A46 THE EXPRESSION REGULATION OF THE HSPA1B GENE IN PATIENTS WITH MYOSITIS IS NOT DEPENDENT ON THE PRESENCE OF HLA-DRB1*03 RISK ALLELE

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Background and objectives Genes within the major histocompatibility complex (MHC) region has a strong genetic relevance in autoimmunity development. The involvement of the class I and class II genes, as well as class III (non-Class I/II MHC) genes has been proposed. For the myositis development, the HLA-DRB1*03 is a known risk factor in Caucasian population. However, there are another genes appearing to be significant players in the ethiology of myositis located near the HLA-DRB1 locus. In the present study the authors have focused on one of these risk factors – the regulation of MHC-linked inducible *HSP70* genes expression and their relation to the known immunogenetic risk factor located within the MHC (HLA-DRB1*03).

Materials and methods The authors have investigated the gene specific *HSP70* expression in 20 patients with dermatopolymyositis and 15 healthy people matching in age as control samples. Expression levels of the two inducible *HSP70* genes (*HSPA1A*, *HSPA1B*) were analysed both in patients and controls. Both of the groups were additionally genotyped for HLA-DRB1 locus. Myositis-specific and associated autoantibodies were also identified in patients.

Results The expression of both, the *HSPA1A* and *HSPA1B* genes was significantly upregulated ($p<0.001$; $p<0.05$) in patients suffering from myositis when compared to controls. The expression regulation of the *HSPA1A* was found to be associated with the presence of the HLA-DRB1*03 risk allele in patients. However, this was not observed for the *HSPA1B* gene. In contrast, the authors found a positive correlation between the expression regulation of the *HSPA1B* gene and the presence of disease specific autoantibodies in myositis patients. Additionally, positive correlation between the presence of disease specific autoantibodies and the HLA-DRB1*03 risk allele was found. None of these observations were found in healthy controls.

Conclusions The results suggest that the two MHC-linked inducible genes are differentially expressed in dependence on the autoantibody or HLA risk allele presence. The differential gene expression regulation shows that the *HSPA1B* is an – on HLA-DRB1 – independent molecular marker for myositis development.