ANALYSIS OF SOME PLASMA SELECTINS CONCENTRATIONS IN OBSTRUCTIVE SLEEP APNEA PERSONS

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Objective: The pathobiochemistry of the relationships between cardiovascular risk factors and obstructive sleep apnea (OSA) syndrome is still discussed. Specific adhesive molecules, like selectins and their ligands, are involved in the earliest stages in the development of atherosclerotic plaque. **Aim:** To analyze three selectins: E-selectin which is specific for endothelium, L-selectin finding on leukocyte surface and P-selectin from platelet granules, circulating in plasma of different stage OSA patients. **Methods:** OSA-suspected males with no acute or severe chronic disease were enrolled into the study. Non-smoking Caucasians aged 30-64 submitted clinical, biochemical and polysomnographic examinations. EMBLA system was used to establish the severity of apnea episodes. The results of apnea/hypopnea index (AHI) allowed to select subgroups of patients: OSA0 with AHI 0-4,9 (n=20), OSA1 with AHI 5-15 (n=20), OSA2 with AHI 16-30 (n=18), OSA3 with AHI$\geq$31(n=21). Complete blood count (CBC), oral glucose tolerance test (to exclude undiagnosed type 2 diabetes), fasting plasma lipid profile, high sensitivity C-reactive protein (hsCRP) were estimated among routine parameters. The subjects were determined plasma concentrations of E-selectin, P-selectin and L-selectin (ELISA, R&D Systems, USA) as well as insulin level. The statistical analysis was performed using Statistica 6.0 program for Windows. **Results:** 1. Kruskal-Wallis Test revealed increasing concentrations of E-selectin and L-selectin from OSA0 to OSA3 persons. 2. In OSA 0 the positive correlations: L-selectin & P-selectin, L-selectin & Leu count were observed. In OSA1 we calculated the positive correlations, including L-selectin & Leu count, L-selectin& BMI, L-selectin & TG. OSA2 persons presented positive correlations: P-selectin & DBP, P-selectin & T-C, L-selectin & DBP, L-selectin & T-C. In OSA3 group the positive correlations: E-selectin & DBP, E-selectin & insulin were noted. **Conclusions:** Adhesive molecules, E-selectin and L-selectin especially, contribute to the development of atherosclerosis in obstructive sleep apnea males due the severity of the disease. Increasing stages of OSA may present different clinical manifestation.