Heparanase gene and protein expression in ameloblastoma: possible role in local invasion of tumor cells

Type:
Article

Abstract:
Ameloblastoma is the most common odontogenic neoplasm, characterized by its local invasiveness. Heparanase is the endo-glucuronidase enzyme that specifically cleaves heparan sulfate, the important modulator of extracellular matrix, and related to invasion of tumor cells. In this study, we addressed to show the gene expression and localization of heparanase in ameloblastoma. Immunohistochemistry and in situ hybridization of heparanase were carried out in 23 ameloblastomas. Strong expression of heparanase at both mRNA and protein levels was detected in all ameloblastomas studied. Small tumor nests and budding epithelial branches showed stronger staining pattern and the stromal tissues at the immediate vicinity of the tumor nests with strong heparanase expression were loose and edematous. Cystic areas and squamous metaplastic areas of the tumor showed intense staining with heparanase antibody proposing the implication of heparanase in these processes. These results suggest the possible contribution of heparanase in the local invasiveness and secondary morphologic changes of ameloblastoma. (c) 2005 Elsevier Ltd. All rights reserved.
Keyword:

Ameloblastoma, heparanase, heparan sulfate, local invasion, fibroblast-growth-factor sulfate proteoglycans, basement membranes, cancer metastasis, localization involvement, angiogenesis, syndecan-1, prognosis, molecule

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