

Genetic approach to immunopathogenesis of acute rheumatic fever

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Introduction

Prevention of acute rheumatic fever is accomplished by adequate penicillin therapy. But in developing countries fluctuations are not rare. During the latent period of disease immune response to streptococcal antigens occur. It is important to investigate genetic influence in immunopathogenesis to prevent the disease.

Methods

23 patients with arthritis and 43 patients with carditis were investigated in Ege University , department of pediatric cardiology. 29 were male and 37 were female, age between 7-12 years. Control group consisted of 31 male, 36 female cases, age between 9-13 years.

Antistreptolysin O (ASO) , C reactive protein (CRP) levels, hemogram were evaluated and electrocardiography, echocardiography were performed in all patients before and after treatment. Also monocyte chemotactic protein 1 (MCP-1), angiotensin converting enzyme(ACE), interleukin 6 (IL-6) levels were evaluated as immunopathologic parameters and genotype and allele frequency were studied.

Results

In both groups no significant relation was found before and after treatment according to acute phase reactants ($p < 0.01$)

In patient group; ACE homozygote DD, MCP-1 allele frequency was higher but not significant when compared with control group ($p > 0.05$). But IL-6 genotype frequency was significant($p < 0.01$).

Genotype and allele frequencies were not statistically significant in patients with arthritis and carditis. ($p > 0.05$)

Conclusion

Indeed many factors play role in ARF immunopathogenesis, ACE, MCP-1 and IL-6 contributes development of inflammation.