AB0005 THE ROLE OF T-CELL RECEPTOR DELTA CHAIN GENE IN SUSCEPTIBILITY TO RHEUMATOID ARTHRITIS

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Background Rheumatoid arthritis (RA) is a multifactorial disease with a significant genetic component. The HLA locus accounts for about 1/3 of the total genetic effect, it is reasonable to investigate other areas of the genome for further susceptibility loci. There are convincing evidences for role T-cells in the pathogenesis of RA. T-cell receptor (TCR) genes are logical disease gene candidates. T-cells recognise specific antigens through the receptor (TCR) displayed on the cell surface. The TCR on most mature lymphocytes is composed from alpha and beta chains, although, a small proportion of cells use gamma/delta heterodimer.

Previously, we performed a linkage study in 19 multiplex RA families. The maximum LOD score at the polymorphism TCRD gene (coding T-cell receptor delta chain) was +1.65. To better understand the significance of these data the present study was performed.

Objectives To investigate if the polymorphism TCRD gene are associated with RA.

Methods The highly polymorphic dinucleotide repeat TCRD (14 q11.2) was analysed in 32 patients with RA and 40 Russian controls. All subjects were typed by polymerase chain reaction method.

Results No significant differences in TCRD allele frequencies were found in the group of Russian controls and Russian RA patients. Significant differences in TCRD allele frequencies ($P = 0,03$) were observed between the group of Russian controls and Caucasoid population (Jordan SA, 1991).

Conclusion These results argue against the hypothesis that TCRD polymorphism itself play a important role in the susceptibility to RA.

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AB0006 HLA-DRB1 GENES DISTRIBUTION IN CROATIAN ARTHRITIS PATIENTS

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Background Rheumatoid arthritis (RA) is chronic inflammatory disease of synovial tissue that leads to destructive joint damage and disability. An genetic association between particular HLA-DRB1 genes and severity of disease course has been documented in various clinical investigations.¹⁻³

Objectives To investigate HLA-DRB1 distribution in patients with non-erosive and erosive joint disease.

Methods Sixty six patients with nonspecific joint pain and/or arthritis, non-erosive RA and erosive RA were selected. Evaluated parameters were: sex, age, disease duration, tender and swollen joints index (44 joints), functional index (HAQ), ESR,

rheumatoid factor, x-ray of hands and feet classified according Larsen score and HLA-DRB1 typing. The presence of one or more susceptible alleles DRB1*0101; *0401; *0404; *0405; *0101 and *1401 was considered as poor prognostic sign.

Results Non-erosive joint disease (Larsen 0-I) was diagnosed in 37 patients (mean disease duration and range: 30/2-132/months) and 29 patients (55/2-216/months) had erosive changes (Larsen II-V). Susceptible alleles were identified in 26 non-erosive and 21 erosive patients. In the whole group the most frequent genes were DRB1*0101 (30 pts.), *0401 (11 pts.) and *0404 (7 pts.). Seven out of 47 DRB1 positive patients had 2 or more susceptible alleles. There were no statistically significant differences between non-erosive and erosive group in any variable.

Conclusion DRB1*0101 is the most frequent susceptible allele in Croatian arthritis population. In this study the prevalence of susceptible genes was almost same in non-erosive and erosive joint disease. Our data do not support evidence for more destructive disease course in DRB1 positive patients.

REFERENCES

- 1 Emery P, et al. Genetically determined factors as predictors of radiological change in patients with early symmetrical arthritis. *BMJ* 1992;**305**:1387-9
- 2 O Dell JR, et al. HLA-DRB1 typing in rheumatoid arthritis: predicting response to specific treatment. *Ann Rheum Dis.* 1998;**57**:209-13
- 3 Rau R, et al. The effect of HLA-DRB1 genes, rheumatoid factor and treatment on radiographic disease progression in rheumatoid arthritis over 6 years. *J Rheumatol.* 2000;**27**:2566-75

AB0007 THE DISTRIBUTION OF HLA-DRB1 ALLELES IN THE RUSSIAN POPULATION WITH PROTRACTED RHEUMATOID ARTHRITIS (RA)

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Background

Objectives The objective was to assess the distribution and possible associations of HLA-DRB1 alleles in the Russian population with long standing rheumatoid arthritis.

Methods Forty four patients (pts) with RA (2 males, 42 females, mean age 53.3 ± 10.85 yr. and mean disease duration 12.9 ± 7.71 yr. and 135 controls were typed for HLA-DRB1 alleles using PCR based molecular techniques. Radiological outcome was measured by scoring X-rays of the hands and feet using the standard radiographs of Larsen (Larsen score). Patients were stratified by RF status and the results were analysed using the Fisher exact test.

Results The frequency of individuals with DRB1*04 ($p < 0.00001$) was significantly higher, DRB1*05 ($p < 0.04$) and *07 ($p < 0.006$) were lower in the pts in compare with the controls. HLA-DRB1*04 proved to be significantly increased in seropositive pts ($p < 0.038$). RF(+) pts with homozygous status for HLA-DRB1*04 ($p < 0.04$) had significantly higher radiological score ($p < 0.05$).

Conclusion Protracted RA in the Russian population is characterised by high frequency HLA-DRB1*04 and low distribution DRB1*05 and DRB1*07. In RF(+) RA pts there was association between the presence DR4 and radiological severity.