

Prognostic factors in primary salivary gland mucoepidermoid carcinoma: an analysis of 376 cases in an Eastern Chinese population

S. Liu¹, A. Ow², M. Ruan¹, W. Yang¹,
C. Zhang³, L. Wang³, C. Zhang¹

¹Department of Oral and Maxillofacial-Head and Neck Oncology, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai Key Laboratory of Stomatology, Shanghai, China; ²Discipline of Oral and Maxillofacial Surgery, Alexandra Hospital, Jurong Health System, Singapore; ³Department of Oral Pathology, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai Key Laboratory of Stomatology, Shanghai, China

S. Liu, A. Ow, M. Ruan, W. Yang, C. Zhang, L. Wang, C. Zhang: Prognostic factors in primary salivary gland mucoepidermoid carcinoma: an analysis of 376 cases in an Eastern Chinese population. *Int. J. Oral Maxillofac. Surg.* 2014; 43: 667–673.

© 2014 International Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Abstract. Mucoepidermoid carcinoma (MEC) is an infrequent malignant neoplasm that originates most commonly in the salivary glands. The present study aimed to provide new information on prognostic factors in patients with salivary gland MEC. A retrospective analysis of the medical records of patients diagnosed with primary salivary gland MEC between 2003 and 2010 was conducted. The incidence of MEC in the minor salivary glands (62.2%) was almost twice that in the major salivary glands (37.8%). The most frequently affected sites were the parotid gland and palate. Lymph node metastasis was reported more frequently in male than female patients ($P = 0.02$), in high-grade than low/intermediate grade lesions ($P < 0.001$), and in lesions involving the submandibular gland ($P < 0.001$). The disease-free survival (DFS) at 5 years was 80.47%, with rates of 98.0%, 86.5%, and 38.5% for low-, intermediate-, and high-grade tumours, respectively. Among various clinicopathological factors, the only independent prognostic factor was histological grade ($P < 0.001$). Primary tumour site and histological grade are two important factors affecting cervical lymph node metastasis. Histological grade is the only independent factor affecting survival beyond tumor lymph node metastasis (TNM) staging in salivary gland MEC. Further advances in therapy are needed to improve the outcomes for patients with high-grade lesions.

Keywords: mucoepidermoid carcinoma (MEC); salivary glands; lymph node metastasis tumour grade; prognosis.

Accepted for publication 14 January 2014
Available online 23 February 2014

Salivary gland carcinomas are relatively rare, comprising less than 0.5% of all malignancies and less than 5% of head and neck malignancies worldwide.^{1,2}

Among them, mucoepidermoid carcinoma (MEC) is the most frequently reported pathology, comprising approximately 30% of all salivary malignancies.^{3–5}

Primary MEC was first described by Stewart in 1945, and was initially known as benign mucoepidermoid tumour. This tumour displays a variety of biological

behaviours, and while the high-grade variant is highly aggressive with a poor prognosis, the low-grade variant usually demonstrates a more benign nature with a satisfactory survival rate.⁶⁻⁸

Several studies have described the relationships between the clinicopathological characteristics and clinical outcomes of salivary gland MEC. These characteristics include age, tumour size, histopathological grade, clinical stage, perineural and vascular involvement, and lymph node or distant metastases.⁹⁻¹¹ However, since salivary gland MECs are relatively rare, most publications have been based on small sample sizes or have reported treatment protocols that have changed throughout the course of a long treatment period.^{8,12,13} Only a few studies have reported the results of multivariable analyses involving a large group of patients treated over a relatively short period of time. However, in these few studies, the samples have included both primary MEC and recurrent cases, which may have undermined the results.

The aims of the present study were to report on the clinical outcomes of primary salivary gland MEC and to identify prognostic factors for survival in a large group of Chinese patients.

Patients and methods

A retrospective study was conducted involving patients with MEC of the salivary gland who underwent primary tumour resection with curative intent. All patients were treated between January 2003 and December 2010. Inclusion criteria were: (1) primary MEC confirmed by pathology after surgery; and (2) no radiotherapy or chemotherapy before surgery. Three hundred and seventy-six patients were included in the study. The medical records were reviewed to evaluate clinical parameters, treatments, and clinical outcomes. The histological grade was reevaluated according to the revised World Health Organization classification of salivary gland tumours by two experienced pathologists. Major salivary gland tumours were staged according to the TNM classification of malignant tumours, and minor salivary gland tumours were staged according to their site of origin, in a similar fashion to squamous cell carcinomas.¹⁴

Overall survival (OS) and disease-free survival (DFS) were determined by the Kaplan-Meier method, and the log-rank test was used to determine statistically significant differences in survival. For multivariate survival analysis, all variables were analyzed using the Cox proportional

hazards regression model. A *P*-value less than 0.05 was defined as statistically significant (SPSS for Windows version 11.5; SPSS Inc., Chicago, IL, USA). This study was approved by the institutional review board.

Results

Patient characteristics

A total of 1263 patients with a diagnosis of salivary gland carcinoma were evaluated during the specified study period, of whom 376 were eligible for inclusion. Table 1 summarizes the demographic and clinicopathological data of the study population. The median age of the sample was 46.2 years (range 4–84 years). One hundred and seventy-five were male and 201 were female, showing a slight predominance in the female gender. However, in high-grade MEC cases, the male to female ratio was almost 3.5:1. The incidence of MEC in the minor salivary glands (234 cases, 62.2%) was almost twice that in the major salivary glands (142 cases; 37.8%). The most frequently affected site was the parotid gland, followed by the hard/soft palate and tongue-mouth floor region. Histologically, 145 patients (38.6%) had tumours classified as low-grade, 169 (44.9%) were intermediate-grade, and 62 (16.5%) were high-grade. According to the TNM classification, 258 patients were stage I/II, while 67 patients were stage III/IV. In addition, lymph node metastases were clinically present at initial staging in 41 patients (10.9%) and were confirmed after operation (pathological staging) in 52 (13.8%) patients.

Treatment and follow-up

All 376 patients underwent surgery as the primary treatment. Local resection alone was performed in 282 (75%) patients, while local resection combined with neck dissection was performed in 94 (25%) patients (radical neck dissection in 18 patients, modified radical neck dissection in 35 patients, and supraomohyoid neck dissection in 41 patients). The criteria for neck dissection included patients with cN+ status, stage III/IV lesions, and positive margins. B-mode ultrasound and computed tomography were utilized for postoperative follow-up and neck evaluation.

Surgical removal of the tumours in 66 of 376 patients (17.6%) was associated with resection of the adjacent structures, which included the maxillary bones, skin, mandible, and nerve trunks. Postoperative radiotherapy was performed in 102 patients. The

Table 1. Demographic and baseline clinical characteristics of patients with primary mucoepidermoid carcinoma.

Characteristics	
Evaluable patients, <i>N</i>	376
Ages, years, <i>n</i> (%)	
<50	212 (56.4)
≥50	164 (43.6)
Median (range)	46.2 (4–84)
Gender, <i>n</i> (%)	
Male	175 (46.5)
Female	201 (53.5)
Location, <i>n</i> (%)	
Major salivary	142 (37.8)
Minor salivary	234 (62.2)
Grade, <i>n</i> (%)	
Low	145 (38.6)
Intermediate	169 (44.9)
High	62 (16.5)
Nodal status, <i>n</i> (%)	
Positive	52 (13.8)
Negative	324 (86.2)
Stage, <i>n</i> (%)	
I + II	258 (68.6)
III + IV	67 (17.8)
Unknown	51 (13.6)

criteria for postoperative radiotherapy included patients with high-grade lesions, stage III/IV lesions, positive lymph node status, positive margins, and perineural/lymphovascular invasion. Postoperative irradiation was given by conventional fractionation schedule of 1.8 Gy per day five times a week. The total dose varied between 54.0 and 66.0 Gy, with a mean of 60.3 Gy.

The mean follow-up was 38 months (range 10–106 months). Two hundred and seventy patients (71.8%) were reported to be alive with no evidence of disease, eight patients (2.1%) were alive with disease, 44 patients (11.7%) had died from disease, and one patient (0.3%) died during treatment or of other causes. Fifty-three patients (14.1%) were unavailable for follow-up. The 5-year DFS rate was 80.47%.

Clinical factors affecting lymph node metastases

Among 376 salivary gland MEC patients, 52 were confirmed to have cervical lymph nodes metastases, with an incidence of almost 14%. Metastasis at the time of surgery was reported in 46 patients, while in the remaining six patients, cervical metastasis was reported after the primary surgery. Lesions involving the submandibular gland, buccal mucosa, and mandible were the three primary sites with the highest incidences of cervical lymph nodes metastasis, with incidences of 40%, 38.9%, and 25% respectively (Fig. 1).

Download English Version:

<https://daneshyari.com/en/article/3132528>

Download Persian Version:

<https://daneshyari.com/article/3132528>

[Daneshyari.com](https://daneshyari.com)