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**HLA-B, HLA-DRB1 AND HLA-DQB1 ALLELE DIVERSITY IN AUTOIMMUNE RHEUMATOID DISORDERS – A PILOT STUDY IN EASTERN CROATIAN PATIENTS**

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A diverse group of systemic arthritides, encompassing rheumatoid arthritis (RA), reactive arthritis (ReA), psoriatic arthritis (PsA) and polyarthritis (PA), share the clinical manifestations of autoagressive inflammation in multiple joints and organs. Several genetic features of human leukocyte antigens (HLA) were previously implicated in aetiology of each of the four different rheumatoid entities with variable predispositional effects across populations. In order to examine if separate patterns of HLA associations are present among distinct rheumatoid disorders in the population of east Croatia, patients with RA (n=8), ReA (n=10), PsA (n=8) and PA (n=14) were typed for HLA-B, -DRB1 and -DQB1 loci at low resolution level using sequence-specific primer PCR (PCR-SSP) methodology. Alelle frequency was compared to data obtained from previously typed, large, well characterized Croatian control population by using Fisher exact test and odds ratio. The frequency of HLA-B\*07 allele was significantly associated with the risk for PA [19% in patients vs. 7% in controls; P=0.025 OR=3.12, 95% confidence interval (1.05-7.94)]. The HLA-B\*18 conferred susceptibility to PA as well [19% in patients vs. 8% in controls; P=0.04 OR=2.68, 95% confidence interval (1.03-6.99)], and particularly to PsA [31% vs. 8%, P=0.0063 OR=5.11 95% CI (1.83-14.26)]. Among HLA class II alleles, a marginally significant potential association was found only between HLA-DQB1\*05 and PsA clinical phenotype [50% vs. 29%, P=0.049]. No significant relationship was revealed between HLA-B, -DRB1, -DQB1 and other tested rheumatoid disorders. This preliminary study confirms an important role for HLA-B and -DQB1 loci in genetic risk assessment for PsA in our population. However, disease susceptibility for RA and ReA might be associated with distinct genetic markers or perhaps less penetrant HLA effects. Sample size enlargement and high resolution typing are needed in the confirmatory step.