Diagnostic challenges of obstructive sleep apnea and common comorbidity in adulthood

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Statement of the Problem: Obstructive sleep apnoea (OSA) is a common, heterogeneous and underdiagnosed disorder in adulthood and childhood, with different risk factors, clinical presentations, pathophysiology, and comorbidity. It is associated with many systemic disorders including pulmonary, neurological, otorhinolaryngological, neurotological, cardiovascular, endocrine, psychiatric, and dermatologic and other common diseases. Prediction of disease risk and susceptibility to comorbidity is an important aspect of modern precision medicine. The purpose of this study is to outline the recent achievements in the interdisciplinary field of comorbidity in adult OSA patients.

Methodology & Theoretical Orientation: We retrieved the most relevant publications abstracted from 2015 onwards in two databases, Scopus and PubMed version of MEDLINE, and analyzed the essential diagnostic aspects of this significant socio-medical pathology.

Findings: We outlined the important mutual relationships between OSA, on the one hand, and diabetes mellitus, arterial hypertension, heart failure, cardiac arrhythmia, ischemic stroke, depression, epilepsy, psoriasis, optic neuropathy, and pulmonary fibrosis, on the other hand. Evaluation of vestibular function shows the effects of OSA and its associated hypoxia on the peripheral vestibular system that may become asymmetric or hyporeflexia as well as on the central one that corrects this disequilibrium. In Italy, overall OSA medical costs due to the treatment of comorbidity amount to € 2.9 billion. Direct medical costs are 6% of overall OSA costs, while medical costs due to absent diagnosis and of prevention of comorbidities represent 49% of the overall cost. In Denmark, continuous positive airway pressure-treated OSA patients present with more comorbidities before and after diagnosis than non-treated/non-compliant patients. In Taiwan, OSA patients with any comorbidity present with a higher risk for death than those without comorbidity.

Conclusion & Significance: Further united efforts of interdisciplinary teams are needed to comprehensively clarify the intimate etiopathogenetic mechanisms of comorbidity in OSA and improve the diagnostic capacities for these combined disorders.

Biography

Mario Milkov was born on 06.06.1968 in Varna. In 2002 he gained a degree in otorhinolaryngology. Since 2013 he is Associate Professor at the Faculty of Dental Medicine of the Medical University “Prof. Paraskev Stoyanov” in Varna, Department of Prosthetic Dentistry and Orthodontics. He has specializations at the Clinic of Otorhinolaryngology, Head and Neck Surgery in Würthburg; Otorhinolaryngology Clinic Inselspitals in the city of Bern; Clinic of Otorhinolaryngology, Head and Neck Surgery in Bochum; Department of Otorhinolaryngology and Maxillofacial Surgery, Sourasky Medical Center, Tel Aviv. He has attended eighty courses as an additional qualification in otology, otoneurology, audiology, ossioplasty, laser and radiopharyngeal surgery in the ear, throat and neck, obstructive sleep apnea, neonatal screening, rheology, allergology, medical significant diseases, health management, biomaterials, auditory implants. Since 2018 he is head of Department of Material Science Prosthetic Dentistry and Orthodontics. Assoc. Prof. Mario Milkov is chief editor of the Journal of International Otorhinolaryngology (Varna) since 2003 and he is in the publishing board of the Austin Journal of sleep disorder, Romanian, Turkish and Bulgarian journals. He is President of the Bulgarian Society for Obstructive Sleep Apnea and Snoring, Chairman of the Varna Association for Hearing Prevention in New-borns and Secretary of the European Academy of Otology and Neurology EAONO, for Bulgaria.

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