

Human Papillomavirus in oral leukoplakia – a multicenter study from Brazil, Romania and Sweden

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Background

The association between oropharyngeal cancer and Human Papilloma Virus (HPV) infection is well known. Although a causal association between oral leukoplakia (OL), oral squamous cell carcinoma (OSCC) and HPV has been suggested in several reports, no conclusive evidence has been presented. During the last two decades, an alarming increase in incidence of oropharyngeal carcinomas related to HPV infection has been reported.

Aim

The aim of this study was to I) investigate if the incidence of HPV-positive OL has increased in the same extent as the HPV-positive oropharyngeal carcinomas and II) investigate if the incidence differs between different parts of the world.

Patients and Methods

Patient cohorts from centers in Sweden, Brazil and Romania are retrieved as follows:

Sweden: 102 patients with biopsies of OL obtained 2011-2017 and 91 biopsies from patients with OL obtained 1992-2002.

Brazil, Sao Paulo: 100 patients with biopsies of OL obtained 2011-2017 and 100 biopsies from patients with OL obtained 1992-2002.

Romania, Bucharest: 35 patients with biopsies of OL obtained 2011-2017 and 17 biopsies from patients with OL obtained 1992-2002.

PCR analysis where preformed to determine the HPV-status of the OL, to compare the change of prevalence over time and the geographical distribution. DNA from paraffin-embedded biopsies where extracted and a Taqman real-time PCR analysis targeting HPV subtypes 16-18-31-33-35-39-45-52-56-58-59-6-11 where performed at the Department of Virology, Sahlgrenska University Hospital.

Preliminary results

In the Swedish and Romanian cohorts none of the investigated HPV subsets were detected. In the Brazilian cohorts four patients were positive for HPV. The results indicate that the prevalence of HPV infection of the investigated subtypes is low in OL patients from these three countries.

Conclusion

The preliminary finding may imply that HPV do not play an important role in premalignant lesions in the oral cavity.