persons might have an additional risk of higher plasma levels of arylamine drugs co-administered with fluoxetine.

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## P02.234

### BIPHASIC EFFECTS OF CANNABINOIDS ON LEUKOCYTE PHAGOCYTOSIS IN MICE

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A biphasic dose dependence of cannabinoid action has been suggested more than two decades ago (Paton W.D. & Pertwee R.G.: in: Marijuana, Academic Press, 1973, 287–333; Dewey W.L.: Pharmacol Rev, 1986, 38, 151–178). We have recently shown that very low doses of the endogenous cannabinoid anandamide counteract or cause the opposite effects of higher doses on behaviour and immune function of leukocyte phagocytosis (Šulcová A. et al.: Pharmacol Biochem Behav, 1998, 59 (2), 347–352). The present study investigated further the relationship between the changes of cannabinoid receptor (CB) activity and leukocyte phagocytosis. In vivo anandamide-induced effects on leukocyte phagocytosis (stimulation at the dose of 0.01 mg/kg and inhibition at the doses of 1.0 and 10.0 mg/kg) were compared with the effects of the synthetic CB receptor agonist HU-210 (0.01 or 0.1 or 0.5 mg/kg), and antagonist AM251 (0.5 or 2.5 or 7.5 mg/kg) Phagocytic activity of mouse leukocytes was measured in chemiluminescence (CL) assay using zymosan induction of phagocytosis and luminol potentiation of CL in vitro. Female mice of the inbred strain C57BL/10 (8 weeks old) were injected prior to the assay with one daily dose of either vehicle or drugs for 7 days. The assay takes place 2 h after the last dose given in blood samples withdrawn from the retro-orbital plexus of mouse in ether anaesthesia. CL was measured every 5th minute during 1 hour. CL curves were analyzed by multifactor analyses of variance: Tukey's honest significant differences test ($p < 0.05$). Cannabinoid HU-210 effects resemble those of anandamide while stimulating leukocyte phagocytosis at the lowest dose tested, and inhibiting it at the higher doses (significantly at the dose of 0.5 mg/kg). All three doses of CB receptor antagonist AM251 used significantly suppressed leukocyte phagocytosis. These results confirm that CB receptors which have been identified on leukocytes (Bouabala M. et al.: Eur J Biochem, 1993, 214, 173–180; Galiegue S. et al.: Eur J Biochem, 1995, 232, 54–61) are active in regulation of their phagocytic function and might be important for immune changes in cannabinoid users.

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## P02.235

### BIOLOGICAL MARKERS OF THE HYPERKINETIC SYNDROME IN CHILDREN OF AGE 6 TO 10 YEARS

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Based on our previous studies and references, we can conclude that the children of age 6–10 years suffering from the hyperkinetic syndrome reveal decreased serum levels of dopaminbetahydroxylase, which improve during the treatment by stimulants. The same changes were ascertained in patients with the unsocialized conduct disorder. The genes DBH (dopaminbetahydroxylase), DAT1 (dopamine transporter), DRD2 (dopamine D2 receptor) and DRD4 (dopamine D4 receptor) are counted among the most important, so called candidate genes. The NMR examination demonstrated changes in the size of basal ganglia, especially nucleus caudatus and striatum.

In the present study, results of clinical (Conners' scale, variant for parents), biochemical (serum DBH levels), genetic (occurrence of allele B1 of gene DBH and allele 480 of gene DAT1) and NMR (selected parameters) examinations were collected in children of age 6–10 years with the diagnosis of hyperkinetic syndrome according to DMS-IV. The results of mentioned examinations in untreated uncompensated patients were compared with those in the patients successfully treated with methylphenidate.

## P02.236

### ECG MAPPING WITH A VIEW TO ISCHEMIC CHANGES OF A MYOCARDIUM IN PATIENTS WITH A PANIC DISORDER

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In many previous studies, an increased risk of myocardial ischemic changes was demonstrated in patients treated for a panic disorder. Using classic ECG methods, the risk cannot be evaluated in most patients. Our study of 11 patients suffering from a panic disorder without any attacks and pharmacological treatment demonstrated up to this time unpublished changes when compared to the control group. The patients with a panic disorder showed a marked sinus tachycardia, changes of RIAM max., DIAM max. 30 and 40 parameters, less negative DIAM min. 40 and less RIAM max. 35 even in the period free of a panic attack. In patients with a panic disorder, both depolarisation and repolarisation phases of the heart rate were affected. Specific results were ascertained in the parameter RIAM min. 35. This parameter was more negative compared to normal values. An enlargement of the space angle QRS-STT, which is usually interpreted as a result of the myocardial global ischemia, was also determined. This finding could be connected with the predicted increased risk of the ischemic changes of the myocardium in patients with a panic disorder.

Our results will be compared with results of other study evaluating a larger group of patients and also with results of in advance examined patents treated with citalopram (SSRI antidepressant).

## P02.237

### MIRTAZAPINE: A QUICK AND EFFECTIVE TREATMENT IN PATIENTS WITH DEPRESSION-RELATED ANXIETY SYMPTOMS

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**Background to Study:** The aim of the study was to assess clinical efficacy and tolerability of mirtazapine in patients with depression-related anxiety.

**Design, Variables Studied:** Five-hundred-thirteen depressed patients with associated symptoms of anxiety were treated with mirtazapine for 3 months in an open-label study. Clinical efficacy was assessed after 2 and 9 weeks of treatment by the Clinical Global Impression (CGI) and the Hamilton Anxiety Scale (HAM-A). Tolerability was assessed by registering treatment-emergent adverse events. Only descriptive statistics have been used.

**Results:** Already in the first two weeks of treatment the magnitude of reduction of the anxiety score was very large and dropped with more than 7 points. Considering that at baseline the mean HAM-A score was 31.5 this improvement indicates a substantial reduction in anxiety symptoms. This was in agreement with the