



ORIGINAL ARTICLE

## Oral cavity squamous cell carcinoma: factors related to occult lymph node metastasis<sup>☆,☆☆</sup>



André Fernandes d'Alessandro<sup>a</sup>, Fábio Roberto Pinto<sup>b</sup>, Chin Shien Lin<sup>b</sup>,  
Marco Aurélio Vamondes Kulcsar<sup>b</sup>, Cláudio Roberto Cernea<sup>a</sup>,  
Lenine Garcia Brandão<sup>a</sup>, Leandro Luongo de Matos<sup>b,\*</sup>

<sup>a</sup> Discipline of Head and Neck Surgery, Faculdade de Medicina, Universidade de São Paulo (USP), São Paulo, SP, Brazil

<sup>b</sup> Instituto do Câncer do Estado de São Paulo (ICESP), São Paulo, SP, Brazil

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### KEYWORDS

Carcinoma;  
Squamous cell;  
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### Abstract

**Introduction:** Elective neck dissection is recommended in cases of oral cavity squamous cell carcinoma without lymph node metastasis because of the risk of occult metastasis.

**Objective:** The present study aimed to evaluate predictive factors for occult lymph node metastasis in patients with oral cavity squamous cell carcinoma treated with elective neck dissection and their impact on overall and disease-free survival.

**Methods:** Forty surgically treated patients were retrospectively included.

**Results:** Ten cases (25%) had lymphatic metastasis. Of the studied variables, perineural and angiolymphatic invasion in addition to tumor thickness were statistically associated with lymph node metastasis. Only angiolymphatic invasion was identified as an independent risk factor for occult metastasis in the logistic regression (OR = 39.3;  $p = 0.002$ ). There was no association between overall and disease-free survival with the presence of occult lymph node metastasis.

**Conclusion:** Metastatic disease rate was similar to that found in the literature. Perineural and angiolymphatic invasion and tumor thickness were associated with occult metastasis, but only angiolymphatic invasion showed to be an independent risk factor

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<sup>☆☆</sup> Institution: Instituto do Câncer do Estado de São Paulo (ICESP), São Paulo, SP, Brazil.

\* Corresponding author.

E-mail: [lmatos@amcham.com.br](mailto:lmatos@amcham.com.br) (L.L. de Matos).

**PALAVRAS-CHAVE**

Carcinoma;  
Células escamosas;  
Boca;  
Metástase linfática;  
Prognóstico

## Carcinoma espinocelular da cavidade oral: fatores relacionados à presença de metástases linfonodais ocultas

**Resumo**

**Introdução:** O esvaziamento cervical eletivo é realizado de maneira sistemática nos casos de carcinoma espinocelular da cavidade oral sem linfonodos clinicamente comprometidos devido à alta incidência de metástases ocultas.

**Objetivo:** Avaliar pacientes com carcinoma espinocelular de cavidade oral tratados com esvaziamento cervical eletivo quanto a fatores preditivos para ocorrência de metástases ocultas e o impacto das mesmas na sobrevivência global e livre de progressão destes pacientes.

**Método:** Quarenta pacientes cirurgicamente tratados foram avaliados em estudo retrospectivo.

**Resultados:** Dez casos (25%) apresentaram metástases ocultas. Das variáveis analisadas, invasão perineural e angiolinfática e também a espessura tumoral foram estatisticamente significantes à análise univariada. Apenas a invasão angiolinfática foi fator independente de risco de metástases ocultas pela regressão logística (OR = 39,3;  $p = 0,002$ ). A presença de metástase oculta não apresentou diferença estatisticamente significativa em relação às taxas de sobrevivência global e livre de progressão.

**Conclusão:** A incidência de metástase oculta foi semelhante à literatura. A invasão perineural, angiolinfática e a espessura tumoral foram fatores associados à presença de metástase oculta, porém apenas a invasão angiolinfática apresentou-se como um fator de risco independente para ocorrência do fenômeno.

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**Introduction**

Squamous cell carcinoma is the most common histological type of cancer of the oral cavity, and has an important and well-established pattern of dissemination to cervical lymph nodes.<sup>1</sup> Even in patients clinically without evidence of metastatic lymph nodes (N0), elective neck dissection in conjunction with resection of the primary tumor, is part of the standard treatment of the disease because the risk of occult metastasis is greater than 20%.<sup>1-6</sup>

Several studies have tried to assess factors that would predict occult metastases and their influence on survival rates, such as tumor thickness, perineural invasion and angiolymphatic invasion.<sup>1,7-10</sup> In attempts to reduce surgical morbidity, some have proposed alternatives to elective neck dissection, such as sentinel lymph node mapping<sup>11,12</sup> and even avoiding any surgical approach to the neck in selected cases;<sup>13,14</sup> the latter has the poorest survival results.<sup>5,15,16</sup> Thus, elective neck dissection currently remains the most widely used treatment.

The present study aimed to evaluate the risk of the presence of occult lymph node metastases in patients with squamous cell carcinoma of the oral cavity submitted to resection and elective neck dissection, in order to identify factors related to the development of nodal metastases, and to identify its impact on overall and disease-free survival.

**Method**

This was a longitudinal historical cohort study that, after approval by the Ethics Committee of Institutional Research

under No. 507/11, retrospectively assessed electronic medical records of consecutive patients submitted to primary tumor resection with intent to cure combined with elective neck dissection in patients with oral cavity squamous cell carcinoma (including the lip). Forty patients were selected from April of 2009 (beginning of the Head and Neck Surgery Service) until December of 2012.

Inclusion criteria consisted of cases of squamous cell carcinoma of the oral cavity, whose initial treatment was a surgical procedure with primary lesion resection and elective unilateral or bilateral neck dissection, depending on the lesion location, with all patients being considered N0 at clinical examination and preoperative imaging tests. Neoplasms in other sites than the oral cavity were excluded, as well as other histological types, patients who had suspected lymph node detected intraoperatively, leading to conduct change into radical dissection, and patients submitted to previous surgical treatment or chemotherapy and/or radiotherapy, even for neoplasms located at another site in the head and neck.

Patients were assessed regarding:

1. Demographic data: gender and age;
2. Clinical data: primary tumor location (for this variable, major oral cavity subsites were divided into tongue, floor of the mouth, retromolar area, lip, buccal mucosa, and alveolar border). Patients were only included with squamous cell carcinoma of the lip when it extended to the buccal mucosa, justifying elective neck dissection according to the institutional protocol;
3. Anatomopathological data: pT stage (analyzed in independent subgroups and also in pT1 and pT2 vs. pT3

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