Does Vocal Cord Fixation Preclude Non-Surgical Management of Laryngeal Cancer?

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INTRODUCTION

The presence of pre-treatment vocal cord fixation has been reported as a predictor of a poor functional outcome following chemoradiation with treatment for advanced laryngeal cancer: mature results from a single institution. J Clin Oncol 2006;24(7):1064-71.

METHODS

Patients

All patients treated with concurrent chemoradiotherapy at the Cleveland Clinic are entered into our Institutional Review Board approved and monitored Head and Neck Cancer Chemoradiation Tumor Registry. The records of all patients treated with concomitant cisplatin-based chemoradiotherapy between 1989 and 2005, for T3/4 SCC of the larynx were retrospectively reviewed. Patients presenting with well documented pre- and post-treatment vocal cord fixation were included in the study. Those in the same were initially staged according to the American Joint Committee on Cancer (AJCC) staging system taking into account of diagnosis, tumor (T) descriptors were retrospectively reassigned based on the most recent 2002 AJCC staging manual.1

All patients treated with the same concurrent chemoradiotherapy regimen.8 There were no planned or toxicity-mandated breaks during the radiation therapy, and there were no toxicity-mandated delays in the administration of the second course of chemotherapy. All patients underwent a full clinical evaluation 6.2 weeks after completion of multigant concurrent chemoradiotherapy. Data collected on each patient included: demographics, tumor characteristics, history of vocal cord function, local, regional, or distant recurrence, surgical intervention, hemoglobin, radiation schedule, and free feeding and tracheostomy dependence (i.e. organ function).

Statistical analysis

Patients were divided into two groups: those whose vocal cord remained fixed (n=8) and those with a partially mobile or mobile vocal cord (n=15). Categorical variables were compared between groups using Fisher’s exact test, while continuous variables were compared using the Wilcoxon rank sum test.

Four outcomes were estimated from the date of treatment initiation and included: local control without surgery, freedom from recurrence, overall survival, and overall survival with functional larynx. Local control without surgery was defined as no evidence of local recurrence and/or death. Freedom from recurrence was defined as the time from the date of treatment initiation until and including any local or distant failure. Overall survival was defined as the time from the date of treatment initiation until death, or the last date known to be alive.

RESULTS

Twenty three patients with squamous cell cancer of the larynx treated with concurrent chemoradiation with pretreatment vocal cord fixation were identified: 19 males and 4 females. The median age was 59 (range 39-73) years. The concomitant cisplatin-based chemoradiation was utilized for treatment of laryngeal cancer: mature results from a single institution. J Clin Oncol 2006;24(7):1064-71. Eight (34.8%) patients were treated with once daily radiation, the remaining 15(65.2%) were treated twice daily. All but 1 patient were able to complete both courses of concurrent chemoradiation with their radiation. Using the 2002 AJCC staging system, 14 patients (60.9%) had T3 tumors and 9 (39.1%) had T4 tumors. None of these variables differed statistically between the two groups of patients.

With a median follow-up of 68 (range 34-191) months, the projected five-year overall survival was 100% among patients who recovered function vs. 25% among those who did not (p <0.001) (Figure 1). Five-year freedom from recurrence was 86.7% among patients who recovered function vs. 25% among those who did not (p < 0.001) (Figure 2).

Five-year local control without surgery was 86.7% among patients who recovered function vs. 30% among those whose cords did not recover (p < 0.001) (Figure 3). A laryngectomy was required in 31% of the 15 (33.3%) patients from the group that recovered function. Four of the eight patients (50%) who did not recover function underwent a total laryngectomy. Of these, two patients had persistent disease at the primary site and total laryngectomy achieved local control, and two patients had primary local disease, 2 patients died of distant disease, and 2 patients were cured.

Persistent tracheostomy, feeding tube dependence or laryngectomy were considered to be functional failures of larynx preservation. One or more of the aforementioned occurred in 2/15 of patients with post-treatment vocal cord mobility (13.3%). 6/8 of patients with post-treatment vocal cord fixation (75%). For those patients recovering function vs. those who did not, the 5 year projected survival with a functional larynx was 86.7% vs. 25% (p = 0.008) (Figure 4).

DISCUSSION

This retrospective analysis shows that patients with T3/T4 SCC of the larynx presenting with vocal cord fixation can be treated successfully with cisplatin-based chemoradiotherapy. Patients recovering vocal cord function are more likely to have a successful oncologic result with a functional larynx, vs those patients with persistent vocal cord fixation. We conclude that it is feasible to treat patients with T3/T4 SCC of the larynx presenting with vocal cord fixation.

Papers


REFERENCES