

SUMMARY

The incidence of human papillomavirus (HPV) -associated oropharyngeal tumors is steadily increasing therefore, information about the prevalence of oral HPV and its risk factors is very important for future screening and early diagnosis of the disease.

This thesis addresses three topics. The first topic is to evaluate the prevalence of oral HPV in a healthy population and to investigate risk factors for oral HPV infection, given that these data are almost completely absent in Central Europe.

A statistically significantly higher rate of positivity (8.8%) of oral HPV infection was found in the group of older unvaccinated probands than in younger partially vaccinated volunteers (2.0%). The seropositivity rate of anamnestic HPV antibodies was comparable in both groups. None of the analyzed risk factors were significantly associated with oral HPV positivity.

The second topic of the thesis is the dynamics of HPV specific antibodies in patients with head and neck cancer and their prognostic significance. In patients with cervical cancer, a decrease in HPV E6 / E7-specific antibodies is associated with a better prognosis. Another goal of the dissertation was to assess the importance of anamnestic antibodies and antibodies against oncoproteins E6 and E7 in long-term follow-up 2-14 years after the end of treatment.

The level of HPV-specific antibodies decreased in a statistically significant manner during long-term follow-up in non-recurrent patients. A decrease in HPV16 E6 antibodies after the first year of follow-up was associated with better overall survival (OS). A statistically significant decrease in anamnestic antibodies was observed on average more than 10 years after the end of treatment.

The third topic of the thesis is the evaluation of the prognostic significance of HPV / p16 positivity in patients surgically treated for oral squamous cancer. The role of p16 positivity is not as clear as in oropharyngeal carcinomas, some studies show worse prognoses for patients with HPV / p16 positive oral cancer.

Of patients surgically treated for oral cancer, 8.3% were p16 positive. In the cohort, P16 protein expression was shown to be the most important factor impacting survivability. Its expression negatively affected patient survival up to 4 times ($p = 0.019$). Other factors which had a statistically significant influence on survival were: T status, N status and recurrence of the underlying disease.

Conclusions: The lower prevalence of oral HPV DNA in younger participants suggests a positive effect of HPV vaccination.

The value of HPV-specific antibodies after one-year and long-term follow-up is an important prognostic factor.

P16 protein expression has a different significance in oral cancers than in oropharyngeal cancers. P16 positivity appears to be a negative prognostic factor, however, the significance of the presence of HPV / p16 protein in tumors with non-oropharyngeal location remains unclear.

Key words: head and neck cancers, oral prevalence of HPV, HPV specific antibodies, prognosis, p16 expression