

Impact of specific high-risk human papillomavirus genotypes on survival in oropharyngeal cancer

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Introduction:

The increases observed in incidence and survival of oropharyngeal squamous cell carcinoma (OPSCC) have been attributed to human papillomavirus (HPV) infection, but the survival-impact of specific genotypes is poorly understood. We investigated the potential influence HPV genotypes on survival in HPV-positive (HPV+) OPSCC.

Methods:

All patients with HPV+/p16+ OPSCC and available genotype data within the period 2011-2017 in Eastern Denmark were included. Descriptive statistics on clinical and tumor data, as well as overall survival (OS) and recurrence-free survival (RFS) with Cox hazard models and Kaplan-Meier plots were performed.

Results:

Overall, 769 HPV+/p16+ OPSCC patients were included of which genotype HPV16 accounted for 86% (n=662). Compared to high-risk non-HPV16 genotypes (HR non-HPV16), HPV16 patients were younger at diagnosis (median years, 60 vs. 64), had a higher male to female ratio (3.7:1 vs. 2.1:1), and lower performance scores of <1 (90%, n=559, vs. 81%, n=74). Regarding 5-year OS and RFS, no difference was observed between HPV16 and HR non-HPV16 patients. Subgrouping the HR non-HPV16 group into HPV33 (n=57), HPV35 (n=26) and “other genotypes” (n=24) a significantly worse OS in the “other genotypes” group (hazard rate: 2.01, p=0.027) was shown.

Discussion:

With similar survival results between HPV16 and non-HPV16 genotypes, genotyping in OPSCC is interesting from an epidemiological point of view, but not a necessary addition in prognostication of HPV+/p16+ OPSCC.

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