INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563
eISSN 2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 11, issue 01 (2024)

COMPLICATIONS OF TYPE 1 DIABETES MELLITUS IN UZBEKISTAN

Diyorbek Ismailov Adhamjon ugli

Fergana Medical Institute of Public Health

Abstract: The article includes analysis of data obtained from various medical centers throughout Uzbekistan and represents a significant contribution to understanding the burden of type 1 diabetes in the region. This study will be useful to medical professionals, endocrinology and public health researchers, and policymakers seeking to develop more effective strategies to improve diabetic care in Uzbekistan.

Key words: Diabetes mellitus, complications, angiopathy, neuropathy,

Introduction. In Uzbekistan, the number of people suffering from diabetes mellitus exceeds 245 thousand people, including more than 2.3 thousand children and 879 adolescents. The country is aware of the seriousness of this problem, and attention is being paid to early diagnosis, the use of innovative treatment methods and prevention of the disease. National programs have been developed and modern methods of diagnosis and treatment of endocrinological diseases have been introduced. Active work is also underway to raise awareness among specialists in various fields of medicine about this problem. An online registry of diabetes patients is being created to improve disease control and reduce the incidence of complications

Main part. Diabetes mellitus is a chronic disease characterized by high levels of sugar (glucose) in the blood. It occurs either due to insufficient production of insulin by the pancreas (type 1 diabetes) or due to a decrease in tissue sensitivity to insulin (type 2 diabetes). Insulin is a hormone that regulates blood glucose levels. In diabetes, this regulatory mechanism is disrupted, resulting in elevated blood glucose levels, which can cause a number of health complications.

Type 1 diabetes, also known as insulin-dependent diabetes, is characterized by several key features:

1. Autoimmune destruction of pancreatic beta cells : This results in insufficient production of insulin, a hormone needed to regulate blood glucose levels.
2. Young onset: Often diagnosed in children, adolescents and young adults.
3. Constant need for insulin: Patients require regular administration of insulin to maintain normal blood glucose levels.
4. Risk of hypoglycemia: Due to external insulin administration, the risk of blood sugar levels being too low increases.
5. Genetic predisposition: Having certain genetic markers increases the risk of developing type 1 diabetes.
6. No insulin resistance: Unlike type 2 diabetes, type 1 diabetes is not associated with insulin resistance.

Approaches to treating and managing type 1 diabetes include blood glucose monitoring, diet, exercise, and strategies to reduce the risk of complications.

Complications of type 1 diabetes can be extensive and include:

1. Cardiovascular disease: The risk of heart attack, stroke, and coronary heart disease is increased.
2. Neuropathy (nerve damage): May cause numbness, pain, or weakness, especially in the arms and legs.
3. Nephropathy (kidney damage): May lead to kidney failure or kidney disease.
4. Retinopathy (damage to the retina of the eye): May cause blindness.
5. Diabetic foot: Foot problems associated with poor circulation and nerve damage.
6. Skin problems: Such as dry skin and infections.
7. Hypoglycemia (low blood sugar): Can be dangerous and requires immediate treatment.
8. Hyperglycemia (high blood sugar): May lead to diabetic ketoacidosis , which is an emergency.

Regular blood glucose monitoring and appropriate treatment can help reduce the risk of these complications.

Cardiovascular disease is a serious complication of type 1 diabetes. Elevated blood glucose levels in diabetes can damage blood vessels, which increases the risk of atherosclerosis, coronary heart disease, myocardial infarction and stroke. It is associated with increased cholesterol levels, high blood pressure and other risk factors associated with diabetes. Regular monitoring of blood glucose and lipid levels, as well as managing other risk factors such as smoking, excess weight and lack of physical activity, can help reduce this risk.

Diabetic neuropathy, one of the complications of diabetes, is characterized by nerve damage caused by chronically high blood glucose levels. The pathogenesis of this condition includes microvascular damage that impairs the blood supply to nerves and direct glycosylation of nerve proteins.

The clinical picture varies from pain, numbness and tingling in the extremities to problems with digestion, urination and sexual function. Managing diabetes is key to preventing or slowing the development of neuropathy. Treatment includes glucose control, pain medications to manage pain symptoms, and medications to improve nerve function, such as antidepressants and drugs used to treat epilepsy.

Diabetic nephropathy is a complication of diabetes that affects the kidneys. The pathogenesis involves long-term damage to the blood vessels of the kidneys due to high blood sugar levels. This leads to thickening of the glomerular membranes and loss of protein through the urine. Clinical signs include protein in the urine, edema, elevated blood pressure, and gradual decline in kidney function.

Treatment focuses on controlling blood glucose levels and blood pressure to slow the progression of the disease. Medicines to lower blood pressure, such as ACE inhibitors or angiotensin II receptor blockers, may be used, as well as measures to control cholesterol levels and eat a healthy diet. More severe cases may require dialysis or a kidney transplant.

Diabetic retinopathy is a complication of diabetes that affects the retina of the eye. The pathogenesis involves long-term damage to the retinal blood vessels due to high blood glucose levels. Clinical signs range from mild to severe and may include blurred vision, dark spots or floating filaments in the visual field, and loss of vision. Treatment includes strict blood sugar control, laser photocoagulation of the retina, injections of steroids or anti- VEGF drugs into the eye and, in severe cases, surgery.

Diabetic foot is a complication of diabetes that involves damage to the nerves (neuropathy) and blood vessels of the legs. This leads to decreased sensitivity, poor circulation and slower wound healing. Clinical manifestations include painful ulcers, infections, and changes in the structure of the foot. Treatment is aimed at preventing infections, promoting healing of ulcers, and correcting foot deformities. This may include the use of antibiotics, special shoes to relieve pressure on the foot, and, in some cases, surgery. Important aspects of prevention include careful foot care and monitoring blood glucose levels.

In Uzbekistan, the number of people suffering from diabetes mellitus exceeds 245 thousand people, including more than 2.3 thousand children and 879 adolescents. The country is aware of the seriousness of this problem, and attention is being paid to early diagnosis, the use of innovative treatment methods and prevention of the disease. National programs have been developed and modern methods of diagnosis and treatment of endocrinological diseases have been introduced. Active work is also underway to raise awareness among specialists in various fields of medicine about this problem. An online registry of diabetes patients is being created to improve disease control and reduce the incidence of complications

Conclusions: Complications of diabetes remain one of the unsolved problems of modern medicine, both in the world and in Uzbekistan. Early detection of the disease itself and early diagnosis of its complications remains the only method of quality treatment and prevention of complications of diabetes mellitus**.**

Literature

1. Zokirov, M. (2023, June). Features of cognitive impairment in patients with HIV encephalopathy. In *Academic International Conference on Multi-Disciplinary Studies and Education* (Vol. 1, No. 9, pp. 34-36).
2. Zokirov M.M., & Madjidova Y.N., . (2020). Correction Of Cognitive Disorder In Patients With HIV - Associated Encephalopathy. *The American Journal of Medical Sciences and Pharmaceutical Research*, *2*(07), 117–122. https://doi.org/10.37547/TAJMSPR/Volume02Issue07-15
3. Zokiriv, M. (2021). Correction of cognitive impairments in patients with HIV-associated encephalopathy. J. Theor. Appl. Sci, 7, 62-66.
4. Zokirov Muzaffar, & Muhammadjonov Oqilbek. (2023). Late clinical and neuroimaging manifestations of post-traumatic epilepsy and optimization of its treatment. *Novateur Publications*, *7*, 1–108. Retrieved from http://novateurpublication.org/index.php/np/article/view/114
5. Muzaffar, Z. (2023). Anxiety and Depression in Patients with HIV Encephalopathy. *Eurasian Medical Research Periodical*, *21*, 95-98.
6. Oqilbek, M., & Muzaffar, Z. (2023). Parameters of Apoptosis and Prevention of Neuro-Like Conditions in Patients with Type II Diabetes Mellitus. *Eurasian Medical Research Periodical*, *21*, 99-102.
7. Muzaffar, Z., (2022). Chronic Obstructive Pulmonary Disease in Combination with Cardiovascular Diseases. *European Multidisciplinary Journal of Modern Science*, *6*, 150-155.
8. Зокиров, М., & Мухаммаджонов, О. (2022). Особенности развития тревожных и депрессивных расстройств при заболеваниях, сопровождающихся хроническим болевым синдромом. *Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali*, 841-844.
9. Зокиров, М., & Мухаммаджонов, О. (2022). Вич энцефалопатия и его патогенетические аспекты. *Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali*, 855-858.

10. Muzaffar, Z. (2022). HIV Encephalopathy and its Pathogenetic Aspects. *European Multidisciplinary Journal of Modern Science*, *4*, 843-846.
11. Зокиров, М. М., Рустамова, И. К., Касимова, С. А., & Кучкарова, О. Б. (2019). Жарохатдан кейинги талвасада кечки нейровизуализацион ўзгаришлар. In *Современная медицина: новые подходы и актуальные исследования* (pp. 56-60).
12. Zokirov M., Mukhammadjonov, O. (2022). Cognitive Impairments in Patients with HIV-Associated Encephalopathy. *Central asian journal of medical and natural sciences*, *3*(2), 401-405.
13. Zokirov, M. M., & Mukhammadjonov, O. (2022). Cognitive impairment in patients with Parkinson's disease and optimization of its treatment. *Eurasian Scientific Herald*, *7*, 177-180.
14. Зокиров, М., & Туланбоева, С. (2022). Когнитивные нарушений у пациентов с ВИЧ–ассоциированной энцефалопатией. *Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali*, 68-73.
15. Muzaffar, Z. (2022). Literature reviews on nervous system damage during hiv infection. *Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali*, *2*(9), 141-147.