had been stopped. In the present study, in an effort to define the reasons, the effect of the washing procedure was studied in platelets pretreated with 5-HT uptake inhibitors. Blood samples were donated by six adult male volunteers. First, a comparison was made by measuring parameters for 5-HT uptake in the platelet rich plasma (PRP) and that in the washed PRP in vitro. No significant changes were observed in Vmax or Km. Thereafter, the effect of the washing procedure was examined in platelets treated with different 5-HT uptake inhibitors in vitro. The minimum effect was seen in platelets treated by paroxetine or 6-nitro quipazine, while amoxapine, desipramine, trazodone, or zimelidine-treated platelets showed susceptibility to the procedure. Therefore, long-lasting binding seems to be proportionally related to the affinity for the 5-HT uptake site. This appears to be the reason why the residual effect in 5-HT uptake inhibition in the previous study.

90-99 Involvement of the frontal cortex in effect of low dose sulpiride

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Sulpiride (SLP) is a selective D2 receptor blocker. It is interesting to reveal the mode and action site of low dose SLP, because clinical studies have indicated that low dose SLP has antidepressant and anxiolytic effects. The aim of this animal study is to indicate behaviorally the implication of the frontal cortex in the action of low dose SLP.

Method: Unilateral ablation of frontal cortex produced mild contralateral methamphetamine (MAP)-induced rotation in rats 10 days after surgery. SLP (15 or 100 mg/kg) or haloperidol (HAL, 0.05 mg/kg) was treated 30 min before MAP (2.5 mg/kg) administration in these rats, and effects of these drugs on MAP-induced rotation were examined and compared.

Results: Low dose SLP reversed the direction of this MAP-induced rotation. On the other hand, high dose SLP or autoreceptor dose HAL prevented the MAP-induced rotation. The effect of low doses of SLP or HAL has been, so far, recognized as the result of the prominent blocking effect on presynaptic dopamine autoreceptor. But, in the present behavioral experimenal model, effect of low dose SLP was different from that of low dose HAL. These results suggest that low dose SLP has preferential blocking effect on D2 receptors in the frontal cortex. This effect of SLP may be involved in its clinical antidepressant or anxiolytic effect.

90-100 Immunobiological study of affective disorders

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The aim of the paper is to study the immune system activity and serotonin exchange in patients with depressive symptoms during fluoxetin therapy.

Methods: The 15 patients with affective disorders of psychogenic and endogenic character were examined. We determined 25 immune system parameters ($CD2^+$, $CD3^+$, $CD16^+$, $CD72^+$, antv HLA-Dr^+-lymphocytes), humoral immunity parameters, factors of nonspecific resistance and platelet and plasma serotonin content.

Results: The depression of cell mediated immunity and activation of humoral immunity in patients with depressive symptoms were found. That was shown by the decrease of the number of T-, B-lymphocytes leucocytes phagocytic activity, increase immunoglobulin G, M. The mean platelet serotonin content did not differ from that in the controls, but it an decreased in a half of the patients (about 500 ng/10^9 cell) and increased in another half (about 1500 ng/10^9 cell). The disbalance between lymphocyte subpopulations resulting from suppressors increase was seem against the background of high serotonin content. The 10th day of fluoxetin therapy showed a dramatic drop of cellular serotonin content (by 7.3 times). After 3 weeks clinical symptoms reduced, most parameters of cell-mediated immunity became normal.

90-101 Dissociation of glucocorticoid receptor with heat shock proteins after chronic variable stress in rat brain

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A dysregulation in negative feedback of the hypothalamus-pituitary-adrenal (HPA) system is observed in a major depression. Recent studies have postulated that tricyclic antidepressant treatment increases the glucocorticoid receptor (GR) in the brain and such a GR up-regulation normalizes the hyperactivity of HPA systems. The GR is associated with heat shock proteins (HSPs) containing HSP90, HSP70 and HSP56 as a functional complex. In this study, we have examined effects of chronic variable stress (CVS) on the assocciation of GR with HSP90 in rat brain using an immunoblotting procedure. CVS for 14 days increased both cytosolic GR and HSP90 in the hippocampus. The gel filtration chromatography of hippocampal cytosol after CVS demonstrated an increase in a monomeric GR (~90Kd) but not a GR complex (~300Kd), indicating CVS prevented a formation of GR-HSPs complex. It is suggested that the uncoupling of GR-HSPs complex might contribute to the HPA dysregulation in major depression. It is also proposed that the CVS could be an appropriate animal model for a disturbance in negative feedback control of HPA systems.

90-102 Antibodies to neurotransmitters serotonin and dopamine in experimental depressive syndrome

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Induction of antibodies (AB) to serotonin and dopamine in blood serum was demonstrated in a new rat model of experimental depression-like syndrome, induced by intraperitoneal injection of neurotoxin 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP, 20 mg/kg daily for 12 days). MPTP administration caused the decrease of the locomotor and investigatory activity, decrease of daily liquid consumption and lowering of preference for the saccharose solution over water. Prolongation of immobilization time in forced swimming test was observed as well. AB to serotonin were detected in 84% of MPTP-treated animals (mean level of AB was 1,7 conventional units). AB to dopamine were found in 58% of animals (1,5 conventional units). In blood serum of saline-treated animals AB to serotonin and dopamine were found in 20% and 22% of animals accordingly, the level of AB was significantly lower (1,3 conventional units). The level and frequency detection of AB to serotonin did not differ 2 and 3 weeks after MPTP withdrawal. In contrast the level and frequency detection of AB to dopamine were significantly reduced 3 weeks after the withdrawal. It is supposed that AB to serotonin and dopamine play an essential role in the mechanisms of depressive state development.

90-103 Seasonal change and affective disorder

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Recently foreign scholars find the certain relativity between affective disorder and seasonal change through clinical observation, put forward circadian rhythm-melatonin hypothesis by biochemical studies, cure patients of affective disorder with phototherapy clinically, and obtain certain therapeutical effect. By means of clinical analysis to the relation between 56 cases of affective disorder attack and seasonal change, the paper proves the internal relations surely exist between affective disorder Xattack and seasonal change. Mania attack is significantly higher in spring and summer (71.4%) than in fall and winter (28.6%), depressive attack is higher in fall and winter (63.4%) than in spring and summer (36.6%), which show there are clear relations between affective disorder attack and seasonal change, and support the circadian rhythm-melatonin hypothesis. In addition, this paper finds there are not gender differences between mania attack and depressive attack and seasonal change.

90-104 A study on the correlation of hormonal status with depression-anxiety in menopausal women

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The purpose of this study is to investigate the correlation between the hormonal status and depression and anxiety in menopausal women.

Methods: Among the women attending menopausal clinic, menopausal women, defined as who having a amenorrehea for more than 12 months, were selected as a study group (n = 83). The control group (n = 73), who visited to screen the cervix cancer with regular menstruation, had no history of hormone replacement therapy. Depression and anxiety were evaluated by Beck Depression Inventory (BDI) and State Trait Anxiety Inventory (STAI) respectively. The female hormones such as E2, FSH and LH were obtained by blood sampling at visiting clinic.