

## **Expression of Human Papillomavirus in Dysplastic and Non-Dysplastic Oral Lichen Planus - An Immunohistochemical Study**

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Oral lichen planus (OLP) is a persistent, autoimmune-mediated disease with a potential risk of oncogenic transformation within the oral cavity. Despite other etiologic factors, human papillomavirus (HPV) is predicted to be a causative agent in oral cancers; however, investigations have been inconclusive regarding its role in epithelial dysplastic subtypes associated with OLP. This study aimed to determine the expression of HPV in dysplastic OLP and its association between dysplastic and non-dysplastic variants of OLP. A case-control study was performed retrospectively by obtaining thirty archived samples from the middle-aged, Sri Lankan female population. Hematoxylin and Eosin staining was performed for the reviewing and categorization of OLP followed by an immunohistochemical recognition of HPV to determine the expression of HPV in mild-grade dysplastic and non-dysplastic OLP. The primary antibody utilized was the Monoclonal Mouse Anti-Human Papillomavirus Clone K1H8, Dakocytomation (dilution 1:50), capable of identifying the expression of both high-risk and low-risk type HPV. As for the outcomes, HPV expression was detected in 33.3% (5/15) of mild-grade dysplastic and 13.3% (2/15) of non-dysplastic OLP. A statistically significant association of HPV between mild-grade dysplastic and non-dysplastic OLP was not revealed through the analysis ( $p > 0.05$ ). The outcome of this study indicated a relatively higher expression of HPV in mild-grade dysplastic OLP compared to non-dysplastic OLP. Therefore, it is vital to discern the association of HPV in different degrees of epithelial dysplasia in OLP in the future to elucidate the role of viral infection in disease progression.

**Keywords:** Autoimmune-mediated disease, degrees of epithelial dysplasia, HPV expression, immunohistochemical recognition, oncogenic transformation

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