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Bcl-2: A Molecule to Detect Oral Cancer and Precancer

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Abstract : Introduction: Oral squamous cell carcinoma is the most common malignant tumor of the oral cavity. Normally the death of cell and the growth are active processes and depend not only on external factors but also on the expression of genes like Bcl-2, which activate and inhibit apoptosis. The term Bcl-2 is an acronym for B-cell lymphoma/ leukemia -2 genes. Objectives: An attempt was made to evaluate Bcl-2 oncoprotein expression in patients with oral precancer and cancer and to assess possible correlation between Bcl-2 oncoprotein expression and clinicopathological features of oral precancer and cancer. Material and Methods: This is a selective prospective clinical and immunohistochemical study. Clinicopathological examination is correlated with immunohistochemical findings. The immunolocalization of Bcl-2 protein is performed using the labeled streptavidin biotin (LSAB) method. To visualize the reaction, 3, 3-diaminobenzidine (DAB) is used. Results: Bcl-2 expression was positive in 11 [36.66 %, low Bcl-2 expression 3 (10.00 %), moderate Bcl-2 expression 7 (23.33 %), and high Bcl-2 expression 1 (3.33 %)] oral cancer cases and in 14 [87.50 %, low expression 8 (50 %), moderate expression 6 (37.50 %)] precancer cases. Conclusion: On the basis of the results of our study we conclude that positive Bcl-2 expression may be an indicator of poor prognosis in oral cancer and precancer. Relevance: It has been reported that there is deregulation of Bcl-2 expression during progression from oral epithelial dysplasia to squamous cell carcinoma. It can be used for revealing progression of epithelial dysplasia to malignancy and as a prognostic marker in oral precancer and cancer.

Keywords : BcL-2, immunohistochemistry, oral cancer, oral precancer
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