

DIAGNOSIS AND PREVENTION OF NEPHROLOGICAL DISEASES AMONG THE POPULATION

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Abstract. *Signs of kidney damage are noted in every tenth inhabitant of the population. But many people suffering from kidney diseases do not suspect for a long time that they are sick. The insidiousness of kidney diseases lies in the fact that they can proceed asymptotically, without causing any complaints, and they can only be detected by passing a medical examination. That is why chronic kidney disease, along with diabetes mellitus and arterial hypertension, is referred to as "silent killers". If you do not take the disease under control, diagnose it in time and do not allow it to progress, terminal renal failure develops over time, that is, the kidneys cease to perform vital functions. Prevention carried out on time increases the incidence among the population.*

Keywords: *renal diseases, population, prevention, diagnosis.*

Kidneys occupy a central place in the system of maintaining the constancy of the internal environment of the body, play the role of not only the main cleaner, but also manage the processes responsible for our health, well-being and efficiency. Our kidneys are constantly working hard workers who do not know rest. We do not think about the fact that when we eat harmful foods, experience stress and overload, use toxic substances, our kidneys take the hit and neutralize the possible dramatic consequences. Neutralize as long as they are healthy and functionally active. So, in people with impaired kidney function, the risk of heart attack and stroke increases by 25-30 times. In other words, the state of the kidneys determines the youth of our cardiovascular system and the body as a whole.

There are many types of kidney diseases. There are genetically determined diseases (polycystic kidney disease, Alport's disease, Fabry's disease), as a rule, they manifest themselves already in early childhood or adolescence. Other diseases may not have such a rigid genetic predestination, but unfavorable heredity is of great importance for them. These are lupus nephritis, diabetic and hypertensive nephropathy. Having relatives suffering from these diseases, it is necessary to be regularly examined by a nephrologist.

There are primary kidney diseases, which are one of the manifestations of systemic disease, and secondary nephropathies, when kidney damage is caused by a complication of the disease of another organ. Most kidney diseases are secondary nephropathies. Secondary kidney damage in cardiovascular diseases (arterial hypertension and systemic atherosclerosis) and diabetes mellitus are considered the undisputed leader. Their prevalence among the population is high and continues to increase rapidly.

Today, there is an increase in the life expectancy of patients with hypertension and diabetes mellitus (in previous years they simply did not live to develop serious kidney damage and died much earlier from heart attacks and strokes), most patients survive to terminal renal

failure, but their "luck" ends there. Since kidney failure leads to the need for renal replacement therapy (dialysis or kidney transplantation), and the risk of heart attack or stroke increases tenfold compared to people without kidney disease.

With hypertension, a sign of damage to the glomerular filter apparatus is an increased loss of albumin in the urine - microalbuminuria, and then the appearance of proteinuria. With atherosclerosis, the occurrence of atherosclerotic plaques in the renal arteries leads to a gradual narrowing of their lumen and the development of ischemic damage, which can lead to sclerotic shrinkage of the kidney.

A large group consists of autoimmune kidney diseases, that is, associated with the malfunction of the immune system, which, under certain circumstances, begins aggression against its own tissues, in this case, kidney tissues. These are glomerulonephritis, which can be both primary and secondary, within the framework of systemic vasculitis: systemic lupus erythematosus, rheumatoid arthritis, Bekhterev's disease. In addition, the use of certain medications used in rheumatology (nonsteroidal anti-inflammatory drugs, analgesics) can cause serious renal complications - acute tubular necrosis, acute or chronic interstitial nephritis.

A comprehensive approach of the doctor, a thorough diagnosis allows in these cases not only to cope with a kidney ailment, but also to identify and cure an even more dangerous oncological disease in a timely manner. Nephrology is a branch of internal medicine, therefore, the sphere of interests of nephrologists is kidney diseases that require a therapeutic approach, conservative treatment. These are acute and chronic glomerulonephritis, interstitial nephritis, pyelonephritis and urinary tract infection, hypertension with kidney damage, amyloidosis of the kidneys, hereditary nephropathies (polycystic kidney disease, Alport's disease, etc. Prevention and diagnosis of urolithiasis in the early stages by correcting diet and prescribing medications that normalize metabolism, prevent stone formation and dissolve existing stones. However, at a late stage of the disease, with large stone sizes, when it is not necessary to expect significant improvement from conservative treatment, there is a violation of urine outflow, conditions are created for the development of complications (obstructive pyelonephritis). In this case, the patient needs the help of a urologist who performs crushing or removal of stones.

In addition to a thorough history collection and clinical examination of the patient, it is recommended to conduct:

- urine tests;
- blood tests;
- instrumental research;
- kidney biopsies with morphological studies;
- monitoring of medications taken;
- molecular biological research (biomarkers);
- molecular genetic research.

The main extrarenal manifestations of kidney diseases include edema and arterial hypertension (AH). To detect hypertension, knowledge of age norms and daily monitoring of blood pressure are required.

For the study, it is important to use an average portion of the second morning freshly released urine without the use of stabilizers. However, if it is not possible to carry out urine sampling early in the morning, it is possible to collect urine during the day. The use of stabilizers is justified in rare cases, for example, when collecting urine to determine the excretion of

oxalates. Do not delay the collection of urine, as this may be the last urine that the patient was able to isolate. A cheap and accurate method of urine screening is the use of test strips (qualitative analysis). The strips can be used even in tropical conditions. In the absence of hematuria or leukocyturia, proteinuria, glucosuria, there is no need for microscopic examination of urine. If pathological findings are detected during the test strip examination, further quantitative biochemical and microscopic studies are necessary. The unit of measurement of the content of chemicals in urine is liters (for example, the upper limit of the norm of albumin in urine is 20 mg / l), and the number of cells is microliters. In order to level different concentrations of substances in urine, it is recommended to use the ratio of their level to the level of the substance, the excretion of which is constant throughout the day. Such a substance is creatinine. The ratio of the level of the detectable substance to creatinine in the urine can be expressed in mmol of the substance /mmol of creatinine, or in mg of the substance (for example, protein / mmol of creatinine). Preservation of kidney function in diseases of different nature, or nephroprotective therapy is one of the most important areas of work of a nephrologist. It is important to emphasize that even with those kidney diseases that require surgical treatment, the task of further long-term monitoring, dynamic control of kidney function, correction of arterial hypertension and metabolic disorders is the prerogative of a nephrologist. The nephrologist determines the indications for renal replacement therapy (dialysis or kidney transplant), conducts dialysis treatment.

Later diagnosis and prevention leads to:

- increased morbidity and mortality from CRF
- to social problems, disability of patients of working age
- to the need for acute dialysis and to reduce the possibility of performing kidney transplantation
- increase in the cost of treatment.

Since dietary restrictions can reduce the necessary intake of vitamins, patients should take water-soluble vitamins. The appointment of retinol or vitamin E is optional. Vitamins D2 (ergocalciferol) or D3 (cholecalciferol) are not prescribed for use on a regular basis, but are used depending on the levels of vitamin D 25-OH and PTH in the blood. Correction of hypercholesterolemia is designed to reduce the risk of cardiovascular diseases, which increases in patients with CKD.

Primary prevention of kidney diseases should be aimed at modifying risk factors and eliminating structural damage to the kidneys and urinary tract, as well as limiting the impact of environmental risk factors and nephrotoxic substances. In individuals already suffering from kidney disease, secondary prevention (including optimization of blood pressure and control of glycemia) should be the main goal of both training and clinical interventions. In patients with advanced stages of CKD, preventive measures are strongly recommended to prevent or delay the need for dialysis or kidney transplantation, namely the treatment of uremia and concomitant conditions such as cardiovascular diseases. To implement a preventive approach, it is necessary to take measures at the state level. Despite the fact that a country may have a national policy and strategy for the prevention of noncommunicable diseases in general, there are often no specific measures aimed at raising awareness and alertness regarding the diagnosis, management and treatment of CKD. In this regard, it is necessary to raise awareness of the population, medical professionals and politicians about the important role of preventive measures.

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