

3rd International Conference on Autoimmunity

November 26-27, 2018 | Dublin, Ireland

IL-21, IL-35, TNF- α , BAFF and VEGF serum levels in patients with different rheumatic diseases

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The aim of our study was to determine the serum levels of IL-21, IL-35, TNF- α , BAFF and VEGF in patients with rheumatoid arthritis (RA), systemic lupus erythematoses (SLE), antiphospholipid syndrome (APS) and mixed connective tissue disease (MCTD), and in healthy subjects. We examined 14 RA, 20 SLE, 22 MCTD and 21 APS patients, and 22 controls by ELISA test. It was observed that BAFF serum concentration was the highest in patients with APS, but the lowest in patients with RA ($p=0.02$). The VEGF serum levels was the highest in RA patients than in other examined groups. Only in few patients with RA serum, TNF- α level was elevated. In general, TNF- α was not detected in serum of patients with above mentioned diseases excluding APS group (average concentration 3 pg/ml). Additionally, this cytokine was not observed in healthy subjects. We also found that patients with APS and SLE were characterized by higher IL-35 serum levels than patients with RA. Moreover, significantly higher concentration of IL-35 was observed in healthy subjects than in RA patients. APS patients were characterized by the lowest concentration of IL-21 in serum, compared to other examined groups. We also found that in patients with APS and TRU, the BAFF serum levels was higher than the TNF- α serum levels. Additionally, significant correlation between BAFF and TNF- α levels was observed ($R^2=0.77$, $p<0.0001$). In patients with RA the BAFF as well as VEGF serum levels were much higher than the TNF- α and IL-35. Our study suggests that BAFF may be the most important cytokine in all rheumatic diseases.

Biography

Anna Wajda, PhD is an assistant professor at the Molecular Biology Department, National Institute of Geriatrics, Rheumatology and Rehabilitation in Warsaw, Poland. She has received her PhD in the field of medical biology from Pomeranian Medical University in Szczecin, Poland. Over the past few years, she has done research in Toxicology, Medical Technology and Clinical Pharmacology. Dr. Wajda currently focuses on genetic factors in the function of the immune system and autoimmune diseases.

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