was 63 yr (range, 47–76 yr). Of these patients, one had brain metastases only and six had metastases to the lungs as well. Five of these patients were treated with ^{131}I . Three of these 5 patients had marked uptake in the metastases (^{131}I positive) on post-therapy ^{131}I scans and another 2 patients had no significant activity (^{131}I negative) in both pulmonary and brain metastatic lesions. One of 3 patients with ^{131}I positive lesions had intense activity in the brain tumor, but no uptake in multiple pulmonary metastatic tumors. In a patient with ^{131}I positive brain metastases, the tumors progressed rapidly after ^{131}I therapy. In another one patient, acute hemorrhage of the tumor occurred four

days after ^{131}I therapy, requiring surgical removal. Loner case of ^{131}I negative 2 patients was treated with radiosurgery (γ -knife) and complete reduction in tumor volume was observed. On the other hand, one of 2 patients receiving no ^{131}I therapy had radiosurgery (x-knife) and remaining one received conventional external radiation and chemotherapy for small solitary brain and pulmonary metastatic tumors. These therapeutic interventions were useful in both cases.

The mean length of survival after the development of brain metastases in the five patients who died of the disease was 30 months.

One patient treated with x-knife has been alive at 21 months and another one who has ^{131}I uptake in the brain tumor without uptake in lung lesions has been alive 15 months after diagnosis of brain metastasis.

These results indicate that it is important to detect brain metastasis by imaging techniques and Tg measurements and give treatment as early as possible since the brain is the third most common distant metastatic site and the prognosis is poor.

Key words: Papillary thyroid carcinoma, Brain metastasis, ^{131}I therapy, Radiosurgery.