

# PREMORBID FEATURES OF PATIENTS WITH PARANOID SCHIZOPHRENIA WITH CONCOMITANT CEREBRAL HEMODYNAMIC DISORDERS

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**Abstract.** *The premorbid period of schizophrenia is caused by various factors and can be considered as one of the most important periods of the patient's life, which affects the further course of schizophrenia and adaptive capabilities, which in turn indicates that the features of the premorbid period also affect the ability of patients with schizophrenia to form therapeutic compliance. The aim of the study was to study the premorbid features of patients with paranoid schizophrenia with cerebral hemodynamic disorders. It should be concluded that ontogenetic biological factors, hereditary burden, cognitive disorders, characterological personal characteristics are risk factors for the development of cerebral vascular dystonia in patients with paranoid schizophrenia.*

**Keywords:** *paranoid schizophrenia, concomitant cerebral hemodynamic disorders, premorbid features*

## I. RELEVANCE

In clinical studies, the similarity of pathogenetic mechanisms and risk factors in chronic mental and associated somatic diseases was revealed. Thus, a number of authors consider the comorbidity of schizophrenia and arterial hypertension as pathogenetically caused [1, 4]. In recent years, there has been a high comorbidity of schizophrenia and somatic diseases, the most frequent of which are arterial hypertension, hyperlipidemia and diabetes mellitus, diseases of the gastrointestinal tract, and for some of them, such as HIV, pregnancy and childbirth complications, cardiovascular diseases, obesity, and thyroid dysfunction, there is a qualitative evidence base based on population studies [2, 3, 5].

Despite a significant number of studies, there is still much that is controversial and unclear about the mutual influence of schizophrenia and somatic diseases when combined. The need for accurate knowledge of the prevalence of certain somatic diseases among patients with schizophrenia, the features of their course and outcomes, as well as the causes of death is caused primarily by the fact that the vast majority of these patients die from intercurrent somatic pathological processes [8]. The study of somatic diseases in patients with schizophrenia has become particularly relevant in recent years due to the widespread use of modern antipsychotic drugs, whose metabolic side effects lead to an increase in the frequency of cardiovascular diseases, hypertension, and diabetes [11,12,16]. In addition, life expectancy in patients with schizophrenia is 20% shorter, and mortality from cardiovascular disease is 6 to 7 times more common than in the General population [14,18].

Recent studies have shown that many forms of chronic diseases have similar pathogenetic mechanisms and related risk factors for the development and progression of

diseases [6, 9]. The role of structural deficiency of the Central nervous system in the development of a number of psychotic, especially hallucinatory, disorders in patients with schizophrenia is proved [7, 13,17]. In such cases, the affected organ is more likely to have vascular tone disorders. Vascular dystonia is caused by both structural deficits in the affected organ, and clinically "mute" structural abnormalities in other organs and systems, as well as increased "sensitivity" to psychotraumatic factors, inherent mainly in early childhood [10].

The premorbid period of schizophrenia is caused by various factors and can be considered as one of the most important periods of the patient's life, which affects the further course of schizophrenia and adaptive capabilities, which in turn indicates that the features of the premorbid period also affect the ability of patients with schizophrenia to form therapeutic compliance.

The aim of the study was to study the premorbid features of patients with paranoid schizophrenia with cerebral hemodynamic disorders.

## II. MATERIAL AND METHODS

The study was conducted on the basis of the Tashkent city clinical psychiatric hospital. To implement the research goal, the following materials were used: data from clinical and psychopathological and neurophysiological studies of patients with paranoid schizophrenia who were re-hospitalized in a psychiatric hospital for an exacerbation of psychotic symptoms; information obtained from medical documentation (medical histories and outpatient records) - anamnestic data, the results of additional methods of examination. Patients were selected from a group of patients who were on repeated inpatient treatment with diagnoses: "Paranoid schizophrenia, continuous type of course" (F20. 00) and "Paranoid schizophrenia, episodic with increasing defect type of course" (F20.01). Clinical verification of the diagnosis was carried out using data from inpatient examination and observation, archival medical documentation and scientific documents. We examined individuals aged 20-50 years with a disease duration of at least two years. The study did not include patients with group 1 disability, incapacitated patients, as well as involuntarily hospitalized in a psychiatric hospital. The study excluded patients who were diagnosed with paranoid schizophrenia before they reached the age of 18, as well as patients with a malignant or sluggish course of the disease. A total of 68 patients (31 (45.6%) men and 37 (54.4%) women) were included in the study. The average age at the time of the study was  $44.0 \pm 1.3$  years, at the time of diagnosis -  $32.7 \pm 1.3$  years. We formed two groups of patients: the main 35 people (patients with the diagnosis of "paranoid schizophrenia" and concomitant somatic diseases) and the comparison group - 33 people (patients with paranoid schizophrenia without comorbid pathology). Patients were divided into three age groups: 18-25 years, 26-35 years, 36-45 years and older. In both groups, especially in the comparison group, there was a clear predominance of patients aged 26-35 years. Thus, at the age of 18-25 years, 11 (31.4%) and 9 (27.3%), 26-35 years – 15 (42.8%) and 16 (48.5%), 36-45 years – 9 (25.8%) and 8 (24.2%) patients of the main and c comparison groups, respectively. The transcranial study of cerebral hemodynamics in patients of the main group with cerebral hemodynamic disorders in paranoid schizophrenia revealed signs of cerebral vascular dystonia with impaired indicators of cerebral hemodynamics (slowing of the pulse systolic and final diastolic blood flow rate, as well as an increase in the index of peripheral vascular resistance in the anterior, middle and posterior arteries of the brain).

Almost half of all patients had a short duration of the disease (less than one year). There were also no statistically significant differences between the groups based on this indicator. The age of manifestation of the disease was determined separately. There were also no statistically significant differences between the groups based on this indicator.

The main and comparison groups were dominated by patients who developed manifest psychosis in the age range of 20-40 years. The average age of manifestation of the disease is  $32.06 \pm 9.92$  years. These data are consistent with most studies of the manifestation of schizophrenic spectrum psychoses.

Main research methods: clinical-psychopathological, clinical-catamnestic, clinical-dynamic, statistical. SOMATO-neurological and other studies necessary for an objective assessment of the condition of patients in different periods of the disease were used as additional ones.

The clinical and psychopathological method was used in the process of classical interviewing patients and their relatives and included a subjective assessment of the mental status of patients, collecting detailed anamnestic information from the words of the patient and his immediate environment and compiling a detailed anamnesis on this basis using additional data from archived medical histories and statements from other hospitals. Qualification of the mental status at the time of admission and in dynamics was carried out during the initial examination and in the process of further curation of patients.

The psychometric method was used to unify clinical data and conduct parametric studies. Applied the most recognized to date, psychometric rating scales of positive and negative syndromes of schizophrenia PANSS (S. P. Kay et al.). The PANSS scale made it possible to conduct a standardized assessment of various vectors of psychopathological symptoms of schizophrenia, determine the clinical profile of the patient and track the dynamics of the condition during therapy.

### III. RESULT AND DISCUSSION

The study of factors immediately preceding the onset of the disease was an important point of our research.

Biological harms were found in mothers of patients with paranoid schizophrenia, as well as in the subjects themselves. Statistically significant were differences in the frequency of gestosis in mothers of patients in the first half of pregnancy (13 – 37.1% in the main group and 6-18,2% in the comparison group), colds at any time of pregnancy (24-68,6% in the main group and 14-42,4% in the comparison group), obstetric complications of the delivery period (15-42,8% in the main group and 8-24,2% in the comparison group), as well as somatic diseases in patients themselves who preceded the manifestation of the disease (18 – 51.4% in the main group and 12 – 36.4% in the group of patients). These results suggest that biological risk factors are associated with the development of signs of cerebral insufficiency in patients with paranoid schizophrenia.

The burden of mental illness in the patient's relatives is not only a predisposing factor in the development of schizophrenia, but also a factor that worsens adaptation, since it contributes to disorders in the parent (nuclear) family of the patient and the formation of unfavorable types of upbringing. When identifying mental disorders in relatives of the examined patients, the types of schizophrenic disorders were not taken into account, since it was not possible to reliably confirm the oral information received from patients with medical documentation.

According to the degree of hereditary burden all patients were divided into 3 groups: "heredity is burdened by one or both lines", "heredity is not burdened", and "data on burdened heredity are absent or ambiguous" (table 1).

Table 1: Hereditary burden

Hereditary	Main group (n=35)	Comparison group (n=33)
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	Aбс.	%	Aбс.	%
Burdened by one or both lines	20	57,2	18	54,5
Data on burdened heredity are absent or ambiguous	4	11,4	5	15,2
Heredity is not burdened	11	31,4	10	30,3

As can be seen from the table, the hereditary burden in the main group and the comparison group was the same (57.2% and 54.5%, respectively).

Disorders of memory and attention to treat the cognitive disorders of organic nature and are associated mainly with biological hazards peri - and postnatal periods, whereas various disorders of associative process, in particular reducing the level of generalization and abstraction, leading to an overall reduction of the conceptual level are predominantly functional origin, arising, as a rule, the result of disharmonic infantilism at school age (table.2).

Table 2: Features of cognitive disorders

Cognitive disorders		Main group	Comparison group	Total
Indicators of cognitive deficit according to experimental psychological research	memory disorders	12,7%	10,3%	11,9%
	attention disorders (exhaustion)	15,0%	11,2%	13,8%
	the decrease in the level of generalization and abstraction, the General decline of the conceptual level	39,9%*	19,6%	33,1%

Note: \* significant differences between groups of patients suffering from schizophrenia without comorbid pathology and patients with schizophrenia with concomitant somatic pathology ( $p < 0.05$ )

Thus, the study showed a greater representation of cognitive disorders among patients who subsequently had a tendency to develop comorbid somatic pathology in the presence of endogenous disease, compared with the comparison group. At the same time, it should be borne in mind that the cognitive disorders found in patients during the study could have other origins - various exogenous organic and somatogenic factors that affected during life.

The clinical and descriptive method was used to study the characterological features of the examined patients. Comparison with the comparison group showed the predominance of epileptoid, psychasthenic, paranoid, hysterical and cycloid character traits in the premorbid patients of the main group. Each of the noted variants of personal premorbid in the conditions of comorbid pathology, which decompensates the "weak" places of the corresponding Constitution, was an additional "ground" for the formation of stable, difficult-to-correlate conclusions (more often of a persecutive content). In other words, the marked variants of the

personal Constitution predisposed to a paranoid reaction. The further the personal profile was from the harmonious one, that is, the more exaggerated and total were the personal manifestations of a particular Constitution. Table 3 shows the proportion of accentuated and psychopathic character traits at the pre-manifest stage of patients in the main group and the comparison group.

Table 3: The degree of severity of personal disharmony before the manifestation of psychoses of the schizophrenic spectrum

	Main group	Comparison group	Total
Psychologically compensated character traits (close to a harmonious warehouse)	20,2%	37,4%	25,9%
Stable character accentuation (according to K. Leonhard and A. E. Lichko)	38,0%	45,8%	40,6%
Psychopathic reactions	41,8%*	16,8%	33,4%

Note: \* significant differences between groups of patients suffering from schizophrenia without comorbid pathology and patients with schizophrenia with concomitant somatic pathology ( $p < 0.05$ )

From the table, it should be noted that sufficient compensatory capabilities were more often observed in the comparison group.

Psychologically compensated character traits (25.9% of patients in the General group) meant a virtually harmonious personality with a relatively uniform representation of various character traits and temperament. These patients were quite "flexible" when they found themselves in a frustrating environment and quickly leveled their psychogenic experiences at the expense of compensatory resources of a harmonious personality profile. This type of premorbid prevailed in patients of the comparison group (37.4% vs. 20.2% in the main group).

In the majority of patients of the studied sample, personal premorbid was qualified as character accentuation by K. Leonhard and A. E. Lichko (40.6%). There was no significant difference in the predominance of the proportion of these patients in the main group and the comparison group.

41.8% of patients in the main group (compared to 16.8% in the comparison group) had personality disorders during the pre - manifest period. During periods of traumatic conflict situations, the severity of personal disorders reached the state of adaptation disorders, which were manifested in all spheres of life (family relations break-up, dismissal from work, leaving school), but were short-lived and quickly compensated. This allowed us to classify them as psychotic reactions. Along with neurotic and psychopathic reactions, they had mood swings, seasonal affective disorders, and depressive reactions to adverse situations. Periodically, as a rule, with psychotraumatic effects, there were exacerbations of cognitive disorders.

Affective disorders in premorbid were significantly more common than neurotic/neurosis-like disorders (83.4% of patients). All premorbid affective disorders. they were divided into 3 clinical and nosological groups: 1) Short-term situational depressive reactions - reactions of grief, longing, sadness, and sadness that occurred in connection with significant psychotraumatic circumstances, most often after the death of a loved one. Clinically these conditions met the criteria for neurotic reactions and lasted no more than 3-6

months; 2) Endoactive dysthymia - phase affective States of non-psychotic level that occurred after psychogenic provocation with subsequent "separation" of depression from Psychotrauma. The severity and depth of depression over time, ceased to depend on changes in the intensity of psychotraumatic. Depressions became an independent existential clinical phenomenon; 3) Spontaneous affective phases - autochthonous mono - or bipolar affective fluctuations that were clearly observed throughout the premorbid. These affective disorders went beyond the personal characteristics of cycloids, however, their intensity did not reach the level of severe depression and mania, so the patients remained socially compensated and adapted for that period of time. In most patients, these fluctuations were seasonal.

Table 4 shows the representation of various affective disorders in the General, main and comparison groups.

Table 4: Affective premorbid syndromes

Affective disorders	Main group	Comparison group	Total
short-term situational depressive reaction	12,1%	21,2%	15,0%
endoreactive dysthymia	24,2%*	7,1%	18,7%
mono - and bipolar affective spontaneous phase	7,1%	25,9%*	13,1%
the combination of different affective disorders	56,6%	45,9%	53,2%

Note: \* significant differences between groups of patients suffering from schizophrenia without comorbid pathology and patients with schizophrenia with concomitant somatic pathology ( $p < 0.05$ )

In the vast majority of cases (53.2%), there was a combination of various affective disorders in the premorbid. Attention is drawn to the significant predominance of spontaneous affective phases in the premorbid of patients in the comparison group and endoactive dysthymia in the premorbid of patients in the main group. Based on the results obtained, it can be stated that in patients of the main group, depressive disorders that occurred under the influence of mental trauma initially had an atypical picture - a tendency to endogenization (endoactive dysthymia). Thus, such a functional peculiarity of the affective sphere of these patients can be regarded as an additional psychopathological prerequisite for the development of psychoses of the schizophrenic spectrum in conditions of psychotraumatic influence.

Neurotic / neurosis-like disorders were equally preceded by the manifestation of both schizoaffective psychoses and paranoid schizophrenia. Affective disorders (mainly dysthymia endoreactive) was significantly prevalent in the premorbid schizoaffective psychosis.

In 69.1% of patients at the pre-manifest stage, both neurotic/neurosis-like and affective disorders were detected. Only neurotic/neurosis - like premorbid was observed in 15.0%, and only affective in 9.1%. The absence of any clinically significant psychopathological disorders in premorbid was found only in 6.9% of patients.

The high proportion of psychogenic-provoked neurotic / neurosis-like disorders and endoactive depressive disorders in the premorbid patients of the main group indirectly indicates the initial significant reactive lability of these patients and to a certain extent predisposes to psychogenic provocation of endogenous psychoses after the manifestation of schizophrenia.

Based on the results obtained, it can be concluded that significantly predominant features of heredity in the main group, cognitive disorders, personal and psychopathological premorbid can be considered as risk factors for the development of comorbid pathology in the presence of endogenous disease. Moreover, many of these assumptions have pathogenetic cause-and-effect relationships, forming a dynamic continuum of interrelated biological, constitutional and psychological factors.

#### IV. CONCLUSIONS

Thus, assuming that the detection in the anamnesis of certain features of mental development does not reliably mean their direct predisposing value, it should be concluded that ontogenetic biological factors, hereditary burden, cognitive disorders, characterological personal characteristics are risk factors for the development of cerebral vascular dystonia in patients with paranoid schizophrenia.

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