in delta power. The administration of zolpidem, compared with the responses produced by eszopiclone, resulted in shorter duration episodes of NREM sleep that arose at a longer latency; there was no change in delta power in conjunction with the administration of zolpidem. In addition, compared with zolpidem, lower doses of eszopiclone were required to induce the preceding effects.

Conclusions: We conclude that eszopiclone may have an advantage compared to zolpidem in producing homeostatic sleep on the basis of its ability to induce consolidated, long-duration episodes of NREM sleep. Since delta power has been suggested to reflect enhanced sleep-related memory and learning processes, we hypothesize that the increase in delta power that was induced by eszopiclone, which was not present following the administration of zolpidem, may facilitate memory and learning mechanisms during NREM sleep.

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P0199

Eszopiclone prevents apnea-induced programmed cell death (Apoptosis) in the forebrain and brainstem of guinea pigs

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Background and Aims: Hypoxia that occurs in conjunction with sleep-related breathing disorders, such as Obstructive Sleep Apnea, as well as processes associated with cerebral ischemia, have deleterious effects on the morphology and functioning of the hippocampus. In previous studies, we determined that a decrease in oxygenation produces neuroexcitotoxicity that eventuates in apoptosis, i.e., programmed cell death, that can be reduced by the activation of GABAergic processes.

Methods: In the present experiment, which was conducted in adult guinea pigs, in vivo, we examined the effects of the administration of eszopiclone, which is a hypnotic that activates various GABAA subunit receptors, on apoptosis in various CNS sites.

Results: Recurrent periods of apnea, which were induced for a period of 3-5 hours, produced significant apoptosis in various brain regions. Compared with control data, there was a highly statistically significant decrease in the number of apoptotic cells in the forebrain (hippocampus, amygdala, and prefrontal, cingulate, and insular cortices) and in the brainstem (e.g., dorsal raphe) in animals that were administered eszopiclone prior to the induction of recurrent apnea.

Conclusions: We conclude that eszopiclone is capable of providing neuroprotection for the degradative, apoptotic consequences of a decrease in oxygenation of cerebral tissue that arises as a consequence of disease and disorders that involve hypoxia or ischemia. We therefore suggest, in addition to its hypnotic effects, that eszopiclone produces neuroprotection for hypoxia-induced neurodegeneration in the forebrain as well as in the brainstem.

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P0200

Causes, day-time consequencies and treatment of insomnia in the Swiss population- The results of a survey

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Introduction: We showed previously that 31% of Swiss population (N=1002)suffers from insomnia(DSM-IV criteria) (Delini-Stula et al. 2007). We report here the results of the analysis of the causes, day-time consequences and treatments.

Method: An 80 items questionnaire was addressed (telephone interview)to a random sample of subjects of both sexes. The recorded responses were either transformed into numerical and categorical values or expressed in percentages of observations. The results were descriptively analyzed.

Results: The main causes of insomnia were classified into 6 categories: personal-, professional and financial problems, diseases, alcoholism and environmental factors. The most frequent were personal (32%) and professional (34%) problems. Only 1% of subjects reported financial worries as cause of insomnia. The most prominent day-time consequences were: fatigue (72%, $p<0.003$) reduced vitality (46%, $p<0.002$), irritability (54%, $p<0.001$) depressed mood (44%, p<002)and impaired cognition (44-51 %, $p<0.001$). 70% of insomnia subjects reported never to use any treatment. Only 40% of severe insomniacs used prescribed drugs. Also, of the whole population only 44% believed in the efficacy of the hypnotics, but 56% though that herbal products are effective.

Conclusion: In view of marked day-time consequences and obviously under-treatment, insomnia (defined by DSM-IV criteria) in Switzerland is a problem that needs more attention.

Reference:

[1] Delini-Stula A, R. Bischof and E. Holsboer-Trachsler, Somnologie, 11:193-201, 2007

P0201

Primary versus secondary chronic insomnia in primary care

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Background ans Aims: Chronic insomnia (ChI) is a common condition in Primary Care (PC). Regardless that it's often related to psychiatric morbidity it appears to be a strong predictor of future depression and a disabling disorder by itself. The aim of this study was to measure and compare clinical and psychiatric characteristics of both patients with primary ChI and secondary ChI.

Methods: A random sample of 225 subjects older than 18 years old, from 3 PC Centres of the area of Madrid (Spain) was interviewed using the Oviedo Sleep Questionnaire, a semi-structured interview for sleep disorders. The subjects completed the Patient Health Questionnaire. Data about medical conditions, drug treatments, days of work lost (last year) and use of health care services (last 3 months), were also collected. Psychiatric and clinical characteristics between groups (primary vs secondary ChI) were compared.

Results: 78 patients fulfilled criteria for ChI and 53 (67.9 %) of them were suffering from any psychiatric disorder (including subtreshold conditions). Patients with primary ChI compared to secondary insomnia patients had no significant differences in age, gender, use of health care resources and days of work lost. However, patients with secondary ChI compared to primary ChI had more somatic and depressive symptoms (U-Mann-Witney test; $p=0.002$ and $p<0.001$, respectively).

Conclussions: There is an important group of patients among PC attendees suffering primary ChI. Patients suffering primary ChI are

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comparable to patients with psychiatric disorders and insomnia in terms of days of work lost and use of health care resources.

P0202

Protective effect of Zolpidem against sleep deprivation- induced certain behavioral alterations and oxidative damage: Possible gabaergic mechanism

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Problem of sleep deprivation or inadequate sleep is seen more frequently now-days. Sleep loss or inadequate quality sleep is considered as health risk factor that contributes to the genesis of several disease processes. Sleep deprivation has recently been proposed to cause oxidative damage. In the present study, we investigated the possible involvement of GABAergic modulation in the protective effect of zolpidem against sleep deprivation-induced behavior alterations and oxidative damage in mice. 72-hr sleep deprivation caused anxiety like behavior, weight loss, impaired ambulatory activity and oxidative damage as indicated by increased lipid peroxidation, nitrite level and depletion of reduced glutathione and catalase activity as compared to naïve animals (placed on saw dust). Treatment with Zolpidem (5 mg/kg and 10 mg/kg, ip) significantly improved ambulatory activity, weight loss and antianxiety effect as compared to control (sleep deprived) $P<0.05$. Biochemically, Zolpidem treatment significantly restored depleted reduced glutathione, catalase activity, attenuated lipid peroxidation and nitrite level as compared to control (72-hr sleep-deprived) ($P<0.05$). A combination flumazenil (0.5 mg/kg) and picrotoxin (0.5 mg/kg) with lower dose of zolpidem (5 mg/kg) significantly antagonized the protective effect of zolpidem ($P<0.05$). However, combination of muscimol (0.05 mg/kg) with zolpidem (5 mg/kg, ip) potentiated protective effect of zolpidem which was significant as compared to their effect per se ($P<0.05$). Present study suggests that zolpidem might produce its protective effect by involving GABAergic system against sleep deprivation-induced behavior alterations and related oxidative damage.

P0203

Commorbidity between ADHD and sleep disorders in school children

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Objectives: Parents consulting the Psychology Department of the General Children's Hospital of Penteli about their children's concentrating difficulties often complain that they also present sleep problems, such as nightmares, somnambulism, difficulties to fall asleep etc. The aim of the present study is to examine the co-morbidity between ADHD and sleep disorders, as long as previous studies at our Department

Methods: The sample consisted of 173 children, who consulted the Department about the above problems, aged 6 to 14 (68,2% boys, 31,8% girls). Children were categorized into two groups: a) children diagnosed with ADHD b) children not diagnosed with ADHD. Parents were invited to completed the ADHD-IV scale, as well as the Aschenbach CBCL test. Children were submitted to BECK's Youth Inventory. In order to compare the two groups we used the t test.

Results: Considering parents and children's reports, it was found that co-morbidity between ADHD and sleeping difficulties does exist to a significant level. More precisely, children with hyperactivity, compulsiveness and concentrating difficulties also seemed to experience low quality of sleep. Co-morbidity between ADHD and sleep disorders was not found to be affected by sex, whereas age seemed to be an important factor.

Conclusions: A considerable percentage of children with ADHD was also found to present significant sleep disorders. It is also important to note that children presenting not the whole syndrome but some symptoms of ADHD, also tend to have sleep difficulties.

P0204

Evaluation of the HAM-D17 following eszopiclone treatment in patients with insomnia co-morbid with major depressive disorder or generalized anxiety disorder

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Introduction: Major Depressive Disorder (MDD) and generalized anxiety disorder (GAD) can coexist and patients may have insomnia marked by difficulty falling and/or staying asleep and potentially reduced quality of life (QoL). Eszopiclone has been shown to improve sleep in patients with insomnia comorbid with MDD or GAD. This analysis examined the effects of eszopiclone co-therapy on the HAM-D17 in these two patient populations.

Methods: Patients with insomnia comorbid with MDD and baseline HAM-D17>14 (excluding insomnia items; n=545) received morning fluoxetine and were randomized to nightly eszopiclone 3mg or placebo for 8 weeks. Patients with insomnia comorbid with GAD and screening MADRS≤20 (n=593) received daily escitalopram oxalate and were randomized to nightly eszopiclone 3mg or placebo for 8 weeks. Clinician-administered HAM-D17 was evaluated at baseline and Weeks 4 and 8 in both studies.

Results: Baseline HAM-D17 median scores were 22 and 15 in the MDD and GAD populations, respectively. Change from baseline HAM-D17 scores were significantly improved ($p<0.02$) with eszopiclone co-therapy at Weeks 4 (-10.0 ± 7.6) and 8 (-13.6 ± 7.7) relative to fluoxetine monotherapy (-8.4 ± 6.8 and -11.5 ± 7.1) in the MDD population. Similarly, change from baseline HAM-D17 scores in the GAD population were significantly improved ($p<0.002$) with eszopiclone co-therapy at Weeks 4 and 8 (-5.8 ± 4.9 and -6.7 ± 5.4) relative to escitalopram monotherapy (-4.3 ± 5.1 and -5.4 ± 5.6).

Conclusion: Treatment of insomnia with eszopiclone was associated with significant improvements in HAM-D17 scores relative to fluoxetine or escitalopram monotherapy in patients with insomnia comorbid with MDD or GAD, even after removal of insomnia items from the scale.

P0205

The sleep habits in children with cerebral palsy

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Purpose: Cerebral palsy (CP), a long-term disease, may change parents' attitude towards ill child and may cause certain differences in everyday functioning between children with CP and healthy persons

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