Elective neck dissection versus "wait and watch" policy in tongue carcinoma

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ABSTRACT

Aim: To evaluate the efficacy of elective neck dissection versus the "wait and watch" policy in the treatment of early squamous cell carcinoma of tongue. Materials and Methods: This is a retrospective study of 21 patients with surgical treatment between April 2009 and July 2011. The patients were divided into two groups, with Group 1 consisting of patients who underwent wide excision glossectomy with elective neck dissection and Group 2 consisting of patients who underwent glossectomy without the neck being surgically addressed. The selection of patients was done by the random double-blinded method and the review was done by a single reviewer. All patients were examined for an average period of 1 year postoperatively. Results: Twenty-one cases were treated, among which there were 17 T1 and 4 T2 carcinomas. All the patients had primary carcinoma involving only the tongue with no clinical neck palpable neck nodes. Eleven patients underwent wide excision of primary tumor with elective neck dissection (Group 1) and 10 patients underwent only resection of primary tumor without the neck being surgically addressed (Group 2). In Group 1, there were no recurrences, and in Group 2, there were two patients who developed subsequent cervical node metastasis with one patient undergoing further surgery to address the positive neck and the other patient was lost to follow-up. Conclusions: Regional recurrence was the most common cause of failure after surgical treatment of oral tongue carcinoma. Elective neck dissection significantly reduced mortality due to regional recurrence and also increased the overall survival. Our study suggests that elective neck dissection is a treatment strategy of choice for stages I and II carcinoma of the oral tongue. A prospective, randomized study is worthwhile to further evaluate the benefit of elective neck dissection in the treatment of early carcinoma of the tongue with a larger pool of patients and a lengthier follow-up period.

KEY WORDS: Cancer recurrence, glossectomy, squamous cell carcinoma, tongue
of elective neck dissection as opposed to “wait and watch” policy along with wide excision glossectomy.

Materials and Methods

Twenty-one patients suffering from squamous cell carcinoma of tongue were identified in the OPD of Annaswamy Mudaliar General Hospital, Bangalore, between April 2009 and July 2011. The factors examined include degree of tumor cell differentiation, T1/T2 staging, presence of perineural invasion, presence of angiolymphatic invasion, type of invasion front, depth of muscle invasion, and tumor thickness. All of these patients received a complete clinical head and neck examination, as well as computed tomography scanning of the primary tumor site and neck. All findings were reviewed by the treating surgeon, a consultant pathologist, and an institutional radiologist. Twenty-one patients met the criteria for inclusion in the study:

1. Site-specific squamous cell carcinoma of the tongue.
2. Primary tumor limited to either T1 or T2 disease with a clinically nonpalpable neck.
3. Histological diagnosis of squamous cell carcinoma confirmed by an incisional biopsy.

Patients with tumors invading the floor of mouth, oropharynx, or retromolar trigone, and extending to the mandible were eliminated from the study group. In every patient, partial glossectomy continuous with neck dissection was the mainstay of the treatment. TNM staging, intraoperative N staging, pathologically confirmed cervical lymph node metastases and their levels, and clinical outcomes (local and regional recurrences) were recorded. None of the patients had mandibulotomies performed and none of the neck dissections were extended beyond levels I, II, and III. Eleven patients underwent wide excision of primary tumor with elective neck dissection (Group 1) and 10 patients underwent only resection of primary tumor without the neck being surgically addressed (Group 2).

Results

Twenty-one cases were treated, among which there were 17 T1 and 4 T2 carcinomas. All the patients had primary carcinoma involving only the tongue with no clinically palpable neck nodes. Eleven patients underwent wide excision of primary tumor with elective neck dissection (Group 1) and 10 patients underwent only resection of primary tumor without the neck being surgically addressed (Group 2). In Group 1, there were no recurrences, and in Group 2, there were two patients who developed subsequent cervical node metastasis. The study group comprised 15 men and 6 women, ranging in age from 43 to 62 years. Postsurgical follow-up ranged from 7 to 14 months (mean 8.27 ± 2.23 months). Two of the patients with clinically and radiographically negative necks at the time of presentation went on to develop cervical disease 6.75 ± 10.37 months after surgery. One patient consented for a further neck dissection to treat the disease, while the other was lost to follow-up.

Discussion

Our series of patients has shown that squamous cell carcinoma involving the tongue has a relatively high rate of failure if treated solely by wide excision without elective neck dissection. A review of the current literature shows that at initial presentation, maxillary palatal, gingival, and alveolar squamous cell carcinomas manifest clinically detectable cervical metastasis at rates ranging from 11.5 to 28.5%, but for squamous cell carcinoma of tongue, these rates are lower, though not documented. In addition, in an untreated, clinically negative neck, occult metastasis can be considered a contributing factor for early regional failure. Also, in squamous cell carcinomas of the tongue, the likelihood of occult neck disease reaches 30%. Although squamous cell carcinomas of the tongue have the high frequency of regional metastatic disease, optimal management of the clinically negative neck in patients diagnosed with tongue squamous cell carcinoma remains less clear. In our series, in the cases of regional metastasis, the question is whether the regional failure rate can be attributed to untreated occult disease in the neck. In this regard, our findings support those of Simental et al. and Ogura, who reported regional failure rates of 29.2% and 38.0%, respectively. Taken in balance, however, the average rate of cervical lymphatic metastasis demonstrated by the two patient groups supports primary surgical management of the neck as opposed to excision of the primary alone.

Along with proper management of cervical lymphatics, ablative accuracy is critical to successful treatment. Surgeons recognize that tongue carcinoma is the most difficult oral tumor to resect with proper margins; a histopathologic analysis of tumor margins from multiple oral squamous cell carcinoma sites by Woolgar and Triantafyllou showed that the tongue specimens had a high incidence of positive margins. The apparent difficulty in obtaining oncologically proper margins can be attributed to various factors, including the following:

1. tumor spread along the floor of mouth,
2. unrecognized infiltration into the submucosal plane and tongue muscle and
3. the surgeon’s desire to limit the morbidity of resection.

The 29.2% local failure rate reported by Simental et al. confirms the challenges entailed in surgical management of tongue tumors. In our patient group, two patients experienced a regional failure.

Following the review of our own patient records and outcomes, as well as the data from previous studies, it remains unclear as to whether tumor size plays a significant role in the development of regional or locoregional failures. Previous studies have failed to correlate oral cancer tumor size alone with cervical lymph node metastasis. Aside from being N0, other patient variables, such as tumor size, degree of invasion, and duration of disease, were not reported by these authors. The remaining 20 patients who presented with clinically negative neck were managed by observation alone. In our series of 11 N0 patients who received primary neck management, manifestation of regional disease has not occurred to date; however, we recognize that the follow-up for these patients is extremely limited so far and that long-term monitoring is required. With the exception of one patient who recently underwent surgery and one who was lost to follow-up,
the patients have not exhibited any locoregional recurrence. The two patient groups presented in this article demonstrate regional failure rates that seem to parallel, if not supersede those in other oral cancer sites [Table 1]. The success of salvage in regional failure of other oral site cancers is reportedly between 29% and 60%. As in other oral sites, early local recurrence is a poor prognostic indicator.[24-26]

Conclusion

In conclusion, our study and review of the literature demonstrates that the rate of cervical metastasis from squamous cell carcinomas of the tongue is more if the neck nodes are not surgically addressed. Primary management of the N0 neck is indicated when the risk of metastasis exceeds 20%. [20] Valuable histopathologic and prognostic information, as well as therapeutic removal of involved nodes, is provided by a elective neck dissection addressing levels I, II, and III[11]. For squamous cell carcinomas of the tongue, outcomes are significantly improved after primary surgical resection with concomitant neck dissection. [27,28] Based on the evidence presented herein, elective neck dissection should be considered to treat squamous cell carcinomas of the tongue in early disease states.

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Source of Support: Nil, Conflict of Interest: None declared.
