



PSORIASIS

## **NEW ASPECTS IN PSORIASIS PATHOGENESIS**

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Introduction: Toll-like receptors (TLRs) are important pattern recognition receptors which have key roles in immune responses. They are strongly associated with the pathogenesis of inflammatory and autoimmune diseases, such as psoriasis.

Objective: To study the mechanisms of development of local immune inflammation taking into consideration the changes in immunohistochemical expression of TLR2, TLR4 in the skin of patients with psoriasis before and after of system immunosuppressive therapy.

Materials and Methods: Our study was conducted in 62 patients with psoriasis. Punch biopsy was performed from a psoriatic lesion and from an intact skin area, both before and after systemic immunosuppressive therapy during 3 months. We applied the immunohistochemical methods with definition of marker for TLR2, TLR4 expression aiming to determine the character and distribution of local cellular immune and inflammatory reactions in the skin of patients with psoriasis.

Results: Studying the TLR2 immunohistochemistry, positive reaction with nuclear patterns of expression in epithelial and dendritic cells of basal epidermis was observed in skin of psoriatic patients before treatment. The intensity of TLR2 and TLR4 immunohistochemical reaction is a bit reduced after the treatment. Unlike normal skin, the positive background nuclear coloration of epithelial cells in the upper epidermis is observed in the skin of patients with psoriasis after treatment.

Conclusions: Immunohistochemical reactions performed to detect the expression of TLR2 and TLR4 have made it possible to establish that after treatment in the epidermis, the number of positively colored cells and the intensity of the reaction are significantly reduced. Achieved results can serve as an additional diagnostic and prognostic marker of the clinical course of psoriasis. The established changes in the expression of TLR2, TLR4 widen our understanding of the pathogenesis of psoriasis.





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