

P0752 Analysis of the clinical characteristics and survival in HPV-related oropharyngeal cancer based on the results of four HPV-DNA detection assaysLorena Lozano Garcia^{*1}, Antonio Moreno^{2,1}, Amparo Torroba Carón², Jose Antonio Ruiz²¹ Universidad de Murcia, Spain, ² Hospital Clínico Universitario Virgen de la Arrixaca, El Palmar, Spain

Background: The detection of HPV in oropharyngeal cancer could indicate either transient infection or HPV-related oncogenesis. The sensitivity of the available commercial assays may exhibit variations between assays. In this study, we evaluated the clinical characteristics and outcome of patients diagnosed with oropharyngeal squamous cell carcinoma (OPSCC) according to the results provided by four HPV-DNA detection commercial assays.

Materials/methods: Sixty five formalin fixed paraffin embedded OPSCC samples obtained at our hospital from 2005-2016 were tested for HPV detection with the following assays: HPV Xpert (Cepheid) [Xpert], Anyplex II HPV28 Detection (Seegene) [Anyplex], CLART HPV4 (Genomica) [CLART] and INNO-LiPA HPV Genotyping Extra II (Fujirebio) [INNO-LiPA]. We performed a Chi-squared (χ^2) test (SPSS 23) to analyze the independence of the clinical and survival characteristics regarding HPV detection for each assay.

Results: The positivity rates of the evaluated assays were: Xpert: 18.5%, Anyplex: 18.5%, CLART:10.8% and INNO-LiPA:32.3%. Significant statistical differences ($p < 0.5$) between HPV-DNA+ and HPV-DNA- samples were found in alcohol and tobacco consumption for Xpert (alcohol, $p = 0.001$; tobacco, $p = 0.004$) and Anyplex (alcohol, $p = 0.009$; tobacco, $p = 0.034$), in tobacco consumption with CLART ($p = 0.047$). In these cases, HPV was present in a bigger proportion of non-drinkers/non-smokers. Anyplex ($p = 0.045$) and CLART ($p = 0.013$) were significantly positive in younger patients. Year of diagnosis, sex, carcinoma location, metastasis, tumoral size or therapeutical approach did not show statistical differences.

All of the assays exhibited significant differences in terms of 5-year disease-free interval of the carcinoma, less frequent in HPV-DNA+ patients. However, 5-year survival differences were only found in patients with HPV-DNA detection by Anyplex: patients that were found to be HPV-DNA+ by Anyplex had better survival outcomes ($p = 0.030$) and rarely presented exitus directly related to the carcinoma ($p = 0.045$). No differences were found regarding the presence of exitus related to treatment.

Conclusions: The HPV-DNA detection results obtained with Anyplex and Xpert were found to be more frequently associated with statistically significant clinical and survival features. Although these assays had a lower positivity rate than INNO-LiPA and higher than CLART, the results provided by Anyplex and Xpert, may provide a better prognostic value than more sensitive assays in HPV-related oropharyngeal carcinomas.