

CHEMORADIATION IS A SAFE AND EFFECTIVE TREATMENT IN PATIENTS WITH GROSS RESIDUAL OR UNRESECTABLE NON-ANAPLASTIC THYROID CANCER

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Background/Purpose: Retrospective review of clinical outcomes and toxicities in gross residual or unresectable non-anaplastic thyroid cancer (NATC) treated with external beam radiotherapy (EBRT) with or without concurrent chemoradiation (CCRT).

Methods: Between 1990 and 2012, 67 NATC patients with gross residual or unresectable disease were treated with EBRT to a median dose of 63.0Gy (range, 45.0-70.2). Eighteen (26.9%) patients were treated with CCRT, predominately doxorubicin based. Acute and late toxicities were recorded using the National Cancer Institute Common Terminology Criteria for Adverse Events, version 3.0.

Results: Median follow up was 21.6 months (range, 0.6-176.6). Ten patients developed locoregional progression at a median of 6.8 months (range, 0.0-21.5). The addition of CCRT resulted in a non-significant improvement in the actuarial 2-year locoregional progression-free interval (88.9% versus 75.6%, log rank p=0.270) despite a significantly lower RT dose (58.0 versus 63.0Gy, p=0.028), but did not impact median survival (32.9 versus 29.6 months, p=0.503). Rates of grade 2 or greater acute toxicities did not significantly differ between patients treated with CCRT as compared to EBRT: dermatitis (47.1% versus 49.0%, p=0.891), mucositis (58.8% versus 53.1%, p=0.681), dysphagia (58.8% versus 63.3%, p=0.745), and fatigue (35.3% versus 30.6%, p=0.721). There was no difference in the rate of reactive PEG (22.2% versus 10.0%, p=0.189) between patients treated with CCRT and EBRT. There were no significant differences in late toxicities.

Discussion & Conclusion: The addition of chemotherapy to radiation therapy was well tolerated with no significant increase in major toxicity. A prospective study for concurrent chemoradiation in thyroid cancer is warranted.