Turkish Archives of Otorhinolaryngology
Türk Otorinolarengoloji Arşivi

Turk Arch Otorhinolaryngol 2015; 53: 23-5

# Role of Elective Neck Dissection in Early Stage Lip Cancers

Original Investigation

Yüksel Olgun[1], Mehmet Durmuşoğlu[1], Ersoy Doğan[1], Taner Kemal Erdağ[1], Sülen Sarıoğlu[2], Ahmet Ömer İkiz[1]

[1]Department of Otorhinolaryngology, Dokuz Eylül University Faculty of Medicine, İzmir, Turkey

[2]Department of Pathology, Dokuz Eylül University Faculty of Medicine, İzmir, Turkey

Abstract

**Objective:** To date, the management of the neck in early stage lower lip cancers remains controversial. The aim of this study is to investigate if prophylactic neck dissection is necessary in early stage lower lip cancers.

**Methods:** Charts of 11 patients who underwent surgery of the primary site and neck because of T1–2N0 lower lip cancer between 1997 and 2011 were retrospectively examined. Clinical stages, surgeries, histopatological examination results, and loco-regional recurrences were evaluated.

**Results:** Of the 11 patients, 10 were male (90.9%) and 1 was female (9.09%). The follow-up time of these patients was between 24-168 months (mean, 56.6 months). There were 5 patients with clinically diagnosed T1N0 tumors and 6 patients with clinically diagnosed T2N0 tumors. Suprahyoid neck dissection was performed in 4/5 T1N0 patients and supraomohyoid neck dissection was performed in the remaining 1 patient. For T2N0 tumors, 4 suprahyoid, 1 supraomohyoid, and 1 comprehensive neck dissection was performed. Histopathological examination revealed no occult metastasis in any of the patients. In 1 patient who had lower lip resection and suprahyoid neck dissection for T1N0 lower lip cancer, a contralateral neck metastasis was detected 22 months postsurgery, and a comprehensive neck dissection was performed.

**Conclusion:** Our results show that in patients with T1N0 lower lip tumors, neck dissection may not be necessary; however, close follow-up is mandatory. Further researches with larger series dividing T2N0 tumors into subgroups for tumor size and thickness are necessary to determine neck treatment in these tumors.

**Keywords:** Lip, cancer, neck dissection

## Introduction

Lip cancer is the most common cancer type in the oral cavity, and it is located in the lower lip at a rate of 90–95% (1). Some causes such as exposure to ultraviolet light, smoking, radiotherapy, and genetic factors are held responsible for its etiology (2-4). Because it can be easily noticed because of its localization, patients can be detected in earlier stages compared with patients having other head and neck tumors. The most important prognostic factor in lip carcinomas is neck metastasis. The gold standard treatment is to perform neck dissection in the presence of lymph node metastasis as well as resection of the primary tumor. In cases without neck metastasis, elective neck dissection is performed. However, in literature, there is no consensus about which cases need elective neck dissection (3-5). In this study, it was aimed to investigate the place of elective neck dissection in patients with kT1 and kT2 lower lip cancer.

## Methods

The study included 11 patients who underwent neck dissection in addition to primary site surgery because of kT1-2N0 lower lip cancer in the Department of Otorhinolaryngology in Dokuz Eylül University between January 1997 and December 2011 and who were followed-up for at least 2 years. Approval for this study was received from the Non-Invasive Research Ethics Committee of Dokuz Eylül University with protocol number 1388-GOA. The recordings of the patients were retrospectively examined, and clinical stages, surgical treatment, histopathological examination results, and local and regional recurrence findings were evaluated. Patients who were followed-up for less than two years, who were admitted because of recurrence after radiotherapy, and who were referred to our clinic for recurrence by external health centers where the first surgeries were performed were excluded from the study. The preoperative staging

**Address for Correspondence:**
Yüksel Olgun, Dokuz Eylül Üniversitesi Tıp Fakültesi, Kulak Burun Boğaz ve Hastalıkları Anabilim Dalı, İzmir, Turkey
**Phone:** +90 232 412 32 79
**E-mail:** yuksel.olgun@deu.edu.tr
**Received Date:** 01.03.2015
**Accepted Date:** 15.03.2015

DOI:10.5152/tao.2015.993

of patients was performed through ear–nose–throat examination and contrast-enhanced tomography of the neck. During the postoperative period, the patients were controlled every 3 months in the first year, every 6 months in the second year, and once a year following the second year.

## Results

Ten (90.9%) of the 11 patients included in the study were males and one (9.09%) was female. The age distribution was between 38 years and 77 years (mean 56.6 years). Five patients were in the stage of kT1N0 and six were in the stage of kT2N0. According to the result of the histopathological examination, all patients were pathologically classified as N0. Four of the five kT1N0 patients underwent suprahyoid neck dissection and one underwent supraomohyoid neck dissection. On the other hand, 4 of the 6 kT2N0 patients underwent suprahyoid neck dissection, one underwent supraomohyoid neck dissection, and one underwent comprehensive neck dissection. No complication associated with neck dissection or surgery for primary tumor was observed in any patient. In the histopathological examination of the patients' neck specimens, metastatic lymph nodes were not found.

The duration of follow-up varied between 24 months and 168 months (mean 56.7 months). In one patient who was evaluated to be in the kT1N0 stage and who underwent suprahyoid neck dissection, contralateral neck recurrence was found in the postoperative 22nd month and comprehensive neck dissection was performed. The patient, whose histopathological examination revealed a 2-cm metastatic lymph node in the first site, is still being followed-up without any sign of recurrence since the last operation performed 79 months ago.

## Discussion

Squamous cell carcinomas with localization to the lower lip constitute most lip cancer cases (90–95%). Lip tumors are diagnosed relatively earlier owing to their localizations that are easily noticed. In various series, it is stated that 75–80% of lower lip cancers are diagnosed in the T1 stage (3, 6).

While radiotherapy is an alternative for the treatment of the primary tumor, surgery is generally the first option because it ends in a short time, allows reliable surgical margins, and leads to successful cosmetic results (1). The most significant prognostic factor in lip cancers is neck metastasis, and the most important cause of mortality is uncontrollable neck recurrences (5, 7). Although primary tumor surgery has been defined according to the localization and prevalence of the tumor to a great extent, neck treatment is still controversial. There is no consensus on whether to use neck dissection or follow-up for patients with an N0 neck and, if surgery is chosen, on the type of neck dissection.

In T1 lip tumors, the rate of occult metastases has been reported to differ between 0% and 15%. On the other hand, this rate is between 11% and 35% in T2 tumors (1, 2, 8). The lower risk of occult metastasis in T1 tumors leads to a discussion on the application of the wait-and-see approach instead of elective neck dissection in these patients. Kocatürk et al. (9) specified that follow-up could be an alternative for patients having a tumor smaller than 1 cm. However, poorer prognosis of neck metastases detected during follow-up periods of patients not having undergone neck dissection prevents this suggestion from being adopted and forces surgeons to perform elective neck dissections. It is generally agreed that because lip cancers frequently spread to submandibular and submental lymph nodes, the type of dissection that will be performed in N0 patients must be at least suprahyoid or supraomohyoid neck dissection (10). It has been reported that the results of prophylactic neck radiotherapy are not as successful as elective neck dissection (11).

In the cases in our study, occult metastasis was not found in any patient. In addition, a metastasis developed at the first level of contralateral neck in one patient in the postoperative 22nd month. In the retrospective evaluation of the recordings of this patient, it was seen that the lesion was near the midline and approximately 2 cm in size. These findings suggest that elective neck dissection is not necessary for kT1N0 patients but that a close follow-up should be continued for possible recurrences.

It is stated that the risk of cervical lymph node metastasis considerably increases in patients with a primary tumor with a size 3 cm and more, and therefore, elective neck dissection is necessary for these patients (5, 6). In the study conducted by Vanderlei et al. (5), while they reported the rate of metastatic cervical lymph node as 9% in T2a lower lip tumors smaller than 3 cm, they found this rate to be 43.9% in T2b tumors larger than 3 cm. Similarly, Zitsch et al. (6) detected that the late cervical metastasis risk was apparently higher in T2 tumors over 3 cm than in the tumors smaller than 3 cm and that patients' lifetime was significantly shorter in this group than in the group having T2 tumors smaller than 3 cm. In our study, although the absence of occult metastasis in six patients in the kT2 stage suggested that elective neck dissection is not be performed, the lower number of kT2 cases and non-classification of patients with T2 tumors into subgroups as 2–3 cm and 3–4 cm made it difficult to reach this conclusion.

Tumor thickness is another factor that increases the risk of cervical lymph node metastasis and determines the need for elective neck dissection. It was reported that the risk of cervical metastasis notably increases in the presence of tumors thicker than 5 mm (7). When considered from this point of view, the lack of tumor thickness evaluation can be thought as a limitation of our study.

## Conclusion

The findings obtained in our study suggest that it is not necessary to perform elective dissection for patients with kT1N0

lower lip tumors provided that they are regularly followed-up. Further studies with larger populations, in which kT2N0 tumors will be examined by dividing into subgroups considering tumor size and tumor thickness, should be conducted for determining the treatment approach for the neck.

**Ethics Committee Approval:** Ethics committee approval was received for this study from Dokuz Eylül University (2014/08-14).

**Informed Consent:** Written informed consent was not obtained due to the retrospective nature of this study.

**Peer-review:** Externally peer-reviewed.

**Author Contributions:** Concept - A.Ö.İ.; Design - T.K.E., A.Ö.İ.; Supervision - T.K.E., A.Ö.İ., E.D.; Materials - Y.O., M.D., S.S.; Data Collection and/or Processing - Y.O., M.D.; Analysis and/or Interpretation - Y.O., A.Ö.İ., T.K.E., E.D.; Literature Review - Y.O., M.D.; Writing - Y.O.; Critical Review - A.Ö.İ., T.K.E.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

1. Güney E, Yiğitbaşo OG. Functional surgical approach to the level 1 for staging early carcinoma of the lower lip. Otolaryngol Head Neck Surg 2004; 131: 503-8. [CrossRef]
2. Tuna EÜ, Öksüzler Ö, Özbek C, Özdem C. Alt dudak kanserlerine cerrahi yaklaşım. Kulak Burun Boğaz İhtis Derg 2008; 18: 148-52.
3. Salgarelli AC, Sartorelli F, Cangiano A, Pagani R, Collini M. Surgical treatment of lip cancer: our experience with 106 cases. J Oral Maxillofac Surg 2009; 67: 840-5. [CrossRef]
4. Morselli P, Masciotra L, Pinto V, Zollino I, Brunelli G, Carinci F. Clinical parameters in T1N0M0 lower lip squamous cell carcinoma. J Craniofac Surg 2007; 18: 1079-82. [CrossRef]
5. Vanderlei JP, Pereira-Filho FJ, da Cruz FA, de Mello FL, Kruschewsky Lde S, de Freitas LC, et al. Management of neck metastases in T2N0 lip squamous cell carcinoma. Am J Otolaryngol 2013; 34: 103-6. [CrossRef]
6. Zitsch RP, Park CW, Rennel GJ. Outcome analysis for lip carcinoma. Otolaryngol Head Neck Surg 1995; 113: 589-96. [CrossRef]
7. Önerci M, Yılmaz T, Gediklioğlu G. Tumor thickness as a predictor of cervical lymph node metastasis in squamous cell carcinoma of the lower lip. Otolaryngol Head Neck Surg 2000; 122: 139-42. [CrossRef]
8. de Visscher JGAM, van den Elsaker K, Grond AJK, van der Wal JE, van der Waal I. Surgical treatment of squamous cell carcinoma of the lower lip: evaluation of long-term results and prognostic factors. A retrospective analysis of 184 patients. J Oral Maxillofac Surg 1998; 56: 814-20. [CrossRef]
9. Kocatürk S, Özdemir N, Erkam Ü, Uzun H, Babila A, Öztürk E. Alt dudak kanserlerinde gizli lenf nodu metastazı oranları ve N0 boyna yaklaşım. Kulak Burun Boğaz İhtis Derg 2002; 9: 41-5.
10. Yılmaz S, Ercocen AR. Is elective neck dissection in T1-2, N0 patients with lower lip cancer is necessary? Ann Plast Surg 2009; 62: 381-3. [CrossRef]
11. Bucur A, Stefanescu L, Management of patients with squamous cell carcinoma of the lower lip and N0-neck. J Craniomaxillofac Surg 2004; 32: 16-8. [CrossRef]