THE EFFECT OF INCREASING GLUCOSE DISTURBANCES ON PLASMA OXIDANT-ANTIOXIDANT BALANCE IN OBSTRUCTIVE SLEEP APNEA PATIENTS.

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Obstructive sleep apnea and hyperglycemia, each is associated with oxidative stress. **The aim of the study** was to analyze total antioxidant status (TAS) and lipid peroxidation products in plasma of mild and moderate obstructive sleep apnea (OSA) males, according to results of oral glucose tolerance test (OGTT). **Methods:** Non-smoking Caucasians aged 30-64, with body mass index (BMI) 25,0 -39,9 kg/m^2, and no acute or severe chronic disorder, were qualified for the study. OSA-suspected males underwent full-night polysomnography and apnea hypopnea index (AHI) was used to diagnose mild (AHI:5-15) and moderate (AHI:16-30) OSA. The results of OGTT allowed to select normal glucose tolerance, NGT (n=26), impaired glucose tolerance, IGT (n=26) and type 2 diabetes, T2DM (n=26) patients. Fasting plasma lipid profile: T-C, HDL-C, LDL-C, TG (bioMrieux UV-A Shimadzu), serum insulin (ELISA BioSource, Sunrise Tekan), total antioxidant status, TAS (Randox, Statfax^{TM}1904Plus), thiobarbituric acid-reacting substances, TBARS, reflecting plasma lipid peroxidation (Okhawa method, Sigma reagents, Specord M) were measured. **Results:** Subjects did not differ in their age and BMI. Increased TAS was observed in IGT group, in mild OSA especially. Increased TBARS was found from NGT *via* IGT to T2DM groups, with the highest values in moderate OSA. Different correlations between metabolic factors and oxidative stress markers were found in the studied groups. **Conclusion:** Hyperglycemia worsens oxidative stress in obstructive sleep apnea males The sufficient oxidant-antioxidant balance may occur in non-diabetic OSA patients, in mild stage of the disease.