

## S52. New brain imaging technique in clinical practice

Chair: E. Ceskova (CZ), N.C. Andreasen (USA)

### S52.01

#### CEREBRAL MRI FINDINGS IN SCHIZOPHRENIA: A REVIEW OF THE EVIDENCE

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Cognitive dysfunctions have been reported to be a core feature of schizophrenic disorder, as they have been demonstrated since the first onset of psychiatric symptoms and do not parallel their drug-induced improvement. According to some authors, such dysfunctions may be part of the individual vulnerability to the disease. Further, their presence and severity may reduce the magnitude, persistence and generalization of the effects of several rehabilitative interventions focused on social abilities. In this framework, cognitive rehabilitative techniques are receiving increasing interest by clinicians and researchers.

A comprehensive, structured program including interventions on both cognitive and social disabilities has been developed by Brenner and coworkers, called Integrated Psychological Treatment (IPT).

A multicentric project, performed by 9 Psychiatric Units of Regione Lombardia with the Italian version of the IPT and aimed at assessing the effectiveness of the method on clinical, cognitive, and social functioning aspects of the disease in a two-year follow-up period will be described.

### S52.02

#### STRUCTURAL CHANGES IN FIRST-EPISODE SCHIZOPHRENIA

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**Background:** At University Department of Psychiatry in Brno we are involved in the long-term monitoring of biological markers. In our group of schizophrenic patients neuroanatomic markers belonged to the optimal predictors of treatment efficacy using discriminant analysis. We focused on the more homogenous first-episode schizophrenia group. We widened the markers range by MRI, enabling to judge each of the structures of temporal lobes.

**Design:** In first-episode schizophrenia in-patients (males), neuroanatomical (CT, MRI), biochemical (DST, prolactinemia), neurological (soft signs) and psychological markers were assessed. The psychic state was evaluated according to PANSS and CGI. MRI was also performed in a control group. The standard linear MRI parameters (concerning hippocampus) were compared between patients and the control group. The relation of MRI parameters to clinical ones and treatment response was evaluated. Because of the lack of the possibility to measure volumes of individual structures, the method of linear measurement of temporal structures in standard projection was used and the mean sizes were calculated.

**Results:** Statistically significant decrease of standard linear parameters was found in four parameters in hippocampal structures, particularly on the right side. Predictive capacity of MRI was evaluated by correlation analysis. None of the correlation coefficients was significant.

**Conclusions:** The absence of significant correlation means, that MRI provides a new information, which will contribute to our database when using multidimensional analysis. In this case every component has its own contribution.

### S52.03

#### PET STUDIES OF COGNITION AND EMOTION IN SCHIZOPHRENIA

N.C. Andreasen

No abstract was available at the time of printing.

### S52.04

#### FUNCTIONAL SPECT FINDINGS IN SCHIZOPHRENIA

S. Kasper

No abstract was available at the time of printing.

### S52.05

#### THE ROLE OF rCBF (99Tc HMPAO) MEASUREMENTS IN THE ASSESSMENT OF A PSYCHIATRIC PATIENT

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In the past decade, neuroimaging methods became tools of essential importance in detecting the activity of brain systems responsible for important elementary physiological processes (Kosslyn, 1997) and also in mapping the state of the brain associated with a psychiatric disease. However, the practical value of the easiest accessible method like SPECT in psychiatric practice is still to be agreed on. Unlike EEG some 50 years ago, that started as a research tool and turned out to be a useful instrument for noninvasive diagnosis in neurology and for psychiatric differential diagnosis, the role of SPECT may depend on the adherence to traditional psychiatric nosology based on the analysis of experience and behavior. The present psychiatric taxonomy need not provide adequate basis for systematic interpretation of the biological underpinnings of psychopathology. Findings of grossly different perfusion patterns tend to appear in psychiatric patients across diagnostic categories—the example is a decrease in frontotemporal r CBF or blood flow changes in basal ganglia. The question arise, whether these abnormalities are associated with dysfunctional metabolic state corresponding to diagnoses or to psychopathological symptoms or perhaps rather to symptom dimensions that cover phenomena with the same pattern of blood flow and similar clusters of manifest psychopathology, that runs under different names (e.g., negative symptoms, depression, inhibition) in the context of various diagnoses.

We want to present the SPECT r CBF patterns of 30 patients with the early schizophrenia and test the hypothesis that there is a pattern in these patients that has a robust association with indices of negative psychopathology and is not present in those with low scores of negative symptoms and factors of BPRS. We also want to search for characteristic patterns of rCBF acquired by SPECT evaluation of rCBF performed in a larger population (N = 120) patients with various psychiatric diagnoses and try to identify the characteristic clinical concomitants of frequent RCBF distribution patterns across diagnostic categories.