



Fund “Nauka” Project № 21006 Resume – Competitive-based Session 2021:

“A rhinomanometric study of the characteristics and quality of the nasal breathing in patients with obstructive sleep apnea and snoring, proposed for a conservative treatment with intraoral devices”

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Obstructive sleep apnea (OSA) and snoring syndrome (OSAS) is a widespread disease of social significance in which there is a reduction or cessation of airflow through the nose/ mouth during sleep, due to a collapse of the upper respiratory tract. Obstructive sleep apnea affects the cardiovascular, endocrine, neuro-cognitive and other systems of the body. Symptoms of severe snoring, choking, hypoxemia and micro-awakenings, which lead to sleep fragmentation, daytime fatigue and drowsiness, are observed. The latter greatly impairs patients’ quality of life. There are real risks to the life and health of the patients and others, given the possibility of falling asleep at the wheel (drivers with sleep apnea) and participation in traffic accidents. Polysomnographic examination, which is, for the time being, the gold standard, is performed to prove the syndrome in the patient. In order to better diagnose it, clinicians recommend combining it with a rhinomanometric examination. Treatment of OSA includes risk control and elimination of obstructive factors that impede breathing. Severe obstructive sleep apnea syndrome is treated with Continuous positive airway pressure (CPAP) therapy during sleep, as well as with a combination with intraoral dental appliances.

Rhinomanometry can also be used to monitor the effectiveness of the CPAP-therapy in severe forms of the syndrome by establishing tissue resistance. The effect on patients with milder forms of OSA, treated with intraoral devices, is also monitored. The method can also be used in patients with allergic rhinitis, sinusitis of rhinogenic and other origin, in patients with orthodontic deformities and others.