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EVALUATION OF BODY COMPOSITION, ADIPONECTIN SERUM LEVELS AND C-REACTIVE PROTEIN IN PATIENTS WITH SEVERE SLEEP APNEA SYNDROME AND OVERLAP SYNDROME.

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Introduction: Obstructive sleep apnea syndrome (OSAS) is a frequent disease, characterized by repetive episodes of upper airway obstruction during sleep, leading to many pathological events. Chronic obstructive lung disease (COPD) is characterized by chronic airway obstruction resulting in not fully reversible airflow limitation. Both diseases are relative common and COPD is one of the leading cause of death and illness worldwide. The term overlap syndrome (OS) was introduced by Flenley to describe coincidence of chronic obstructive disease and sleep apnea syndrome.Bioelectrical impedance analysis (BIA) is a reliable, non-invasive, safe and effective technique to measure body composition. Adiponectin is an adipocyte-specific secreted protein that plays a role in glucose and lipid homeostasis, in addition to antiatherogenic and anti-diabetic effectsThe aim of our study was the evaluation of body composition, adiponectin serum levels, C-reactive protein and cholesterol levels in patients with severe sleep apnea syndrome and overlap syndrome.Material and methods: In this study were enrolled 80 patients with severe OSAS (AHI> 30), 20 patients with overlap syndrome (severe OSAS and COPD) and 50 persons from control group. All subjects underwent polysomnography with Grass Aura PSG Lite and bioelectrical impedance analysis (BIA) with a single-frequency bioimpedance analyser (Model BIA 101, AKERN-RJL, Italy).The adiponectin serum level was measured using a sandwich ELISA kit: Human Adiponectin/Acrp30 Immunoassay (Quantikine R&D Systems).Our first step was comparison of selected parameters in 3 groups (control, OSAS and ovelap). We used ANOVA Kruskal-Wallis test. Next we compared the same parameters between OSAS patients and patients with overlap syndrome. This time with U Mann-Whitney test.Results: We revealed many statistical significant differences in body composition between control group, OSAS patients and overlap syndrome patients. Moreover we observed a few important differences in body composition between OSAS and overlap syndrome patients. To the most important belong: smaller phase angle, MM% (muscle mass percentage), IW%(intracellular water percentage) and higher BMI, EW% (extracellular water percentage) and FM%(fat mass percentage) in overlap syndrome. We didn't reveal any changes in adiponectin levels in examinated groups (p=0,971). We analyzed also total cholesterol, triglicerids and cholesterol fractions LDL and HDL in examinated groups , but we didn't show any differences. We observed that CRP increased from control group to overlap syndrome(3,74-6,29-11,3; p<0,000) . We showed also that desaturation index, minimum saturation, average saturation and average minimum saturation were lower in overlap syndrome than in OSAS although in all groups were patients with severe OSAS and without

differences in AHI. Conclusions: Our results indicate on many changes in body composition between OSAS and overlap syndrome patients, what confirms differences between these two symptoms OSAS and overlap.