



P2:107

Immunohistochemical evaluation of prognostic markers in giant cell tumors of bone: Tenascin and Periostin as predictor of recurrence and metastasis.

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AIMS:

Giant cell tumours (GCTs) of bone are lytic neoplasm with variable biological aggressiveness and high recurrence rate that occur mainly in the epiphysis of long bones of young adults. These neoplasms can occasionally metastasize to the lung, but malignant transformation into sarcoma is rare. According to the current state of knowledge, histological features are not considered a valid predictor of recurrence and/or metastasis risk. The aim of this study is to investigate the expression of different markers in classic primary GCT, including some components of the extracellular matrix, P63 and P53 that may help to differentiate patients with increased risk of local recurrence and/or distant metastasis.

METHODS AND RESULTS:

40 cases of GCT were selected and immunohistochemical analysis of the expression of P63, P53, Tenascin C (TNC) and Periostin (Pn) was performed. A correlation was found between different expression patterns and clinical outcome identifying Tenascin C (TNC) and Pn as the most promising prognostic biological markers.

TNC and Pn immunoreactivity evaluation may complete and integrate the morphologic data, that alone are insufficient to risk-stratify patients, and may lead to a more accurate classification and identification of subgroups with different outcome.

CONCLUSIONS:

Our study provides encouraging results in the search for potential biomarkers with relevant clinical impact in GCT, suggesting the possible prognostic value of TNC and Pn expression in the identification of those GCT patients with a higher risk of relapse which, consequently, require a closer follow-up and, possibly, an adjuvant medical therapy.

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