Treatment of Laryngeal Cancer in the County Hospital Setting: Comparison with National Guidelines

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ABSTRACT

Objectives: Laryngeal cancer outcomes have worsened in association with the changing epidemiology of the disease and the evolution of non-surgical treatment. Compliance with treatment guidelines is an essential step in establishing quality care and increasing survival. This study sought to investigate treatment compliance and survival outcomes for laryngeal cancer in an underserved population receiving care at our institution’s county hospital.

Study Design: Retrospective review

Methods: Patient demographics, tumor characteristics, and treatment data were collected for 122 cases of laryngeal SCC diagnosed from 2005 – 2010 at Ben Taub General Hospital. Compliance with national guidelines was analyzed with respect to appropriate selection of primary and adjuvant treatments and modalities. Primary endpoints, including time to recurrence and death, were used to determine overall and disease-free survival.

Results: Most common T stage at presentation was T4 (40.7%), and 43.1% of patients had nodal involvement. A multidisciplinary team formulated all treatment plans. T1/T2 disease relied on unimodality treatment whereas T3/T4 disease typically underwent multimodal therapy. Overall compliance with guidelines was 83%, with the most common reasons for non-compliance including transfer to palliative care due to advanced stage disease and missed follow-up appointments. Overall survival for glottic and supraglottic tumors was 95 and 88% respectively, while disease-free survival was 75 and 53% respectively.

Conclusions: High quality laryngeal cancer care is achievable in the county hospital setting despite advanced stage at presentation and deficiencies in patient follow-up. The implementation of a multidisciplinary approach allows for strong compliance with NCCN guidelines and outcomes comparable to published series.

INTRODUCTION

Head and neck cancers (HNCs) are diagnosed in over 50,000 patients annually, accounting for approximately 3% of new cancer cases in the United States each year. Despite extensive research, survival outcomes for certain subsites, such as the larynx, have actually worsened.

The National Comprehensive Cancer Network (NCCN) provides a flexible framework for treating HNCs. The medical experts who establish these guidelines strongly endorse a multidisciplinary team approach when treating these complex diseases. Failure to comply with treatment guidelines can result in tremendous physical, financial, and emotional costs for patients.

This study examines laryngeal cancer cases treated at Ben Taub General Hospital (BTGH), the flagship public hospital of the county health system in Houston, TX. As a tertiary hospital offering specialty care in partnership with academic institutions, BTGH provides care for a large proportion of cancer patients in Harris County of minority racial/ethnic groups and with limited financial resources. Our objectives are to evaluate HNC outcomes, overall compliance with NCCN guidelines, specific obstacles to treatment, and to identify primary drivers of overall and disease-free survival in the county hospital population.

METHODS AND MATERIALS

Patients. A retrospective review of the medical records of all patients with previously untreated laryngeal cancer at BTGH between 2005 and 2010 was performed. This review included thorough documentation of patient demographic information, clinicopathologic features of the tumors, results of diagnostic procedures, and all treatments rendered.

Treatment. A bimonthly multidisciplinary head and neck planning conference consisting of head and neck surgeons, medical oncologists, and radiation oncologists determines the treatment plan for all HNC patients at BTGH. Their recommendations are guided by current NCCN guidelines as well as each patient’s presumed ability to tolerate the proposed treatment.

Primary endpoints. Outcomes measured were disease-free survival (date of primary diagnosis to date of recurrence; DFS) and overall survival (date of primary diagnosis to last documented hospital note; OS). Multivariate analysis were performed to evaluate the impact of certain parameters on OS and DFS.

RESULTS

Patient and tumor characteristics. A total of 122 patients, 86% of which were male, were evaluated with a mean age at diagnosis of 57 years. Of all patients, 56% (68) presented with glottic tumors while 42% (54) presented with supraglottic tumors. The most common presenting T-stage for both glottic and supraglottic tumors was T4.

Treatment. The majority of both glottic and supraglottic tumors were treated with definitive radiation (XRT). Approximately half of all glottic tumors were treated with primary surgery, whereas only 30% of supraglottic tumors were treated primarily surgically.

NCCN compliance. Given the high degree of flexibility built into current NCCN guidelines, overall compliance was determined based on whether patients with N1 disease and/or T4 tumors received multimodality treatment (Table 1). Overall NCCN compliance was 83% (101 of 122 patients). Reasons for non-compliance included advanced stage at diagnosis prompting palliative therapy only, loss to follow-up, and secondary malignancy.

Recurrence and survival. Recurrence rates for glottic and supraglottic tumors were 15 and 24% respectively. OS for glottic and supraglottic tumors was 95 and 88% respectively. DFS for glottic and supraglottic tumors was 75 and 53% respectively (Figure 1). Variables that demonstrated significant impact on DFS after multivariate analysis included tumor differentiation (p=0.01), use of radiotherapy (p=0.0), and use of concurrent chemoradiotherapy (p=0.01).

CONCLUSIONS

High quality laryngeal cancer care is achievable in the county hospital setting despite advanced stage at presentation and deficiencies in patient follow-up. The implementation of a multidisciplinary approach allows for strong compliance with NCCN guidelines and outcomes comparable to published series.

REFERENCES