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].

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#: ELA-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 0.14–0.39 ng/ml, with a BMI of 25 to 29.9 kg/m² of 0.5–9.9 ng/ml. Elevated serum PBEF1 level was 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 DAS28 (χ²=5.386; p=0.02), higher levels of anti-cyclical cullin-2-polyubiquitinated phospho-protein (anti-CCP) (χ²=8.159; p=0.0043), erythrocyte sedimentation rate (p<0.001), extracellular 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

Disclosure of Interests: None declared


Gliostatin (GLS) is known to have angiogenic and arthritogenic activities. GLS was expressed in inflamed synovial tissues of patients with RA. In cultured fibroblast-like synoviocytes (FLSs), GLS expression was found to be up-regulated by inflammatory cytokines, such as IL-1β, TNFα [3]. GLS acts as a cytokine in FLSs, augmenting its own synthesis, and also induced the extracellular secretion of matrix metalloproteinase (MMP)-1,-3, -9, and -13 [4]. Therefore the suppression of GLS production might be an effective therapy in RA. The mechanism of the action of baricitinib had not been determined in fibroblast-like synoviocytes (FLSs).

Objective: The purpose of this study was to investigate the GLS production effect of interferon (IFN) γ and the inhibitory action of baricitinib in FLSs derived from patients with RA (RA-FLSs).

Methods: RA-FLSs were cultured from synovial specimens of patients with RA and stimulated by IFNγ with or without treatment of baricitinib. The expression levels of GLS were determined using reverse transcription-polymerase chain reaction (RT-PCR), enzyme immunoassay and immunocytochemistry.

Results: In cultured RA-FLSs, GLS mRNA and protein were significantly induced by stimulation with IFNγ and these GLS inductions were significantly suppressed by treatment of baricitinib in dose-dependent manners.

Conclusion: Our data demonstrated that JAK/STAT activation play a pivotal role in IFNγ mediated GLS up-regulation in RA-FLSs. Suppression of GLS production in inflamed synovia has been suggested as one of the anti-inflammatory effects of baricitinib.

REFERENCES

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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.

**Objectives:**

The purpose of this study was to investigate the suppression of angiogenic factors such as VEGF, tenascin-C (TNC) and GLS in RA-FLSs treated with tofacitinib.

**Methods:**

RA-FLSs were stimulated by TNF-α with or without pre-treatment of tofacitinib. The expression levels of VEGF, TNC and GLS were determined using reverse transcription-polymerase chain reaction (RT-PCR) and enzyme-linked immunosorbent assay (ELISA).

**Results:**

In cultured RA-FLSs, VEGF, TNC and GLS were significantly induced by stimulation with TNF-α alone and these inductions were significantly suppressed by treatment of tofacitinib in a dose-dependent manner.

**Conclusion:**

These findings indicate tofacitinib inhibits the VEGF, TNC and GLS production through blockade of a JAK/STAT pathway. Tofacitinib may extinguish inflammatory synovitis through preventing excessive angiogenic factors in RA-FLSs.

**REFERENCES**


**Disclosure of Interests:** None declared.

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