

The Role of Postoperative External Beam Radiotherapy in Differentiated Thyroid Cancer with Focal Anaplastic Change

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Purpose : To determine the role of postoperative external-beam radiotherapy (EBRT) in the patients with differentiated thyroid cancer with focal anaplastic change

Patients and Methods : Of the 6,345 patients diagnosed as thyroid cancer at our institution between January 1980 and June 2008, 115 had anaplastic thyroid carcinoma. Of these patients, 33 had focal anaplastic change. The median patient age was 53 years (range, 22–75 years). The majority of patients were female (75.8%) and had extrathyroidal tumors (72.7%). Two patients (6.1%) had distant metastasis at diagnosis. Total thyroidectomy was achieved in 25 patients (75.8%). Twenty patients (60.6%) received postoperative EBRT (EBRT group) to a median total dose of 61.2Gy (range, 54.0–70.0Gy) and 11 (33.3%) received radioactive iodine (no-EBRT group). The median follow-up duration was 19 months (range, 2–130 months).

Results : The 5-year overall and disease-free survival rates were 96.2% and 57.2%, respectively. The 5-year local failure-free survival rates were significantly different (100% in the EBRT and 52.5% in the no-EBRT p=0.024). There were no significant difference in overall, disease-free, regional failure-free, and distant metastasis-free survival rates between the EBRT group and no-EBRT group. Thyroglobulin, palpable lymph node, anaplastic transformation from previous differentiated thyroid cancer, and multiple foci were significant prognostic factors.

Conclusions : Postoperative EBRT significantly improved local failure-free survival in patients with differentiated thyroid cancer with focal anaplastic change

Key Words : Thyroid cancer · Anaplastic change · Radiotherapy