Frequency of human papilloma virus (HPV) and p16 expression in patients with head and neck squamous cell carcinoma (HNSCC) in Concepcion, Chile

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Background: Oncogenic HPV (HPV-16, -18) are etiologically related to a subset of HNSCC that present a different carcinogenesis compared with HPV-negative tumors. HPV prevalence varies according to tumor site and method of detection. We determined HPV genotype and frequency associated with p16 expression in HNSCC

Methods & Materials: A retrospective study(2002-2008) of 90 patients from 34 to 85 years, 77% male and 23% female. Samples tumor site and histologic grade. Archival biopsies histologically confirmed with HNSCC and TNM graded were analyzed. Oral cavity: tongue n = 32, mouth n = 29, palate n = 9; hypopharynx n = 20.

Results: HPV status and prevalent genotype according to tumor site and grade. Oral: Tongue 66%HPV (44% HPV-45; 22% each HPV-16, -18,-35; 10% HPV-low risk). Mouth 76%HPV (64% HPV-18; 27% HPV-16). Palate 89%HPV (57% HPV-16; 43% HPV-18). Hypopharynx 50%HPV (60% HPV-18; 40% HPV-16). Grade TII/TIV: 73% HPV (50% HPV-18; 25% HPV-45; 22% HPV-16) most oral tumors (97%). Tumors graded TIII/IV had 50% HPV (50% HPV-18; 25% HPV-16) most oral tumors (97%), which 33% oral and 67% hypopharynx

Tumor classification by p16 expression and HPV: p16 Overexpression 51% 1. HPV/ p16 positive 34% (prevalent genotype HPV-16 and HPV-18) tumor site 77% oral; 2. HPV/p16 negative 17% tumor site 53% oral; 3. HPV positive/p16 negative 29% (HPV-18) tumor site 88% oral. 4. HPV negative /p16 positive 16% tumor site 79% oral.

Conclusion: A high frequency of HPV infection (70%) in HNSCC that were most of early stage I and II suggests oncogenic HPV potential role in the development of this cancer and the need to screen the hypopharynx for HPV.

Predominant oncogenic genotypes type varied according to tumor site:HPV-18 (mouth) HPV-16 (palate), HPV-45 (tongue).