PLA2 inhibition activity and the severity of clinical aspects of Alzheimer's disease. Besides, in rat, the activity of PLA2 is required for memory retrieval and the inhibition of this activity in hippocampus was reported to impair memory acquisition. In mammalians, this important gene family is composed of >30 genes dispersed in throughout the genome in almost every chromosome. These genes code for a large number of proteins that can be divided into five main enzymatic subgroups. After screening for PLA2 genes expressed in the brain, using in silico databases, we investigated if these genes were modulated by memantine. For this wistar rats received memantine by gavage for a period of 30 days. After treatment the animals were sacrificed and mRNA samples of hippocampus and frontal cortex were used for quantification of Pla2 genes using qRT-PCR. The expression of specific Pla2 genes was significantly increased in both tissues evaluated. Our data does not prove that memantine has a direct effect over PLA2, however, we could demonstrate that PLA2 expression is activated after treatment with this drug. This information may be relevant to clarify its mechanism of action on both aspects: neuroprotection and reverse deficits in learning/memory.

P0342

Neuropsychological changes in patients after normothermic versus hypothermic CABG - randomized trial

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Aim: to assess changes in cognitive functioning of Coronary Artery Bypass Grafting patients including effect of hypothermia and normothermia.

Methods: Randomly selected normothermic (N, n=30) and hypothermic (H, n=21) patients were assessed 3-10 days before and 7-10 days after CABG using Bourdon Test, RAVLT, Tower of Hanoi Test, TMT: A&B, Benton Visual Retention Test, Digit Span, Digit Symbol, Verbal Fluency Test: Supermarket, Raven and Vocabulary Scales. Cognitive impairment rating (CIR) was defined as at least 1 SD scores deterioration, or change into worse category in at least 20% of tests.

Results: Cognitive impairment was observed in 10 out of 12 tests. Changes were significantly greater in H-group in immediate recall visual memory, visual-motor coordination and working memory and in N-group in immediate verbal recall. Regarding mean changes impairment of immediate visual memory were observed in 60% of patients, whereas impairment of delayed recall auditory-verbal memory, immediate verbal memory, psychomotor speed, visual perception, language, attention -in 20-30%. The changes were similar for both methods (p=0.465). In N-group deterioration was observed in 26.7%, improvement in 5% of measures; in H-group deterioration– 28.6%, improvement- 7%. On average deterioration of at least 1 category was observed in 3 of 11 tests. CIR was met in 64.7% of the whole sample. There was no significant differences between the methods according to this criterion (N- 60%; H- 71.4%).

Conclusions: CABG with extracorporeal circulation influences on cognitive functioning. Results suggest impairment in the field of coordinating complex cognitive processes rather than executive functions regardless of method used during CABG.

P0343

Investigation of the efficacy of Reminy (Galantamine) for treating speech pathology in children

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Objective: to investigate clinical efficacy and safety of Reminyl for treating children with speech pathology.

Method: 160 children at the age of 3-7 years with severe speech disorders and mental retardation, who had been found incurable because of the ineffectiveness of the previous treatment, were administered Reminyl. The Remynil treatment was conducted in courses in the age appropriate dosage (1-2mg).

The children were divided into two groups: the 1st group comprised 95 children with speech pathology without mental retardation. The 2nd group comprised 65 children with speech impediment and mental retardation. Prior and after the treatment all the children were evaluated for speech and cognitive development by computer electroencephalography, MRI, CT of the brain. The investigation of immune and cytokinetic status was also conducted.

Results: After three-four courses of treatment with an interval of 3 to 6 months 92% of the children were able to say separate words; their understanding of speech improved. Phrasal speech developed in 78% of the children. They all manifested the improvement of cognitive functions: visual perception, concentration, visual and auditory memory, and the operational component of cognition.

In 68 % of the children the results of computer electroencephalography revealed a considerable decrease of pathological disorders. When evaluating these disorders their clinical symptoms were taken into consideration. 29 % of the children manifested some positive dynamics in their condition. 3% of the children didn't manifest any significant changes.

Conclusions: The results of the study revealed high efficacy of Reminyl treatment of children with severe speech disorders.

P0344

Behavioral pharmacology of laboratory rats: 10 years of experience with place avoidance tasks

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Spatial orientation of laboratory animals is often considered as a model of human higher cognitive functions. Roughly ten years ago, a novel behavioral task, active allothetic place avoidance (AAPA), was designed in our laboratory and our efforts to intimately investigate this task date back to this time.

In this task, animals avoid an unmarked shock sector defined in a coordinate frame of experimental room while moving over a rotating arena. It was established that besides navigation with respect to a hidden place, the task requires cognitive coordination, usually explained as an ability to separate spatial stimuli from the environment into coherent representation of an arena and a room, and to select the room frame as the only relevant one for efficient navigation.

We studied the effects of specific receptor antagonists on the behavior of animals in this task and it was found that changes in spatial efficiency are often accompanied by alterations in overall locomotor activity. In this regard, the task has an advantage of simultaneous assessment of both place navigation and locomotor behavior. The analysis of locomotion was found to be important for exclusion of a more general impairment of animals after an experimental manipulation. The results suggest that at least in some cases, the changed locomotion and decreased spatial efficiency occur concurrently, but without a mutual causal relationship. The presentation will summarize the existing evidence about modulation of behavior in this spatial task.

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P0345

Effect of co-application of Alpha1-Adrenergic antagonist and D2 antagonist on locomotion and behavior of rats in a place avoidance task

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Study of a neurotransmitter substrate of spatial navigation is one of the most investigated topics in cognitive neurosciences. Active allothetic place avoidance (AAPA) task is a spatial behavioral paradigm allowing simultaneous assessment of changes in spatial behavior and locomotion of experimental animals. In the present study, we investigated the involvement of alpha1-adreneregic and dopamine D2 receptors in the locomotor activity and the spatial efficiency in the AAPA task. We administered specific receptor antagonists prazosin (1 and 2 mg/kg) and sulpiride (10 and 30 mg/kg) either separately, or co-applied them together. Results show that co-application of both drugs affects locomotion and behavior of rats at the doses, which cause minor or no impairments when injected independently. Such a potentiation of effect suggests that both types of receptors act synergistically to regulate the locomotion in the AAPA task. However future experiments are required to elucidate whether the behavioral deficit occurs as a result of decreased locomotion, or evolves as a stand - alone phenomenon. The presented experiments also support the usefulness of the AAPA task in the study of animal cognition.

P0346

Computerized training of working memory in adults with attention deficit/hyperactivity disorder and drug addiction

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Background and Aims: Attention Deficit/Hyperactivity Disorder (ADHD) is clearly over represented among patients with drug addiction. Deficits in working memory (WM) are thought to be of central importance for ADHD. Previous studies indicate that WM can be improved by training.

In this pilot study we have examined if training of WM in adult patients with ADHD and a history of severe drug abuse would be possible to apply in a clinical setting. In addition, we hypothesized that the training would improve WM in this group.

Patients and Methods: Subjects: Nine patients with ADHD and a history of drug abuse were recruited. The age range was 21-52. One patient was addicted to alcohol, one to cannabis and seven patients to amphetamine. All patients had been drug-free more than two months prior to inclusion. Outcome measures: WM was assessed using four different tasks. The Self Rating Scale (CFQ) was used to score symptoms of cognitive failures in daily life. Training procedure: The treatment consisted of performing WM tasks implemented in a computer program (RoboMemo®).

Results: Eight patients completed the treatment and remained drug-free during the training. There was a clear improvement in two WM test. Seven patients reported a subjective improvement as rated in CFQ.

Conclusion: This pilot study shows that computerized training of working memory can be performed in a clinical setting of adults with ADHD and drug addiction. The improvement support that patients with drug-addiction may have the same plasticity in the brain that non-addictive patients show.

P0347

Validation and normalisation data for the Stroop, TMT and N-back tests in the Polish population

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Neuropsychological assessment of prefrontal cortex activity included several tests: The Stroop Color Word Interference Test is a method for the assessment of verbal abilities, attention, verbal working memory and executive functions, whereas Trail Making Test measures psychomotor speed, the ability to shift strategy, executive functions and visuospatial working memory. The N-back Test measures visual working memory and visuomotor abilities. Normalization of these tests for Polish population has not been done so far. The goal of the study was exploratory analysis of possible associations between performance of the Stroop Color-Word Interference Test, Trail Making Test and N-back Test in healthy subjects and basic demographic features. The study included 200 healthy volunteers (100 male, 100 female), aged 18-60 (mean 32±10,6) years.

Results: Highly significant associations between age and performance on all tests was found. Additionally there was negative correlation between years of education and time of performance on the Stroop Test part A and also positive correlation between years of education and number of correct responses on the N-back Test.

Conclusion: Obtained result are consistent with the findings of other normative studies for these neuropsychological tests: Bulock et al., 1996, Ivnik et al 1996, Hays 1995, and Smith 1996.

Poster Session II: Psychogeriatrics

P0348

Tendencies in diagnosing and treatment of depression and anxiety disorders in elderly persons in Lithuania

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Depression and anxiety disorders are highly prevalent though underdiagnosed and under-treated in elderly population having negative impact on quality of life, health and length of living.

The goal of the study was to assess the tendencies in diagnosing and treatment of depression and anxiety disorders in elderly persons in Lithuania.

Methods: Study based on analysis of data derived from liaison psychiatry services provided by Psychiatry Clinic in somatic and surgery departments of Kaunas Medical University Clinic during the period June 1 – September 31 of 2007. All elderly patients (≥ 65 years) referred by their treating doctors underwent unstructured clinical examination of consultant psychiatrist and structured interview regarding previous contacts with psychiatrists and treatment with

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