

INTRODUCTION

Oral lesions have different etiologies, although many of them can be largely attributed to environmental exposures. Tobacco use, chewing areca nuts, and alcohol consumption are well-established risk factors for various lesions of the oral cavity. Infectious agents also play an important role in the etiology of oral lesions. Among all infectious agents, human papilloma viruses (HPV) have been known to infect the skin and mucous membrane commonly and can induce benign and malignant tumor formation. Although their role in cervical carcinoma is proven, it is still not known conclusively whether they have a similar pathogenic role in oral squamous cell carcinoma.

AIM:

To evaluate the expression of E6 oncoprotein of HPV 16/18 in oral epithelial hyperplasia, dysplasia and oral squamous cell carcinoma.

MATERIALS AND METHODS

This study comprised of a total of 45 samples which included 15 cases of oral epithelial hyperplasia, 15 cases of dysplasia [mild- 4; moderate- 10; severe- 1] and 15 cases of oral squamous cell carcinoma [well differentiated- 6; moderately differentiated- 8; poorly differentiated- 1]. These archival tissues were fixed in neutral buffered formalin and embedded in paraffin wax. Two sections from each sample were made. All the 45 cases were subjected to immunohistochemical staining to evaluate the expression of E6 oncoprotein HPV 16/18 and presence of koilocytosis was evaluated in H and E stained section simultaneously.

STATISTICAL ANALYSIS:

Fisher's exact test was used to analyze the significance of differences of immunopositivity of E6 HPV 16/18 and presence of koilocytosis in all the groups. Cramers' V value test was done to assess the strength of association between the different parameters.

RESULTS:

None of the cases of oral epithelial hyperplasia and dysplasia showed immunopositivity for E6 oncoprotein HPV 16/18. Four out of 15 cases of oral squamous cell carcinoma showed immunopositivity for E6 oncoprotein. Out of four immunopositive cases of oral squamous cell carcinoma, two cases belonged to well differentiated and two belonged to moderately differentiated grade. The presence of koilocytosis was observed in 5 out of 15 cases of oral epithelial hyperplasia, 2 out of 15 cases of dysplasia and 5 out of 15 cases of oral squamous cell carcinoma. There was a statistically significant difference in immunopositivity for E6 oncoprotein HPV 16/18 among the three different groups and a moderately strong association between the study groups and immunopositivity for E6 oncoprotein HPV 16/18. There was no statistical difference in the presence of koilocytosis among the different study groups and among different grades of oral squamous cell carcinoma, but the association between the positivity of koilocytosis and different grades of oral squamous cell carcinoma was moderately strong.

Keywords: HPV 16/18, E6, Koilocytosis, Oncoprotein, Oral squamous cell carcinoma, Oral epithelial dysplasia, Oral epithelial hyperplasia