

Association between OSA and Obesity in Consideration of Sarcopenia Among the Elderly

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Objective

Obstructive sleep apnea (OSA) is a prevalent sleep-disordered breathing nowadays. Higher body mass index (BMI) is associated with the severity of OSA. Sarcopenia is a geriatric syndrome, and aging is also known as a risk factor for OSA. Although several studies suggest possible relationship between OSA and sarcopenia, few studies focused on the influences of both sarcopenia and obesity on OSA. Our intention was to identify more clearly about the association between OSA and obesity in consideration of sarcopenia among the elderly.

Methods

Healthy adults aged over 60 were invited to join the Integrating Systematic Data of Geriatric Medicine to Explore the Solution for Healthy Aging (ISD-HA) study between September 2019 and October 2020. Sleep profile was accessed using questionnaires and polysomnography (PSG). Standardized in-home PSG was performed and apnea-hypopnea index (AHI), defined as the respiratory events per hour during sleep, was retrieved. Sarcopenia was defined as loss of both muscle mass and strength and/or reduced physical performance. Linear regression was used to test the relationship between BMI and AHI, to see the changes of BMI with the severity of OSA.

Results

The number of AHI increases among people aged from 60 to 80. As to obesity, the BMI of people aged from 60 to 80 increased significantly. The proportion of sarcopenia also increases with aging. Among people with sarcopenia, there is subtle relation between obesity and OSA. However, we found that increasing BMI is associated with higher AHI among people without sarcopenia. We suggest that sarcopenia is a confounding factor when exploring the relation between OSA and obesity.

Conclusion

Without the confounding factor of sarcopenia, positive linear relation of obesity and OSA severity was noted. Hence, sarcopenia is suggested to be taken into consideration when exploring the influence of obesity on OSA among the elderly.

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