PP3267

The evaluation of cognitive deficits in obstructive sleep apnea syndrome patients through event related potentials

A. Akçalı¹, A. Dai², E. Şahin³, T. Ergenoğlu³, M. Neyal¹
¹Department of Neurology, Gaziantep University Medical Faculty, ²Department of Child Neurology, Gaziantep University, ³Kahramanmaraş State Hospital, Kahramanmaraş, ⁴Mersin University, School of Medicine, Mersin, Turkey

Introduction: Obstructive Sleep Apnea Syndrome (OSAS) is characterized by desaturation in blood oxygen level and sleep fragmentation because of repeated upper airway obstruction. OSAS related neurocognitive deficits are the result of a combination of both hypoxemia and decreased vigilance. Event related potentials (ERPs) are scalp recorded voltage fluctuations, which reflects several cognitive processes generated within specific brain regions during stimulus processing. In this study, we aimed to investigate cognitive dysfunctions in OSAS patients with ERP.

Methods: 34 OSAS patients and 36 healthy control subjects participated in the study.

Results: Statistical analyses indicate that the P300 amplitudes were significantly lower, and P300 latencies were significantly longer in OSAS patients group. There were no significant differences in latency and amplitude values of N100 and P200 responses between the two groups.

Conclusions: Our results suggest that event related potentials are useful methods for evaluating cognitive functions of OSAS patients. Negative effects of OSAS on cognitive functions could be observed with event related brain responses.

Disclosure: Nothing to disclose

PP3268

Sleep-related rhythmic movement disorder: case presentation

F. Yavral, H. Aydı̇n Güngör, N. Afşar
Bahçeşehir University Medical Park Hospital, Istanbul, Turkey

Introduction: Sleep-related rhythmic movement disorder (SRRMD) is characterized by repetitive, stereotyped and rhythmic motor behaviors involving large muscle groups often arising at sleep onset or during superficial non-REM sleep. Pathophysiology is yet to be clarified. However, the differential diagnosis of this disease more frequently encountered in mentally retarded children should be carefully performed.

Case: A 34-year-old man presented with uncontrollable head banging and daytime sleepiness of 10 years duration occurring mostly when he was sleepy or at sleep onset. The patient was evaluated with activation polysomnography in our electrophysiology laboratory. Head banging was observed three times during non-REM 1 phase for 25, 27 and 22 seconds and an average frequency of 8 Hz, thus fulfilling the ICSD-2 criteria for “Sleep-related rhythmic movement disorders”. No epileptiform activity was observed on the simultaneous video recording or the 6-channel EEG recording.

Conclusion: Sleep-related rhythmic movement disorder is more frequently described in mentally retarded children and is relatively uncommon in normal intelligence adults. The present case is remarkable with its onset at a relatively late age and long symptom duration. Being a rhythmic pathology, SRRMD is mostly misdiagnosed as epilepsy and our case helps emphasizing the importance of activation polysomnography in the differential diagnosis.

Disclosure: Nothing to disclose
PP3269  
**Microhemorheological effects of sleep apnea/hypopnea syndrome in patients with cerebral ischemia**

I. Burduladze¹, R. Shakarishvili², F. Todua¹, A. Chikadze²  
¹Research Institute of Clinical Medicine, ²Sarajishvili Institute of Neurology, Tbilisi, Georgia  

**Introduction:** The newest data prove a high incidence of cerebral ischemic stroke (IS) among patients with obstructive sleep apnea/hypopnea syndrome (OSAHS). The aim of the present study was to investigate the possible microhemorheological effects of OSAHS on cardiovascular and hemostasis system in patients with IS.  

**Methods:** 80 male patients (mean age 61.0 years) with IS were investigated. The following hemorheological parameters was evaluated: erythrocyte aggregability index (EAI), hematocrit (Hct) and plasma viscosity (PV). All of them were underwent a polysomnography (PSG).  

**Results:** It was especially increased EAI by 16% (p<0.001), Hct by 11% (p<0.001) and PV by 9% (p<0.1). Increased EAI was correlated with low hemoglobin saturation and increased left ventricular transmural pressure, as well as increased Hct and PV, - with high body mass and Sleep apnea indexes. Almost in all cases defragmentation of the sleep II stage and high percentage of rapid eye movement (REM) sleep was revealed.  

**Conclusions:** OSAHS is an independent risk-factor of IS. Microhemorheological effects of OSAHS on cardiovascular and hemostasis system, may play an important role in development of IS, besides of well known mechanical, hemodynamic, metabolic and neurohumoral effects.  

**Disclosure:** Nothing to disclose

---

PP3270  
**Sleep-related problems in children with epilepsy: a questionnaire-based study**

T. Ediberidze¹, L. Maisuradze², S. Kasradze¹, N. Tatishvili³  
¹Institute of Neurology and Neuropsychology, ²Ilia State University, ³Department of Neuroscience, M. Iashvili CCH, Tbilisi, Georgia  

**Introduction:** Sleep abnormalities are very common in chronic medical disorders. However, less attention has been devoted to sleep difficulties in children with epilepsy. This study was aimed to evaluate sleep initiate and sleep maintenance in the children having diagnosis of epilepsy.  

**Methods:** A structured sleep-wake questionnaire was specially developed and designed on the basis of Child Sleep Questionnaire for Parents and the Pediatric Sleep Questionnaire. The child sleep problems were assessed according to the identification of difficulty for: sleep onset (a) and sleep maintenance (b) 99 children with idiopathic epilepsies (60 without treatment; 39 treated), 1-16-year-old were selected. Healthy subjects (n=1180; 0-16-year-old) from the database of Institute of Neurology and Neuropsychology (Tbilisi, Georgia), were used as control group.  

**Results:** In overall, different sleep problems were identified in 37.4% (n=37) of children with epilepsy vs. 32.5% (n=384) in healthy children. 45.4% of children with epilepsy (n=45) has had sleep onset difficulty. In the control group, difficulties with falling asleep were found in 17.1% only. Sleep onset difficulties were higher among the patients not receiving the antiepileptic drugs (AEDs) (Fig.1). In overall, the outpatients having epilepsy have had more nocturnal awakenings (29.3%) than control subjects (14.4%). The frequency of sleep restrictions was a little higher in patients without AED (Fig.1).  

**Conclusions:** The findings of the present study support the opinion that inadequate/poor sleep is common among the children with epilepsy. More medical attention should be focused on the understanding the relationship between childhood sleep problems and the epilepsy management processing.  

**Disclosure:** Nothing to disclose

![Fig.1](image-url)
**PP3271**

**Excessive daytime sleepiness in restless legs syndrome mimicking narcolepsy**

H. Hidalgo¹, N. Dahmen², C.L.A. Bassetti³, U. Kallweit¹,³
¹Neurocenter Rhine-Lahn, ²Psychiatry, Clinic Katzenelnbogen, Katzenelnbogen, Germany, ³Neurology, University Hospital Bern, Bern, Switzerland

**Introduction:** Restless legs syndrome is a frequent sleep-related movement disorder and typically associated with insomnia. Daytime symptoms include fatigue and occasionally excessive daytime sleepiness (EDS). A deficient iron/dopamine transport and/or metabolism may underlie RLS. Narcolepsy-cataplexy is suggested to be an autoimmune-mediated disorder with pathology within the hypocretin system.

**Case report:** We report the case of a 38-year-old women who was referred to our centre for a second opinion with the diagnosis of narcolepsy. She described her symptoms as follows: EDS since her adolescents and deterioration within the last three years (Epworth sleepiness scale (ESS) was 14). Further, when becoming angry or laughing, her knees became weak. Sleep was fragmented and disturbed. In the evening she had an unpleasant feeling in the legs and sometimes the urge to move (IRLS: 17). No other sleep or medical disorders were reported. Polysomnography showed a sleep efficiency of 65% with a severe fragmentation of sleep. PLMS was 25/h, no SOREM occurred. On MSLT the following day, she had a mean sleep latency of 2.5 min and one SOREM period. We diagnosed RLS-PLMS and started treatment with pramipexole (PPX) 0.18mg and added PPX retard 0.26mg later on. Therapy was well tolerated and a severe improvement of symptoms was seen: nocturnal sleep and daytime wakefulness was described as normal (ESS was 7, IRLS was 10). This case illustrates, that in some cases EDS in even mild-moderate RLS-PLMS can be severe. This differential diagnosis should be taken into account when it comes to excessive daytime sleepiness.

**Disclosure:** Nothing to disclose

**PP3272**

**Sodium oxybate for refractory REM-sleep behavior disorder**

K. Kaveh Moghadam¹, F. Pizza¹,², G. Plazzi¹,²
¹Alma Mater Studiorum, University of Bologna, ²IRCCS - Institute of Neurological Sciences of Bologna, Bellaria Hospital, Bologna, Italy

**Introduction:** REM-sleep behavior disorder (RBD) is characterized by the loss physiological REM sleep muscle atonia and dream-enactments. It can be a potentially a harmful condition, as patients can display complex and violent behaviors in sleep. Conventional treatment for the disease is based mainly on benzodiazepines and dopaminergic drugs, however a little percentage of patients can be non-responder.

**Methods:** The efficacy of sodium oxybate treatment on two male patients with refractory idiopathic RBD was assessed by polysomnography and clinical follow-up.

**Results:** Two male patients, aged 67 and 49-years-old, presented nightly complex dream enactment episodes, sometimes characterized by getting out of the bed. Both experienced violent spells leading to repeated traumas or to the attempt of choking the bed partner. They had normal neurological examination and 123I-FP CIT SPECT. The diagnosis of idiopathic RBD was confirmed by overnight sleep video-polysomnography. Conventional drugs for RBD (i.e. clonazepam, pramipexole, melatonin) and anti-epileptic drugs (carbamazepine, lamotrigine) in various combinations were ineffective. Both patients, after informed consent, were off-label treated with sodium oxybate in addition. Both patients reported a significantly reduced frequency and intensity of RBD episodes, as confirmed also by bed partners. The beneficial effect persisted at 2 years follow-up of the older patient.

**Conclusion:** Sodium oxybate can be an effective treatment for idiopathic RBD refractory to conventional drugs, as reported in a previous case report (1).

**References:**


**Disclosure:** Nothing to disclose
PP3273

Influence of sleep disorders on the impulsive behavioral disorders among cognitively-intact Parkinson’s disease patients living in the Tomsk region, Russia

M. Nikitina1, I. Zhukova1, O. Izhboldina1, N. Zhukova1, V. Alifirova1, M. Titova1, A. Agasheva2, L. Glotova2
1Department of Neurology and Neurosurgery, Siberian State Medical University, 2Hospital 3, Tomsk, Russian Federation

Introduction: Non-motor symptoms of Parkinson’s disease (PD) such as Impulsive behavioral disorders (IBDs) and poor sleep are increasingly recognized as important factors in determining the life quality of people living with these conditions. The previous research suggests a higher level of sleep complaints in PD patients who demonstrate IBDs, but the nature of sleep disturbances has to be comprehensively tested yet.

Objectives: To determine a link between sleep disorders and IBDs in PD patients.

Methods: 164 of 834 PD patients were screened for reveal of IBDs (Questionnaire for Impulsive-Compulsive Disorders in Parkinson’s Disease-Rating Scale - QUIP-RS) and sleep disorders (Epworth Sleepiness Scale - ESS). Three groups were studied (homogeneous by sex, age, stage): I-50 without IBDs, II-64 with 1 IBDs, III-50 with 2 or more IBDs. Patients were given a Unified Parkinson’s Disease Rating Scale motor examination. Patients with cognitive impairment based on a score <26 by the Montreal Cognitive Assessment (MoCA) were excluded. The 39-Item Parkinson’s Disease Questionnaire (PDQ-39) was used to evaluate life quality, the Hospital Anxiety and Depression Scale (HADS) - to evaluate anxiety and depression.

Results: Impulsive PD patients endorsed more sleep complaints than non-impulsive PD patients. The group difference was primarily attributable to greater daytime sleepiness, p<0.01, in the impulsive PD patients (the II and III groups). But particular attention should pay to the fact that there were no statistically significant differences between groups I and II. The results can’t be explained by medications or disease severity.

Conclusions: Poor sleep efficiency increased daytime sleepiness and associated with IBDs in PD. Further research in this area are needed.

Disclosure: Nothing to disclose

PP3275

Prevalence of rapid eye movement sleep behavior disorder and excessive daytime sleepiness among adult Egyptians: a population-based study

A. Hassan, A.S. Abo El Fotouh, K. Hammouda, M.E. El Awwady
Cairo University, Cairo, Egypt

PP3276

Daytime sleepiness and sleep-disordered breathing in patients with acute stroke

K. Klobučníková, P. Šiarnik, Z. Čarnická, B. Kollár, I. Mucska, P. Turčáni
1st Department of Neurology, Comenius University in Bratislava, Bratislava, Slovakia

PP3277

Sleep habits and complaints in a 9-year-old boy with restless legs syndrome: a case report

L. Maisuradze1, N. Gogatishvili2, S. Kasradze2
1Ilia State University, 2Institute of Neurology and Neuropsychology, Tbilisi, Georgia

PP3278

The impact of CPAP treatment on white matter changes and clinical status in patients with obstructive sleep apnea

N. Pišljar1, M. Šebok1, B. Žvan1, M. Zaletel1, A. Koren2, L. Dolenc Grošelj1, J. Pretnar Oblak1
1Dept for Vascular Neurology, 2Dept of Radiology, 3Dept for Clinical Neurophysiology, Ljubljana University Medical Center, Ljubljana, Slovenia
PP3279

Obstructive sleep apnea and hearing

T. Vorlová1, O. Dlouhá2, D. Kemlink1, K. Sonka1
1Neurology, 2Foniatry, Charles University in Prague, First Faculty of Medicine, Prague, Czech Republic

PP3280

Reduced serum orexin levels in antibody positive autoimmune encephalitis and neuromyelitis optica patients

C. Ulusoy, H. Haytural, C.I. Küçükali, M. Kırtüncü, R. Türkoğlu, E. Tüzün
Istanbul University, Medical School, Istanbul, Turkey