

Head and Neck Salivary Gland Carcinomas—Elective Neck Dissection, Yes or No?

Christopher-Philipp Nobis, *Cand.Med.*,^{*} Nils H. Rohleder, MD, DDS,[†]
Klaus-Dietrich Wolff, MD, DDS, PhD,[‡] Stefan Wagenpfeil, MSc, PhD,[§]
Elias Q. Scherer, MD, PhD,^{||} and Marco R. Kesting, MD, DDS, PhD[¶]

Purpose: Surgical resection and subsequent neck dissection (ND) in cases of clinically positive lymph nodes is an accepted primary treatment strategy for salivary gland carcinomas. Because of uncertainty in the extent of lymphogenic metastasis, the authors advocate a strategy of surgical resection and elective ND (END) for all patients. The authors evaluated their treatment by estimating the frequency of metastatic disease and identifying factors associated with an increased risk for metastatic disease.

Materials and Methods: A retrospective cohort study was implemented using patient data obtained from the university's interdisciplinary board for head and neck tumors. Data were screened for age, gender, tumor entity, localization, grade, and TNM Classification of Malignant Tumors (by UICC, International Union Against Cancer) status. Statistical analysis was performed to identify possible predictors of lymph node metastasis. Nodal status groups (N⁺ and N0) were compared with respect to age by *t* tests; other comparisons involved χ^2 tests.

Results: Ninety-four patients (50% female, 50% male; mean age, 59.12 yr) were identified, of whom 87 had an indication for END. On postsurgical histopathologic examination, 34 (39%; 17 male, 17 female) were diagnosed with N⁺. Statistical analysis for nodal status produced explorative *P* values (age, *P* = .001; gender, *P* = .792; anatomic region, *P* = .114; tumor entity, *P* = .854; tumor status, *P* = .263; grade, *P* = .000).

Conclusion: All studied malignancies were capable of lymph node dissemination. Therefore, no reliable preoperative predictors for lymphogenic metastasis are currently identifiable. Because of difficulties in safely predicting lymphogenic metastasis and the high rate of N⁺ results on postoperative examination, the authors strongly advise END for all patients with salivary gland carcinoma.

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Salivary gland carcinomas occur with an incidence of 1.1 in 100,000 per year in Caucasian populations^{1,2} and constitute about 5% of all head and neck

carcinomas.³ Salivary gland malignancies represent a heterogeneous group of neoplasms, with 24 different types recognized by the World Health Organization.⁴

^{*}Department of Oral and Maxillofacial Surgery, Technische Universität München, Munich, Germany.

[†]Resident, Department of Oral and Maxillofacial Surgery, Technische Universität München, Munich, Germany.

[‡]Professor, Head of Department, Department of Oral and Maxillofacial Surgery, Technische Universität München, Munich, Germany.

[§]Professor, Head of Department, Institute for Medical Biometry, Epidemiology and Medical Informatics, Universität des Saarlandes, Homburg/Saar, Germany.

^{||}Associate Professor, Department of Otorhinolaryngology, Technische Universität München, Munich, Germany.

[¶]Associate Professor, Department of Oral and Maxillofacial Surgery, Technische Universität München, Munich, Germany.

Mr Nobis and Dr Rohleder contributed equally to this study and should be considered co-first authors.

Address correspondence and reprint requests to Mr Nobis: Department of Oral and Maxillofacial Surgery, Klinikum rechts der Isar, Technische Universität München, Ismaningerstr 22, 81675 Munich, Germany; e-mail: christopher-nobis@t-online.de

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The most frequently encountered subtypes are adenoid cystic carcinoma, mucoepidermoid carcinoma, adenocarcinoma, and acinic cell carcinoma.^{1,2} Because of the rareness and diversity of these tumors, the choice of an appropriate treatment strategy is challenging.³ The current literature lacks studies featuring larger groups of patients or data on differences in the behavior of minor versus major salivary gland malignancies. Therefore, evidence-based surgical guidelines of treatment are not yet possible, especially not for treating subtypes. In consequence, a controversial debate exists concerning the various treatment strategies, such as neck dissection (ND) as an elective procedure in all patients versus ND only in patients with cN1.

Surgical resection of the malignancy is widely accepted as a primary form of treatment, although the extent of the surgical procedure is disputed.^{5,6} ND is often recommended in cases of clinical neck disease by most researchers, regardless of histology or site,^{3,7} but management of the clinical N0 neck remains unclear.^{7,8} Postoperative radiotherapy is usually preferred in cases of adverse prognostic factors based on pathology, such as a high grade, positive surgical margins, or lymph node metastasis.⁹ Therefore, radiation therapy is often omitted from the initial surgical treatment so that it can be used as a future option if sampled lymph nodes from the ND prove positive.^{7,10} Multimodal concepts also are controversial; chemotherapeutic approaches with molecularly targeted agents and postoperative radiation therapy might help to improve therapeutic outcomes,¹¹ although their application is variable. For chemotherapy, no benefit has been shown thus far in induction or adjuvant therapy. Some investigators have advocated the use of chemotherapeutic agents in patients under palliative care or in those with advanced, unresectable, or metastatic disease,^{3,12} but no convincing data support the routine use of other cytotoxic, hormonal, or targeted agents.¹³ Response rates to chemotherapy are low and response duration is generally short-lived; therefore, based on the available data, no standard chemotherapy regime can be recommended.¹⁴ One reason for this debate might be the lack of consistent data concerning the rate of cervical metastasis,³ possibly because of individual studies reporting rates as high as 53%.¹⁵ Nevertheless, consensus has been reached on the predictors for a high probability of occult metastasis, namely unfavorable histology, pathologic grade, and the stage and size of the primary lesion.¹⁶

Furthermore, some recommendations for the treatment of salivary gland carcinomas are based on data obtained from experience with squamous cell carcinoma of the head and neck region. Therefore, doubt remains as to whether some of these treatments actually improve patient survival, because no evidence

exists showing the similar behavior of these 2 kinds of malignancy.⁷ In consequence, research concerning the treatment of the various salivary gland carcinomas must be extended, but because of their rareness and diversity, any single institution might find it difficult to amass a sufficient number of affected patients, making the achievement of significant results leading to evidence-based clinical guidelines of treatment extremely difficult. The authors hope to contribute to this search for suitable guidelines and to share, in this study, their clinical experience and research relating to salivary malignancies.¹⁷

The purpose of this study was to shed light on cervical lymph node involvement in salivary gland carcinoma and to provide recommendations for neck management.

The authors hypothesized that the optimal strategy of treatment to address the risk of lymph node metastasis in patients with salivary gland carcinoma would consist of surgical removal of the primary tumor lesion followed by elective ND (END). The specific aim of the study was to validate this procedure by an evaluation of the postoperative histopathologic lymph node results of patients. Therefore, the authors retrospectively retrieved data on the age, gender, TNM Classification of Malignant Tumors (by UICC, International Union Against Cancer) status, grade, tumor entity, and tumor location of patients with salivary gland carcinoma. These variables were analyzed by postoperative nodal status to possibly determine the groups that had benefited from END and the groups in which it could have been omitted.

Materials and Methods

STUDY DESIGN

To address the research purpose, a retrospective cohort study was designed and implemented to analyze the histopathologic data of affected patients.

STUDY SAMPLE

The study population was composed of patients presenting at the authors' university teaching hospital for the evaluation and management of salivary gland malignancies from October 2006 through October 2012. To be included in the study, patients had to be diagnosed with malignant salivary gland carcinomas and not to have been treated with ND or radiotherapy. All cases were presented to the authors' interdisciplinary board for head and neck cancers. After interdisciplinary board discussion, primary tumor surgery and subsequent ND were performed in all possible cases, in clinically negative cases, and in clinically positive cases. Standard procedure featured preoperative imaging followed by surgical resection of the primary tumor lesion

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