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Oxunjanova Madina Zafarovna

Bukhara state medical institute

DIABETIC POLYNEUROPATHY AND MODERN METHODS OF TREATMENT

Resume

Diabetic polyneuropathy is a complex of symptoms indicating dysfunction and damage to nerve fibers that develop against the background of hyperglycemia (high blood glucose). Disorders of all types of metabolism that form in diabetes mellitus lead to the gradual death of nerve cells, and a decrease in sensitivity, up to its complete loss.Peripheral neuropathy in itself does not lead to the development of trophic ulcers of the lower extremities and diabetic foot syndrome, however, it is a very significant indirect factor that increases the risk of purulent-necrotic complications and foot deformity.

Keywords: Diabetic polyneuropathy, hyperglycemia, physiotherapy, electrophoresis, magnetotherapy.

Relevance: Diabetic neuropathy, like diabetes itself, leads to significant changes in the life and health of patients. The variety of symptoms, and often its absence at the initial stage, often does not allow timely detection of pathology and start of specific therapy, while the reverse development of the process is possible only at the stage when anatomical and structural changes in the musculoskeletal apparatus of the foot have not yet begun [6,8].

Polyneuropathy is the most common complication of diabetes mellitus, developing in patients with type I diabetes in 54% of cases, in patients with type II diabetes in 45% of cases.

In the general structure of polyneuropathies, the diabetic variant occupies 30%.Diabetic polyneuropathy is detected in 10% of patients who are first diagnosed with diabetes mellitus (we are talking about type II).

Often there is an asymptomatic form, so almost 50% of patients diagnosed with diabetes mellitus do not notice symptoms of polyneuropathy, which is detected only during instrumental studies or routine medical examinations.

Diabetic polyneuropathy in 20% of cases is manifested by a pronounced pain syndrome, which is recognized as one of the most excruciating types of pain.

It is the diabetic variant of polyneuropathy that is the mediated (indirect) cause of more than 50% of cases of non-traumatic amputations [3,8].

In diabetes mellitus, all types of metabolism (not only carbohydrate metabolism) are disturbed, the starting factor for the onset of damage to tissues and organs is a persistent increase in the concentration of glucose in the blood - hyperglycemia. Due to the constant high content of glucose inside the cell, the processing of this substance in the tissues changes significantly: many toxic metabolic products accumulate in the cells, and the mechanism of oxidative stress is triggered. Gradually, nerve fibers lose their ability to grow and recover, lose their function. At the same time, the synthesis of its own substances that maintain the normal state of the peripheral nerves decreases. These nerve damages are a direct cause of the development of neuropathic pain, as well as loss of tactile and pain sensitivity of the foot [1,4].

Diabetic neuropathy is characterized by extensive symptoms, non-specific in the initial stages, which creates diagnostic difficulties.

In the acute variant of the course, polyneuropathy is manifested by sudden sharp pains (“knife blow”, “knife puncture”) and an unbearable burning sensation in the hands and feet, the occurrence of pain during ordinary influences - touch, massage movements, applying external preparations.

Chronic diabetic neuropathy is often completely asymptomatic and can be diagnosed by screening studies. Patients note numbness of the feet and a significant loss of sensitivity as the most striking symptoms, due to which stability is impaired and the risk of sudden falls is increased.

Due to the pain syndrome, sleep disturbances, depressive states often develop, patients cannot fully work. Without treatment, the patient may be completely isolated from social life, he is threatened with a change in status - the loss of a profession, an irreversible deterioration in the quality of life.

The most important and main condition for the treatment of polyneuropathy in diabetes mellitus is the achievement of normal blood glucose levels with the use of appropriate drugs - hypoglycemic oral agents or insulin. The general therapy of diabetes mellitus prescribed by the attending physician should remain unchanged! Maintaining normal glucose levels is the most important factor in preventing the further development of polyneuropathy [6].

Neuropathic pain that develops with diabetic neuropathy is of a different nature (nerve damage), so standard painkillers - NSAIDs and simple analgesics in this case will not be effective. A wide range of prescription drugs of different groups are used, which help to reduce the severity and intensity of pain. These drugs are prescribed by a doctor, they must be taken under the strict supervision of a medical specialist. Anticonvulsants are more effective in acute and severe pain, they stabilize the state of nerve fibers and reduce neurological pain. Some of the drugs in the group have a pronounced analgesic effect in

neurological problems and are widely prescribed for diabetic neuropathy as first-line drugs for the treatment of neuropathic pain) [8].

The analgesic effect of antidepressants is explained by the main mechanism of action: they reduce the content of serotonin in the central nervous system, and also presumably affect the body's own opioid systems.

Local anesthetics are used in the form of external forms - transdermal therapeutic systems, this is a modified patch that sticks to the skin, which, when used, develops a sufficient analgesic effect.

Narcotic analgesics have a pronounced effect in neuropathic pain, however, for obvious reasons, they are used to a limited extent, mainly in hospitals.

It should be noted that the analgesic effect of these drugs (except for the last group, the use of which in diabetic polyneuropathy is currently considered controversial) develops gradually. At the beginning of treatment, one cannot expect complete elimination of the pain syndrome [9,10,11].

These drugs do not affect the course of the disease, they only help to reduce symptoms and improve the quality of life of patients with diabetic polyneuropathy.

Doctors have at their disposal several agents that affect the mechanisms of development (pathogenesis) of diabetic neuropathy, and the earlier treatment is started, the more pronounced the result.

For these purposes, lipoic acid preparations are used, which have a complex effect, primarily antioxidant and neuroprotective. Some other drugs (aldoreductase inhibitors, nerve growth factors, linoleic acid, and carnitine preparations) are currently in clinical trials and have not yet entered widespread practice [2,5,6].

Fibrates (fenofibrate), being lipid-lowering agents, interfere with lipid metabolism, normalize cholesterol fractions, and also reduce glucose concentration. Reduce the risk of further development of diabetic neuropathy and contribute to the regression of pathology (in some cases).

Vitamin preparations (group B), pentoxifylline and some other traditional agents that affect the metabolism of nervous tissue are widely used in Russia and are additional maintenance therapy [4,6].

Physiotherapy for diabetic polyneuropathy is used at different stages of the disease in order to achieve analgesic, neuroprotective, regenerative effects, as well as improve blood circulation and restore sensitivity (improvement in conductivity) of nerves, and nourish nerve fibers and surrounding tissues.

Electrotherapy, in particular sinusoidal, diadynamic, interference, stochastic currents, transcutaneous electrical nerve stimulation (TENS), darsonvalizationare prescribed for pain relief, improving tissue nutrition.

A good analgesic effect also has electrophoresis - the introduction of medicinal substances under the influence of direct current. In diabetic polyneuropathy, the following drugs are used: nicotinic acid, sodium thiosulfate, prozerin, B vitamins, etc [1,3,15].

Combined physiotherapeutic methods are used - light-laser and magneto-laser therapy. In the first case, exposure to blue polarized light in combination with an infrared laser is

performed, in the second, a combination of an infrared laser and a constant magnetic field acts as a therapeutic factor. The listed methods (light, laser and magnetotherapy) are also prescribed according to isolated schemes. The leading place in treatment has recently been given to magnetotherapy [11,12,13].

Magnetotherapy in diabetic polyneuropathy has analgesic, angioprotective and neuroprotective effects, helps to restore nerve fibers and improve blood supply and nutrition to adjacent tissues. Already at the beginning of the course of therapy, pain is significantly reduced, the convulsive component is eliminated, the sensitivity of the foot improves, and muscle activity increases. It is possible to achieve a significant improvement in the condition of nerve fibers, stimulation of recovery processes.

Magnetotherapyis used in various versions: alternating magnetic field, low-frequency pulsed or running pulsed magnetic field, general magnetotherapy.

In addition to the effectiveness of the method, its high safety can also be noted: magnetotherapy is used in the complex treatment of diabetic polyneuropathy in patients of different ages, including children and adolescents, in elderly patients with multiple diagnoses [14,15].

Among other non-drug methods, electrostatic and pneumomassage of the lower extremities, balneotherapy, and acupuncture have become widespread.

Diabetes mellitus and its complications (diabetic polyneuropathy and angiopathy, diabetic foot syndrome, retinopathy - damage to the retina) are considered the most dangerous diseases of our time, which can not only reduce the quality of life, but also pose a direct threat to it. With the help of modern drugs and methods of non-drug correction, you can achieve good results, control the disease and avoid serious consequences.

1. Balkau B., Charles M.A., Drivsholm T., et al. European Group For The Study Of Insulin Resistance (EGIR). Frequency of the WHO metabolic syndrome in European cohorts, and an alternative definition of an insulin resistance syndrome //Diabetes Metab. – 2002.- Vol. 28. – P.364–376.
2. Khasanovna M. G. Features of Computer Dependence Comparative Characteristics of Computer-Dependent and Computer-Independent Adolescents by Anthropometric Indicators //International Journal of Innovative Analyses and Emerging Technology. – 2021. – Т. 1. – №. 6. – С. 213-217. 2. Khasanovna, Mukhidova Gulmira. "Comparative characteristics of morphometric parameters of physical development and anthropometric data of the upper extremities of healthy and computer-dependent children." Research Jet Journal of Analysis and Inventions 2.09 (2021): 14-17.
3. Мухидова, ГулмираХасановна. "Сравнительная характеристика компютерно-зависимых компютерно-независимых подростков по антропометрическим показателям." Тиббиётдаянгикун 5 (2021): 37.
4. Abdulloyevich S. A., Abdulloyevna S. L. TO ESTABLISH THE MORPHOFUNCTIONAL FEATURES OF CHANGES IN THE CELLULAR COMPOSITION OF THE LYMPHOID TISSUE OF THE SPLEEN //ResearchJet Journal of Analysis and Inventions. – 2022. – Т. 3. – №. 1. – С. 104-111.
5. Suleymanov, S. F., Khomidova, S. H., Mansurova, M. K., &Sagdullayeva, G. U. (2018). Immune Status In Patients With Duodenal Ulcer And Influence On Her Immunomodulatory Therapy. European science review, (9-10-2), 161-163.

6. Khikmatovna, HamidovaSaodat. "Establishing the systematic position of fungi of the genus trichoderma, isolated from soils of the bukhara region." International Engineering Journal For Research & Development 5.7 (2020): 6-6.
7. Хамидова, СаодатХикматовна. "Созданиетаксономическогоположениягрибов, относящихся к типутриходермий, выделенныхизпочвы." Интернаука 2-1 (2021): 19-20.
8. Khasanovna, Mansurova Malika, and ToshevaDilnozaRahmatovna. "Helicobacter Pylori and the Risk of Coronary Heart Disease (Literature Review)." International Journal of Innovative Analyses and Emerging Technology 1.4 (2021): 147-150.
9. Fayzullayevich, S. S., Hikmatovna, K. S., Khasanovna, M. M., &Ul´yanovna, S. G. (2018). Immune status in patients with duodenal ulcer and influence on her immunomodulatory therapy. European science review, (9-10-2).
10. Рахматова С. Н., Саломова Н. К. Қайта Такрорланувчи Ишемик Ва Геморрагик Инсультли Беморларни Эрта Реабилитация Қилишни Оптималлаштириш //Журнал Неврологии И Нейрохирургических Исследований. – 2021. – Т. 2. – №. 4.
11. Саломова Н. К. Особенности течения и клинико-патогенетическая характеристика первичных и повторных инсультов //central asian journal of medical and natural sciences. – 2021. – С. 249-253.
12. Кодирова Ш. С., Джаббарова М. Б., Саломова Н. К. Эффективность Применения Психологических Тестов Для Диагностики Психологических Расстройств У Больных, Перенесших Covid-19 //Central Asian Journal Of Medical And Natural Sciences. – 2021. – С. 323-326.
13. Раджабова Г. Б., Джаббарова М. Б., Саломова Н. К. Меры По Профилактике Факторов Риска Хронической Обструктивной Болезни Легких //Новый день в медицине. – 2020. – №. 4. – С. 519-521.
14. Джураева, Х. И., Ражабова, Г. Х., Рахматова, Д. Б., & Таиров, М. Ш. (2019). Профилактика основных компонентов метаболического синдрома.
15. Sharipova G. I. PaediatricLazer Dentistry // International Journal of Culture and Modernity ISSN: 2697-2131., Volume 12 (Jan 2022). -P. 33-37
16. Sharipova G. I. LIGHT AND LASER RADIATION IN MEDICINE // EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE Vol. 2 No. 1 (2022) EJMMP ISSN: 2795-921X.-P. 31-36.