

THE INFLUENCE OF GLUCOSE TOLERANCE ON OXYDATIVE STRESS MARKERS IN BLOOD OF DIFFERENT STAGE OBSTRUCTIVE SLEEP APNEA MALES

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Hyperglycemia and sleep-related breathing disorders may contribute to oxidative stress, together or separately. **Objective** of the study was to analyze erythrocyte superoxide dismutase-1 activity (SOD-1), plasma total antioxidant status (TAS) and lipid peroxidation products in different stage-obstructive sleep apnea (OSA), according to results of oral glucose tolerance test (OGTT).

Methods: Non-smoking Caucasians aged 30-64, BMI 25,0-39,9 kg/m², no acute or chronic disorder, were qualified for polysomnography and apnea/hypopnea index (AHI) was used to create three 39-male groups: mild (AHI:5-15), moderate (AHI:16-30) and severe (AHI \geq 31) OSA, each divided to 13-male subgroups with normal glucose tolerance (NGT), impaired glucose tolerance (IGT) and type 2 diabetes (T2DM), due to results of OGTT. SOD-1 and TAS (Randox), thiobarbituric acid-reacting substances (TBARS) reflecting lipid peroxidation (Okhawa method) were measured. **Results:** Increased SOD-1 and TAS were observed in IGT-mild-OSA individuals. Increased TBARS was found from NGT *via* IGT to T2DM groups, in severe OSA especially. Different correlations between metabolic factors and oxidative stress markers were found in the studied groups and subgroups. **Conclusions:** Oxidative stress could not be observed only in non-diabetic mild OSA individuals. Glucose tolerance should be taken into consideration when assessing cardiovascular risk in OSA patients.