

HUMAN PAPILLOMAVIRUS (HPV) DETECTION RATE IN BETEL QUID INDUCED LEUKOPLAKIA & ORAL SQUAMOUS CELL CARCINOMA (OSCC): A PILOT STUDY

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HPV may play an important role in the development of leukoplakia and OSCC. However, the HPV detection rates in these lesions vary widely depending on the inherent variations in the population studied and the detection method used.

Therefore, the objective of this study was to determine the HPV detection rate of betel quid induced leukoplakia and OSCC using polymerase chain reaction (PCR). Fifty-nine cell scrapings were obtained with cyto-brushes from lesions clinically appearing as leukoplakia or squamous cell carcinoma (OSCC). Initially, cell scrapings were incubated with TE buffer (Tris-EDTA pH 8.0) and 10mg/ml proteinase K. The supernatant was purified with phenol: chloroform: isoamyl alcohol (25:24:1) and DNA precipitated with 100% ethanol. Thereafter, PCR reaction was performed with MY09/11 primers for 54 samples, as the remaining 5 samples did not yield amplifiable DNA. Subsequently, the PCR products were run on a 2% agarose gel and HPV positive samples were recorded. Thereafter, presence or absence of HPV was correlated with the histopathological diagnosis for 40 samples. (The histopathological diagnoses for the remaining samples were not available).

Twenty three percent (3/13) of the leukoplakia, histopathologically diagnosed as mild, moderate or severe dysplasia and 22% (5/22) of OSCC were positive for HPV. Accordingly, no statistically significant difference was seen in the HPV detection rates between dysplastic lesions and OSCC when analyzed statistically using Chi-square test at 5% level of significance. However, as the cell scrapings were obtained from lesions based on a clinical diagnosis (previously not subjected to histopathology) there was an overall reduction in the sample size due to non-availability and non-relevant histopathological diagnoses.

In conclusion, twenty three percent of leukoplakia and 22% of OSCC were positive for HPV.