INSULIN-SENSITIVITY AND INSULIN-RESISTANCE MARKERS IN NON-DIABETIC OBSTRUCTIVE SLEEP APNEA PATIENTS

A. Płóciniczak[1], E. Wysocka[1], H. Winiarska[2], L. Bielawska[1], T. Piorunek[2], S. Cofta[2]

[1] Chair and Department of Laboratory Diagnostics, Poznan University of Medical Sciences, Szamarzewskiego 84 Str, 60-569 Poznań, Poland.

[2]Department of Respiratory Medicine, Allergology and Pulmonary Oncology

Poznan University of Medical Sciences, Szamarzewskiego 84 Str, 60-569 Poznań, Poland

Coexistence of cardiovascular risk factors in obstructive sleep apnea (OSA) patients is still widely discussed.

The aim of the study was to assess basic and extended markers of insulin-sensitivity/resistance in non-diabetic different stage-OSA patients.

Methods: OSA-suspected Caucasians, males and females, aged 20-75, with no acute or severe chronic disorder underwent full-night polysomnography and were assessed glucose tolerance (OGTT). Apnea/hypopnea index (AHI) was used to categorize non-diabetic subjects for the groups: OSA-0 (AHI<5,n=28), OSA-1 (AHI 5-15,n=28), OSA-2 (AHI16-30,n=28) and OSA-3 (AHI>30, n=28). Fasting complete blood count, C-reactive protein, plasma lipid profile (T-C, HDL-C, LDL-C, TG) and either glucose or insulin during OGTT, were measured. Three categories of indices of insulin sensitivity/resistance were calculated: based on fasting glucose and insulin, derived from OGTT results, different-factors indices (anthropometric, glycemic and lipid). All indices were analysed according to the severity of OSA as well as normal glucose tolerance and prediabetes diagnosed. Statistica12.0 and MedCalc19.1 programs were used for detailed analysis.

Results: There were no differences for the indices between males and females. The groups did not differ with age. The prevalence of prediabetes and hyperlipidemia were assessed. The indices worsened along with OSA severity, however the grade of changes differed for particular indexes. The highest difference was observed from moderate to severe OSA stage, especially for indices including lipid and anthropometric factors.

Conclusion: Combined indices for insulin resistance should be used in OSA-suspected and OSA-diagnosed patients to complete the assessment of the cardiovascular risk in the case.