

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 GABA 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 consequences 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%,  $p < 0.002$ ) 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% thought 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 and 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 subthreshold 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).

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