

The expression of apoptosis-related proteins in patients with ulcerative colitis

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ABSTRACT

Purpose: Recent literature data indicate a key role of apoptosis in the pathogenesis of inflammatory bowel disease. The aim of the study was to evaluate the expression of Bax, Bid, Bcl-2 and Bcl-xl in non-dysplastic and dysplastic epithelium in inflamed mucosa of patients with ulcerative colitis.

Methods: The study consists of 18 patients with diagnosed ulcerative colitis. The expression of proteins was determined immunohistochemically.

Results: Lack of Bax expression in normal epithelium of the inflamed intestinal mucosa (94.4%) and a weak expression of this protein were found in dysplastic glandular cells (67%). The Bax expression of dysplastic epithelium correlates with reduced severity of chronic inflammation ($p < 0.005$). Bid expression in non-dysplastic glands

was found in 67% of cases vs. 16% in dysplastic epithelium that was associated with the occurrence of epithelial erosions or ulcers ($p < 0.05$). Moderate cytoplasmic expression of Bcl-xl was noted in 27.7% of patients in normal epithelium and in 66.1% within dysplastic lesions. Bcl-xl expression in dysplastic glandular cells correlated with the presence of neutrophils in the lamina propria ($p < 0.05$). **Conclusions:** The immunohistochemical expressions of Bax, Bcl-2 and Bcl-xl increase and Bid protein expression decreases in dysplastic glandular tubes as compared to non-dysplastic intestinal epithelium in inflamed mucosa, which may suggest an imbalance of controlled cell death in ulcerative colitis.

Key words: Ulcerative colitis, Bcl-xl, Bax, Bid, Bcl-2
