Periodic limb movement index and severity of obstructive sleep apnea

Abstract:

Background: Periodic limb movements during sleep (PLMS) and obstructive sleep apnea syndrome (OSAS) are two frequent coincident sleep disorders. The association of PLMS with OSAS severity and predictors of PLMS in OSAS patients were investigated.

Material and method: This is a retrospective study that enrolled adult patients ≥ 16 years old who visited the sleep unit at Mouwasat Hospital, Saudi Arabia, between January 2021 and October 2021. All were subjected to full medical history, clinical examination, Epworth Sleepiness (ESS), STOP-Bang questionnaires, and standard overnight polysomnography.

Subjects were subdivided into two groups based on PSG findings: group I, OSA patients (153). Patients were classified into mild n = 57 (AHI ≥ 5 and < 15), moderate n = 35 (AHI ≥ 15 and < 30), and severe n = 61 (AHI ≥ 30). Group II, control group included 100 subjects.

Result: There was a higher frequency of PLMS in OSA patients vs control group (with a statistically significant value). The study showed a statistically significantly positive correlation between PLMI and each of AHI, hypopnea index,desaturation index, and PLMs with arousal index, in contrast; it had a statistically significantly negative correlation with BMI among the OSA group. By performing multivariate logistic regression to predict the possible factors associated with the existence of PLMS among the OSA group, it was showed that the apnea index and desaturation index were statistically significant predictors.

Conclusion: The present study showed that OSA patients with PLM were older; had greater AHI, hypopnea index, desaturation index, and PLMs with arousal index; and had lower BMI. Further studies are needed for better understanding this complex relationship.

Keywords: Periodic limb movement during sleep, Obstructive sleep apnea syndrome, Polysomnography