

Regular physical exercise: evidence for health benefits in OSA patients?

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Obstructive sleep apnea syndrome (OSA) is recognized as a growing public health problem with an increasing prevalence up to 5 % in men. As an independent risk factor, it is associated with several diseases such as hypertension, coronary heart disease, or stroke thus increasing cardiovascular morbidity and mortality [1]. Furthermore, classical OSA symptoms are daytime sleepiness, tiredness, fatigue, neurocognitive dysfunction, and depression, worsening the individual's quality of life. Physical exercise in general has impressively been shown to be an essential factor in preventive medicine. For example, regular physical training (aerobic training and/or resistance training) improves respiratory function in patients with chronic obstructive pulmonary disease [2] and improves all risk factors of patients suffering from metabolic syndrome [3]. Even in the primary prevention of some cancers (e.g., mamma carcinoma and colon carcinoma), physical exercise plays a crucial role [4]. Therefore, regular physical training is suggested to be effective in several diseases such as a medication and 10,000 steps per day were recommended as preventive measure [5]. Is there a causal link between OSA severity and lack of physical exercise? The approach to answer this question is dual. First, we can check prospective studies on the effects of regular physical training on OSA symptoms, and second, we can focus on possible associations between training and OSA symptoms in a retrospective way. In the last months, interesting studies were published, showing that exercise training is associated with a reduced incidence of mild and moderate sleep-disordered breathing [6] and that physical

exercise improves selected aspects of daytime functioning in OSA patients [7].

In this issue of S&B, Verwimp et al. [8] report on data of their retrospective study with moderate to severe OSA patients regarding possible associations between sleep parameters and quality of life on one hand and daily physical activity on the other hand. Up to now, only preliminary results were published assuming that there is an inverse relationship between physical activity and OSA severity. The study of Verwimp et al. could add new information on this topic by a real detection of the individual activity and energy expenditure with an established technology of Bodymedia SenseWear Pro Armband activity monitor over a 5-day period. Regarding physical exercise, the authors reported significant inverse correlations between the steps walked and the presence of comorbidities (hypertension, diabetes, obesity) and between the apnea hypopnea index in REM sleep. Moreover, the patients linked their subjective reduction of quality of life with their measured reduced physical activity. The authors concluded that the low level of physical activity is associated with OSA severity in somnolent moderate to severe OSA patients. Therefore, one could speculate that regular physical activity and training may reduce not only OSA-associated comorbidities but improve health-related quality of life. Randomized controlled trials (“exercise studies”) are required in order to get detailed information on the optimal effects of physical exercise in OSA patients.

Conflict of interest None

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