Prognostic significance of VEGF-C in predicting micrometastasis and isolated tumour cells in N0 oral squamous cell carcinoma.

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Abstract

BACKGROUND:
Lymph node metastasis in oral squamous cell carcinoma (OSCC) is a well-known independent prognostic factor. However, the identification of occult tumour cells within the lymph nodes has remained a challenge for the pathologist as well as the clinician.

OBJECTIVE:
The aim of this study was to determine the prevalence of micrometastasis and isolated tumour cells (ITCs) in pathologically staged N0 OSCC of the tongue and buccal mucosa and to assess its correlation with vascular endothelial growth factor C, (VEGF-C) expression in the primary tumour.
METHODS:
Thirty-four cases of N0 OSCC comprising of 17 cases each from the tongue and buccal mucosa were evaluated by immunohistochemistry for VEGF-C expression. The corresponding lymph nodes from levels I and II were pathologically examined and cross-detected for micrometastasis and ITCs with desmoglein 3 (DSG3).

RESULTS:
The prevalence of micrometastasis and ITCs in OSCC of the tongue and buccal mucosa was 23.5% and 17.6%, respectively. A total of 12 out of 151 lymph nodes contained micrometastatic tumour foci and ITCs. A higher expression of VEGF-C in the primary tumour was associated with a greater probability for the occurrence of micrometastasis and ITCs in the lymph nodes.

CONCLUSION:
High expression of VEGF-C in the primary tumour may be a good determinant for detection of occult tumour cells in the lymph nodes of OSCC cases.

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KEYWORDS:
DSG3; VEGF-C; micrometastasis; oral cancer

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