

CAUSES AND TREATMENT METHODS OF DIABETES

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Abstract. *Diabetes is a disease that occurs as a result of impaired carbohydrate and water metabolism in the body. It is a consequence of impaired pancreatic function. The pancreas produces the hormone insulin. Insulin is involved in the processing of sugar. Without this hormone, the body cannot maintain the level of glucose in the blood at normal levels and its level increases. As a result, the body excretes excess glucose through the urine.*

Keywords: *Diabetes, hyperglycemia, retinopathy, nephropathy, neuropathy, insulin therapy.*

ПРИЧИНЫ И МЕТОДЫ ЛЕЧЕНИЯ ДИАБЕТА

Аннотация. *Сахарный диабет – заболевание, обусловленное нарушением углеводного и водного обмена в организме. Это следствие дисфункции поджелудочной железы. Поджелудочная железа вырабатывает гормон инсулин. Инсулин участвует в переработке сахара. Без этого гормона организм не может поддерживать нормальное количество глюкозы в крови, и ее количество увеличивается. В результате наблюдается, что организм выводит избыток глюкозы через мочу.*

Ключевые слова: *Сахарный диабет, гипергликемия, ретинопатия, нефропатия, нейропатия, инсулинотерапия.*

Introduction

The pathogenetic basis of diabetes depends on the type of disease. Two fundamentally different types of it are distinguished. Although modern endocrinology calls the classification of the disease conditional, it is important to determine the treatment strategy for each type of the disease. This requires a separate consideration of each of them. In general, diabetes mellitus is actually a type of metabolic disease. At this time, only carbohydrate metabolism is disturbed.

This indicator is called hyperglycemia. The most important basis of the problem is the violation of the interaction of insulin with tissues. Glucose is needed as the main energy substrate for the body to continue its vital processes. The inability of glucose to enter the tissues and its accumulation in the liver as glycogen leads to an increase in its level in the blood. These changes are called diabetes mellitus. The WHO periodically updates and revises the classification of diabetes mellitus. Today, the version proposed in 1999 with additions is used in Russia. The type of diet for diabetes is selected individually to optimize blood sugar levels to the maximum permissible value. This depends on the mechanism of development of the pathology.

What is diabetes? Diabetes (also popularly called "sugar disease") is a disease that occurs as a result of impaired carbohydrate and water metabolism in the body. It is a consequence of impaired pancreatic function. The main symptoms of diabetes are

- a sharp decrease in body weight
- fatigue, weakness
- irritability
- dry mouth, frequent thirst
- increased urination
- cloudiness in the eyes, etc.

It is recommended to check the presence of such symptoms in people under the supervision of an endocrinologist. It is considered an autoimmune disease that is more likely to occur in people with non-compliance with the daily routine, lack of physical activity, excessive food intake, mental stress, nervousness, stress, marriage between close relatives, and hereditary predisposition.

Diabetes mellitus is a chronic condition of hyperglycemia, which occurs as a result of impaired carbohydrate metabolism due to absolute or relative deficiency of insulin, and is accompanied by the development of acute and chronic complications. Insulin (Latin *insula* - islet) is a protein hormone of animal and human origin. It is produced in the islets of Langerhans of the pancreas. It was first isolated by Canadian scientists F. Banting and Ch. Best (1921-1922).

Insulin reduces blood sugar levels by inhibiting the breakdown of glycogen and the synthesis of glucose in the liver. At the same time, it increases the permeability of cell membranes for glucose, which, in turn, allows glucose to enter the tissues. Insulin deficiency in the body causes diabetes mellitus. Insulin therapy is used to treat type 1 diabetes. Insulin terapiyasi qandli diabetni davolashning asosiy usuli hisoblanadi. The goal of treatment is to increase the natural secretion of insulin by the pancreas as much as possible. This allows you to keep the concentration of glucose in the blood serum under control, as well as reduce the risk of complications associated with high sugar concentrations. Type 1 diabetes is mainly observed in young children. The cause of this is unknown. In adults, inactivity, stress, non-compliance with the diet and similar habits are the causes. We should avoid diabetes itself, but its complications.

Hyperglycemia: A constant high blood sugar level has negative effects on the body. After a meal, glucose levels rise. Insulin helps cells take in glucose and use it as a source of energy. If the hormone is not produced in sufficient quantities, for example, due to diabetes, hyperglycemia develops, which causes complications. First of all, blurred vision, which leads to retinopathy of the eyes.

Retinopathy is an eye disease that affects the retina, the transparent membrane at the back of the eye. It is mainly caused by diabetes or hypertension. If not treated in time, it can lead to complete or partial blindness.

Causes: The main culprit in the development of diabetic retinopathy is undoubtedly diabetes or high blood sugar. The severity of diabetic retinopathy is directly related to blood sugar control. The retina, the light-sensitive layer at the back of the eye, has a rich supply of blood vessels. When blood sugar levels are too high, these blood vessels weaken. Blood and fluid inside the blood vessels leak into the retina.

New blood vessels grow, but they are weak and can leak fluid. This causes the retina to swell and become deprived of nutrients and oxygen, leading to vision loss.

Stages: Diabetic retinopathy progresses through four main stages: mild non-inflammatory, moderate non-proliferative, severe non-proliferative, and proliferative diabetic retinopathy.

Mild proliferative: A small amount of swelling occurs in the blood vessels.

Moderate non-proliferative: Blood vessels become blocked and leak fluid. Severe non-isolating: The retina is deprived of nutrients and oxygen. Proliferative: Abnormal blood vessels begin to grow but become weak, which can lead to glaucoma, retinal detachment, and blindness.

Prevention measures include keeping blood sugar levels under control and getting eye exams every 6 months. What is nephropathy? This is a kidney disease that occurs when the small blood vessels in the kidneys that filter blood become damaged. Loss of appetite

Symptoms: Nausea and vomiting, Persistent itching, Fatigue, Protein in the urine, Causes of nephropathy, Diabetes

Diagnosis of nephropathy: Blood tests, Urine tests, Imaging tests, Kidney biopsy, Kidney function tests, Swelling of the feet, ankles,, Treatment of nephropathy, Treatment options, Control high cholesterol, Control high blood sugar, Keep high blood pressure under control, Protein in the urine under control. Neuropathy is a pathology of the nervous system that occurs against the background of damage to the peripheral nerves due to compression or injury and is not inflammatory in nature. When several nerves located in one area are affected, the term "polyneuropathy" is used. Up to 15% of the adult population suffers from various manifestations of neuropathy. It is likely that the number of patients with the disease is higher, because some of them do not go to the doctor with the initial manifestations.

Causes of neuropathy: To date, the exact cause of neuropathy has not been identified. The onset and development of the disease is influenced by many factors, such as diabetes, HIV infection, chronic alcoholism, organic diseases and external factors. In addition, there are hereditary forms of pathology associated with genetic defects. Neuropathy is a very difficult disease to diagnose.

The disease may not make itself felt for a long time and may not manifest itself with specific symptoms. Therefore, the doctor must collect a complete history to make an accurate diagnosis. And such complications can occur when the patient does not take good care of himself, does not take medications on time, is not under the supervision of a doctor and does not follow his advice.

Hypoglycemia isAnother goal of insulin therapy is to prevent a sharp decrease in sugar levels that can occur due to insulin deficiency. This condition is accompanied by severe physical weakness, fainting and convulsions.

Symptoms: shivering, cold sweat, severe hunger, in severe cases coma. Preventive measures: first drink sweet liquid and then eat, if food is not eaten, after 10-15 minutes, when it is repeated, an even stronger effect may begin than before. Insulin therapy is prescribed for the treatment of diabetes in children. The doctor, after assessing the characteristics of glucose level changes during the day, the physical activity and nutritional characteristics of the small patient, selects a combination of drugs, the dosage of each of them and the frequency of administration.

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