



AUTOIMMUNE BULLOUS DISEASES

TOLL-LIKE RECEPTOR 7 (TLR7) GENE EXPRESSION IN PEMPHIGUS VULGARIS PATIENTS

Alexey Kubanov⁽¹⁾ - Tatiana Abramova⁽¹⁾

*State Research Center Of Dermatovenereology And Cosmetology, Ministry Of Healthcare
Of The Russian Federation, Department Of Dermatology, Moscow, Russian Federation⁽¹⁾*

Introduction: The processes of pathogens recognition by the innate immune system are still incompletely understood. Toll-like receptors (TLR) are one of the most important members of pattern-recognition receptors family in the skin. The occurrence of pemphigus after treatment of skin and mucosal neoplasms by TLR7 agonist imiquimod has been reported. The role of innate immune system components, in particular TLR7, in the pemphigus pathogenesis has not been studied previously.

Objective: The evaluation of TLR7 gene expression in the skin of pemphigus patients should be investigated.

Materials and Methods: A total of 62 participants were enrolled in the study. Skin biopsies were performed from peri lesional sites of apparently unaffected skin in 38 patients with pemphigus. Twenty four healthy volunteers were selected for the control group. The expression level of the TLR7 gene was determined using Real-Time PCR with specially developed QuantiTect Primer Assay (Qiagen, USA), using β -actin and PANK genes as the endogenous control. Real-Time oligonucleotides were constructed using the "Oligo 6.0" software. The amplification efficacy was evaluated using the Real-time PCR Miner software.

Results: The elevated expression of TLR7 gene normalized to both β -actin (1.3 times) and PANK (1.85 times) in patients with pemphigus compared to control group was revealed as statistically significant ($p < 0.05$).

Conclusions: TLR7 gene expression is upregulated in apparently unaffected skin of pemphigus vulgaris patients. This finding may expand understanding of the pemphigus pathogenetic mechanisms and the role of innate immunity in the autoimmune process initiation.

