

## Publication

### Investigation of the Bcl-2 and C-myc expression in relationship to the Ki-67 labelling index in cervical intraepithelial neoplasia

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This is the investigation of the relationship between the neoplastic cell proliferation and the expression of bcl-2 and c-myc in human papillomavirus (HPV)-negative and HPV-positive cervical intraepithelial neoplasms (CIN). The expression of bcl-2 and c-myc was studied using quantitative immunohistochemistry in 20 specimens of normal cervical squamous epithelium and 73 specimens of CIN. To analyze the neoplastic cell proliferation rate, the Ki-67 labelling index was determined; the latter was significantly different between normal epithelium and various grades of CIN ( $p < 0.0001$ ). The highest proliferation rate was found in high-grade CIN. In precancerous lesions, we found the number of bcl-2 positive cells lower than in normal epithelium, but with a significant difference between low-grade and high-grade CIN ( $p < 0.0001$ ). The highest percentage of bcl-2 positive neoplastic cells was found in high-grade CIN. C-myc was rarely expressed in normal epithelium. Similar to the Ki-67 labelling index, c-myc immunostaining correlated with the histological grade of CIN, with the highest percentage of c-myc positive nuclei occurring in high-grade CIN ( $p < 0.0001$ ). In contrast to bcl-2 immunoreactivity, the c-myc significantly was more expressed in high-risk HPV-positive than in HPV-negative lesions. The c-myc expression in CIN is closely related to the neoplastic cell proliferation rate. With progression of intraepithelial neoplasia, bcl-2 production in neoplastic cells increases with high co-expression of c-myc.

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