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THE METHOD OF EDGE ANXIETY-DEPRESSIVE DISORDER CORRECTION IN PATIENTS WITH DIABETES MELLITUS

Kozhanova A.[1], Chukhraeva E.[2], Chuprikova M.[3], Vladimirov A.[3], Zukow W.[4], Unichenko A.[3]

1. **The branch of Almaty State Institute of Postgraduate Medical in Astana, Kazakhstan**
2. **National Medical Academy of Postgraduate Education. P.L. Shupyk, Kiev, Ukraine**
3. **Scientific and Methodological Center "Medintech", Kiev, Ukraine**
4. **Kazimierz Wielki University, Bydgoszcz, Poland**

Abstract

The article presents the results of research on the effectiveness of the method developed by the authors for correcting the anxiety and depressive edge disorders in patients with type 2 diabetes through the use of magnetic-therapy.

Tags: anxiety-depressive disorder, hidden depression, diabetes, medical rehabilitation, singlet-oxygen therapy.

According to the statement of Mr. Deborah Wan, President of the World Federation for Mental Health "Depression is one of the most common diseases, often combined with other serious illnesses. According to the World Health Organization, unipolar depressive disorders estimated as the third leading cause of the global burden of disease in 2004, which by 2030 will have undisputed leadership. Unfortunately, the global crisis, lack of exercise and powerful energy-effects led to an increase in uncertainty about the future, and this in turn led to an increase in the number of people with a depressive state of the population in most developed countries. In 2012, the world depression affected about 350 million people - about 5% of the world population, and by 2020 this figure will almost double."

By the number of lost for active full life years are depressive disorders and chronic fatigue ahead of all other mental disorders and diseases, including such as Alzheimer's disease, alcoholism and schizophrenia. Depression consistently ranks fourth among all diseases on integrative assessment of costs borne by society because of them. In the opinion of A. Nierenberg (2001) in the United States each year about 6 millions of people suffer from

depression, and for treating them, spent more than 16 billions of dollars. By 2020 (WHO data) [1] on this criterion mental and behavioral disorders (depression and latent chronic fatigue syndrome) will take sustainable second place, second only to diseases of the circulatory system (coronary heart disease). These are two of the leading diseases that are near and undeniably have a great impact on each other. No wonder the experience of Eastern philosophy confirms that the cardiovascular system and emotions are in constant relationship.

Therefore, it is obvious that the development of effective prevention technologies and rehabilitation of mental and behavioral disorders is one of the most important tasks of modern psychiatry and clinical psychology, which will not only reduce the cost of treatment of this disease, but also improve the quality of life in patients with type 2 diabetes.

Creating effective way to medical treatment of anxiety-depressive edge disorders in patients with type 2 diabetes should be based on a variety of factors contributing to the emergence of this disease and the impact on their course, prognosis and determine their reaction to the proposed treatment. Additionally, you must take into account the fact that this group of diseases is systemic, and thus a method of treatment should be based on a system of multi-level and multi-factorial approach.

According to ICD-10 depressive disorder refers to classes F32-F39, F92. Possible to determine the level of depression in patients with type 2 diabetes, we used the symptoms of depression test ICD-10:

- ✓ A bad mood, depression, debilitating condition, decadent thoughts, sadness, "bored in my soul", "all gray."
- ✓ No activity at work, decreased performance, procrastination, violation of pre-scheduled dates, everything becomes a "do not care", lack of joy.
- ✓ Fatigue once sat down to work after the work has been for nothing strong enough, the feeling of constant fatigue, unwillingness to entertainment.
- ✓ Additional symptoms: impossible to concentrate on the starts work and action, and there are distracting irritants, the emergence of parallel thinking, decreased attention.
- ✓ Indecision not previously available in all types of cases, the lack of self-confidence.
- ✓ A critical evaluation of past life, emphasizing the negative factors, the painful feeling of "burden" in the family or at work.
- ✓ Gloomy thoughts of bankruptcy, finish, score themselves as losers, a sense of service life, and grim vision of the future.
- ✓ Sleep disorders - drowsiness, insomnia, sleep long, heavy awakening, lack of sense of relaxation.
- ✓ Decreased appetite.

If a patient diagnosed two depressive symptoms, it is easy depressive disorder; moderate depressive disorder with a subjective choice of 3-4 symptoms; if the patient has more than 4 symptoms, it is major depression.

To develop an effective depression treatment technology for second type diabetic patients, we had a full study in 2013 of the effectiveness of combined use of magnetic-therapy with individually selected frequencies of alpha rhythm in a comprehensive program of medical rehabilitation of diabetic patients with the syndrome of latent depression (T2D SLD).

Objective: to develop the technology and performance evaluation of psychological and medical rehabilitation of patients with type 2 diabetes mellitus (T2D) on the basis of magnetic laser therapy (MDT).

Objectives of the study:

1. Assessing clinical symptoms methods optimization, functional diagnostics and expert assessment of the level of latent depression in patients with T2D.

2. Development of technology and performance evaluation method of medical rehabilitation of patients with diabetes SLD by applying magnetic-therapy method developed by the authors.

3. Statistical data processing and evaluation of the medical rehabilitation effectiveness in patients with diabetes SLD based on the use magnet laser impact on the projection of the pancreas and the medulla oblongata.

Materials and Methods: in the period from January to December 2013, on the base of restorative treatment department of the Kiev City Hospital of Disabled WWII, we carried out studies to assess the effectiveness of magnetic-therapy in complex rehabilitation program for patients with type 2 diabetes. Patients in groups formed, so that the distribution of clinical manifestations, age and sex were approximately equal.

Type 2 diabetes was verified in accordance with the diagnostic criteria of WHO (1999) (T2D diagnosis was established by endocrinologists and studies conducted under their supervision). Analyzing the physical condition of patients, along with the type of diabetes, we took into account its duration and age of the patients. The results of laboratory and instrumental methods were evaluated. Body mass index – BMI was determined. The dynamics of subjective and objective clinical manifestations was considered as integral evaluation criteria of the patients.

For uniform distribution of patients into groups, we used the level assessment of latent depression tests recommended by prof. Samosyuk I.Z. et al. [2].

For research were formed 2 groups of patients of 30 people (34 women, 26 men, mean age - 62,0±13,3 years): control group - were treated according to the guidelines [3] and the main group - were treated according to our method of simultaneous magnet laser impact on the projection of the medulla oblongata, and pancreas.

On the basis of clinical examination of 60 diabetic patients in 57.3% patients had depressive disorders: nosogenic depression (occurring on the type of anxiety and hypochondriacal depression - 34.2%) and dysthymia (like somatized depressive conditions 23.1%). In 42.7% of cases the affective (depressive) disorder were diagnosed. The grouping was almost uniform.

All patients diagnosed latent depression.

For the procedure used machine MIT-MT (SMC "Medintech", Kiev) with two magnet laser applicators with red spectral range (0,67±0,02 mm) and integrated optical power flow 35 ±5 mW and the magnetic field of the southern pole of 22±4 mT. The duration of one procedure was 15 minutes. At the time of treatment for each patient were released 15 procedures. Procedures were released every other day.

During the procedure in the main group one magnet laser applicator (MLA) was placed on the pancreas head projection, the second on a projection of the medulla oblongata (foramen magnum zone). Modulation of the magnetic field and optical flow executed synchronously. The choice of frequency was determined on the basis of individual choice in the range of the alpha rhythm (8-13 Hz) according to developed by prof. I.Z. Samosyuk methodic: 2 red MLAs were used to determine the frequency of individual therapy. One of them was placed on a projection of the medulla oblongata (foramen magnum zone), the second - on the projection of the frontal area of the maxillary sinus (1-2 cm above the bridge of the nose), the eyes of patients closed during the procedure. The initial modulation frequency was set 8 Hz and further growing at a 0.1 Hz to 13 Hz. Exposure time for each frequency was 5±2 sec. Scanning frequency the patients experienced the change of psycho-physical sensations of color, type and size of geometric shapes. By polling subjective sensations the frequency at which the patient experienced a feeling of maximum comfort were determined, which is then were used for the procedure. In most patients it was 9,7±0,4 Hz.

Results and discussion.

Evaluation of treatment results was performed on the base of the evaluation of the dynamics of subjective and objective clinical manifestations in T2D patients (results are shown in Table 1) and evaluating the level of latent depression scale [2].

Table 1.

Dynamics of subjective and objective clinical manifestations in patients with T2D

Monitoring groups		Subjective manifestations		objective manifestations	
		Before treatment	After treatment	Before treatment	After treatment
1	Control group (n=30)	15,81±1,4	11,8±0,9	8,65±0,51	7,2±0,46
2	Main group (n=30)	15,39±1,62	8,6±0,8	9,4±0,58	6,1±0,42

Note: The probability of differences in comparison to before the start of treatment ($p < 0.05$) on the criterion χ^2; $p < 0.01$, χ^2criterion between the groups after treatment.

Positive outcomes were observed in all patients, both main and control groups. However, patients in the control group, the dynamics of subjective and objective clinical manifestations were on average 21.2% higher than the control. The number of diagnosed major depressive symptoms in the intervention group decreased by 15.4% in the control to 7,2±1,3%.

Conclusions. Magnet laser therapy based on our proposed methodic, aimed at simultaneous stimulation of the pancreas and the medulla oblongata at the individually selected modulation frequencies optical stream of red spectrum and the magnetic field of the south pole has a more pronounced effect on the dynamics of subjective and objective clinical manifestations and the level of latent depression in patients with T2D.

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