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Expression of bcl-2 in the Epithelial Lining of Odontogenic Keratocysts

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Abstract:

Statement of Problem: The aggressive nature and high recurrence rate of Odontogenic Keratocysts (OKCs) may be due to unknown factors inherent in the epithelium or because of enzymatic activity in the fibrous wall. Bcl-2 protein is characterized by its ability to inhibit apoptosis. Purpose: The aim of the present study was to analyze the expression of bcl-2 protein in OKCs and to compare it with the more common radicular and dentigerous cysts. The possible relationship between inflammation and bcl-2 expression was also investigated. Materials and Methods: Formalin fixed paraffin-embedded tissue sections of 20 OKCs, 20 radicular and 20 dentigerous cysts were immunohistochemically analyzed for immunoreactivity of the bcl-2 protein. Results: Bcl-2 expression was observed in 19 OKCs (95%), one radicular cyst (5%) and one dentigerous cyst (5%). There was no statistically significant relationship between inflammation and the number of bcl-2 positive cells. Immunoreactivity was mainly noted in the basal or basal/supra basal layers. Conclusion: Considering the fact that bcl-2 over expression may lead to increased survival of epithelial cells, present study may demonstrate a possible relationship between the aggressive nature of OKC and the intrinsic growth potential of its lining epithelium. Furthermore a basal/supra basal distribution of bcl-2 positive cells was seen in some odontogenic keratocysts which may have a significant impact on the behavior of this cyst.

Keywords:

Odontogenic cysts , Radicular cyst , Dentigerous cyst

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