

# Bcl<sub>2</sub> overexpression in colorectal carcinoma

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## **Abstract**

**Background:** Colorectal cancer is a major cause of morbidity and mortality worldwide. Prognostic assessment influences the treatment of patients with colorectal cancer, including decisions about adjuvant therapy. Bcl2 overexpression is a genetic event associated with tumor progression and is a prognostic marker of this disease.

**Objective:** Colorectal carcinoma is a major cause of morbidity and mortality worldwide. Bcl2 overexpression is a genetic event associated with tumor progression and is a prognostic marker for this disease. The aim of this study is to assess the expression of bcl<sub>2</sub> in colorectal carcinoma and its correlation with other clinicopathological parameters.

**Methods:** From January 2004- January 2005, thirty –five formalin fixed paraffin embedded tissue samples from patients with colorectal carcinoma were included in this study. Four-micrometer tissue sections were obtained for each case, two of them were stained by H&E and the diagnosis had been revised, and the other two were stained immunohistochemically by using avidin biotin alkaline phosphatase method for evaluating bcl<sub>2</sub> expression. The presence of red

cytoplasmic staining in less than 25% of tumor cells was considered a positive expression of bcl<sub>2</sub>.

Statistical analysis of all the results were performed using Chi square test at level of significance alpha = 0.05 (P<0.05) regarded as statistically significant.

**Results:** Bcl<sub>2</sub> expression was significantly higher in low grade and early stage colorectal carcinoma. Non mucinous colorectal cancer showed more bcl<sub>2</sub> expression than the mucinous type. An inverse correlation was found between bcl<sub>2</sub> expression with the greatest diameter of the tumor and the lymph node status. Bcl<sub>2</sub> expression was correlated neither with the age nor with the sex of the patient and the tumor location.

**Conclusion:** Bcl<sub>2</sub> over-expression correlates with many variables as low grade colorectal tumor, early stage, non mucinous type, small tumor size and negative lymph node status.

**Key words:** bcl2, colorectal carcinoma.

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## **Introduction**

Bcl<sub>2</sub> is a proto-oncogene which codes 26 kd protein that blocks apoptosis and rescues cells from apoptosis<sup>(1)</sup>. Reduction in the capacity of apoptotic cell turnover could be an important step in the development of neoplasia<sup>(2)</sup>. Colorectal carcinoma (CRC) is one of the most common malignancies worlds wide. Several clinical, biological, and genetic parameters have been used to assess the prognosis and to help the clinician in optimizing therapies for CRC patients.

Studies indicate that the most important prognostic variable is the tumor stage<sup>(3)</sup>. however , patients who are apparently at the same pathological stage often have adverse outcome in CRC<sup>(4)</sup>, although a lack of correlation have been reported. The role of some cellular oncogenes and tumor suppressor genes in clinical aggressiveness of CRC has been also studied. Point mutations of P53 or K-ras tumor genes occur in about 50% of CRC<sub>s</sub> and have been associated with poor prognosis. However, available data are again controversial. Thus recent efforts have focused on prediction of the clinical outcome of CRC patients, with the goal of providing a rational approach for planning specific therapy<sup>(5)</sup>.

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