Abstract Fojtikova 2011

INTRODUCTION: Several factors like genetic susceptibility is required for systemic rheumatic diseases development. Immunomodulatory PRL effect supports autoimmunity.

AIMS:

1. To detect the immunogenetic background (alleles HLA class I, II and microsatellite polymorphism of the transmembrane part exon 5 of MIC-A gene) of SLE and PsA.

2. To detect PRL serum and synovial fluid with regard to clinical and laboratory RA activity.

3. To find the role of the functional polymorphism -1149G/T SNP PRL of extrapituitary promoter of PRL gene in SLE, RA, PsA, SSc and inflammatory myopathies development.

METHODS: Genetic analyses of pateints with SLE (n=156), RA (n=173), PsA (n=100), SSc (n=75), PM (n=47) a DM (n=68) and 123 healthy individuals: PCR-SSP (HLA clase I and II), PCR-fragment analysis (MIC-A) a PCR-RFLP (-1149 G/T SNP PRL). In 29 RA a 26 OA PRL serum and synovial fluid concentrations were detected using immunoradiometric assay.

RESULTS:

1. The allele HLA-DRB1*03 (p_c=0.008; OR 2.5) and haplotype HLA-DRB1*03-DQB1*0201 (p_c <0.001; OR 4.54) were determined as risk immunogenetic markers for SLE in Czech population. In SLE versus controls allele MIC-A5.1 was increased (p_c =0.005; OR 1.88). MIC-A5.1 together with HLA-DRB1*03 increases the risk for SLE development, p_c <0.000001; OR 9.71. Allele HLA-Cw*0602 was appeared frequently in PsA with psoriasis type I compared to controls, p_c <0.05; OR 3.33.

2. Serum and synovial fluid PRL levels were increased in RA (299.55±27.28 a 338.85± 33.49 mIU/l, respectively) than OA, 230.59±16.61 a 245.97±21.88 mIU/l, respectively, both p<0.05. Synovial fluid and serum PRL levels correlate with DAS-28 (p=0.010) and structural damage (p=0.014), respectively.

3. Genotype GT -1149 G/T SNP PRL is more frequent in RA than in controls, p_c =0.039; OR 1.82. Genotype GG is more common in patients with SLE onset in range of 21. - 40. years compare to others, p_c =0.023; OR 2.94 and genotype TT seems to be rare in SSc with disease onset after 45.years compare to others, p_c =0.02; OR 0.13.

CONCLUSSION: In our first SLE and PsA immunogenetic study in Czech population we detected increasing effect of allele MIC-A5.1 in HLA-DRB1*03 individuals on SLE. Allele HLA-Cw*0602 is a risk for PsA with psoriasis type I. PRL modulates course of systemic rheumatic diseases: PRL reflectS RA activity and severity and alleles of -1149G/T SNP PRL gene show age-related differences of SLE and SSc development.