

adequate psychosocial support, and better coordination between infectious-diseases and substance-use clinic teams.

### P01.142

#### EEG OF RELATIVES OF SCHIZOPHRENICS: PECULIARITIES AND ASSOCIATIONS WITH COGNITIVE AND CT PARAMETERS

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The aim of the present study was to search for EEG parameters associated with genetic liability to schizophrenia. Absolute power values of EEG frequency bands of 148 first degree relatives of schizophrenics (100 parents, 48 sibs) were compared with those of 70 ICD-10 schizophrenics and 49 controls. As compared to controls, two relatives groups and the patients showed significantly higher mean power values of delta, theta, beta 1 and beta 2 activity in almost all sites during rest condition and while performing verbal and spatial tasks. In relatives, cognitive dysfunction was reflected by increased mean delta power of resting EEG in the left anterior and bilateral occipital regions and with a task-related increment in theta power over frontal areas. Topography of task-induced EEG changes suggested that genetic predisposition to schizophrenia might be associated with a deviation of interhemispheric balance, namely, with increased reactivity of the right hemisphere during mental arithmetic and verbal fluency tasks and increased reactivity of the left hemisphere during a spatial task. Relationships between EEG power values and 17 CT and 9 cognitive variables were studied in 25 schizophrenic families. In relatives, the analysis revealed significant correlations between memory performance and measures of alpha-power and the III ventricle. Preliminary data on association of alpha-power and serotonin receptor 2A gene polymorphism were obtained.

### P01.143

#### CHARACTERISTICS OF PATIENTS REGISTERED IN DATABASES OF THE CLOZAPINE MONITORING SYSTEM IN SLOVAKIA

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**Background:** The monitoring programme for patients treated with clozapine (Leponex) started in Slovakia in 1995. The databases allow to assess some characteristics which could be regionally specific.

**Method:** Data of 588 patients registered in databases up to March 2000 were analyzed with the aim to assess some characteristics of patients treated with clozapine in Slovakia. The age at onset of treatment, the dosage of clozapine, co-medication with other psychopharmacological agents and the reasons for withdrawal of clozapine are described here.

**Results:** The mean/median age of patients at the start of treatment was 31/28 years for men and 34/32 years for women. The mean/median of the maximum documented daily dose of clozapine in any period of treatment was 171/150 mg/day. 180 patients who were treated with clozapine more than 5 months used one or more other psychopharmacological drug alone or in combination (87 neuroleptics including 29 neuroleptics in depot form; 73 antidepressants; 68 anxiolytics/hypnotics; 21 mood stabilizers; 53 antiparkinsonics and 9 patients nootropics). The mean/median daily dose of clozapine in patients using another neuroleptic was 193/175 mg/day. Leukopenia/agranulocytosis was the reason for withdrawal of clozapine in 11 patients.

**Discussion:** The results reflect some specifics of the treatment with clozapine in Slovakia. The lower age at the start of treatment, lower dosage and frequent co-medication are typical. The probable reasons could be that clozapine was never withdrawn from the market in our country and that rules for pharmacological treatment common in EU and U.S.A. are not yet completely implemented into the daily practice in Slovakia.

### P01.144

#### DISTRIBUTION OF SEROTONIN TRANSPORTER GENE VARIANTS IN HUMAN POPULATIONS: A POSSIBLE TOOL FOR UNDERSTANDING SOME ASPECTS IN PSYCHIATRIC EPIDEMIOLOGY

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Prevalence of major psychiatric disorders is equally distributed among populations, what is considered an evidence for the existence of a genetic center dot component in the aetiology of these illnesses. It is unknown whether these genetic risk factors are the same or even if they have the same frequencies in all populations. A prior knowledge of both the current pattern of genetic diversity, and the evolutionary history of this diversity is necessary to answer such questions. Allelic distribution in different human populations for loci that show genetic variation with functional repercussion would be of interest for future studies (e.g. epidemiological) to determine the role of this kind of loci as possible disease risk factors. The serotonin transporter gene (SERT) is a particularly interesting candidate gene for involvement in neuropsychiatric disorders due to its role both in the regulation of serotonergic neurotransmission and in the mechanism of action of many psycho-drugs. In the past few years, there has been increasing evidence documenting association between the short (low activity) variant of a polymorphism located in the promoter region of SERT gene and major affective disorders. In the present study, we performed an accurate bibliographic search in order to investigate the distribution of allele frequencies for this polymorphism in different human populations.

Range of variation for short allele frequency in European-Caucasian populations was comprised between 39.4% and 50%. These frequencies significantly differ from those found in East Asian (70%–83%) and African (11.1%–35%) populations.

These data suggest a large potential for stratification in association studies, especially when samples come from heterogeneous populations. They also show the importance of population data to understand how genetic factors are involved in the origin of neuropsychiatric disorders.

### P01.145

#### AMYLOID BETA PEPTIDE 1–40 INFLUENCES A RECOGNITION SITE OF HEMICHOLINIUM-3 SENSITIVE CHOLINE CARRIERS AND THEIR PROTEOLYTIC DEGRADATION

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In recent years, great attention has been concentrated on the research of a role of different amyloid beta peptide (A $\beta$ ) fragments in the pathogenesis of Alzheimer disease. However, an important physiological role of soluble A $\beta$  as an endogenous cholinergic neuromodulator of the basal forebrain area is also suggested. Data in the literature indicate a marked time- and dose-dependent inhibition of the high-affinity choline uptake associated

with acetylcholine synthesis by various Abeta fragments. A more detailed analysis of the process has not been performed yet. Our experiments on hippocampal synaptosomes isolated from young adult male Wistar rats with (3H)hemicholinium-3, a selective and competitive inhibitor of the uptake, suggest a slight binding of Abeta 1–40 probably through tetrapeptide 25–28 to the recognition site of choline carriers. Phosphorylation increases the sensitivity of carriers to Abeta actions. The changes are predominantly connected with alterations in the activity of choline carriers. However, a small drop in their number probably via Abeta effects on G proteins and different phospholipases has been also found. The experiments with two plant cysteine proteases bromelain and papain, perspective supportive anti-inflammatory agents in Alzheimer disease therapy, indicate that Abeta-modified carrier protein is more sensitive to the proteolytic degradation *in vitro*. Moreover, the experiments with both proteases support an importance of the recognition site for mediating Abeta actions. This study firstly demonstrates the direct binding of nonaggregated Abeta 1–40 to choline carriers analogically to some membrane-bound receptors.

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#### P01.146

##### INTRATER RATER RELIABILITY OF THE CLINICAL GLOBAL IMPRESSIONS (CGI) SCALE IN SCHIZOPHRENIA AND DEPRESSION: RESULTS FROM A CHART REVIEW RELIABILITY STUDY

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**Background:** The Clinical Global Impressions (CGI) scale has been extensively used in psychiatric research since introduction in the 1970s as a global measure of illness severity (CGI-1) or treatment-related change (CGI-2). Surprisingly, no data on the interrater reliability of the CGI in patients with depressive or schizophrenic disorders could be found in the literature so far.

**Methods:** Case records of 16 patients with schizophrenic disorder and 14 patients with a depressive disorder (DSM-IV) were retrospectively analyzed independently by 3 raters (2 psychiatrists, 1 study nurse) using CGI-1 and CGI-2 (7-point scales). All available information from the case records was used to estimate illness severity at admission (CGI-1A) and discharge (CGI-1D); the global severity change was directly assessed by the CGI-2 item. Intraclass correlation coefficients (ICC) were calculated.

**Results:** 14 (47%) of 30 patients (age  $41 \pm 14$  years) were female. CGI scores showed high variability between the patients (CGI-1, range 1–7; CGI-2, range 1–5). The analyses revealed moderate ICC values of 0.59, 0.51, and 0.52 for CGI-1A, CGI-1D, and CGI-2, respectively. Comparable results emerged for schizophrenic and depressive patients.

**Conclusions:** The results suggest a more cautious interpretation of CGI scores. The limited interrater reliability could be due to the single-item measures and to the lack of clearly defined item descriptors. Generally, the design of the present reliability study seems appropriate. However, the retrospective procedure is not perfectly corresponding to clinical every-day practice. Further studies with larger samples are required.

#### P01.147

##### ANALYSIS OF SUICIDES COMMITTED IN PODGORICA DURING 1995–1999 PERIOD

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This paper analyzes suicides committed in Podgorica during the 1995–1999 period divided according to gender, age and the way these have been performed. In 1995 we have 28 suicides on 100000 habitants, and in next five years there is a fall in trend thus in 1999, there are 17.3 suicides on 100000. Comparing to 1989 when suicide rate was 7.89/100000, and 1991 rate which was 7.24/100000, we can notice that big social stresses (economic crisis, war in surrounding states) lead to a rise in rate of suicides so average rate for period of 1995–1999 is 24.02/100000 which puts Podgorica into area with high suicide rate. The ratio of men and women who committed suicide is 1.43:1. In Podgorica, in 1996 that ratio was 1:1.66 which tells us that women in Podgorica killed themselves much more than other women. The largest number of people who killed themselves are between 35 and 44 years old and that number is almost the same as for people who are older than 65. The way that people use to perform suicide is mostly by firearm 44.61% and hanging themselves 21.53% which is near to average numbers in the world. This research shows that there is significant rise in suicide rate, that women are more endangered from risk factors than men. As a conclusion, on the basis of cited literature, the authors lined up all moments which can explain why women are in high risk group in Montenegro and why they are prone to suicide.

#### P01.148

##### HYPOVITAMINOSIS E IN MAJOR DEPRESSION

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**Objective:** Immune function is altered in patients with major depression, and it is improved by ingestion of vitamin E. This study was designed to determine if vitamin E levels are changed in unmedicated depressive patients.

**Methods:** We studied 19 women suffering from their first depressive episode (DSM IV), and the same number of age, sex, and body mass index-matched healthy controls. Patients were assessed with SCAN interview and Hamilton scale. Vitamin E serum levels were determined by HPLC (Bio-Rad Laboratories). In addition, cortisol was measured by RIA (Coat-A-Count Cortisol DPC kit), and Interleukin-6 was assessed by an ELISA (BioSource International).

**Results:** Vitamin E serum levels were lower in depressive patients (mean: 597; s.d.: 242 ug/dl) than in healthy controls (996; 288) (t-test;  $p = 0.000$ ). Clinical severity, weight loss, and other clinical variables did not exert any effect over vitamin E levels. Cortisolemia was higher in patients (mean: 18.3; s.d.: 6.5 ug/dl) than in controls (mean: 13.2; s.d.: 4.8), but cortisol and interleukin-6 levels did not correlate with vitamin E levels.

**Conclusions:** Vitamin E levels are lowered in depression. Over-activity on the hypothalamic pituitary adrenal axis and interleukin activity does not seem to be responsible for this finding.