EXPRESSION OF E-CADHERIN IN NORMAL ORAL MUCOSA, IN ORAL PRECANCEROUS LESIONS AND CONDITIONS AND IN ORAL CARCINOMAS

By

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ABSTRACT

Background & Objectives: Most of the invasive oral carcinomas are preceded oral precancerous lesions and conditions. These processes are pre-programmed temporarily in the genome, but they are under the influence of various signal transduction pathways from various adhesion receptors located on the cell surface. One such important receptor is E-cadherin. The aim of present study was to assess the expression of E-cadherin in oral precancerous lesions and conditions and oral carcinomas in comparison with normal mucosa.

Methodology: Total of 50 samples were selected for the study and were categorized into 5 groups and 10 samples in each group as Group I- Oral leukoplakia (OL), Group II- Oral lichen planus (OLP), Group III- Oral submucous fibrosis (OSMF), Group IV- Oral squamous cell carcinoma (OSCC) and Group V- Normal oral mucosa (NOM) as control group. All the samples were assessed for the expression of E-Cad by immunohistochemical study.

Results: Upon assessing the expression of E-cad in OL, OSMF, OLP and OSCC, as majority of the samples with OSCC (90%), OL (80%), OLP (70%) and OSMF (60%) samples showed mild to moderate expression of E-Cad staining, which was suggestive of reduction in dysplastic cells on comparison to NOM cells. This difference in expression and variation of E-Cad upon comparison with normal mucosa was statistically significant ($p< 0.001$).

Conclusion: There is significant ($p<0.001$) variation of expression of E-Cad with the histopathological dysplasia of the oral precancerous lesions and conditions, and the tumour differentiation of the oral cancers. But, there was no correlation of the degree of loss of expression of E-Cad with the degree of dysplasia or the tumour differentiation of oral cancers. We conclude with our study that, there is a variation in the expression of E-Cad but its value as a prognostic marker is questionable

Key words: E-Cadherin (E-Cad), Immunohistochemistry (IHC), Oral pre-cancerous lesions and conditions and Oral carcinoma.