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RADIONUCLIDE THERAPY IN PATIENTS WITH REGIONAL AND DISTANT METASTASES DIFFERENTIATED THYROID CANCER

Differentiated thyroid carcinoma (DTC) usually has a good prognosis. Nevertheless, 20% to 30% of patients develop recurrences over several decades; two thirds of which appear within the first decade after initial treatment. Regional metastases (N1) occur in 15%-40% of papillary, and <20% in follicular thyroid carcinomas. Modified regional neck dissection should be performed in cases of regional lymph metastases. Radioiodine treatment should be repeated by administered radioactivity ranging from 5.55 GBq to 7.4 GBq with 3 to 6 month intervals between doses. There is no maximum limit to the cumulative dose of radioactivity that can be administered to patients with persistent disease, provided that individual doses do not exceed 2 Gy of total body exposure. Distant metastases (M1) occur in 10% of DTC patients. Fifty percent of them are present at the time of diagnosis and predict a poor prognosis. Papillary carcinomas develop metastases via lymph nodes in lungs, while follicular carcinoma usually spread hematogeneously into the bones. If possible, surgery is the main treatment of metastatic disease. Radioiodine therapy should be performed in patients with iodine avid metastases. Palliative therapy, including external beam radiotherapy and chemotherapy, is usually performed in non-iodine avid metastases. The 10-year survival rate of 62% is detected in patients with regional recurrences. Their mortality rate has increased in most series. Distant metastases occur more frequently in patients with regional metastases and predict a poor prognosis. The overall survival rate at 10 years from the detection of metastases ranges from 25% to 40%. In our results, we detected a 5-year disease specific survival (DSS) of 67% and 10-year DSS of 55% in patients with iodine-avid lesions, while 15-year and 20-year DSS of 45% were observed. Patients with non-iodine-avid distant metastases had a significantly shorter DSS of 18% after 5 and almost 10 years ($p < 0.0006$). **Conclusion:** Patients with metastatic DTC can be cured in a significant proportion of patients. In others, durable palliation enables better quality of life and

prolonged survival.

Key words: thyroid gland, differentiated thyroid carcinoma, I-131, radioiodine therapy, metastases