HEAT SHOCK PROTEIN 70 (HSP70) AS A MARKER OF EPITHELIAL DYSPLASIA IN ORAL DYSPLASTIC LESIONS

by

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ABSTRACT

Objective: In the present study, expression of HSP70 was evaluated and compared in oral dysplastic lesions, in particular leukoplakia and in normal mucosa. Additionally, correlation of HSP70 expression with clinical disease status was investigated.

Methods: A total of 60 fresh tissue specimens were obtained from the oral cavity, consisting of 30 dysplastic cases and 30 normal mucosal tissues. The presence of epithelial dysplasia and its histologic grading was evaluated. Immunohistochemistry was carried out with the monoclonal HSP70 antibodies and expression of HSP70 within the epithelium was compared between dysplastic and normal mucosal samples using Student's T-test.

Result: Expression of HSP70 was detected in 93% of the oral dysplastic tissues and 20% of the normal mucosal tissues. Statistical significant difference in the HSP70 expression was seen between oral dysplastic tissues and normal oral mucosal tissues with p value of 0.000. The Inter- examiner reliability was 93.3 %. Statistical significant difference was seen in the HSP70 expression between controls and different grades of dysplasia (mild, moderate and severe). There was no relationship of HSP 70 expression with clinical parameters like age, sex, site of the lesion, history of adverse habits and duration of adverse habits.

Conclusion: In the present study HSP70 activity was significantly higher in oral dysplastic (leukoplakia) group than in the control group. Further, as the grade of dysplasia increased the staining intensity and or distribution or both increased, indicating that enhanced HSP70 expression occurs during oral carcinogenesis. Hence, it is concluded that increased HSP70 immunoexpression could be an

objective marker for the presence of epithelial dysplasia or epithelial malignant transformation.

Key words:

Potentially malignant oral disorders, Leukolpakia, Epithelial dysplasia, markers of epithelial dysplasia, Heat Shock Protein70.