Is there a Role for Neck Dissection in T1 Oral Tongue SCCA: The UCLA Experience

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ABSTRACT

Objective:
To examine the prognostic and therapeutic implications of elective neck dissection in patients who present with early stage oral tongue squamous cell carcinoma and clinically negative neck (T1cN0) at a single institution during a 20-year period.

Methods:
A retrospective review was performed by examining the records and reviewing the pathology of 123 patients with T1cN0 oral tongue squamous cell carcinoma who underwent surgical tumor extirpation with/without adjuvant chemotherapy and/or radiation treatment at UCLA Medical Center from 1990-2009. This database was used to identify characteristics that are associated with occult lymph node metastases and measurement of patient outcomes.

Results:
Sixty three men and 60 women with an age range of 27 to 92 years (mean, 56 years) were treated. Elective neck dissection was performed in 93 patients, of which 20 patients' specimens (22%) were found to harbor occult metastatic disease. However, no significant differences were noted in the frequency of regional recurrence or survival according to gender, age, tumor size, the presence of perineural invasion or occult metastatic disease (p=0.70, 0.29, 0.54, 0.30 and 0.47, respectively). In addition, patients who underwent elective neck dissection experienced lower rate of regional recurrence, although this did not achieve a statistically significant level (p=0.52).

Conclusion:
Elective neck dissection is indicated for cN0 patients with early stage T1cN0 oral tongue SCC for the efficacy of improving disease-specific survival as well as neck control. However, neither patient factors nor intrinsic tumor features demonstrated any prognostic significance in the setting of early stage T1 oral tongue carcinoma.

INTRODUCTION

Surgical treatment of early primary tumors by partial glossectomy has been accepted as the standard of care. However, the optimal treatment of the clinically-negative neck in stage I and stage II squamous cell carcinoma (SCCA) of the oral tongue has remained controversial. The aim of this study is to evaluate the incidence of recurrence in patients with cT1N0 oral tongue SCC who underwent elective neck dissection with primary treatment compared to that of patients who did not undergo initial neck dissection.

STUDY DESIGN

We present a retrospective analysis performed on 123 patients with cT1N0 oral tongue SCC at the UCLA Medical Center from 1992 through 2009. Inclusion criteria included patients who presented with clinically-determined T1N0 disease who underwent primary surgical resection of the tumor, with or without neck dissection.

CONCLUSIONS

• Management of a clinically negative neck in the setting of early squamous cell carcinoma of the oral tongue remains in debate.
• Cervical nodal metastasis has been shown to be the most important prognosticator of survival.
• The high incidence of occult neck metastasis in patients with T1 oral tongue SCCA justifies elective supraomohyoid neck dissection.
• Tumor size, degree of tumor differentiation, perineural invasion, and initial neck dissection all failed to demonstrate any statistically significant correlation with loco-regional recurrence and overall patient survival.

REFERENCES


Figure 1 – Disease-free and overall survival for all patients in present series up to 13 years follow-up.

RESULTS

We identified 123 patients who fit our inclusion criteria; 63 were male and 60 were female. Age ranged from 27 to 92 years, with a mean of 56 years. Length of follow-up ranged from 1 to 196 months, with a median of 29 months. Disease-free survival at 3, 5, 19 years was 93%, 82%, and 78%, respectively, with an overall 5-year and 10-year survival of 98% (Figure 1).

Of the 123 patients, 93 underwent ipsilateral neck dissection. Occult metastatic nodes were found in 20 of the 93 patients (22%). In addition, 17 of the 93 patients treated with neck dissection had local and/or regional recurrence, compared to 10 of 30 patients (33%) who did not undergo neck dissection.

The correlation of loco-regional recurrence with tumor size, perineural invasion, degree of differentiation, and initial neck dissection was evaluated by univariate analysis and statistical significance (p<0.05) was not found for any of the parameters.

DISCUSSION

Cervical nodal metastasis has been shown to be the most significant prognosticator of survival for patients with SCCA of the oral tongue, due to both the decrease in survival in patients with cervical metastases as well as the poor clinical outcomes in the setting of regional nodal recurrence despite salvage therapy. A wide range of rate of occult cervical metastases and regional cervical recurrences in early tongue SCCA have been reported, varying from 6% to 46%, and 27% to 42%, respectively.

In a series of 192 patients with oral cavity SCCA, Shah reported that 7 patients (3.5%) had level IV or V nodal metastasis, and only 3 patients (1.5%) had an isolated isolated level involvement outside the supraomohyoid triangle. Therefore, a selective supraomohyoid neck dissection would offer survival benefit with limited morbidity.

Statistical analysis of parameters including tumor stage, volume, and clinico-pathological features have failed to demonstrate any correlation with patient survival (Table 1). Recent studies have highlighted primary tumor thickness as a prognostic variable. This was variably reported in our pathological specimens and, therefore, not examined in this study.

Table 1 – Analysis of various prognostic variables

<table>
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<tr>
<th>Parameter</th>
<th>N</th>
<th>Local recurrence</th>
<th>P value</th>
<th>Regional recurrence</th>
<th>P value</th>
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<tbody>
<tr>
<td>Tumor size</td>
<td>93</td>
<td>15%</td>
<td>0.05</td>
<td>20%</td>
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<tr>
<td>Tumor location</td>
<td>93</td>
<td>15%</td>
<td>0.05</td>
<td>20%</td>
<td>0.03</td>
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<tr>
<td>Perineural invasion</td>
<td>93</td>
<td>15%</td>
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<td>20%</td>
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</tr>
<tr>
<td>Differentiation</td>
<td>93</td>
<td>15%</td>
<td>0.05</td>
<td>20%</td>
<td>0.03</td>
</tr>
<tr>
<td>Supraomohyoid neck dissection</td>
<td>93</td>
<td>15%</td>
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