

## DIABETES MELLITUS IN CHILDREN

Ravshanova Inoyat Erkinovna

Teacher of Kokan State Pedagogical Institute

Ismailova Mashkhura Obidjon qizi

Student of Russian Language and Literature Group 203

Jumanova Nozima Sherali qizi

Student of Russian Language and Literature Group 203

### ABSTRACT

In this article, harmful habits and the changes caused by their influence on the human body, as well as their prevention, are disclosed.

**Keywords:** Alcohol, balance, attention, perception of the environment, coordination of movements, intoxication, nicotinism, tobacco smoke, drug addiction and addiction, psychoactive substances

### Diabetes mellitus in children

Diabetes mellitus in children is a chronic pathology in which metabolic disorders occur, primarily carbohydrates. It develops due to insufficient insulin production or (less commonly) tissue insensitivity to this hormone. In childhood, it occurs especially violently with a sharp onset and rapid deterioration of the condition, which is why any suspicion of diabetes should be a reason to urgently seek medical help.

Childhood diabetes is a real problem for doctors of all specialties. WHO regularly publishes statistics according to which every year the number of children and adolescents suffering from this pathology is growing, and the disease itself is steadily getting younger. Every patient, regardless of age, must be regularly observed by doctors, undergo preventive examinations, and strictly follow all doctors' recommendations. Only this will help prevent the development of complications, disability and death.

Classification: types and stages of development of diabetes mellitus in children

**Diabetes mellitus in children is a chronic disease, the course of which can be divided into two stages:**

- prediabetes: a condition in which pathological processes have already started, but there are no pronounced symptoms;
- clinical stage: characterized by vivid symptoms.

Many years of observational experience show that the stage of prediabetes in children is much shorter than in adults. Often the pathology develops very rapidly.

The biomechanisms of the development of the disease make it possible to distinguish several types of diabetes mellitus:

- type 1 diabetes mellitus: most often develops in children, characterized by a decrease in insulin production due to damage to pancreatic cells;

- type 2 diabetes mellitus: usually detected in adulthood, less often in children and adolescents suffering from obesity; occurs against the background of a progressive decrease in tissue sensitivity to insulin;
- specific forms of pathology resulting from genetic mutations (for example, MODY diabetes), infectious or endocrine diseases and other causes. Причины развития сахарного диабета у детей

Высокий риск развития патологии передается по наследству. В качестве the provoking factor may be:

- various infections (measles, mumps, chickenpox, rubella, etc.);
- toxic effects on the pancreas;
- severe injuries and operations;
- obesity, abuse of carbohydrate foods, physical inactivity;
- endocrine pathologies: Itsenko-Cushing syndrome, pheochromocytoma, thyroid pathology;
- autoimmune diseases: systemic lupus erythematosus, rheumatoid arthritis, etc.

### Pathogenesis

Most often, children and their parents are faced with the development of type 1 diabetes. Disruption of the pancreas leads to a decrease in the amount of the hormone insulin, which is responsible for carbohydrate metabolism. Glucose supplied with food is no longer absorbed by tissues, and its amount in the blood increases. Excess sugar begins to be excreted by the kidneys, causing constant fluid loss - a characteristic set of pathological symptoms is triggered. If hyperglycemia persists for a long time, this inevitably leads to changes in vascular microcirculation and other problems. Artificial administration of insulin leads to stabilization of the amount of glucose, which is why this form is also called insulin-dependent.

The pathogenesis of type 2 diabetes mellitus is radically different. Insulin production remains at normal levels, but tissues stop responding to it. This leads to an increase in glucose levels, then the disease proceeds similarly to the previous version. The administration of insulin does not improve the situation or has an insignificant effect, so the form of the disease is also called non-insulin-dependent. Симптомы сахарного диабета у детей

Regardless of the type and cause, the symptoms of diabetes in children are always similar. The disease is characterized by a classic combination of signs that allow one to suspect pathology even before laboratory examination:

- frequent and excessive urination (polyuria): the child begins to urinate much more often, which is especially noticeable at night; in preschool children, the situation is often accompanied by the development of enuresis during sleep; urine becomes sticky and leaves specific whitish spots on the laundry;
- excessive consumption of water (polydipsia): against the background of constant loss of fluid through the kidneys, the child is constantly thirsty, complains of dry mouth, wakes up at night from thirst;
- feeling of hunger: against the background of an absolute or relative deficiency of insulin, body tissues stop absorbing glucose, which leads to constant hunger and weight loss, even with excessive food consumption.

The following symptoms are important as additional signs of diabetes in children:

- dry skin;
- peeling of palms and soles;
- cracks in the corners of the mouth;
- fungal infections of the skin and mucous membranes (usually candidal stomatitis, damage to the genital organs – vulvitis, balanoposthitis);
- diaper rash in skin folds;
- pustules and boils on the skin;
- disruptions of the menstrual cycle if the disease occurred during puberty. Осложнения сахарного диабета у детей

A child's body is much more sensitive to metabolic disorders, which is why at this age diabetes is more aggressive and more often leads to the development of complications. The most dangerous in this regard are hypoglycemia and ketoacidosis.

Hypoglycemia is a condition characterized by a sharp drop in blood sugar. The tissues stop receiving the necessary nutrition. The child complains of severe weakness and severe hunger, his skin turns pale and becomes damp to the touch, his limbs are shaking. If the lack of glucose is not compensated for at this time, agitation, convulsions and loss of consciousness occur.

Diabetic ketoacidosis is a pathological condition characterized by an increase in the level of ketones in the blood due to the activation of reserve mechanisms for obtaining energy. Unlike hypoglycemia, the condition develops gradually. First, the child develops weakness and drowsiness, then nausea and vomiting. The smell of acetone is felt in the exhaled air, which gradually becomes more intense. Without help, the child falls into a comatose state, which can be fatal.

Long-term complications of diabetes mellitus in children are a variety of disorders associated with deterioration of blood microcirculation:

- diabetic nephropathy (kidney damage);
- diabetic retinopathy (damage to the retina);
- diabetic polyneuropathy (damage to peripheral nerves);
- cardiomyopathy (damage to the heart muscle);
- impaired blood supply to the extremities with the risk of developing gangrene, etc.

Diagnosis of diabetes mellitus in children

Children suffering from diabetes are registered with an endocrinologist, although the first signs of the disease are often noticed by a pediatrician. During the first visit, a survey is carried out, complaints and medical history are collected, and the baby is examined to identify characteristic skin lesions. The basis of objective diagnosis is laboratory and instrumental studies:

- determination of fasting blood glucose levels, glycated hemoglobin;
- glucose tolerance test;
- identification of specific antibodies to pancreatic cells;
- determination of the acid-base balance of the blood, insulin levels, proinsulin;
- general urine test to determine the level of glucose and ketone bodies;
- Ultrasound of the pancreas.

Examinations by related specialists are mandatory: cardiologist, pediatrician, neurologist, ophthalmologist, nephrologist and others.

### Treatment of diabetes mellitus in children

Treatment of diabetes in children is aimed at restoring carbohydrate metabolism and returning sugar levels to normal levels. When it comes to type 1 diabetes, insulin therapy comes to the fore. Typically, doctors prescribe a combination of long-acting drugs that maintain a relatively constant concentration of the hormone in the blood, and short-acting drugs aimed at processing glucose from food. The dosage is calculated on an individual basis and adjusted as necessary.

To avoid multiple insulin injections in children, endocrinologists recommend installing an insulin pump - a compact electronic device that facilitates drug administration.

Following a low-carbohydrate diet is more important for patients with type 2 diabetes, since it is more important for them to control their glucose intake. Regardless of the form of the pathology, parents, and subsequently the patients themselves, must understand how many carbohydrates (bread units) a particular product contains. This allows you to either refuse it or compensate for the intake of glucose with an additional dose of insulin.

Auxiliary treatment may include vascular drugs, nootropics and other drugs, infusion therapy for the development of ketoacidosis.

### Prognosis and prevention

Diabetes mellitus is a lifelong disease. The patient's lifestyle and the absence of complications largely depend on compliance with the doctor's recommendations.

There are no special methods for preventing diabetes mellitus in children. Parents need to pay attention to the quality of the child's nutrition, avoid abuse of sweets, physical inactivity, and excess weight gain. Prevention and timely treatment of viral infections and elimination of intoxications play an important role.

Diabetes mellitus is a difficult disease, but modern drugs and equipment make life much easier for young patients and their parents. The main thing is not to put off visiting an endocrinologist at the slightest suspicion of a disease.

## REFERENCES

1. Методические рекомендации под ред. Дедова И.И., Мельниченко Г.А. «Центральный несахарный диабет: дифференциальная диагностика и лечение», Москва, 2010, 36 стр.
2. Мельниченко Г.А., В.С. Пронин, Романцова Т.И. и др. – «Клиника и диагностика гипоталамо-гипофизарных заболеваний», Москва, 2005г., 104 стр.
3. Эндокринология: национальное руководство, под ред. Дедова И.И., Мельниченко Г.А., Москва, ГЭОТАР-Медиа, 2008, 1072 стр.
4. Равшанова, Иноят Эркиновна. "КЛИНИКА ИНТЕЛЛЕКТУАЛЬНЫХ НАРУШЕНИЙ ПРИ ДЕМЕНЦИИ." Science Promotion 1.2 (2023): 153-159.
5. Равшанова, Иноят Эркиновна. "ОСНОВНЫЕ ФОРМЫ ИНТЕЛЛЕКТУАЛЬНЫХ НАРУШЕНИЙ." Science Promotion 1.2 (2023): 122-128.
6. Равшанова, Иноят Эркиновна, and Намуна Содикова. "КЛИНИКА ПОГРАНИЧНЫХ ФОРМ ИНТЕЛЛЕКТУАЛЬНЫХ НАРУШЕНИЙ." Science Promotion 1.2 (2023): 116-121.

7. Erkinovna, Ravshnova Inoyat, and Ziyayeva Ziroatxon. "NUTQ BUZILISHLARIDA UCHRAYDIGAN IDROK JARAYONINING O'ZIGA XOS XUSUSIYATLARI." *Science Promotion* 1.1 (2023): 58-62.
8. Erkinovna, Ravshnova Inoyat, and Abdullayeva Marg'ubaxon. "NUTQ RIVOJLANISHINING FIZIOLOGIK MEKANIZMLARI." *Science Promotion* 1.1 (2023): 63-71.
9. Mahkamov, G. "THE EFFECT OF THE SOWING PERIOD ON THE FORMATION OF PROTEIN IN THE MASH." *Open Access Repository* 8.12 (2022): 548-553.
10. Ravshanova, I. E. "SOME ASPECTS OF PROMOTING REPRODUCTIVE HEALTH AMONG YOUNG PEOPLE." *INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH* ISSN: 2277-3630 Impact factor: 7.429 11.12 (2022): 325-331.
11. Qizi, Xonbabayeva Madinabonu Asqarjon. "BO'LAJAK LOGOPEDLARNI MAXSUS MAKTAB BOLALAR BILAN OLIB BORILADIGAN PEDAGOGIK-PSIXOLOGIK TUZATISH ISHLARINI USULLARI." *Confrencea* 12.12 (2023): 70-78.
12. Daughter, Musayeva Farangiz Norbek. "Laws of mental development of children with hearing impairment." *Science Promotion* 1.1 (2023): 36-43.
13. QIZI, XONBABAYEVA MADINABONU ASQARJON. "THE IMPORTANCE OF USING FAIRY TALE THERAPY IN THE PRIMARY CLASSES OF A SPECIAL EDUCATIONAL INSTITUTION." *Scienceweb academic papers collection* (2023).
14. Xonbabayeva, Madinabonu, and Nigora Mirzaolimova. "MAKTABGACHA YOSHDAGI BOLALARDA IBORALI NUTQNI SHAKLLANTIRISH BOSQICHLARI." *Development and innovations in science* 2.4 (2023): 14-18.
15. Xonbabayeva, Madinabonu. "NUTQ BUZILISHI BO'LGAN BOLALAR UCHUN IKKI TILLI TA'LIM ASOSLARI." *Наука и инновация* 1 (2023): 231-234.
16. Qizi, Xonbabayeva Madinabonu Asqarjon. "ESHITISHIDA NUQSONI BO 'LGAN BOLALARNING RUHIY RIVOJLANISHI QONUNIYATLARI." *Confrencea* 12.12 (2023): 61-69.
17. Qizi, Xonbabayeva Madinabonu Asqarjon. "Methods of Pedagogical-Psychological Correction of Future Logic Therapists with Special School Children." *American Journal of Public Diplomacy and International Studies* (2993-2157) 1.10 (2023): 37-40.
18. Adxamovna, Ibragimova Dilfuza. "PROFESSIONAL COMPETENCE OF FUTURE LOGIC THERAPISTS IMPROVEMENT." *Semiconductor Optoelectronics* 42.2 (2023): 1457-1461.
19. Xanbabayev, Shohruhbek. "BO 'LAJAK PEDAGOG-PSIXOLOGLARNI MA'NAVIY-RUHIY TARBIYA FAOLIYATIGA TAYYORLASH MAZMUNI." *Scienceweb academic papers collection* (2022).
20. Xanbabayev, Shohruhbek. "Socio-Pedagogical Basis of Spiritual and Spiritual Education Mechanisms in Society and Foreign Experiences." *Scienceweb academic papers collection* (2022).
21. Dilshodjon o'g'li, Khanbabayev Shokhrukhbek. "Of national and general cultural competencies in students based on a competent approach importance." *Confrencea* 12.12 (2023): 89-93.
22. Dilshodjon o'g'li, Xonbabayev Shokhrukhbek. "THE IMPORTANCE OF DEVELOPING NATIONAL AND GENERAL CULTURAL COMPETENCES IN STUDENTS BASED ON A

COMPETENT APPROACH." Galaxy International Interdisciplinary Research Journal 11.11 (2023): 137-139.

23. Dilshodjon o'g'li, Khonbabaev Shoxruxbek. "THE SOCIO-PEDAGOGICAL NECESSITY OF PREPARING FUTURE PEDAGOGS-PSYCHOLOGISTS FOR SPIRITUAL, SPIRITUAL AND EDUCATIONAL ACTIVITIES." Galaxy International Interdisciplinary Research Journal 10.12 (2022): 1525-1529.