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Sex differences in associations between sleep state-specific apnea severity and symptoms of depression among patients with obstructive sleep apnea

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Objective: There is a high prevalence of depression in patients of obstructive sleep apnea (OSA). However, an association between depression and OSA severity is unclear. Recent studies found that increased OSA severity is associated with less depression and anxiety. Therefore, we aimed to investigate 1) whether such possible associations differ depending on sex and 2) which of apnea severities during REM and NREM sleep is more likely associated with depression and anxiety.

Methods: Symptoms of depression and anxiety were defined as a Patient Health Questionnaire-9 score ≥10 and a Generalized Anxiety Disorder-7 score ≥8, respectively. Apnea severity was categorized using the conventional cutoffs of apnea-hypopnea index. Logistic regression analyses were conducted.

Results: We included 1,346 adult OSA patients (80.2% men). Symptoms of depression and anxiety were present in 14.8% and 14.4% of patients, respectively. Severe OSA was significantly less likely than mild OSA to be associated with the presence of depression and anxiety after controlling for age, sex, daytime sleepiness, diabetes, and medical comorbidities. Such negative associations were found in men, but not in women. When both apnea severities during NREM and REM sleep were entered into the same logistic regression model, severe OSA during NREM sleep, but not during REM sleep, was associated with less depression and anxiety in adjusted models. Such relationships were also significant in men, but not in women.

Conclusions: Increased apnea severity was associated with less depression and anxiety, but only in men. Such negative associations were evident when using apnea severity during NREM sleep.

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Does Periodic limb movements during sleep(PLMS) not require treatment? The relationship between PLMS and insomnia, obesity and arrhythmia

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Objectives

Periodic limb movements during sleep(PLMS) is generally known to accompany restless leg syndrome(RLS), and there is not much research on PLMS itself. Moreover, the relationship between insomnia and PLMS is underrecognized. This study aimed to investigate the polysomnography (PSG) data, questionnaires, and iron-related laboratory data of patients who visited Insomnia and were confirmed PLMS.

Methods

Between 2015 and 2022, 423 patients with insomnia as the primary symptom who diagnosed periodic limb movements in overnight PSG were included. Patients were divided into three groups based on their PLM index (PLMI). The participants' demographics, insomnia related questionnaires, PSG findings, and iron-related laboratory findings were used in the analysis.

Results

Severe PLMS group (PLMI 50) were mostly males, had more people taking sleeping pills and had higher body mass index (BMI) than mild PLMS group(PLMI 5-25). Significant differences were not found in questionnaire about insomnia and sleep quality. In PSG, severe PLMS group showed shorter total sleep time and low spontaneous arousal index than mild to moderate PLMS groups. And more patients in the severe PLMS group were showed arrhythmia than mild PLMS group. Ferritin, transferrin saturation results were not different between groups.

Conclusions

PLMS did not affect the severity of Insomnia or fatigue during daily life. The results shown in PSG may be influenced by age or taking sleeping pills. The most significant result was that arrhythmia was higher in the severe PLMS group. More research is needed on the causal relationship between PLM and cardiac diseases.

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Sleep in Clinical Populations of Neurodegenerative Disorders

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Neurodegenerative diseases, including Alzheimer`s Disease, Parkinson`s Disease, and Lewy Body Dementia, are often associated with sleep/wake disturbances. However, the specific patterns and mechanisms underlying these disturbances remain unclear. This presentation will highlight the different patterns of sleep-wake phenotype associated with different neurodegenerative disorders, namely Alzheimer`s Disease (AD), Progressive supranuclear palsy (PSP), Corticobasal syndrome, Parkinson's Disease, and Dementia with Lewy Body. Of particular interest is the role that hyperarousal and disturbed sleep have in the production and clearance of proteins implicated in neurodegeneration. The presentation will also highlight the importance of considering focal and network issues related to the spread of pathologic proteins and site-specific vulnerability across proteinopathies which may account for different sleep phenotypes being linked to different neurodegenerative disorders.