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Sjogren's syndrom – neurohumoral regulation of autoimmunity and neurological complications

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Abstract

Background: Sjogren's syndrome is an atypical among various inflammatory rheumatic disorders characterized by lymphocytic infiltration of egsocrine glands and inflammation of low-grade intensity. Primary Sjögren's syndrome (pSS) is an atypical, autoimmune rheumatic disease characterized by lymphocytic infiltration of exocrine glands. In addition to ocular and oral dryness (sicca symptoms), the disease can progress to become a systemic, affecting various organs. The ethiopathogenesis of pSS is still unknown, as is true for other autoimmune rheumatic disorders. The concept of neuroimmunohormonal dysregulation in which neurotransmitters, cytokines, and hormones play an important role in susceptibility to inflammatory rheumatic disorders exist also in pSS. Studies exploring these associations and association with recently published indices ESSDAI and ESSPRI, particularly in the context of neurotransmitter serotonin are, however, very scarce. Central nervous system (CNS) tissue damage and manifestations associated with pSS are still a matter of serious controversy between different research groups since received less attention in the previous studies. We therefore, conducted studies to explore these properties.

Patients and methods: The study included 61 patients of both sexes diagnosed with clinically definite pSS. The community control group was established for this study and consisted of 100 healthy subjects. The original diagnostic category was checked up during the study by reported oral and ocular symptoms, Schirmer's test, unstimulated salivary flow, salivary gland biopsy, routine laboratory examination (erythrocyte sedimentation test, C-reactive protein, CRP, haptoglobin, serum proteins, gamma globulins, immunoglobulins, complements C3 and C4), specific biological tests (anti-Ro/SS-A, anti-La/SS-B, antinuclear

autoantibodies, ANA, rheumatoid factor, RF) as well as neurological (EMNG, EEG, VEP) and neuroradiological examination (brain MRI). All pSS patients received clinical assessment sensitive to the disease activity by using recently published index, ESSDAI and patients complains assesed by recently published index ESSPRI. Platelet serotonin level (PSL) was asses by using spectrofluorimetric methods.

Results: Values of PSL were decreased in patients as compared to healthy controls. PSL is associated with depression a dn fatigue in patient's group as well as with periventricular signal hyperintensities on brainMRI. There were no association between PSL with ESSDAI and ESSPRI. However, significant correlation between ESSDAI and patients age, ESSPRI, somatic and menthal fatigue, were found. assesed by VAS and PROF scales.

Biography

Helena Sarac was born 1968 in Šibenik, Croatia. She earned her medical degree and PhD at Medical School University of Zagreb, and did residencies and fellowship work at Medical School University of Zagreb and Croatian Institute for Brain Research, Zagreb. Since 1999 she was managing director of the Diagnostic Centre Neuron affiliated to the Croatian Institute for Brain Research, Zagreb, Croatia, where she encountered extraordinary group of Sjogren'sy patients exhibiting neurological manifestations. Area of her speciality is neuroimmunology. She is investigating serotonergic neurotransmission, neurohumoral dysregulations and neuropsychiatric disturbances in patients with Sjogren's syndrome. Her work is published recently in respectable journals od immunology; Journal of Neuroimmunology in 2012 and The Journal of Rheumatology 2013.