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Clinical and psychopathological features of patients with type II diabetes mellitus

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Abstract

Today, type II diabetes mellitus (T2DM) is considered to be the most important nosological cause of decreased cognitive functions. A number of studies have found that hyperglycemia and duration of diabetes are associated with cognitive deficits, with the prevalence of cognitive impairment in type 2 diabetes mellitus being 20% in men and 18% in women over 60 years of age.

To achieve this goal, it was conducted a comprehensive clinical-psychopathological and psychodiagnostic examination of 82 patients with moderate type 2 diabetes mellitus (46 women and 36 men) aged 35.9 ± 10.1 years in accordance with the principles of bioethics and deontology. The mean duration of diabetes was 7.9 ± 5.2 years. The severity of diabetes in most cases was defined as moderate (84.1%), and in 15.9% of cases corresponded to severe. 30.2% of patients used insulin as a basic hypoglycemic therapy, 69.8% - tablets.

According to the analysis of the emotional state of patients with T2DM were characterized by complaints of low, depressed mood (69.5% of examined patients), uncontrolled emotional reactions (46.2%), feelings of anxiety, constant internal tension (44.7%), paresthesias (29.1%), sleep-wake cycle disorders (56.2%), general weakness, lethargy and fatigue (58.2%), fatigue (90.0%), frequent mood swings, with a predominance of decreased mood background (23.3%), emotional lability with excessive vulnerability and sensitivity (16.6%), irritability (16.6%).

The clinical and psychopathological structure of emotional disorders is represented by anxious (43.4%), depressive (26.6%), astheno-hypochondriac (19.8%), hysteroform (10.2%) syndromes. Clinical examination of patients with DM showed that more often (in 95.0% of cases) in patients with T2DM there is a decrease in memory of auditory and visual modality, impaired intellectual abilities, slow thinking, lack of attention and information processing.

Key words: emotional disorder; type 2 diabetes mellitus; cognitive disorder; anxiety and depressive disorder.

Introduction. At all stages of somatic disease development, one of the most significant factors influencing clinical picture and course of this disease is patient's mental state. Mental disorders and negative psychological factors complicate course of disease, recovery and rehabilitation processes, become one of the main causes of temporary disability and complete disability of patients in more than 50% of cases [1, 2].

Diabetes mellitus (DM) is the most common endocrine disease, which is caused by absolute or relative insulin deficiency and characterized by a complex of somatic, neurological and mental disorders. According to the World Health Organization, by 2025 the number of patients with diabetes is expected to increase to 300 million people [3, 4].

Cognitive impairment has recently been studied as a complication of diabetes, although its pathogenesis is mainly related to impaired insulin signaling in the brain. Some studies suggest that disorders occur due to oxidative stress, inflammation, dyslipidemia, and so on. There are data that indicate negative impact of depression and hypoglycemia on the state of cognitive functioning in patients with diabetes mellitus [5, 6].

Today, type II diabetes mellitus (T2DM) is considered to be the most important nosological cause of decreased cognitive functions. A number of studies have found that hyperglycemia and duration of diabetes are associated with cognitive deficits, with the prevalence of cognitive impairment in type 2 diabetes mellitus being 20% in men and 18% in women over 60 years of age [7, 8].

It is known that patients with DM suffer from depression almost three times more often than patients without it. Due to the depression, emotional state is disturbed, which often leads to the patient's refusal to receive adequate treatment, and eventually decompensation of the somatic state occurs. In turn, it causes episodes of depression, which requires appointment of psychotropic drugs and psychotherapy [9, 10, 11].

The above determined relevance of this research. Its purpose is to study the specifics of clinical and psychopathological features of patients with type II diabetes mellitus.

To achieve this goal, it was conducted a comprehensive clinical-psychopathological and psychodiagnostic examination of 82 patients with moderate type 2 diabetes mellitus (46 women and 36 men) aged 35.9 ± 10.1 years in accordance with the principles of bioethics and deontology. The mean duration of diabetes was 7.9 ± 5.2 years. The severity of diabetes in most cases was defined as moderate (84.1%), and in 15.9% of cases corresponded to severe. 30.2% of patients used insulin as a basic hypoglycemic therapy, 69.8% - tablets.

Results and discussion:

According to the analysis of the emotional state of patients with T2DM were characterized by complaints of low, depressed mood (69.5% of examined patients), uncontrolled emotional reactions (46.2%), feelings of anxiety, constant internal tension (44.7%) , paresthesias (29.1%), sleep-wake cycle disorders (56.2%), general weakness, lethargy and fatigue (58.2%), fatigue (90.0%), frequent mood swings, with a predominance of decreased mood background (23.3%), emotional lability with excessive vulnerability and sensitivity (16.6%), irritability (16.6%).

The clinical and psychopathological structure of emotional disorders is represented by anxious (43.4%), depressive (26.6%), astheno-hypochondriac (19.8%), hysteroform (10.2%) syndromes. Depressive syndrome was characterized by low, depressed mood, inhibition, decreased intellectual and general activity, deterioration of health in the evening time, sometimes suicidal thoughts, sleep disturbances.

Anxiety syndrome was characterized by the appearance of insurmountable fears, doubts, ideas with the preservation of a critical attitude to them, against the background of severe clinical asthenic manifestations. Astheno-hypochondriac syndrome was characterized by a combination of asthenic manifestations with excessive concentration of patients on their feelings and their exaggeration. Hysteroform syndrome is a demonstrative nature of behavior with autonomic paroxysms.

11.9% of patients showed anosognostic disorders, manifested by violations of the adequacy of response, refusal of hospitalization and treatment, reduced critical assessment of their own condition, complete disregard for the severity of their condition.

The conducted psychodiagnostic study showed an increase in the level of situational (55.7 ± 6.1 points) and personal anxiety (54.5 ± 6.4 points) by the Spielberger-Khanin Scale. According to Hamilton Scale for Depression, 65.8% of the examined patients had a mild

depressive episode, 11.5% had a moderate depressive episode. And according to the Hamilton Anxiety Rating Scale, 56.1% of the examined patients had a mild anxiety episode, 40.3% moderate anxiety episode.

The study of general asthenia level on the Self-assessment Scale of Asthenic Conditions (SAC) of L.D. Malkova in T.G. Chertova adaptation showed an increase in the score of the level of general asthenia to 85.6 ± 7.9 points, which corresponded to moderate asthenia, which was formed due to neurons damage of the deep parts of the brain in DM.

Clinical examination of patients with DM showed that more often (in 95.0% of cases) in patients with T2DM there is a decrease in memory of auditory and visual modality, impaired intellectual abilities, slow thinking, lack of attention and information processing.

The study of cognitive functions according to the Mini-Mental State Examination (MMSE) method revealed mild (51.2%) or moderate (49.8%) cognitive impairment in the examined patients, on average in the group of examined the overall score by the MMSE was 25.2 ± 0.2 points. There were a decrease in verbal memory (39.8% of respondents), a decrease in the speed of counting operations (42,%), difficulty navigating (42.2%), a decrease in perceptual-gnostic sphere (39.8%).

Evaluation of the Bourdon Correction Test data showed a decrease in the ability to concentrate, increased fatigue, decreased tolerance to mental loads. The maximum concentration of attention on average in the group was noted in the second minute of the study, from 4 minutes there was a reaction of fatigue. At the same time, 62.2% of patients had "extra time to activation for work reaction" - the largest number of errors was observed in the first minute of the study, the smallest - in the third minute. A further increase in the number of errors to 6 minutes of the examination indicated a decrease in the ability to concentrate attention and brain fatigue.

The 10-Word Recall Test in 59.8% of subjects revealed a decrease in the ability to concentrate, listening and memorizing, as well as a deterioration in working memory.

Thus, in the examined patients with T2DM there are emotional disorders, mainly anxiety-depressive symptoms, high level of emotional stress, anxiety, asthenic symptom complex and hypochondriac manifestations and mild cognitive impairment, which are manifested by decreased verbal memory, reduced speed of operations. difficulty navigating by declining performance.

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