

Long Term Survival With Adjuvant Carboplatin, Paclitaxel, and Radiation Therapy in Anaplastic Thyroid Cancer

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An 81-year-old male noticed a lump in the right neck in the area of the thyroid. He sought medical attention immediately and was referred to a local ear, nose, and throat surgeon who performed a computed tomography scan of the neck. This showed a 2 cm mass with central necrosis involving the right lobe of the thyroid gland. In January 2002 he underwent a right thyroidectomy and limited neck dissection. Pathology report came back consistent with anaplastic undifferentiated carcinoma of the thyroid, 4.5 cm in size, with positive margins. The tumor penetrated the thyroid capsule. Two lymph nodes were removed with no cancer within. The patient was otherwise healthy. A chest x-ray was negative for metastatic disease. Decision was made to treat him with aggressive chemoradiation. He received weekly carboplatin AUC 1.5 and paclitaxel 45 mg/m² along with daily radiation therapy. He had a percutaneous gastrostomy tube placed before chemoradiation. The radiation therapy was computed tomography planned and the neck was comprehensively treated including Level I-VI lymph node areas, total dose of 6000 cGY in 30 fractions. He completed all therapy in March 2002. Gastrostomy tube was removed in April 2003. He continues to be in complete remission more than 2 years after diagnosis.

DISCUSSION

This is the first report of carboplatin and paclitaxel used in combination with radiation to treat anaplastic thyroid

cancer, which accounts for 5% to 15% of primary malignant thyroid neoplasms and is one of the most aggressive solid tumors in humans. The overall survival is limited to months. Most patients are elderly and seek treatment with a rapidly growing mass. As many as 75% develop distant disease during their illness. In most of the patients, complete surgical resection is not possible. Poor prognostic features include incomplete resection, presence of thyroid capsule invasion, and distant metastasis.

Development of effective systemic chemotherapy agents would provide the best chance for long-term survival of patients. Anaplastic thyroid cancer is notoriously resistant to chemotherapy, which is often used to palliate symptoms. Early preliminary data suggest that paclitaxel may be helpful.¹ The combination of carboplatin and paclitaxel has been studied extensively in head and neck cancer with and without radiation therapy. This combination is synergistic and is often used for radiosensitisation. It is easy to give, well tolerated and has a low toxicity profile.

We recommend that patients with anaplastic thyroid cancer be treated aggressively with chemotherapy, radiation, and surgery when their disease is limited to the thyroid bed and neck. Some patients may achieve local control and enjoy an excellent survival with good quality of life. The combination of paclitaxel and carboplatin should be evaluated in a phase II study to assess response rates and survival. This can only be done through collaboration across multiple institutions given the rarity of this diagnosis.

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