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Introduction: Suicide is a major cause of disability and mortality.

Aims: Examine the role of neurobiological factors of suicidal behavior, including neurotransmitter and neurohormonal systems, which include the metabolism of biogenic amines.

Objectives: 55 patients aged 17 - 35 years of both sexes (58 men and 97 women) who have committed suicide

Methods: Clinical examination, biochemical and immunogenetical methods.

Results: Found that their violation and imbalance, namely increased concentrations of serotonin in the blood ($2,39 \pm 0,24$ mmol / l) reduction in plasma melatonin ($0,71 \pm 0,07$ mmol / l) and decreased excretion rate of adrenaline and noradrenaline at night ($0,39 \pm 0,06$ and $1,21 \pm 0,25$ mmol / h) and daytime periods ($1,66 \pm 0,26$ and $4,56 \pm 0,86$ mmol / h), creates neurohormonal background for the development of psychopathological conditions that lead to suicidal intentions and actions.

Conclusions: Patients with specified neurobiological changes have been unable to get out of the long conflict through active variant of overcoming conflict and completed suicidal acts. According to the results of biomedical research, with to appropriate correction is differentiated use of natural biogenic stimulants, herbal antidepressants that selectively affect the turnover of serotonin, melatonin, or drugs that stimulate the function of epiphysis.