

**P28.08**

Serum antioxidant capacity in psychiatric, neurological and renal diseases

A. Rustembegovic<sup>1</sup>\*, G. Kroyer<sup>2</sup>, E. Sofic<sup>3</sup>. <sup>1</sup>*Anton Proksch Institute, Vienna*; <sup>2</sup>*Department of Food Chemistry and Technology, Technical University, Vienna, Austria*

<sup>3</sup>*Phytochemical and Neuroscience Laboratories, Tufts University, Department of Molecular and Cellular Toxicology, Harvard School of Public Health, Boston, MA, USA*

The role of free radicals in the pathogenesis and in the progression of many diseases has been often discussed, but has been not widely investigated. However, the total antioxidant capacity in the serum seems to be of great evidence.

Total antioxidant capacity was determined using oxygen radical absorbance capacity assay (ORAC) in serum of patients suffering with depression, paranoid psychose, Alzheimer's disease, anorexia nervosa, Parkinson's disease, Aids-encephalopathy, diabetic polyneuropathy (PNP), cardiomyopathy (CM), renal disease, and healthy individuals as controls.

The results showed that the total antioxidant capacity of serum decreased significantly ( $p < 0.05$ ) by 24, 20, 13, and 17% for anorexia nervosa, Aids-encephalopathy, PNP, and CM.

In serum of patients with renal disease significantly elevated antioxidant capacity was found.

The data indicated that increased oxidative stress can be involved in the pathogenesis of PNP and CM. Decrease of serum antioxidant capacity in patients with anorexia nervosa and Aids-encephalopathy are probably due primarily to malnutrition and secondly to insufficient antioxidant and immune system. In renal disease, the accumulation of urea in serum seems to be responsible for high antioxidant capacity.

**P29. Neurobiology (contd.)****P29.01**

A neuropsychological analysis of impaired reality testing

T. Ilonen<sup>1</sup>\*, T. Cannon<sup>2</sup>, T. Taiminen<sup>1</sup>, H. Karlsson<sup>1</sup>, H. Lauerma<sup>1</sup>, K.-M. Leinonen<sup>1</sup>, E. Wallenius<sup>1</sup>, J. Hietala<sup>1</sup>, R.K.R. Salokangas<sup>1</sup>. <sup>1</sup>*Department of Psychiatry, Turku University Central Hospital, 20520 Turku, Finland*

<sup>2</sup>*Department of Psychology, University of California, Los Angeles, USA*

Impaired reality testing as well as impaired performance on a range of neuropsychological tests implicating frontal or temporal lobe dysfunction plays an important role in patients with severe psychiatric disorders. We examined the relationship of impaired reality testing, as assessed by the Rorschach measures of perceptual inaccuracy and disordered thinking, with 1) neuropsychological measures of general cognitive competence, attention, executive function, and verbal and visual memory; and 2) MRI volumes of whole brain, cerebrospinal fluid, and frontal and temporal lobes. 58 first-episode patients, diagnosed according to DSM-IV as having schizophrenia or severe affective disorder, participated in this study. Perceptual inaccuracy correlated with poor performance on verbal memory, and thought disorder with poor performance on verbal IQ and visual reproduction. Both measures of reality testing correlated significantly with increased cerebrospinal fluid brain ratios in the sulcal regions of the cerebral cortex. Impaired reality testing implicate diffuse cerebral atrophy in patients with severe psychiatric disorders.

**P29.02**

Neuropsychological valuation of brain function in schizophrenia families

V. Orlova\*, N. Tsherbakova, T. Savina, N. Korsakova, I. Ermakov, L. Mikaelyan, T. Likhareva. *National Mental Health Research Center, Department of Endogenous Psychoses & Affective States, Moscow, Russia*

In order to estimate brain function by neuropsychological methods 216 subjects (59 schizophrenia patients, 109 parents, 25 siblings and 23 controls) were investigated. Neuropsychological methods of Louria's school were used. They included analysis of functional peculiarities of cortico-subcortical brain regions by parameters of audio-verbal and visual memory, praxis, gnosis, nominative speech function, attention, drawing. This report presents the data of brain function analysis in patients, siblings and parents by the global neuropsychological valuation, the last one taking into account strong interconnections between separate characteristics. The results showed pronounced abnormalities of studied functions in patients. Differences between patients and controls by the global neuropsychological valuation were significant. This valuation didn't discover significant differences in male and female patients. Neuropsychological valuation in parents was close to that in patients. Siblings took the middle position between patients and controls; however, brothers were closer to patients by the brain dysfunction than sisters. Discovering similar neuropsychological abnormalities in schizophrenia patients and their relatives may point at the possibility of their genetic determination and the importance of their future study as characteristics of predisposition to the disease.

**P29.03**

Cognitive and emotion processing deficits in early dementia

L. Fischer<sup>1</sup>\*, P. Calabrese<sup>1</sup>, E. Kalbe<sup>2</sup>, J. Kessler<sup>2</sup>. <sup>1</sup>*Department of Neurology, Faculty of Medicine, Ruhr-University, Bochum*; <sup>2</sup>*Max-Planck-Institute of Neurological Research, Cologne, Germany*

Beginning dementia remains often underdiagnosed, due to the symptom heterogeneity and variety (different aspects of memory impairment, behavioural disturbances, depression) as well as to inadequate neuropsychological tools, adopted in diagnostic routine. Although the Mini-Mental-State-Examination (MMSE), as a screening tool, is known to lack sensitivity and specificity and does only insufficiently take into account AD-specific deficits (e.g. working memory deficits, verbal fluency impairment), it remains widely and frequently used to diagnose early dementia.

DEMTECT, a new screening instrument, consists of 5 items (list-learning, verbal fluency, numerical transcoding, digit span backwards and delayed recall) which, in their arrangement, have shown to be highly specific and sensitive for beginning dementia (cf. poster presented by Kalbe et al. at this meeting).

We have correlated DEMTECT scores with MMSE results on global as well as on subitem basis in a population of 30 AD-patients and 30 VD-patients. Furthermore, the screening results were also compared against test results from other cognitive as well as emotional domains.

Our results confirm the overall superiority of DEMTECT profiles compared to MMSE-scores in the identification of early dementia. Moreover, although one might postulate different pathways involved primarily in cognitive and emotional information respectively, our results speak in favour of common factors with specific detrimental effects on emotional processing.