-Expression of Tumor Necrosis Factor-Related Apoptosis Inducing Ligand Death Receptors DR4 and DR5 in Human Nonmelanoma Skin Cancer.

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Abstract:

Death receptors 4 and 5 (DR4 and DR5) are cell surface receptors that when activated by their ligand tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) triggers apoptosis in most cancer cells but not in normal cells. Currently, it remains unclear whether DR4 and DR5 are involved in immune surveillance against nonmelanoma skin cancer (NMSC) progression. The aim of this study was to investigate the expression of DR4 and DR5 in NMSC and relate the results to the established clinicopathologic prognostic factors. This study was conducted on about 80 skin specimens from patients with NMSC (40 basal cell carcinoma and 40 squamous cell carcinoma) and diagnosed and confirmed by biopsy. Immunohistochemical analysis for DR4 and DR5 was carried out on formalin-fixed paraffin-embedded sections of skin tissues using avidin-biotin peroxidase method. Significant expression of both DR4 and DR5 was observed in NMSC cases. There was statistically significant association between DR4 and DR5 expression in squamous cell carcinoma and each of tumor site and lymph node metastasis. There was statistically significant association between DR4 expression in basal cell carcinoma and histopathologic subtypes (high expression in nodular type) and between DR5 expression and tumor site (high expression in sun-exposed area). In conclusion, expression of TRAIL receptors that mediate extrinsic apoptotic pathway in NMSC may be suggestive of a reassessment of the suitability of TRAIL-based strategy in future NMSC therapies.

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