

Investigation of sentinel lymph node biopsy using genetic analysis in squamous cell carcinoma of the tongue.

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Abstract

Background: Metastasis of cervical lymph node is the most important prognostic factor in oral cancer. In this study, we evaluated the efficacy of one-step nucleic acid amplification (OSNA) assay for intraoperative diagnosis of sentinel lymph node (SLN) metastasis compared with conventional examination in patients with carcinoma of the tongue. The aim of this study was to investigate availability of the genetic diagnosis in carcinoma of the tongue.

Patients and Methods: We investigated patients with T1 and T2 squamous cell carcinoma of the tongue with a clinical diagnosis of N0 who underwent SLN biopsy (SLN group; n=28) in comparison with those who did not undergo SLN biopsy (non-SLN group; n=23). SLN biopsy consisted of not only intraoperative pathological examination, but also genetic analysis using the OSNA method.

Results: Lymph node metastasis was detected in five of 28 patients in the SLN group (17.9%) . One discordant case was observed between pathological examination and OSNA assay. This case was positive metastatic lymph node according OSNA assay, but negative lymph node at pathological examination.

Subsequent cervical lymph node metastasis was not seen in the SLN group, it was seen three patients in the non-SLN group (13.0%). Five-year survival rate was higher in the SLN group (94.4%) than the non-SLN group (86.7%), but this difference was not significant.

Conclusion: These results suggest that in early oral cancer, SLN biopsy is highly useful for detecting lymph node metastasis. The high accurate OSNA method can be used in intraoperative diagnosis as a tool for detecting metastasis in the sentinel lymph nodes of tongue carcinoma.

Key words : sentinel lymph node biopsy, genetic diagnosis,
squamous cell carcinoma of the tongue