P472 | Positional difference between patients with obstructive sleep apnea with and without Parkinsonism

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Objectives/Introduction: Obstructive sleep apnea (OSA) is common sleep disturbances in patients with Parkinsonism. We aimed to estimate nocturnal positional differences between OSA patients with and without Parkinsonism.

Methods: Fifty three patients, who met the criteria for idiopathic Parkinson's disease or atypical Parkinsonism as well as diagnosed to OSA by polysmonography, were included. Fifty one OSA patients without Parkinsonism (age, sex, apnea-hypopnea index were matched) were also enrolled as controls. Various clinical and polysomnographic parameters were evaluated. Positional difference and success rate of CPAP titration were compared between two groups.

Results: Patients with OSA and Parkinsonism (OSA+P) were mean 67.8 ± 8.6 years (men, 49.1%), and OSA without Parkinsonism (OSA-P) were 68.6 ± 6.8 years (men, 47.1%). Body mass index was not different between OSA+P and OSA-P groups (23.9 ± 3.2 and 24.5 ± 3.5, respectively). AHI was 19.4 ± 14.6/hr in OSA+P group and 19.7 ± 17.2/hr in OSA-P group. OSA+P group revealed significantly lower proportion of patients with positional change during sleep, compared to OSA-P group (64% and 82%, $p = 0.047$). The proportion of 100% supinal position during sleep was 36% in OSA+P group and 18% in OSA-P group ($p = 0.047$). The success rate of continuous positive airway pressure titration was lower in OSA+P group than that of OSA-P group (43% and 88%, $p = 0.119$).

Conclusions: Patients with OSA+P showed decreased positional change and higher proportion of 100% supinal position during sleep, compared with OSA-P patients. The severity of OSA increases during supine position than lateral or prone positions. We have suggested the impaired positional change and supinal sleeping tendency from nocturnal akinesia or dyskinesia may play a role in the development of OSA in Parkinsonism.

Disclosure: Nothing to disclose.

P473 | Effects of ischemic stroke on sleep architecture: a retrospective study

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Objectives/Introduction: Sleep in patients after suffering from a stroke is a topic of high interest, which has not been widely studied yet. In this retrospective study we compared the sleep architecture, as measured by AASM 2007 criteria, of 95 stroke patients with that of age and sex matched controls, in order to quantify such an influence.

Methods: Polysomnographic (PSG) data from 95 patients in the acute phase of an ischemic stroke (1 to 10 days after a stroke occurred), acquired at the 1st Department of the Neurology, Comenius University, Bratislava between the years 2014 and 2016, was available for this study. The PSG montages did not perfectly match the requirements by the AASM (American Academy of Sleep Medicine) manual. In particular, there were no frontal electrode signals in the recordings. Scoring was performed with the computer-supported system Somnolyzer, after substituting frontal channels with copies of corresponding central electrode channels. For comparison, PSG data from 95 healthy controls from the SIESTA database, matched to the stroke population in sex and age, was scored in exactly the same way. From two consecutive nights available for each SIESTA subject, the first night was chosen, to match the assumption that stroke patients were PSG-naïve at the time of recording. 12 major sleep variables (including sleep efficiency, sleep stage latencies and percentage in each sleep stage) were analyzed. To test mean differences between the two groups a t-test for independent samples was used and p-values were corrected according to the Bonferroni method before comparing them to the significance level of 0.05.

Results: Besides having a lower sleep efficiency (68.5% vs. 76.7%, $p = 0.028$) the main difference in the sleep of stroke patients was a strongly reduced REM sleep (7.2% vs. 18.4%, $p < 0.001$) and increased NREM-stages N1 (27% vs. 21.1%, n.s.) and N2 (50.1% vs 44.6%, $p = 0.035$).

Conclusions: Ischemic stroke was shown to have an effect on average sleep architecture in terms of less sleep. Percentage-wise, REM sleep was significantly reduced following the stroke, balanced by an increase of the light sleep stages N1 and N2. Deep sleep N3 was unaffected.

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