



URTICARIA, ANGIOEDEMA

THE PREVALANCE OF FCER1A GENE POLYMORPHISM IN PATIENTS WITH CHRONIC SPONTANEOUS URTICARIA AND ITS EFFECT ON OMALIZUMAB TREATMENT RESPONSES

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Aim: Chronic spontaneous urticaria (CSU) is a chronic autoimmune, inflammatory dermatosis in which autoantibodies to the IgE receptor (FcεRI) on the mast cell surface are thought to play a role in approximately half of the patients. Omalizumab is used in antihistamine resistant cases by preventing IgE from binding to FcεRI. Our aim was to investigate the role of FCER1A gene polymorphism in the etiopathogenesis of patients with CSU and to investigate the effect of FCER1A gene polymorphism and other autoimmune and inflammatory markers in response to omalizumab therapy.

Material and Methods: A prospective study was carried out in Okmeydani Training and Research Hospital Department of Dermatology Urticaria clinic between 15th of August 2017 and 1st of July 2018. The study included 93 CSU patients who were using omalizumab treatment and 93 healthy volunteers without any autoimmune or systemic inflammatory disease as control. Single nucleotide polymorphism (SNP) in the FCER1A rs2298805 gene was analyzed using polymerase chain reaction (PCR) and direct sequencing in the blood from patients and controls.

Results: FCER1A rs2298805 allele was detected in GG genotype in all patients (100%) and in control group (100%). The genotype distribution of the FCER1A rs2298805 SNP did not differ between patients and controls or between effective and ineffective groups with omalizumab treatment.

Conclusion: The most frequent genotype of the FCER1A rs2298805 gene is GG genotype in the healthy population. This genotype was also found to be the most frequent in our patient and control group. Our research does not support the hypothesis that there is a relationship between this SNP and chronic urticaria. Genome wide association studies determining new candidate genome areas would be the focus of future studies of multifactorial diseases such as chronic urticaria where both environmental and genetic factors play a role.

