

**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