Interstitial lung diseases

POLYMORPHISM OF *FCGR2A, FCGR2B, FCGR2C,* AND *FCGRIIIB* GENES IN THE ETIOPATHOGENESIS OF SARCOIDOSIS

*A. Dubaniewicz[1], M. Typiak[1], M. Skotarczak[2], Z. Rębała[3], J. Słomiński[1], Z. Jankowski[4]
[1]Medical University of Gdansk, Department of Pulmonology (Gdansk, Poland)
[2]Medical University of Gdansk, 2 nd Deaprtment of Radiology (Gdansk, Poland)
[3]Medical University of Gdansk, Deaprtment of Forensic Medicine (Gdansk, Poland)
[4]Medical University of Gdansk, Department of Forensic Medicine (Gdansk, Poland)

Objectives: Infectious, genetic factors and autoimmunity are considered in etiopathogenesis of sarcoidosis (SA). We have recently shown an increased occurrence of *Mycobacterium tuberculosis* heat shock proteins in a high level of circulating immune complexes (CIs) in SA patients with especially Stages I/II of disease. We also revealed that V158F polymorphism of *FCGR3A* gene, encoded receptor for Fc fragment of immunoglobulin G (FcγR) IIIa, responsible for a decreased affinity of FcγRIIIa to CIs with disorder of signal transduction and their decreased phagocytosis/clearance with following immunocomplexemia in our SA patients.

Methods: Because a high level of CIs can be also a result of disorder of other receptors FcγRIIa, FcγRIIb, FcγRIIc, and FcγRIIIb, we analyzed polimorphisms of *FCGR2A, FCGR2B, FCGR2C,* and *FCGR3B* in 124 SA patients (Stages I-IV) and 148 healthy volunteers using PCR-SSP.

Results: There was no significant difference in tested *FCGRs* allele and genotype frequencies between the total SA patients' group and controls. Only in Stage III of disease, there was a significant increase occurrence of homozygotes 131HH and decrease frequency of heterozygotes 131HR in comparison to controls. Analysis of occurrence of frequency of genotypes of *FCGR2A* and *FCGR2C* in patients with Stages I-IV of SA, revealed a significant decrease percentage of homozygotes 131HH of *FCGR2A* and 57XX of *FCGR2C* and a significant increase of occurrence of heterozygotes 131HR and 57XQ in Stage I/II in comparison to Stage III/IV. There was no significant difference in *FCGR2B* and *FCGR3B* allele/genotype frequencies between SA patients' group and controls.

Conclusion: Thus, R131H polymorphism of *FCGR2A* and X57Q polymorphisms of *FCGR2C,* not *FCGR2B* and *FCGR3B,* may also cause immunocomplexemia in our SA patients with Stages I/II. Additionally, they may support the autoimmune background of sarcoidosis. The study was founded by ST: 02-0127/07/232