

HPV INFECTION AND ORAL CARCINOGENESIS

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Abstract:

Human papillomavirus (HPV) infection is responsible for approximately 5% of all cancers and is associated with 30% of all pathogen-related cancers. The vaccine elicits immune response that prevents initial infection with a given HPV type but does not eliminate persistent virus once infection has occurred and does not prevent development of the HPV-associated neoplasias, which necessitates the development of therapeutic vaccines to treat chronic HPV infections and HPV-associated malignancies.

Key words: HPV, cancer, diagnostics, oral epithelium, vaccination.

In recent years, there has been an increase in the incidence of oral cancer worldwide, even as the incidence of other head and neck cancers has been declining. It has now been established that human papillomavirus (HPV) can be accredited as part of this growth.

The purpose of this study was to examine any changes in the oral cavity, what role HPV may play, the prognostic value of HPV, and the results of various treatment regimens for precancerous lesions of the oral mucosa.

We analyzed preprocessed, paraffin-embedded diagnostic tumor biopsies for HPV using PCR and found that the proportion of HPV in both tonsil and tongue base cancers has increased over the past decade, reaching 93% positivity in tonsil cancer and 83% positivity in oral cancer. Positive result for the oral mucosa. To assess whether HPV was transcriptionally active in these biopsies, we also tested HPV E6 and E7 mRNA, which was positive in the vast majority of cases. HPV has been found to be a significant factor in the occurrence of oral cancer. A prognostic factor,

with improved overall survival as well as disease-free survival compared with patients with HPV-negative tumors, regardless of age, sex and tumor stage.

It has been suggested that patients with HPV-positive tumors can be cured with less intensive treatment and therefore fewer side effects. In an analysis of all HPV-positive oral cancer patients between 2022 and 2023, we compared survival and distant metastases between groups that received three different treatment regimens. There was no significant difference overall or between treatment groups in disease-free survival, but a trend toward improvement was observed. It was noted that survival with intensified treatment requires further study.

The vast majority of HPV-positive oral and base of tongue cancers are HPV16, meaning commercially available vaccines will protect against it. This one highlights the debate about whether boys/men should be included in the HPV vaccination program.

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