

## **ADVANCED WELL DIFFERENTIATED THYROID CARCINOMA: THE IMPACT OF THE NEW AJCC STAGING SYSTEM**

Koshkareva, Yekaterina<sup>1</sup>; Duvvuri, Umamaheswar<sup>1</sup>; Ferris, Robert<sup>1</sup>; Kim, Seungwon<sup>1</sup>; Johnson, Jonas<sup>1</sup>; Myers, Eugene<sup>1</sup>

<sup>1</sup>University of Pittsburgh School of Medicine, Department of Otolaryngology, Pittsburgh, PA, USA

**Background/Purpose:** To review our experience and outcomes in management of advanced stage well differentiated thyroid carcinoma and identify factors predictive of aggressive behavior and poor outcome.

**Methods:** We identified 47 cases through a retrospective review of all patients diagnosed with and treated for T4 well differentiated thyroid carcinoma between 1990 and 2011. Patients were then reclassified as T3 or T4 according to the 7<sup>th</sup> edition American Joint Committee on Cancer (AJCC) staging criteria.

Demographic information, past medical and surgical history, surgical procedures performed, postoperative radioactive iodine, radiation or chemotherapy treatment details, recurrences and outcomes data was collected. The survival of two groups was compared and Fisher's exact test and Logistic Regression analysis were used to identify factors predictive of death.

**Results:** According to the new guidelines, only 27 patients were true T4 stage, and the remaining 20 were T3 stage. The average age of T3 patients was 52 years (range 24-86). The average age of T4 patients was 58 (range 11-86). Overall, T3 patients had better survival. Univariate analysis demonstrated that age over 60 years ( $p=0.0052$ ) and follicular variant histology ( $p=0.0455$ ) were predictive of death. Also, age ( $p=0.0005$ ), tall cell variant histology ( $p=0.0314$ ), follicular variant histology ( $p=0.0256$ ), and perineural invasion ( $p=0.0473$ ) were predictive of time to survival. However, only follicular variant histology and perineural invasion remained risk factors on multivariate analysis.

**Discussion & Conclusion:** Patients with stage T4 thyroid carcinoma tend to have worse prognosis and survival than stage T3 patients, as staged by the new AJCC guidelines. According to our data, outcome is affected by age and histology and survival is worse in patients with follicular variant histology and perineural invasion.