Evaluation of risk factors of stomal recurrence following total laryngectomy in laryngeal cancer patients

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INTRODUCTION

Stomal recurrence is a devastating complication following total laryngectomy with a dismal outcome, despite aggressive treatment options. Recent efforts have focused on preventative measures as a risk factor identification. This study consisted of a chart review of laryngeal cancer patients undergoing total laryngectomy to identify risk factors for stomal recurrence.

Study Design: Retrospective chart review.

Methods: The charts of 167 patients who underwent total laryngectomy from 2002 through 2010 were retrospectively reviewed. Numerous potential risk factors were evaluated including the following: primary tumor site, preoperative tracheotomy, primary cancer staging, neck dissection, margin status, radiation treatment, age, and sex.

RESULTS:

A retrospective chart review was performed on 167 patients developing stomal recurrence after total laryngectomy between 2002 and 2010 for laryngeal squamous cell carcinoma. The incidence of stomal recurrence was determined and numerous potential risk factors were evaluated including, but not limited to, the following:

- Primary tumor site
- Preoperative tracheotomy
- Primary cancer staging
- Extent of neck dissection and associated regional disease
- Margin status
- Type of radiation therapy
- Age/sex

Given the small sample size of patients developing stomal recurrence Fisher’s exact test was used for statistical analysis. For each risk factor a 2x2 contingency table was created comparing the two patient groups: 1) patients developing stomal recurrence and 2) patients not developing stomal recurrence.

CONCLUSIONS:

- Stomal recurrence remains a devastating outcome following laryngectomy despite improved surgical techniques and radiation treatment.
- Subglottic primary tumor involvement was identified to be a risk factor for stomal recurrence. Although the mechanism of stomal recurrence remains unclear, the proximity of subglottic tumors to the stoma likely plays a role in tumor infiltration.
- Patients with initial T4-staged tumors and patients previously failing definitive radiation therapy are at increased risk of stomal recurrence.
- Previous studies have suggested pre-operative tracheotomy to be a risk factor for stomal recurrence, however, this was not indicated by our data.
- The importance of level VI neck dissection was unable to be validated with this review given limited pathological data, but this may be an important consideration especially in advanced transglottic tumors that are being salvaged after definitive chemoradiation.
- Data analysis was complicated by the limited number of patients evaluated in the study. Future studies would benefit from larger patient populations.
- Future reviews plan to incorporate analysis of level VI lymph node pathology to determine if local positive lymph node status increases stomal recurrence.

REFERENCES