**THE ROLE OF “NEW” CYTOKINES IN THE PATHOGENESIS RHEUMATOID ARTHRITIS**


**Background:** Rheumatoid arthritis (RA) is an autoimmune rheumatic disease. Activated B- and T-lymphocytes, mast cells, macrophages, tissue fibroblasts play a leading role in its pathogenesis. The development of autoimmune inflammation is impossible without the influence of a large number of pro-inflammatory cytokines such as IL 1α and β, TNF-α, IL 6, IL 17, IL 22. Currently, other classes of biologically active molecules, such as adiponectin, visfatin, nesfatin, fetuin A, are being actively studied in RA [1,2,3,4].

**Pre-B-cell colony enhancing factor 1 (PBEF1) stimulates synthesis of matrix metalloproteinases and chemokines, supporting synovial inflammation caused by leukocyte infiltration. A positive correlation between visfatin and C-reactive protein confirms its role as a mediator of inflammation. It is believed that increased concentrations of PBEF1 can stimulate systemic inflammation.**

**Objectives:** The study the relationship between serum PBEF1 level and disease activity in RA patients.

**Methods:** We observed 140 patients with a reliable diagnosis of RA, of whom 96 were women and 44 were men. The control group consisted of 20 women and 10 men aged from 22 to 55 years without complaints of pain in the joints during life.

PBEF1 concentration in blood serum were determined by indirect enzyme-linked immunosorbent assay using commercial test systems (RaiBiotech, cat No. EIA-VIS-1) according to the manufacturer’s instructions.

**Results:** The level of normal values of PBEF1 in healthy individuals with a BMI of 18.5 to 24.9 kg/m2 was 0.14–3.99 ng/ml, with a BMI of 25 to 29.9 kg/m2 0–5.9 ng/ml. Elevated serum levels of PBEF1 were detected in 84.29% of RA patients. The ones with elevated PBEF1 levels of significantly more likely to have a higher degree of activity index DAS 28 (χ2=429.93, p<0.001), high level of anti-cyclic citrullinated peptide (anti-CCP) (χ2=5.386; p=0.0203), higher levels of C-reactive protein (CRP) (χ2=8.159; p=0.0043), erythrocyte sedimentation rate (ESR) (p<0.001), extra-articular manifestations of the disease (χ2=7.354; p=0.0067).

**Conclusion:** PBEF1 can be regarded as an important link in the pathogenesis of rheumatoid arthritis and for the potential molecule for biological therapeutic agents.

**REFERENCES**


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**ASSOCIATION BETWEEN INTERLEUKIN–6–174 G/C POLYMORPHISMS AND VASCULITIS: A META-ANALYSIS**

Jae Hyun Jung, Gwan Gyu Song, Jae-Hoon Kim, Sung Jae Chof, Korea University College of Medicine, Internal Medicine, Seoul, Korea, Rep. of (South Korea); Korea University College of Medicine, Seoul, Korea, Rep. of (South Korea)

**Background:** Interleukin (IL)-6 is associated with the development and progression of vasculitis, and inhibitors of this cytokine are used to treat this disease. Polymorphisms of the promoter region of IL–6 are associated with the production and expression of IL-6.

**Objectives:** The aim of this study was to perform a meta-analysis of eligible studies to derive a precise estimate of the association between IL–6 polymorphisms and susceptibility to vasculitis.

**Methods:** A meta-analysis was conducted on the associations between IL–6 -174 G/C and vasculitis. The literature was searched using the PubMed and Embase databases to identify available articles in which IL–6 polymorphisms were analyzed in vasculitis patients. The associations between the -174 G/C alleles and susceptibility were estimated by evaluating odds ratio (OR) and 95% confidence interval (CI). We performed meta-analyses using the 1) allelic contrast (C vs. G), 2) recessive (CC vs. GC+GG), and 3) dominant (CC+GC vs. GG) models, and 4) heterozygote vs. dominant homozygote (GC vs. GG), 5) heterozygote vs. recessive homozygote (GC vs. CC), and 6) homozygote comparison (CC vs. GG).

**Results:** A total of 13 studies involving 1,294 vasculitis patients and 1,594 controls were considered in the meta-analysis. There were significant associations between IL–6 -174 G/C polymorphisms and vasculitis in allele contrast, dominant genetic model, and heterozygote vs. dominant homozygote comparison (OR 2.57; 95% CI 1.47–4.48, OR 8.09; 95% CI 4.80–12.90, OR 9.58; 95% CI 4.06–22.80, OR 9.85; 95% CI 4.69–20.80, 95% CI 0.63–3.92, P<0.005, respectively). In subgroup analysis based on subtype, there were significant associations between IL–6 polymorphisms and susceptibility in large and medium vessel vasculitis, but not in small and variable vessel vasculitis.
**Conclusion:** The GC genotype of IL-6-174 G/C was suggested by the analyses to be related to low prevalence of vasculitis, especially for large and medium vessels.

**REFERENCES**


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