P147. High risk HPV and cervical lymph node metastasis in patients with oropharyngeal cancer

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Background: To determine the role of high risk HPV in lymph node metastasis and the depth of invasion in oropharyngeal cancer.

Methods: The study included subjects with 90 oral and 66 oropharyngeal carcinoma. High risk HPV *in situ* hybridization was performed to detect HPV infection.

Results: The positive rate of high risk HPV *in situ* hybridization was 15.4% (24/156). There was a significant difference in the fraction of positive high risk HPV between oral (6.7%) and oropharyngeal (27.3%) cancers ($p < 0.000$). Significant correlations were found between positive high risk HPV and cervical lymph node metastasis, tumor depth of invasion in patients with oropharyngeal cancer ($p = 0.002$, $p = 0.016$, respectively). There was a statistically significant association between high risk HPV positivity and the disease-specific survival in patients with oropharyngeal cancer ($p = 0.035$).

Conclusions: High risk HPV infection was significantly related to cervical lymph node metastasis and depth of invasion in patients with oropharyngeal cancer.

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P148. Human papillomavirus and EGFR as a prognostic marker in tonsil cancer

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Objective: To understand the different clinical features of squamous cell tonsil cancer (SCTC), according to presence of human papillomavirus (HPV). To investigate the expression level of p53 and epidermal growth factor receptor (EGFR) in HPV-negative and HPV-positive SCTC, and analyze its significance.

Methods: Sixty-two tonsil cancer patients were included in this retrospective cohort study. High risk HPV *in situ* hybridization was performed to detect HPV infection. We divided subjects into two groups according to presence of HPV DNA, and compared clinical features, expressions of p53 and EGFR in immunohistochemical stain, between two groups.

Results: The overall prevalence of HPV DNA in SCTC was 37.1%. In pathologic features, T stage was not significantly different. Nodal stage also showed no statistical difference, but mean lymph node ratio was significantly higher in HPV-positive groups (0.140.20 vs. 0.060.06, $p = 0.037$). In survival rate, survival rate was significantly higher in HPV-positive group as 86.5% ($p = 0.0452$) even higher mean lymph node ratio. When regarding staining of more than 25% of tumor cells with antibody as positive result, expressions of EGFR were significantly higher in HPV-negative groups ($p = 0.036$), but p53 did not show statistical difference.

Conclusion: Even though HPV-positive groups showed more often nodal involvement, survival rate was higher in HPV-positive group, and inverse correlation of HPV status with EGFR expression may account for that.

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P149. Myeloid derived suppressor cells contribute to oral cancer progression in 4NQO treated mice

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Objective: Abnormal myelopoiesis especially expansion of myeloid derived suppressor cells (MDSCs) is increasingly recognized as an important reason for immune surveillance escape of tumor. This study aims to investigate the role of this specific population of cells in oral cancer progression.

Materials and methods: 4-Nitroquinoline 1-oxide (4NQO) was used to induce oral cancer in C57BL/6 mice. The tongue mucosa was examined by hematoxylin and eosin staining and Ki67 immunohistochemical staining. The distribution of MDSCs and T cell subsets in the spleen was analyzed by flow cytometry. The expression of arginase-1 (ARG-1) and NOS-2 in the tongue tissues was detected by real time PCR.

Results: We found that during tumor progressioPn, significantly increased frequency of MDSCs was observed in the spleens of 4NQO treated mice, and the frequency of MDSCs was positively correlated with systematic CD3 + CD8 + T cells. Moreover, 4NQO treated mice showed significantly higher ARG-1 mRNA level in the tumor site.

Conclusions: MDSCs contribute to oral tumor progression and represent a potential target for immunotherapy of oral cancer.

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P150. Detection of Notch signaling molecules in cemento-ossifying fibroma of the jaws

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Background: The aim of this study was to evaluate the roles of Notch signaling in the oncogenesis and cytodifferentiation of cemento-ossifying fibroma, the expressions of Notch receptors and ligands were detected in COF and normal jaw bones.

Materials and methods: The expressions of Notch1, Notch3, Jagged1, and Jagged2 were detected by reverse transcriptase polymerase chain reaction and immunohistochemistry respectively in 16 cases of normal bone tissues and 12 cases of COF of the jaws.

Results: The mRNAs expressions of Notch1, Notch3, Jagged1, and Jagged2 were detected in all specimens. The expression levels of mRNAs in COF were higher than those in normal bones. In COF, Notch proteins staining were showed extensively distribution in fibroblasts and osteoblasts. In normal bone tissue, Notch proteins were expressed in osteoblasts, whereas proteins staining were weaker than those in COF, but no detection in fibroblast-like bone marrow stroma cells. The expressions of Notch receptors and ligands were not detected in cementum-like products or bone matrices.

Conclusion: Our data suggest that Notch signaling may participate in controlling cell differentiation and proliferation in normal bone and COF of the jaws. Notch signaling disorder may be a molecular incident in COF occurrence and development.

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