Ayshat Yandieva et al., J Clin Exp Cardiolog 2017, 8:12(Suppl)
DOI: 10.4172/2155-9880-C1-086

Effect of CPAP-treatment on the arterial stiffness and systemic inflammation in patients with metabolic syndrome and obstructive sleep apnea

Ayshat Yandieva, Moscow State University of Medicine and **Dentistry, Russia**
Konstantin Ovsyannikov, Moscow State University of Medicine and Dentistry, Russia

Statement of the Problem: The combination of metabolic syndrome (MetS) and obstructive sleep apnea (OSA) is characterized by a significant increase in cardiovascular risks. Some factors, such as systemic inflammation and arterial stiffening may mediate cardiovascular diseases in these patients. Arterial stiffness is widely accepted as early marker of atherosclerosis and cardiovascular outcomes. Systemic inflammation also plays an important role in the development of cardiovascular complications. The purpose of this study is to determine the effect of continuous positive airway pressure (CPAP) on arterial stiffness and plasma CRP levels in patients with MetS and OSA. Materials and methods: total of 74 patients with MetS and moderate-to-severe OSA were randomized to CPAP (n = 36) and non-CPAP (n = 38) treatment groups for 12 weeks to investigate the effects of CPAP-treatment on arterial stiffness and plasma CRP levels. Findings: Initially, there were no significant differences between the two groups for all the studied parameters. After 12 weeks of therapeutic CPAP, there was registered decrease in R/L-PWV (from 12,7±2,6 m/s to 11,1±3,4 m/s, p <0.05), CAVI (from 8,2±1,8 to 6,5 ±1,8, p <0.05), AIx (from 1,66±0,15 to 0,96±0,12, p<0,05), although change of ABI was not statistically significant. In non-CPAP patients, there was no reliable dynamic in parameters of arterial stiffness. Also, the CPAP-treatment patients presented lower circulating levels of CRP after 3 months of therapy: 6,17±0,52 mg/L vs. 8,32±0,44mg/L at the baseline (p<0,01). On the other hand, no significant differences were found in the control group of patients. Conclusions and significance: appropriate CPAP therapy in patients with MetS and OSA improves both vascular stiffness and chronic systemic inflammation, that leads to reducing general cardiovascular risks.

Fig. 1: Intermediate mechanisms associated with arterial stiffness in patients with OSA potentially contribute to increased cardiovascular risks. The impact of CPAP therapy leads to reduction of these alterations.

Biography

Ayshat Yandieva is a graduate student of the Department of Hospital Therapy №1 of Moscow State University of Medicine and Dentistry. Along with the research work and teaching activities, she is actively engaged in medical practice, heading the sleep laboratory of Eurasian Clinic in Moscow and developing the direction of sleep medicine in Russia.

a.jandieva@gmail.com

Notes: