

## Associations of Gene Polymorphism of IL-17 a (C737T) with Its Level in Patients with Erysipelas Kazakh Population

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**Abstract :** Erysipelas is an infectious disease with socio-economic significance and prone to prolonged recurrent course (30%). Contribution of genetic factors, in particular the gene polymorphism of cytokines, can be essential in disease etiology and pathogenesis. Interleukin - 17 A are produced by T helpers of 17 type and plays a key role in development of local inflammation process. Local inflammatory process is a dominant in the clinic of erysipelas. Established that the skin and mucosas are primary areas of migration (homing) Th17-cell and their cytokines are stimulate the barrier function of the epithelium. We studied associations between gene polymorphism of IL-17A (C737T) rs 8193036 and IL-17A level in patients with erysipelas Kazakh population. Altogether, 90 cases with erysipelas and 90 healthy controls from an ethnic Kazakh population comprised the sample. Cases were identified at Clinical Infectious Diseases Hospital of Semey (Kazakhstan). The IL-17A (rs8193036) polymorphism was analyzed by a real time polymerase chain reaction. Plasma levels of IL-17 A were assessed by immunenzyme analysis method using 'Vector-Best' test-system (Russia). Differences in levels of IL-17 A between CC, TT, CT groups were studied using Kruskal – Wallis test. Pairwise comparisons were performed using Mann-Whitney tests with Bonferroni correction (New significance level was set to 0.025). We found, that in patients with erysipelas with CC genotype the level of IL-17 A was higher ( $p = 0, 010$ ) compared to the carriers of CT genotype. When compared the level of IL - 17 A between the patients with TT genotype and patients with CC genotype, also between the patients with CT genotype and patients with TT genotype statistically significant differences are not revealed ( $p = 0.374$  and  $p = 0.043$ , respectively). Comparisons of IL-17 A plasma levels between the CC and CT genotypes, between the CC and TT genotypes, and between the TT and CT in healthy patients did not reveal significant differences ( $p = 0, 291$ ). Therefore, we are determined the associations of gene polymorphism of IL-17 A (C737T) with its level in patients erysipelas carriers CC genotype.

**Keywords :** erysipelas, interleukin - 17 A, Kazakh, polymorphism

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