9TH MULTIDISCIPLINARY INTERNATIONAL
Conference of Biological Psychiatry

«Stress and Behavior»

Proceedings of the 9th International Multidisciplinary Conference «Stress and behavior»
Saint-Petersburg, Russia, 16–19 May 2005
Editor: Allan V. Kalueff, PhD

CONFERENCE ABSTRACTS

5. PSYCHONEUROIMMUNOLOGY

CLINICAL AND BIOCHEMICAL CHARACTERISTICS OF THE PATIENTS WITH PSYCHOGENIC DEPRESSIVE DISORDERS

V.A. Zhabiantsiayeu
Vitebsk State Medical University, Belarus

It is important to study psycogenic depressive disorders due to their increasing distribution and clinical variability. One of significant aspects of psychosomatic relationships is the link between psychological states and lipid peroxidation indices (LPI) and antioxidant system state (Kovalev Yu.V., 2003). Psychoemotional overloads are connected with activisation of lipid peroxidation with usage of endogenic and exogenic antioxidants (Alexandrovsky Yu.A. et al., 1991). The consequences of psycoemotional stress are partially connected with nitric oxide (Garthwaite J., 1995). Assuming the material listed above, it is possible to foresee correlations between LPI, NO terminal metabolic products and clinical psychological state in patients with psychogenic nonpsychotic depressions. Thus, the aim of present study is the investigation of lipid peroxidation products concentration, NO terminal metabolic products concentration, and antioxidative activity of blood serum in patients with psychogenic depressions comparing with healthy people.

Methods. In Vitebsk Regional Psychiatric hospital, Central Scientific Investigation Laboratory and Psycophysiological adaptation Center of Vitebsk Medical University, 54 patients with depressive reactions provoked by psycoemotional stress, but without somatic pathology, were assessed. The control group consists of 42 healthy volunteers. Members of experimental and control group have the similar distribution in age and sex. The clinical evaluation was based on clinical-psychopathological method considering criteria of ICD-1. For additional evaluation of depression structure, expression and dynamics of patient state the 21-point depression scale of Hamilton was used. The following methods were used for evaluation of lipid peroxidation: detection of malonic dialdehyde — modificated by test with tiobarbitutic acid, general antioxidative activity of blood plasma in the model of egg lecithin. The intensity of basal NO formation was detected by evaluating products of its degradation (NO_2/NO_3) in the blood plasma. The general concentration of nitrates and nitrites was evaluated by Griss method. The conversion of nitrates to nitrites was performed by metallic zinc, cultivated in ammonium complex of cuprum sulphate. The biochemical investigation was performed on 2nd day of hospitalization. The fasting blood was taken from vena cubitalis at 8:00AM. The results were analyzed statistically by Student test and ANOVA.

Results and discussion. While clinical analysis the all cases of psychogenic depression were systematized into three groups. The system mentioned as working hypothesis. The first group (12 patients) counted patients with clinical picture corresponding to criteria of depressive reactions of adjustment disorders. The clinical symptoms of such patients were characterized by unstable symptoms of depressive reaction with the level lower than in depressive episode. The second group (10 patients) counted patients with clinical picture of lingering subsyndromal symptomatic depressions (Judd et al., 1994). Their differences from adjustment disorders are in stability of depressive symptoms with the level lower than in depressive episode. The clinical feature of such depressions is that the complex of symptoms is behind the languor, anergy, hypohedonia, fixation on different somatic feelings, which are on foreground. The third group (32 patients) counted patients with clinical picture of light or moderate depressive episode. They was followed by depressions in which reactive complex of symptoms was complicated by other symptoms of

depression. It is clear from the data of biochemical analyses that more severe form of depression (light or moderate depressive episode) corresponds with more sever changes in system of lipid peroxidation. Level of malonic dialdehyde of blood plasma is 134.98 ± 21.1) vs controls (88.64 ± 28.2).We observed weakening of general antioxidative activity of blood plasma (34.07 ± 11.8) vs. controls (46.01 ± 12.3). Depressive reactions of adjustment disorders (1 group) have statistically more malonic dialdehyde (138.53 ± 21.7). However, due to short and transient pattern of these disorders it is not results in antioxidative systems failure in compare with control group. The 1st and 3rd groups have statistically proved decreasing of NO degradation products. It seems that psychological disadaptation exists together with failure of blood vessels tonus regulation. We were unable to find statistically proved differences in the 2nd group in compare with control group. Assuming this, we can suggest that there is pathological adaptation to stress factors with formation of stable, lightly expressed symptoms incorporating to personality structure (pathological development of personality).

Conclusion. The lipid peroxidation activation with active usage of endogenic and exogenic antioxidants is observed in patients with depressive reactions of adjustment disorders and depressive episode. It results in decreasing of antioxidative activity of blood plasma and NO degradation products concentration in patients with more severe symptoms (depressive episode). The patients with subsindromic symptomatic depression were similar to the control group.