# Proto – oncogene Bcl2 protein expression in oral carcinoma (squamous cell carcinoma and adenoid cystic carcinoma) of Iraqi patients.

**A thesis**

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# Summary

**Introduction :-** The clinical behavior of head and neck squamous cell carcinoma is quite difficult to predict on basis of on classical histopathological parameters alone Consequently the identification of molecular markers that can accurately define those lesions that will manifest an aggressive behavior and worse prognosis is of pivotal importance . Carcinogensis is a multi step process involving the activation of oncogenes and the inactivation of tumour suppressor genes . Bcl-2 is known to belong to a family of apoptosis regulatory gene products that may be death antagonists (eg Bcl-2 , Bcl-$X_L$ , Mcl-l , Al) or death agonists (eg. Bax , Bak , Bcl-$X_S$ , Bad) .

**Aims :-** To identify Bcl-2 oncogene product expression of oral carcinoma and its correlation to histological grades and stages of oral carcinoma .

**Patients and methods :-** Twenty four patients were presented with oral carcinoma collected from Al-Wasitti hospital and Specialized Surgical Hospital , the Medical City Baghdad from January 2002 to March 2003. Farmalin-fixed paraffin-embedded sections were stained with H and E and immunohistostaning . Primary antibody kit (Bcl-2 onco-protein ready to use) clone 124 Dako corporation , therough the immunohistochemical procedure of Bcl-2 protein expression was detected in oral carcinoma .

**Results:-** Bcl-2 immunohistochemical expression is confined to the basal cell layers in normal oral mucosa , while Bcl-2 expression in oral carcinoma is peripherally located with in infiltrating tumour cells , which were more intensely stained , they may be genetically damaged or mutated cells not eliminated by apoptosis , this lead to alter the ratio of Bcl-2 / Bax and hance lead to over expression of Bcl-2 . There was no correlation between Bcl-2 expression and the age and sex . But there was a correlation with the clinical feature such as (exophytic type) and staging of oral carcinoma but didn’t reach statistical significance .

Our results reveal that Bcl-2 expression was highly correlated with moderately differentiated (G2) and poorly differentiated (G3) of oral carcinoma and Fischer exact probability test reveals that it is statistically positively significant P=0.0027 . We think that over expression of Bcl-2 participates in the differentiation of normal oral keratinocytes and over expression of Bcl-2 oncogene leads to stop apoptosis this will lead to increase cell proliferation of genetically mutated cells which appear as abnormal architecture of cells and disturb the normal histological appearance.

**Conclusion :-** Bcl-2 expression in normal oral mucosa and oral carcinoma Bcl-2 immunoreactivity correlated with late stage of oral carcinoma but didn't reach a statistical significance . Bcl-2 expression was

highly associated with moderately differentiated (G2) and poorly differentiated (G3) oral carcinoma .

**Suggestion :-** Bcl-2 immunohistochemical test can be considered as a diagnostic aid , to detect the free margin and early recurrence in addition to histopathology and others toals such as conventional X-ray , MRI , CT scan and tumour marker .