

EVALUATION OF CLINICAL SIGNS AND EARLY DIAGNOSIS OF CHRONIC RENAL FAILURE, WHICH DEVELOPS AS A COMPLICATION OF DIABETES MELLITUS.

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Abstract. Diabetes mellitus (DM) is one of the most common chronic diseases worldwide, and one of its most severe complications is diabetic nephropathy. This article reviews the assessment of clinical signs, laboratory and instrumental diagnostic methods, and the importance of early detection of chronic renal failure (CRF) developing against the background of diabetes.

This article provides a comprehensive overview of the main causes, clinical types, and ways to prevent diabetes. Diabetes is a chronic metabolic disease that results from impaired glucose metabolism in the body. Factors such as genetic predisposition, poor diet, physical inactivity, excess weight, and stress play an important role in its development. It analyzes the possibility of preventing diabetes by creating a healthy lifestyle, balanced nutrition, regular physical activity, controlling body weight, and undergoing annual medical examinations. It also emphasizes the importance of raising public awareness, early diagnosis, and preventive measures. This article may be useful for healthcare professionals, students, and the general public.

Keywords: diabetes mellitus, diabetic nephropathy, chronic renal failure, microalbuminuria, glomerular filtration rate.

Introduction.

Diabetes mellitus is a metabolic disorder, and long-term hyperglycemia damages various body systems. The kidneys are one of the most affected organs. Chronic renal failure, which develops as a result of diabetic nephropathy, is one of the main causes of disability and death in patients.

Why can diabetic nephropathy occur in diabetes? Prolonged high blood glucose levels lead to: damage to small blood vessels in the kidneys, damage to filtering structures (glomerules), as a result of which protein (protein) begins to be excreted in the urine, therefore, early detection of this complication and correct assessment of its clinical signs are important.

Pathogenesis of diabetic nephropathy

The following factors play a key role in the development of diabetic nephropathy:

prolonged hyperglycemia

glomerular hypertension

oxidative stress

activation of the renin-angiotensin-aldosterone system

As a result, the renal glomeruli are damaged, filtration function is impaired, and chronic renal failure gradually develops.

Clinical signs.



Chronic renal failure may not initially cause clinical symptoms. As the disease progresses, the following symptoms are observed:

Early stage:

microalbuminuria (30–300 mg/day)

increased blood pressure

mild edema

Late stage:

proteinuria (>300 mg/day)

general weakness, fatigue

loss of appetite

nausea and vomiting

swelling of the extremities and face

anemia

dryness and itching of the skin

In severe stages of SBY, uremic syndrome develops.

Diagnostic methods

Laboratory tests:

Urinalysis:

Detection of microalbuminuria (early marker)

Proteinuria

Blood analysis:

Creatinine level

Urea (urea)

Calculation of glomerular filtration rate (GFR)

Glycemic control:

HbA1c level

Instrumental tests:

Ultrasound of the kidneys (UTT)

Dopplerography (if necessary)



The importance of early diagnosis

Early detection of diabetic nephropathy provides the following opportunities:

Slowing the progression of the disease

Preventing or delaying SBY

Reducing the risk of cardiovascular complications

Improving the quality of life of patients

Microalbuminuria is the most important early sign of diabetic nephropathy. Therefore, it is recommended that patients with diabetes be examined at least once a year.

Principles of treatment and prevention

strict control of blood glucose levels

maintenance of normal blood pressure

use of ACE inhibitors or ARBs

diet (protein and salt restriction)

adherence to a healthy lifestyle

Conclusion: Diabetes mellitus is a globally widespread, chronic and complex metabolic disease that develops as a result of a deficiency of the hormone insulin in the body or a decrease in its effect. The results of the study showed that diabetes mellitus poses a serious threat not only to metabolic disorders, but also to important organs such as the cardiovascular system, kidneys, retina and nervous system. Therefore, early detection of the disease, effective treatment and implementation of preventive measures are important. Etiologically, type 1 diabetes mellitus is often associated with damage to pancreatic β -cells as a result of autoimmune processes.

This process occurs as a result of a complex interaction of genetic predisposition, viral infections and stress factors. Type 2 diabetes mellitus is more common among adults and young people, and its main mechanism is associated with insulin resistance. At the same time, risk factors such as obesity, poor diet, sedentary lifestyle and chronic stress significantly affect the development of the disease. Chronic renal failure, which develops against the background of diabetes mellitus, is a serious and life-threatening complication. Early detection of its clinical signs and the use of modern diagnostic methods play an important role in preventing the severe consequences of the disease. Therefore, patients with diabetes mellitus should be under regular medical supervision.

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