



PSORIASIS

TNFA, IL4, IL10, IL12B GENE POLYMORPHISMS IN PSORIASIS AND PSORIATIC ARTHRITIS IN CAUCASIANS OF EAST SIBERIA

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Introduction: Psoriasis (PS) and psoriatic arthritis (PsA) are chronic immune-mediated inflammatory diseases. The most promising is the study of single-nucleotide polymorphisms in the promoter regions of the TNFA, IL4, IL10, IL12B genes.

Objective: To explore the prevalence of the genotypes of the TNFA, IL4, IL10, IL12B genes for seven functionally important single nucleotide polymorphisms in Caucasians of East Siberia.

Materials and Methods: The study included patients with psoriasis (n=77); psoriatic arthritis (n=99) and healthy control individuals (n=103) from East Siberia (Krasnoyarsk, Russia). Genotyping was carried out using restriction fragment lengths polymorphism (RFLP) approach. Seven polymorphisms were studied: TNFA (rs1800629, rs1800630), IL4 (rs2070874, rs2243250), IL10 (rs1800872, rs1800896), and IL12B (rs3212227).

Results: Statistically significant differences were found when comparing control group and PsA for genotype frequencies of IL12B (rs3212227): A/C genotype and allele C were more prevalent in control group ($p = 0.04$) compared to PsA patients. We found that common rs1800629*G-rs1800630*C haplotype of the TNFA gene is associated with the increased risk of psoriatic disease ($RR\ 1.75 \pm 0.15$, $p = 0.0003$). We found statistically significant association between the IL4 gene haplotype rs2070874*C- rs2243250*C and psoriatic disease ($RR\ 1.54$, $SE\ 0.15$, $p = 0.0015$). Common haplotype of rs1800872*C- rs1800896*G of the IL10 gene was associated with psoriatic disease ($RR\ 2.0$, $SE\ 0.23$, $p = 0.0032$).

Conclusions: In the current study we found that the haplotypes of promoter polymorphisms of TNFA, IL4 and IL10 genes are associated with PS and PsA in Caucasians of East Siberia. We found that rs3212227*C allele of the IL12B gene could be a protective marker for PsA ($OR\ 0.58$, $95\% CI\ 0.34-0.91$, $p = 0.04$). The haplotype G-C of TNFA (rs1800629, rs1800630), haplotype C-C of IL4 (rs2070874, rs2243250) and haplotype C-G of IL10 gene (rs1800872, rs1800896) were found to be predisposing to PS.

