restore reduced time spent near partition in the latter half of test in losers; furthermore, it provoked the fall of total and average time spent near partition in the latter half of test in control males, as usually takes place in anxious mice. The behavioral effect of diazepam was not connected with drug influence on testosterone level.

Conclusion: Diazepam exerts classical anxiolytic effects in behavioral tests of new situations, but not in tests including conspecific interactions. Neither test of social contacts with familiar and unfamiliar males, nor test of contacts with receptive female revealed anxiolytic properties of diazepam.

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P.3.007 Influence of the ACHT(4–10) analogue Semax on anxiety and analgesia induced by different stressors

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It is well known that melanocortins (ACHT/MSH-like peptides) have a wide spectrum of physiological activities. The peptides affect behaviour, learning and memory formation, cardiovascular system, food intake, inflammation and nociception, nerve regeneration and development. The heptapeptide Semax (MEHFPGP) is an analogue of ACTH(4–10) that has prolonged neurotropic activity in comparison to native peptide. Now this peptide is successfully used in treatment of patients with pathologies related to brain circulation dysfunction and with different intellectual-mnestic problems of CNS [1].

In the present study we investigate the influence of Semax on stress-induced analgesia and anxiety in white rats. It is well known that exposure of animals to any of a wide range of stressful situations can induce changes in exploration and motility and nociception. In the present work as stressful agents we used a forced swimming at 10 min (water t = 28°), immobilization stress at 3 hours and footshock stress at 10 min (stimulation for 10 sec every 30 sec, 200 Hz, 0.1 ms, 70 V). Semax was administered intraperitoneally at dose 0.5 mg/kg 5 min after stress. Behaviour was measured by using hole board test (20 min after stress termination). Pain sensitivity was measured by using Randall–Selitto paw-withdrawal test. All stressors used led to the decrease of exploration and motility of control rats. Semax administration significantly elevated the anxiety induced by forced swim and footshock. Semax administration had no effect on behavioural consequences of immobilization stress.

Stress-induced analgesia was observed after forced swim and immobilization stresses, but not after footshock stress. Semax administration significantly increased analgesia induced by forced swim, but did not influence analgesia induced by immobilization stress.

The data obtained allow to suggest that Semax effects on behavioural and noceceptive alteration depend on origin of stressors used.

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P.3.008 Ex vivo investigation of afobazole effect on H^3-diazepam binding by synaptoneurosomal membranes of inbred mice and rats

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Objective: The goal of this investigation was the analysis of H^3-diazepam binding by synaptosomal membranes of the brain of intact C57Bl/6 and Balb/c mice and MNRA and MR rats after emotional stress in the "open field" (OF) and after injection of afobazole at an anxiolytic dose.

Methods: For the analysis of binding we used the radioreceptor assay H^3-diazepam by synaptosomal membranes of the brain of intact mice C57131/6, Balb/c and rats MNRA, MR. Emotional stress was modelled in open field test. Afobazole (5-etoxy-2[2-(morpholino)ethylthio]benzimidazole dihydrochloride) was designed and developed at the State Zakusov Institute of Pharmacology RAMS. Results: The analysis of H3-diazepam binding by synaptosomal

membranes of the brain of intact C57Bl/6&Balb/c mice and MNRA&MR rats revealed no interstrain differences. Endogenic regulators of benzodiazepine receptor function GABA and NaCl stimulated H^3-diazepam binding in inbred mice. Interstrain differences in GABA effects were not revealed. However, after emotional stress in OF, the animals with passive phenotype of emotional stress reaction (ESR), Balb/c mice and MR rats, showed a sharp decrease in H^3-diazepam binding, endogenic regulation of receptor function was disorganized because neither GABA nor NaCl increased the binding of the labelled ligand. In animals with active ESR phenotype (C57Bl/6 mice and MNRA rats) no similar shifts in receptor function were detected.

After injection ex vivo 30 minutes before the experiment in OF, afobazole prevented the decrease in H^3-diazepam reception in Balb/c mice and MR rats, simultaneously restoring stimulating H^3-diazepam binding qualities of GABA and NaCl. Earlier in the experiment it was established that afobazole was able to decrease the production of active oxygen species in the cell-free system and in the suspension of activated macrophages. Thus, the results of the experiments show that the registered drop of benzodiazepine receptor activity in Balb/c mice and MR rats after emotional stress in the "open field" test may be caused by membrane changes, which can be prevented by a substance with membrane-stabilizing properties. Therefore, stress-induced decrease in benzodiazepine reception can be considered as a pharmacological target of the anxiolytic effect.

Conclusion: The results of these studies form the basis for interpretation of the interstrain differences observed in ESR and provide evidence for the selective anxiolytic effect of afobazole.

P.3.009 Anxiolytic properties of afobazole in comparison with diazepam

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Objective: The goal of this investigation was the comparison of psychopharmacological spectrum of action novel anxiolytic afobazole (5-etoxi-2[2-(morpholino)-ethylthio]benzimidazole dehydrochloride) and diazepam.

Methods: The standard psychopharmacological methods: "open field", "elevated plus-maze", Optovarimax and the conflict test were used. As experimental models two pairs of inbred strains were chosen: male mice C57Bl/6 and Balb/c, male rats MNRA and MR. All animals were habituated to the experimental room for two weeks. The housing conditions were: temperature = 22±2°C and 12 h light cycle.

Results: In the "open field" afobazole at the dose of 0.1–5.0 mg/kg stimulated the behavior of Balb/c mice and MR rats, not influencing C57Bl/6 mice and MNRA rats. In this test benzodiazepine tranquilizer diazepam at the dose of 1.0 mg/kg activated the behavior of Balb/c mice and MR rats and produced sedation in C57Bl/6 mice and MNRA rats. In the "elevated plus-maze" test afobazole induced an anxiolytic effect estimated by the time spent in open arms and by how many times Balb/c mice entered the open arms.

No evident influence upon C57Bl/6 mice was revealed. As in both tests the increase of movement activity was registered, it was necessary to exclude the direct psychostimulating effect of the drug. For this purpose experiments to determine the influence of afobazole upon spontaneous movement were conducted with the use of "Optovarimax" apparatus. Afobazole was not effective without emotional stress influence. In the conflict Vogel test afobazole induced an anxiolytic effect in MR rats, not influencing MNRA rats. With randomly bred rats in the Vogel test the anxiolytic effect of afobazole in doses ranging 0.5–10.0 mg/kg was also registered. Diazepam increased the number of punished responses in this test only at high doses of 1.0 and 2.0 mg/kg. Thus, afobazole evidently caused an anxiolytic effect in animals with a strongly pronounced reaction of fear, not influencing the behavior of animals with the active type of behavior under emotional stress.

Standard tests showed that afobazole had neither hypnosedative nor myorelaxant properties, nor does it cause dependence, memory impairments; did not potentiate the action of alcohol.

Conclusion: Thus, experimental data showed that afobazole meets the demands of a selective anxiolytic in the pharmacogenetic context of this definition.

P.3.010 The psychopharmacological analysis of Ladasten effects

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Background: Over the past years the posttraumatic stress disorders have been increasingly wide-spread. The psychopharmacological correction based on psychostimulating and anxiolytic effects in combination, is believed to be among possible approaches to its pharmacotherapy. Typical psychostimulants and tranquilizers are not as