

**P02.208****ANXIETY, HYPERVENTILATION AND CEREBRAL HYPOXIA: IS AEROBIC EXERCISE GOOD FOR YOUR BRAIN?**

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Panic disorder (PD), an anxiety disorder where panic attacks are frequent, has onset early in life and follows a chronic course. PD patients are known to chronically hyperventilate. Provocation studies using the pCO<sub>2</sub> challenge have led Klein<sup>1</sup> to propose that PD patients have a brain's suffocation alarm that is hypersensitive to fluctuations in pCO<sub>2</sub>. Thus PD patients tend to chronically hyperventilate in the attempt to keep pCO<sub>2</sub> low. However, hyperventilation induces systemic alkalosis, vasoconstriction and cerebral hypoxia, which explains the excess of EEG slow wave activity found in PD patients in the non-panic state<sup>2</sup>. Cerebral hypoxia seems to be involved in the chronic anxiety experienced by sufferers of chronic obstructive pulmonary diseases. By chronically hyperventilating, PD patients may be similarly exposed to cerebral hypoxia for extended intervals<sup>3</sup>. This may contribute to the chronicity of anxiety symptoms in patients with panic and other anxiety disorders who chronically hyperventilate. Cerebral hypoxia may also account for the proportion of these patients who respond poorly to pharmacological treatment. Aerobic exercise may help PD patients to resume normal ventilatory patterns, thereby reducing the adverse effects on the brain that may result from chronic hyperventilation. Exercise therapy may prove an adjunct treatment for anxiety disorders that is safe, has few contraindications, benefits patients' physical health and is relatively cheap to provide.

- (1) Klein DF (1993) False suffocation alarms, spontaneous panic, and related conditions. *Arch. Gen. Psychiat.* 50: 306–317
- (2) Dratcu L, Bond A (1998) Panic patients in the non-panic state: physiological and cognitive dysfunction. *Eur. Psychiat.* 13: 18–25.
- (3) Dratcu L (*in press*). Panic, hyperventilation and the perpetuation of anxiety. *Prog. Neuro-Psychopharmacol. & Biol. Psychiat.*

**P02.209****SERIAL SEXUAL OFFENDERS: BRAIN'S PREDISPOSITION**

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This study reports on aspects of morphologic (brain's) predisposition to serial sexual sadists by the methods of clinical and magnetic tomography (MT). 27 men manifesting serial sexual sadism (SSS), including 5 serial sexual killers, have been examined. These people's diagnostics included several diagnostic taxons (according to ICD-10) at a time. As a rule, one of these was "a personality disorder of the organic aetiology" (F07.0, F07.8), while the other was "a sexual preference disorder" (F65) in the form of sadism (F65.5), pedophilia (F65.4), exhibitionism of sadistic type (F65.21), multiple sexual preference disorders (F65.6) The MPT was carried out in 9 cases of observation MT signs of organic cerebral pathology were discovered with all the examined patients Among them there were: a) expansion of subarachnoid fissures in frontal, frontal-temporal, frontal-temporal-parietal portions of terminal brain in combination with the expansion of the interhemispheric fissure, expansion and/or flat contour of frontal and temporal grooves, impairment of terminal brain gray and white substance differentiation largely expressed in the frontal and temporal portions, by focal changes or cysts in the frontal portion or

islet pole; b) pathology of the transparent septum (displacement, deformation, cysts); c) moderate expansion of side ventricles of the brain, especially lateral ventricles; e) signs of inborn disraphia (hypoplasia of the main bone body, reduction of the front-and-back size of the back skull pit, significant growth in size of adventitious accessory nasal sinuses.

**P02.210****THE MENSTRUAL CYCLE PHASE AND THE THERAPEUTIC RESPONSE IN SCHIZOPHRENIC WOMEN**

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The low estrogen level is connected with the worsening of the psychotic symptoms in schizophrenic women. We tested the hypothesis that women admitted during their low-estrogen (low-E) phase require less neuroleptics (in CPZ equiv.) and shorter length of hospitalisation than women admitted during their high-estrogen (high-E) phase. The data were obtained from the records of 73 patients with schizophrenia hospitalised in the Prague Psychiatric Centre in 1997–1999. Twenty-two patients with irregular menstrual cycle, taking oral contraceptives and having insufficient data concerning neuroleptic treatment were excluded. The remaining 51 patients were divided into four groups according to their menstrual cycle phase at the admission and the type of neuroleptic treatment (typical versus atypical neuroleptics). No differences were found between the low-E (N = 27) and the high-E group (N = 24) when the type of treatment was ignored. In the low-E group, patients taking typical neuroleptics had lower daily dosage of neuroleptics (p = 0.0004), higher age (p = 0.016) and shorter length of hospitalisation than the patients taking atypical neuroleptics. In the patients taking typical neuroleptics, the low-E group had lower daily dosage (p = 0.0498) and they were older (p = 0.05) than the high-E group. In the patients taking atypical neuroleptics, the length of hospitalisation (p = 0.0006) was shorter in the high-E group than in the low-E group. Possible relations among estrogen levels, dopaminergic system, and types of neuroleptics are discussed.

**P02.211****BURNOUT AMONG HOSPITAL AND COMMUNITY-BASED MENTAL HEALTH STAFF**

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**Background:** The aim of the present study was to estimate the levels of burnout, depression, and satisfaction taken from life, in nurse staff of variant psychiatric settings and the possible differences between them.

**Method:** Maslach Burnout Inventory (MBI), Life Satisfaction Scale (LSS) and Zung Depression Scale (ZDS) were used to estimate 45 nurses. Nineteen of them were working in psychiatric hospital, 14 in shelter care facilities, and 12 were health visitors.

**Results:** The hole of the sample presented in MBI subscales: a) low levels of emotional exhaustion (EE) (18.46 SD ± 11.6), b) high levels of lack of personal achievements (PA) (34.7, SD ± 6.3), and c) moderate levels of depersonalization (DP) (6.8 SD ± 5.5). The mean score in the LSS was 103.2 (SD ± 8.8), and in the ZDS was 35.2 (SD ± 7.3). In 18% of the sample the score of ZDS was indicative of depressive symptoms (in 9% of the sample ZDS was indicative of major depressive disorder). Among the three

settings there were found no significant differences. EE presented significant positive correlation only with DP ( $p < 0.0001$ ) and DP significant negative correlation ( $p = 0.014$ ) with PA. Correlations between the ZDS and MBI subscales were all significant but the strength of the association was greatest with the EE subscale. The factors of age, family status, years of training, special psychiatric training, years of work as a nurse, years of work in the present setting, and number of changes of department, did not seem to effect the results.

**Conclusions:** The role of nurses in the care of mental patient has not been fully upgraded in Greece, because of some functioning problems of the therapeutic team in the psychiatric setting. In the present study, the community-based staff did not present higher levels of burnout, as reported by the international literature reports. It is possible that in our country the particularly ideologically charged importance of participation in such settings still plays a significant role.

### P02.212

#### EFFECTS OF CHILD HOMICIDE IN THE QUALITY OF MATERNAL CARE: A CASE REPORT

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The aim of the present study is to investigate the consequences of an offspring homicide of the past, in the present maternal care. A case of a mother with bipolar disorder who murdered her first child and attempted to murder her second one, while suffering a depressive phase of the illness, is presented here. Her marriage broke down and her ex-husband took the custody of her surviving child. At the present time, she is raising another child from her second marriage. Relations with her children, her husband, and the social environment are discussed. The question of compatibility of a mental illness with safe and adequate child raising is examined. Furthermore, risk factors for child homicide, as psychiatric history, maternal age, child's temperament and violent partner are reviewed.

### P02.213

#### TOPIRAMATE IN THE TREATMENT OF MANIA

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**Background:** Topiramate seems to be the most effective new antiepileptic drug in the treatment of chronic focal and secondarily generalized seizures. It blocks sodium and calcium channels and AMPA/kainate-gated ion channels, positively modulates GABA<sub>A</sub> receptors, and weakly inhibits carbonic anhydrase. Open label studies and case series describing the successful use of the drug as a treatment for bipolar disorder have been reported. The purpose of this study was to evaluate the efficacy of topiramate in the treatment of manic symptoms.

**Method:** Four patients with bipolar disorder I and the most recent episode manic, as well as one with mood disorder due to multiple sclerosis with manic features, were acutely admitted to our clinic, and were treated with topiramate. To the patient with the secondary mania topiramate, was added to the existing therapy with carbamazepine. The other patients received topiramate as monotherapy. Manic symptoms were being assessed by Bech and Rafaelsen Mania Scale (BRMS) and Clinical Global Impressions of Improvement Scale (CGI-I) every week for 3 to 12 weeks.

**Results:** The mean BRMS score declined from 24.2 (range 18–33) to 7 (range 0–12). According to CGI-I four patients showed a score 1 (marked improvement) or 2 (moderate improvement), and

one patient a score of 3 (minimum improvement). Mean topiramate dosage was 260 mg/day (range 150–450 mg/day). Three patients in the monotherapy group needed zuclopenthixol acutard 100 mg/48 hrs i.m. not more than 6 days and four supplementation with lorazepam due to psychomotor excitement. Anorexia and weight loss were adverse effects reported by two patients, whereas one of them finally dropped out.

**Conclusions:** These preliminary findings suggest a possible role for topiramate in the treatment of acute manic episodes. Larger controlled trials are needed to confirm the role of topiramate in treatment of bipolar disorder.

### P02.214

#### THERAPEUTIC EFFICACY AND METABOLIC PECULIARITIES IN PATIENTS WITH DEPRESSIVE DISORDERS UNDER TIANEPTINE (TIA) AND SERTRALINE (SER) TREATMENT

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The aim of investigation was to compare the therapeutic efficacy of TIA and SER in patients with depressive disorders with the dynamics of some biochemical parameters.

**Methods:** Subjects of research were 43 patients (age 18–50 years) who fulfilled criteria for anxious depression (ICD-10, F3). 21 patients were treated with TIA (37.5–45 mg/day), 22- with SER (50–175 mg/day) for 2–4 weeks. Efficacy of treatment was evaluated by Hamilton Depressive, Hamilton Anxiety and Sheehan Patients Rated Anxiety Scales.

**Results and Conclusion:** Therapeutic efficacy of TIA and SER treatment was 61.9 and 68.1% respectively. In responders there were significant decrease of middle molecules (MM) level in plasma and increase (tendency) of albumin binding capacity (ABC) in serum under TIA and significant increase of MM level and decrease of ABC under SER treatments. In nonresponders there were found no regularity in biochemical changes. Thus, antidepressants with different mechanisms of action on serotonin metabolism exert in responders differently directed metabolic changes.

### P02.215

#### ADOLESCENTS AND SUICIDE ATTEMPTS

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**Objective:** To examine the psychosocial characteristics of all cases of suicide attempts that were referred to a community child and adolescent unit, during 1989–1998.

**Method:** Data from 28 cases of suicide attempts were evaluated for: age, sex, sociodemographic factors (socioeconomic status - SES, educational qualifications), childhood experiences (parental relationship, parental care, sexual abuse), recent traumatic life events, psychiatric morbidity, substance abuse, prior suicidal behavior (ideation, plans, threats), reference and compliance.

**Results:** The sample ( $n = 28$ ) represents 1.8% of all cases first time referred ( $n = 1545$ ). Sex: male ( $n = 10$ ) 35%, female ( $n = 18$ ) 65%, Age range: 12.4–18, Mean age: 15.2, SES: low 71.5%, medium 28.5%, Educational status: school failure 25%, drop outs 11%, Parental relationship: divorce 18%, family discord 35%, Poor parental care 25%, Sexual abuse 3.5%, Life events 43%, Psychiatric morbidity: depressive symptomatology 25%, neurotic-hysterical symptomatology 18%, Substance abuse 14%, Suicidal behavior