SKIN CANCER (OTHER THAN MELANOMA)

STAT3, STAT5A, STAT5B, STAT6 PROTEINS ARE OVEREXPRESSED IN HUMAN BASAL CELL CARCINOMA

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Background: The molecular pathogenesis of basal cell carcinoma (BCC) is still not precisely described and it is the subject of ongoing studies. The role of STATs in the human epithelial carcinogenesis has been poorly investigated. Nevertheless, in the era of studies on inhibitors targeting STATs proteins this topic seems to be worth exploring. Chan et al. for the first time published an article illustrating that Stat3 is required for de novo epithelial carcinogenesis in mice. Increased expression of STAT3 in human non-melanoma skin cancer was confirmed in a few studies. To our knowledge the expression of STAT5A, STAT5B, STAT6 in BCC was not previously evaluated.

Objective: The aim of the present study was the assessment of STAT3, STAT5A, STAT5B, STAT6 expression in different histopathological subtypes of human BCC and its correlation with clinical variables.

Methods: Sixty BCCs were studied by immunochemistry: 20 superficial (sBCCs), 20 nodular (nBCCs) and 20 infiltrative BCCs (iBCCs) and compared to healthy skin. The patients with sBCC, nBCC and iBCC did not differ significantly regarding gender and age. As many tumours revealed the heterogeneity of staining, the H-score system has been applied to calculate the intensity of immunoexpression. Statistical analysis has been performed with the StatSoft's Statistica software package.

Results: The expression of STAT3, STAT5A, STAT5B, STAT6 was observed in all histopathological subtypes of BCC, and was stronger compared to the expression within adjacent epidermis and the epidermis of the control group. The statistical analysis revealed no significant differences between mean H-scores calculated for sBCCs, nBCCs and iBCCs. Non-significant correlation in expression of STAT3, STAT5A, STAT5B, STAT6 was found regarding patient's gender, age, tumor size and tumor site.
Conclusion: Our results confirm a possible pathogenetic role of STATs in basal cell

carcinoma and should encourage future investigations on possible therapeutic implications of this finding.