Facial Node Involvement in Oral Cavity Cancer

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Abstract

Objectives: To determine the rate of recurrence at the facial nodes in oral cavity cancer and to provide evidence for or against facial node dissection at the time of primary resection.

Study Design: Retrospective chart review.

Methods: Patients treated for oral cavity cancer at a single comprehensive cancer center between 2000 and 2013 were reviewed. Those with distant metastatic disease, second primary tumor, poor or no response to treatment, or did not complete treatment were excluded. Outcome measures included primary tumor characteristics and stage, primary treatment, and tumor recurrence.

Results: One-hundred forty-seven patients were diagnosed with oral cavity cancer at a mean age of 57.8 years. Squamous cell carcinoma was the predominant malignancy. Two-thirds presented with advanced stage disease and 30% with nodal metastasis. Facial node dissection was performed in the setting of clinical suspicion with a positive rate of 26%. Facial node recurrence was identified in 1.4% and comprised 3.3% of all recurrences. Facial node dissection was not associated with injury to the marginal mandibular branch. Mean follow-up was 38 months.

Conclusions: Facial node recurrence in oral cavity cancer is uncommon. Routine elective dissection of facial nodes is not warranted in the absence of gross involvement. When nodal disease is suspected based on preoperative or intraoperative findings, facial node dissection is beneficial and carries minimal additional morbidity.

Introduction

Metastases from the oral cavity follow well-defined drainage pathways to the cervical lymph nodes, primarily to levels I, II and III. Regional spread to the facial nodes has been less well studied.

The facial nodes consist of four distinct lymph node groups: suprmandibular, buccinator, malar, and infraorbital (maxillary).2 Of particular interest are the suprmandibular nodes, which lie adjacent to the facial vessels just above the facial notch in close proximity to the marginal mandibular branch of the facial nerve. These nodes receive lymphatic drainage from the oral gingiva and buccal mucosa.7 The buccinator nodes also receive drainage from the buccal mucosa.

There is a paucity of evidence in the literature addressing the significance of facial node dissection for oral cavity cancer. Anecdotally, many surgeons favor dissection only in the presence of gross nodal involvement. In this study, we aim to determine the rate of facial node metastasis, identify cases of facial node recurrence, and provide evidence for or against facial node dissection during primary resection.

Methods and Materials

This study was approved by the Wayne State University Institutional Review Board (H16514M1E). Records of patients diagnosed and treated for primary oral cavity cancer between 2000 and 2013 at a single NCI-designated comprehensive cancer center were reviewed. Surgery, when performed, was by one of several board-certified Head & Neck Oncology surgeons. Data were collected regarding patient and tumor characteristics, treatment, recurrence, and followup. Those with distant metastatic disease, prior or subsequent second primary tumor, incomplete or palliative treatment, partial response, or followup less than 12 months were excluded. Of 325 cases reviewed, 147 cases were included for analysis.

Outcome measures of interest included gross or occult facial node metastases and tumor recurrence arising from the facial nodes. Facial node involvement was confirmed by histopathological analysis. Lymph nodes superior and lateral to the inferior border of the mandible were considered to be suprmandibular facial nodes.

Results

The true incidence of facial node metastases from oral cavity cancer is unknown. A limited number of studies have combined tumors of the oral cavity, superficial and deep face, paranasal sinuses, and nasopharynx.3-4 A Medline search identified just a single study focusing primarily on oral cavity cancers. Sheahan et al. retrospectively analyzed 29 patients who underwent facial node sampling during neck dissection and reported suprmandibular node involvement in 24% of heminecets.5 Facial node metastasis was associated with concurrent cervical metastasis, shorter disease-free and overall survival, and regional recurrence. Selection criteria for facial node sampling was not clearly stated.

In the present study, facial node dissection was performed when disease was suspected based on the physical exam, imaging, or findings at the time of neck dissection. Histopathological analysis confirmed metastases in 5/19 (26%) of specimens (Figure 4), validating this as a worthwhile practice. No cases of permanent or significant marginal branch injury were reported.

The low rate of facial node recurrence (1.4%, Figure 5) indicates that elective dissection is not warranted. Patients at highest risk for recurrence often receive adjuvant radiotherapy to these regions, further lowering the risk. Metastatic dissection appears to be low yield, prolongs surgery, and theoretically places the marginal mandibular branch of the facial nerve at greater risk.

Two recurrences at the suprmandibular nodes were identified (Table 1). Neither patient had undergone facial node dissection at the time of primary treatment. The primary tumors were located in the buccal mucosa and floor of mouth. Known lymphatic drainage patterns and direct tumor spread from the submandibular nodes explain these occurrences, respectively.

Major limitations of this study are related to its retrospective nature. There was a lack of randomization and it was not possible to determine the motivation for facial node dissection in every case. Absence of a control group precluded estimating the rate of occult facial node metastases. Potentially unidentified recurrences and loss to followup may limit interpretation of findings. Risk factors and treatment outcomes in cases of facial node recurrence could not be analyzed due to the rarity of cases. A prospective, randomized controlled study will address many of these limitations.

Conclusions

Facial node recurrence in oral cavity cancer is uncommon. Elective dissection of facial nodes is likely not warranted in the absence of gross involvement. When nodal disease is suspected, based on preoperative or intraoperative findings, facial node dissection is beneficial and adds minimal morbidity to the primary procedure.

Discussion

References


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