

Sleep disorders

P1730

NO NORMALIZATION OF HYPOCRETIN-1 DEFICIENCY OR NARCOLEPTIC PHENOTYPE AFTER EARLY IVIG TREATMENT IN POST-H1N1 VACCINATION NARCOLEPSY WITH CATAPLEXY

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Background: Narcolepsy with cataplexy (NC) is caused by severe loss of hypocretin producing hypothalamic neurons. Autoimmunity due to environmental triggers and cross-reactions are believed to be central in the pathogenesis. Interestingly, the recent NC cases associated with post-H1N1 flu infection or H1N1-vaccination might point to a long-sought aetiology, e.g. an antigen. We have previously shown some clinical effect of IVIG treatment in spontaneous NC but hypocretin-1 levels only normalized in an extremely early IVIG-treated French spontaneous NC case. Here we present the first similarly early IVIG-treated post-H1N1-vaccination NC patient.

Methods and results: In October 2010, a 21-year-old Danish (Caucasian/Asian) man received H1N1-vaccination. On January 22nd 2011 he developed extreme sleepiness. On January 26th he experienced the first cataplectic attacks; laughter triggered face twitches and falls. At examination, he had numerous sleep attacks and multiple partial and complete cataplectic attacks with falls/near-falls. No sleep paralysis or hypnagogic hallucinations, but symptoms of dream enacting behaviour. PSG and MSLT showed a sleep latency of 2.1min and 4/5 SOREMPs. CSF hcrt-1 was <10pg/ml. Brain MRI was normal. On 15th and 16th February he received IVIG 1g/kg/day. Post IVIG, he reported reduced cataplectic attacks and sleepiness, but objectively severe cataplexy and multiple sleep attacks were observed. CSF hcrt-1 remained <10pg/ml. PSG and MSLT were unchanged.

Conclusion: IVIG treatment initiated 3 weeks after narcolepsy onset normalized neither the phenotype nor the CSF hypocretin-1 in this post-H1N1 vaccination NC patient. This could indicate different pathogenetic mechanisms in spontaneous and post-H1N1 narcolepsy.

P1731

HYPOTHALAMIC CRANIOPHARYNGEOMA RESULTING IN HYPOCRETIN DEFICIENCY AND NARCOLEPSY WITH ATYPICAL CATAPLEXY

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Background: The symptoms of narcolepsy reflect an unstable sleep/wake and tonus control caused by hypocretin deficiency. Secondary narcolepsy may occur when structural lesions involve the posterolateral hypothalamus area i.e. the hypocretin producing neurons.

Methods and results: We present a 9-year-old girl who developed narcolepsy with atypical cataplexy and hypocretin deficiency (CSF hypocretin-1 <10pg/ml) secondary to surgical removal of a large craniopharyngeoma in the hypothalamic area. Post-operatively, the symptoms were severe daytime sleepiness and episodes of muscle weakness without clear emotional triggers. Sleep investigations were indicative but not conclusive for narcolepsy: 2 PSGs with a fragmented night sleep, 3 MSLTs with mean sleep latency <5 minutes. Interestingly, REM sleep was almost completely absent: no REM sleep on PSGs or during 14 nap opportunities on MSLTs. One single REM sleep period was recorded protruding directly from wakefulness between MSLT naps. Saliva Melatonin 24 hour secretion cycle was preserved. The narcolepsy symptoms were partly overlooked for several years post-operatively, probably because of other complications such as panhypopituitarism and hydrocephalus. The final narcolepsy diagnosis was possible due to detection of hypocretin deficiency.

Conclusions: We advocate that patients with probable hypothalamic injuries and excessive daytime sleepiness should routinely be evaluated for narcolepsy and hypocretin deficiency. Interestingly, the absent REM sleep in the present case indicates that dysfunction of other nuclei in addition to the obvious lesioned hypothalamic area might be involved, for example projections to/from REM-on nuclei of the REM sleep flip-flop switch in the brainstem.

P1732

TRADITIONAL CHINESE MEDICINE IMPROVES NOCTURNAL ACTIVITY AT NIGHTTIME IN PARKINSON'S DISEASE

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Objective: To evaluate the effects of a compound traditional Chinese medicine (TCM), Cerebral care Granule (CG), on sleep disturbance in patients with Parkinson's disease (PD). **Methods:** 48 patients with PD (mean age \pm SD, 65.3 \pm 9.7 years, mean duration, 5.4 \pm 6.9 years) participated in the study. Patients took either CG (n=25) or placebo granule (n=23) in a randomized manner for 6 weeks while maintaining other anti-Parkinson medications unchanged. All patients with PD and 25 other patients with neither sleep disturbance nor Parkinson's diseases wore a motion logger (AMI) on the wrists of their non-dominant side for 7 consecutive days. We analyzed the sleep latency, sleep efficiency, and the 5 least active hours of AMI records taken on 1 occasion in the control patients and 2 occasions (before and 6 weeks after the drug administration) as well as Parkinson's disease sleep scale (PDSS) score in the PD patients.

Results: CG but not placebo granules improved AMI measures and the PDSS together significantly after the drug administration compared to before.

Conclusion: The results indicate that CG improved the sleep disturbance associated with parkinsonism and analysis of sleep latency, sleep efficiency, and the 5 least active hours would be a potentially suitable tool with which to evaluate sleep disturbance in PD.

P1733

THE TREATMENT OF REM SLEEP BEHAVIOR DISORDER IN PATIENTS WITH PARKINSON'S DISEASE

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Sleep alterations are particularly common among patients with PD affecting 74-98% of them. Sleep disturbances in PD include insomnia, sleep fragmentation with early morning wakening, excessive daytime sleepiness, difficulty rolling over in bed, nocturia, nightmares, periodic limb movements of sleep, and rapid eye movement (REM) sleep behaviour disorder.

Materials and methods: We have studied 57 patients with PD (M/F=34/23). All underwent clinical examination, nocturnal polysomnography (PSG), Epworth Sleepiness Scale (ESS) and Parkinson's Disease Sleep Scale (PDSS) rating. REM sleep behaviour disorder (RBD) and excessive daytime sleepiness were found in 72% patients with PD. This patients were divided into 2 groups: galantamine treated (8mg twice a day) (n=21) and placebo treated (n=20).

Results: RBD and excessive daytime sleepiness decreased significantly after 2 months of galantamine treatment in experimental group compared with baseline and placebo group patients (p<0.001).

Conclusion: Circuitry controlling REM sleep involves multiple neurotransmitters, including acetylcholine. Thus, dysfunction of cholinergic nuclei or pathways are likely to be involved, even if they are only secondarily affected by dysfunction in modulating systems, such as those of the basal ganglia. Some authors have suggested that RBD may be due to a disruption in REM-related cholinergic systems. Despite the fact that cholinesterase inhibitors may be associated with sleep disruption, vivid dreams and sleep-related disruptive behaviours, they have also been considered for the treatment of RBD, possibly through enhancing cholinergic REM-on neurons to normalize the REM circuitry.

P1734

R-R INTERVAL VARIATION IN PATIENTS WITH OBSTRUCTIVE SLEEP APNOEA

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Purpose: The aim of this study is to evaluate the obstructive sleep apnoea patients electrophysiologically by R-R interval variation (RRIV) as an indicator of the cardiovagal autonomic function.

Methods: The study group consisted of 18 male patients with untreated obstructive sleep apnoea (OSA) and the control group was composed of 15 age- and sex-matched healthy subjects. Patients and controls underwent RRIV tests. RRIV recorded at rest and during hyperventilation values were compared among patients and controls.

Results: There were no statistically significant differences between the RRIVs obtained from obstructive sleep apnoea patients and control group ($p>0.05$).

Conclusions: Decreased spontaneous baroreflex sensitivity was shown in patients with obstructive sleep apnoea. We thought that we could be able to show the decreased parasympathetic activity by electrophysiological. We could not demonstrate the autonomic dysfunction in OAS patients by R-R interval due to the limited sample size.

P1735

EVALUATING THE EFFECT OF SLEEP DEPRIVATION ON VISUAL REACTIVITY BY TCD

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Objective: The most common causes of sleep deprivation are related to lifestyle and occupational factors which affects a considerable number of people. Healthy individuals need adequate sleep for optimal cognitive functioning. We aimed to evaluate the effect of sleep deprivation on visual reactivity and blood flow velocity changes after visual stimuli on both PCAs by transcranial Doppler.

Methods: In this study, 20 healthcare personals were included and, they also served as a control group. Visual reactivity test was applied to participants by TCD on their duty dates after 24 hours deprivation and on rest days after sleeping within the working hours.

Results: When we evaluated the mean blood flow changes in both posterior cerebral arteries following resting and sleep deprivation, blood flow velocities following visual reactivity was found to be increased significantly ($p=0.000$). When compared the visual reactivity values obtained from both right and left PCAs following resting and sleep deprivation, visual reactivity values following sleep deprivation were found to be significantly lower than the visual reactivity values following resting (respectively; $p=0.000$, $p=0.006$). Blood flow velocity values obtained from right PCA following resting were found to be significantly higher than the values obtained following sleep deprivation ($p=0.000$).

Conclusions: Our study showed that transcranial Doppler is a safe method which is easily applicable and non-invasive for evaluation the effects of sleep deprivation and measuring the blood flow velocities of the basal cerebral arteries.

P1736

SLEEP DISORDERS IN BEHÇET'S DISEASE AND THEIR RELATIONSHIP WITH FATIGUE AND QUALITY OF LIFE

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Background: Behçet's disease (BD), a systemic vasculitis, can cause various degrees of activity limitation, fatigue and quality of life (QoL) impairment. To date, neither sleep disturbance nor its relationship with fatigue and QoL has been studied in BD. Our aims were to evaluate sleep disorders and polysomnographic parameters and determine their relationship with fatigue and QoL in BD.

Methods: 51 patients with BD without any neurological involvement were interviewed regarding sleep disorders. 21 subjects without any sleep complaint were taken as the control group. The Pittsburgh sleep quality index (PSQI), Epworth sleepiness scale (ESS), Fatigue severity scale (FSS) and an overnight polysomnography were performed. BD activity, severity and QoL were evaluated in patients.

Results: PSQI, ESS and FSS scores were higher in patients. Prevalence of restless legs syndrome (RLS) (35.3%) and obstructive sleep apnoea syndrome (OSAS) with/without other sleep disorders (32.5%) were higher than in the general population. Only patients with RLS had higher FSS and worse QoL. Sleep efficiency index and sleep continuity index were lower and wake after sleep onset, respiratory disturbance index (RDI) and apnoe-hypopnoea index (AHI) were higher in patients. Neither sleep disorders nor polysomnographic parameters were related to disease activity. However, both OSAS and PLMS were related to severity scores.

Conclusions: In this study, RLS and OSAS were found to be common in patients. Therefore, it is important to question sleep disorders and if necessary perform polysomnography, in order to improve life quality and fatigue in BD.

P1737

THE DIAGNOSTIC IMPORTANCE OF POLYSOMNOGRAPHY IN CHILDREN WITH OBSTRUCTIVE SLEEP APNOEA SYNDROME

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Objectives: The syndrome of obstructive sleep apnoea (OSA) is a frequent, albeit under-diagnosed condition in children, which may lead to substantial morbidity if left untreated. The purpose of the present study was to investigate the night sleep structure in children with OSA using polysomnography (PSG) method.

Methods: 5 male children (mean age 8.0 years) with clinical manifestation of OSA were investigated. All children appeared to have tonsillar hypertrophy found by laryngological examination. All of them underwent a PSG. Sleep questionnaires were completed (with parents' comments) and the main sleep parameters were calculated in all cases.

Results: No paroxysmal, pathological activity during day routine EEG and sleep was found, neither locally nor diffusely in the children. However, significant changes were revealed in the structural organization of sleep. We found the night sleep organization with normal saturation and low desaturation indexes. In particular, the episodes of central (Central Apnoea - CA) and obstructive apnoea (OA) were observed with low indexes (CA Index 1,5-2,5; OA Index 0,2-0,6) in all cases, mainly plagued with EEG-Arousals, snore-arousals and LM-arousals.

Conclusions:

1. Investigation of night sleep by using PSG can help researchers to reveal variability of sleep architecture during the different clinical presentation of OSA in children.
2. PSG study in those children did not establish a clear relationship between tonsillar hypertrophy and frequency of apnoea episodes.
3. PSG can help sleep specialists in distinguishing OSA from benign snoring.

P1738

CYCLIC ALTERNATING PATTERN ANALYSIS IN PATIENTS WITH EPILEPSY AND PARASOMNIA

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Background: Central pattern generators form a common semiology in fronto-limbic seizures and parasomnias. The proper analysis of sleep integrated with Cyclic Alternating Pattern (CAP) analysis demonstrated the instability of NREM sleep in parasomniacs and also in nocturnal frontal lobe epilepsy (NFLE).

Patients and methods: We have performed entire night polysomnography with 16-channel EEG recording in consecutive 35 patients with NFLE and consecutive 35 patients with parasomnia in our Sleep Disorders Unit.

Results: The gender and mean age of patients with NFLE and parasomnia were similar. The total recording time, total sleep time, total NREM or REM duration, sleep period time, sleep onset, sleep efficiency, wakefulness after sleep onset, the duration or percentage of wakefulness, N1, N2 and REM sleep stages, respiratory disturbance index, and oxygen saturation levels were similar. The duration ($p=0.037$) and percentage ($p=0.041$) of N3 sleep stage were significantly higher parasomnia patients. The leg movements index was significantly higher in patients with NFLE ($p=0.027$). CAP analysis showed that the mean CAP cycle was higher in parasomnia patients ($p=0.042$). The frequency of A1 type in descending and through phases of sleep was higher in parasomnia patients ($p=0.038$), while the frequency of A2 type in ascending phase ($p=0.029$) and A3 type in descending phase ($p=0.026$) were higher in NFLE. The duration of B in descending and through phases was higher in parasomnia patients ($p=0.050$).

Conclusion: The presence of abnormal CAP and the differences in subtypes of its component are important in understanding of sleep and sleep-related disorders.

P1739

HYPERSOMNIA AND CELIAC DISEASE

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Introduction: Sleepiness is common and may result from a wide range of medical disorders. Celiac disease (CD) is an autoimmune disorder associated with the presence of Antigladin Antibody (AA). CD is also known to have neurological manifestations. We report two patients with central hypersomnia and CD.

Cases reports:

1) A 27-year-old woman with CD under a gluten-free diet, complained of excessive daytime sleepiness (EDS) with paroxysms during which she falls asleep without warning and occasional sleep onset dream enacting behaviour. Sleep and gastrointestinal complaints started simultaneously around the age of 20. Epworth Sleepiness Scale (ESS) scored 14. Full PSG (with 19 EEG channels) only showed sleep fragmentation and increased amount of slow wave sleep (SWS) (44.9%). There was significant clinical improvement under modafinil.

2) A 54-year-old woman complained of constant EDS with unrefreshing naps for more than 15 years. CD had been diagnosed one year before she was under a gluten-free diet. BMI was 26. She scored 11 on ESS. Full ambulatory PSG showed an increased amount of SWS (40.3%), RDI of 9.2/h and PLMS of 12.1/h. No REM sleep abnormalities. There was no improvement on CPAP.

Discussion: The association between CD and central hypersomnia may be casual. However, physiopathological links favour a causal relationship. Autoimmunity has been proposed as one of the probable mechanism of SNC lesion in CD. Moreover there are reports of antihypothalamus autoantibodies and hypothalamus-hypophysary axis dysfunction in CD patients. It is therefore possible that these patients are vulnerable to damage in central sleep regulatory centres.

P1740

ASSESSMENT OF P300 AUDITORY EVENT RELATED POTENTIALS IN OBSTRUCTIVE SLEEP APNOEA PATIENTS

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Background: Neurophysiological techniques have provided some of the most direct evidences for assessing central nervous system functions. Event related potentials (ERPs) have been widely used to investigate the mechanisms underlying cognitive functions. There is limited information in the literature concerning ERPs' duration in obstructive sleep apnoea (OSA) patients.

Aim: The aim of this study is to evaluate the cognitive function obstructive sleep apnoea and compare with control subjects.

Subjects and methods: The study comprised 18 male patients with obstructive sleep apnoea and 15 age-education- and sex-matched healthy controls. Patients and controls underwent electroencephalogram activity measurement from the electrode placed at the midline central (Cz) zone. ERPs were obtained. Latency measurements of the patients were compared with controls.

Results: P300 latencies which obtained from Cz electrode site were not statistically different ($p>0.05$) in obstructive sleep apnoea patients when compared with controls.

Conclusions: We were not able to demonstrate any electrophysiological evidence of cognitive impairment in patients with OSA.

P1741

EVALUATING SLEEP PROBLEMS IN THE GEORGIAN GENERAL POPULATION: A PILOT STUDY

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Introduction: In recent years, there has been a great interest in the epidemiology of insomnia. However, very little data are available on the prevalence of sleep problems and related resources by people with sleep complaints among Georgian population. This was the first study to evaluate sleep complaints/disturbances in the residents of Tbilisi, the capital city of Georgia.

Methods and participants: The participants were representative of the largest districts of Tbilisi. 501 respondents (90 males, 411 females) between the ages 18 and 78 years were included in the study. Individuals who reported moderate or severe difficulties at least three times per week over the preceding month were included in the analysis. We classified insomnia symptoms in terms of: difficulty initiating sleep (DIS), difficulty maintaining sleep (DMS) and non-restorative sleep (NRS).

Results: Of the participants, 150 (30 %) reported DIS and it was more prevalent among women (32%) than in men (22%), 85 (17%) complained of DMS, 85 (17%) reported early awakening, 38 (8%) complained of not getting enough sleep and 125 (25%) reported NRS. Insomnia was diagnosed in 30 (6%) of the total sample, and female gender was found to be a significant predictor of insomnia. It was noted that 32% awaked at 6-8pm and 52% - at 08:00-10:30pm; 10% spent at least 30 minutes in bed after awakening.

Conclusion: The results of the present work indicate the necessity to continue a longitudinal study on the epidemiology of insomnia in Georgian general population in relation to different comorbid medical conditions.

P1742

DEMOGRAPHIC, CLINICAL AND POLYSOMNOGRAPHIC FEATURES IN PATIENTS WITH NARCOLEPSY: AN EXPERIENCE OF 181 NARCOLEPTICS FROM A TURKISH SLEEP CENTER

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Purpose: The present study was designed to describe the sociodemographic, clinical and polysomnographic features of patients diagnosed with Narcolepsy in our sleep center.

Methods: This retrospective cross-sectional study was conducted on 181 patients diagnosed with narcolepsy based on the clinical evaluation, polysomnography (PSG) and multiple sleep latency test (MSLT) between 1993 and 2009.

Results: Approximately 70% of the patients have had cataplexy and although being less than cataplexy, hallucinations (42.0%) and sleep paralysis (55.8%) were at high rates. Sleep efficiency was higher ($91.28 \pm 5.89\%$) in patients with narcolepsy, but they were waking up frequently during the night and percentages of deep sleep were low (stage 3; $5.12 \pm 3.08\%$, stage 4; $9.60 \pm 7.10\%$). When our study group was separated into two groups: 1) under the age of 30 (n=152) and 2) older (n=29), REM latency at PSG was lower ($t=2.96$, $p=0.004$) and sleep onset REM (SOREM) at MSLT was more ($t=2.56$, $p=0.011$) at the older 30 than the other group.

Conclusion: Cataplexy is seen in the majority of patients. REM latency is shorter in younger patients, but the number of SOREM at MSLT is higher.

P1743

EFFECTS OF STRESS AND SLEEP DEPRIVATION ON HUMAN POSTURAL CONTROL

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Background and aims: Fatigue accompanying sleep deprivation due to stressful conditions has become an issue of major concern in modern technological society. This study was designed to investigate the effects of sleep deprivation on postural control and to assess the efficacy of a short objective post-urographic test as an indicator of fatigue.

Methods: Postural sway using static post-urography, subjective fatigue assessment (Stanford Sleepiness Scale) and computerized dynamic post-urography (CDP) test were assessed in 30 healthy male subjects before and after 24h of sustained wakefulness.

Results: After sustained wakefulness, center-of-pressure sway showed a significant increase in spectral power at high frequencies. CDP test showed decreased vestibular ratio after sleep deprivation. Also it showed significant increase of latencies and slowed adaptations after sleep deprivation. Subjective fatigue assessment scores were also significantly increased.

Conclusions: The vestibular function appears to be affected by fatigue. The reduction of adaptation is likely related to slowed central postural reflexes. Fatigue caused by sleep deprivation can be objectively assessed by a short, non-invasive, postural test.

P1744

SUBJECTIVE SLEEP QUALITY IN PREMENSTRUAL SYNDROMEH.I. Ozisik Karaman¹, G. Tanriverdi², Y. Degirmenci¹¹Neurology, ²College of Nursing, Canakkale Onsekiz Mart University, Canakkale, Turkey

Premenstrual syndrome (PMS) is a cyclical disorder observed in late luteal phase. Sleep disorders such as insomnia and hypersomnia are symptoms of PMS. The aim of this study is to investigate the relationship between PMS and subjective sleep quality in the Medical Academy students, whom have considerable information about menstruation. "Premenstrual Syndrome Scale", which was developed by Gencdogan was used to detect the premenstrual syndrome. This scale consisted of 44 items with 9 subgroups. The score ranges were between 44 and 220 being the highest score. As the score gets higher, PMS is labelled as "severe". The cut-off point of this study was 102. Moreover, Pittsburgh Sleep Quality Index (PSQI) which was a valuable scale in sleep investigations including a structured questionnaire, was used to evaluate sleep quality. Data were organized in SPSS Version 15.0 database. Differences between the PMS and PSQI components were evaluated with ki-square test and Kendall's rank correlation analysis. Poor sleep quality was found in the 75.6% of the participants with PMS, and 58.8% of the participants without PMS, which was statistically significant ($p < 0.05$). When the median scores of PMS and PSQI components, only component 5 (Sleep disorder component) revealed a statistically significant difference (1.7 ± 0.6 in participants with PMS, and 1.5 ± 0.6 without PMS, $p < 0.05$). Association between total PSQI score and its' components; there was significant positive correlation between total PSQI score and all components, except component 6 (sleeping pill usage component). When the correlation co-efficient was evaluated, the strongest association was found to be in the component 5 ($r: 0.528$; $p = 0.0001$). This led us to consider that the strongest influence on total PSQI was due to component 5.

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CUTANEOUS SILENT PERIOD IN PATIENTS WITH OBSTRUCTIVE SLEEP APNOEAO. Öz¹, H. Akgün¹, M. Erdem², M. Yücel¹, F. Özgen², Z. Odabaşı¹¹Department of Neurology, ²Department of Psychiatry, Gulhane Military Medical Academy, Ankara, Turkey

Purpose: Cutaneous silent period (CSP) is an inhibitory spinal reflex and its afferents consist of A-Delta nerve fibres. The aim of this study was to evaluate CSP changes in obstructive sleep apnoea (OSA) patients with small fibre neuropathy.

Methods: 18 OSA patients and 15 healthy volunteers were included. CSP latency and duration of the upper extremities (recorded from abductor pollicis brevis muscle) were examined.

Results: CSP durations were significantly longer in OSA group (median: 55.25 min: 34.5 max: 96.25 versus median: 37.5 min: 31.5 max: 54.25) ($p < 0.001$) when compared to control group. No significant difference was observed between groups in CSP latencies ($p > 0.05$).

Conclusion: In this preliminary we could not demonstrate a small fibre neuropathy. Additionally, prolonged duration of CSP presented in this study maybe associated with central mechanisms attributed OSA.

P1746

SLEEP-RELATED EPILEPSY AND CHANGES OF DAYTIME VIGILITY AND SLEEP ARCHITECTURE

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Introduction: It is well known, that definite epileptic syndromes have specific linkage to certain parts of circadian rhythm. In clinical practise specific qualification as sleep-related epilepsy, epilepsies bound to awakening, or epilepsy with random occurrence of epileptic seizures is used.

Objective: Authors want to compare changes of daytime sleepiness and quality of sleep in patients with sleep-related epilepsy and epilepsy with predominantly daily epileptic seizures.

Methods: A group of 17 patients with night epilepsy and 83 patients with predominantly daytime epileptic seizures were evaluated. Daytime sleepiness and quality of sleep was investigated by questionnaire Epworth scale of sleepiness (ESS), Multiple sleep latency test (MSLT) and night polysomnography.

Results: Patients with night epilepsy have evaluated daytime sleepiness according to ESS and significantly less deep stages 3 and 4 of NREM sleep in comparison with patients with daytime epileptic seizures.

Conclusion: Patients with night epilepsy have significant changes in sleep architecture with unfavourable effects on daytime vigility and activities. Correct identification and treatment of sleep problems in epileptic patients may improve their quality of life.

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PULSE OXIMETRY AS A SCREENING METHOD FOR OBSTRUCTIVE SLEEP APNOEA

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Sleep apnoea is a common disorder that affects both children and adults. The most common form of sleep apnoea, called obstructive sleep apnoea (OSA), is caused by the partial or complete collapse of the upper airways. The aim of this work was to estimate the accuracy and reliability of a portable home pulse oximeter for the diagnosis of OSA. 65 patients (39 men, 26 women, mean age 53 ± 5.7 years) with snoring and/or daytime sleepiness were examined. All of them administered pulse oximeter for 2 nights at home for screening purposes. Polysomnography was performed in hospital facilities for diagnosis verification. Primary snoring without decrease in oxygen saturation was identified in 20 patients (31%, 13 men and 7 women). Severe OSA was identified in 15 patients (23%, 9 men, 6 women). Polysomnography was administered only to 9 of them and OSA diagnosis was confirmed in all 9 cases. 30 patients (46%, 17 men, 13 women) with snoring showed uncertain results, which were treated as light and mild forms of OSA. Polysomnography was administered to 18 of them and the diagnosis was confirmed in 11 patients (61%, 3 men, 2 women). The obtained results allow us to say that pulse oximetry is a valuable screening method for OSA with sensitivity of 100% and specificity of 61%.

P1748**KLEINE-LEVIN SYNDROME: A TUNISIAN CASE REPORT**

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Kleine-Levin Syndrome or KLS is a rare and complex pathology described first in 1925. This sleep disorder is characterized by recurrent periods of hypersomnia associated with cognitive and behavioural disturbances. We report the case of a 22-year-old adolescent with no past or family psychiatric illness, who presented to our department with complaints of excessive sleep. In fact, he experienced three episodes of respectively 15, 10 and 6 days each, relapsing every 6 to 9 months. So he was not able to attend university courses or care for himself. The onset of these episodes was insidious and the progression was gradual. Each episode was marked by hypersomnia with sleep lasting 15 to 21 hours per day, cognitive impairment described by the patient and his family as apathy, slowness and amnesia. In addition to that, the patient experienced hyperphagia and hypersexuality. In between episodes, he reported to be in perfect health with no evidence of behavioural or physical dysfunction. His physical examination including neurological evaluation was normal. Laboratory tests, EEG, brain imaging examination were normal. Diagnosis of KLS requires many laboratory investigations to exclude other neurological disorders. The etiology and pathophysiology of the KLS are unknown. The current concept is that the disease is caused by genetic predisposition combined with environmental factors. Treatments have been unproved to which medications are helpful as this condition is uncommon in clinical practice. The aim of this presentation is to report a case trying to illustrate the clinical expression of this complex sleep disorder.

P1749**MODULATION OF Na-K ATPase ACTIVITY OF RAT BRAIN SYNAPTOSOME BY NOREPINEPHRINE AND SEROTONIN**

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P1750**MODULATION OF PAIN AND SLEEP-WAKE REGULATION**

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