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Comparative analysis between growth factors of epiphyseal plate (SOX-9, PTH-rP) and expression of apoptotic modulation factor (BCL-2) in benign and malignant cartilaginous tumors: Correlation with clinical and morphological findings

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Chondrosarcomas (CSs) are a heterogeneous group of tumors with different clinical and morphological manifestations. The distinction between grade I chondrosarcoma (CS1) and enchondroma is difficult. It is necessary to find more precise parameters to assist in diagnosis, histological graduation and prognosis of CSs and therefore its treatment. Some cartilaginous tumors have morphological similarities with epiphyseal plate as: Mesenchymal CS with the immature or rest phase; enchondroma and conventional CS with proliferative chondrocytes and Clear Cell CS with hypertrophic phase cells. Growth and modulation factors interact with chondral cells at different stages of maturation of the plate. SOX-9, PTHrP and BCL-2 act stimulating and/or modulating the growth plate. Probably they have some association with cartilaginous tumors; however their relationship has not been well explored yet. The aim of this study was to evaluate the expression of these molecules with the cartilaginous tumors, correlating with: histological grade; clinical and outcome data. 89 cartilaginous tumors were evaluated: 27 enchondromas, 55 conventional CSs (24CS1; 31CS2+3), 4 Clear Cell CS and 3 Mesenchymal CS. Immunostaining were applied and a score, according to Zhu et al 2013 (modified), was used for analysis. High grade and flat bones cartilaginous tumors and immunolabeling for SOX-9 were associated with poor outcome. PTH-rP over-expression was useful in distinguishing CS 1 from Enchondromas.

Biography

Alexandre do Nascimento is currently pursuing Master's degree in Medical Sciences from Medical School of State University of Campinas (UNICAMP), Brazil, since 2015. He has completed Medical Residency in Anatomic Pathology in 2012 from Clinical Hospital of Federal University of Parana (UFPR), Curitiba, Brazil.

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