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Current Issues of the Nephrological Aspect of Preventive Activities of the District Pediatrist

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Resume: The increased incidence of chronic kidney disease in childhood against the background of an increase in the frequency of hereditary and congenital pathologies of compulsory medical conditions, the lack of possibilities for a radical cure for most chronic kidney disease, the frequent unsatisfactory results of the so-called “active” therapy for nephritis, even those that are clearly associated with a bacterial infection, such as chronic pyelonephritis in the presence of huge a large number of antibacterial drugs. The achievements of Uzbekistan in the field of healthcare over 20 years inspire optimism and confidence in successfully solving the complex problems of primary prevention of chronic somatic diseases, including CKD. The specialized nephrology service also needs such improvement. It can be hoped that further study of the nature of predisposition to nephropathies, clarification of risk factors and mechanisms of formation of diseases of compulsory medical syndrome will allow the improvement of methods of primary prevention of CKD in children and adults.

Key words: children; urinary system; nephropathies; pyelonephritis.

Materials and methods. the condition of children with kidney diseases was analyzed. All children underwent a general clinical examination, ultrasound diagnostics of the urinary system, and laboratory tests. Having studied the pathology of the urinary system organs (UMS) for several decades with children, when discussing the situation in clinical nephrology, it is necessary to highlight several aspects that determine the growing social significance of this problem:

Significant prevalence of CMS diseases in both children and adults, a global trend towards an increase in the incidence of chronic kidney disease (CKD) and chronic renal failure (CRF) despite all the achievements of modern clinical nephrology (1,14,25,24,38).

Almost every kidney disease in a child is CKD, which is characterized by a progressive course with the development often in childhood, adolescence and young adulthood of CKD, requiring very expensive renal replacement therapy (RRT), the costs of which have begun to exceed the financial capabilities of even highly developed countries (23,29,46).

The increased incidence of chronic kidney disease in childhood against the background of an increase in the frequency of hereditary and congenital pathologies of compulsory medical conditions, the lack of possibilities for a radical cure for most chronic kidney disease, the frequent unsatisfactory results of the so-called “active” therapy for nephritis, even those that are clearly associated with a bacterial infection, such as chronic pyelonephritis in the presence of huge a large number of antibacterial drugs (56,67,39).

Results. There are real difficulties in providing all those in need with high-tech RRT, and the unsatisfactory long-term results of even such therapy, an increase in mortality at a relatively young age not only from end-stage renal failure (ESRD), but also from cardiovascular pathology against this background (24, 25,23,35). In recent decades, against the backdrop of a decrease in infectious and other acute diseases, improvement in the quality of their therapy and rehabilitation, the morbidity of the population began to be determined by the increasing frequency of chronic somatic diseases (bronchial asthma, diabetes mellitus, CKD, etc.), which usually develop against the background polygenically determined (multifactorial) predisposition to them (7,9,10,21,23). Analysis of the

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reasons for this situation in clinical nephrology indicates the failure of modern preventive services to provide primary (preventive) prevention of CKD and the need to develop and implement a new strategy - preventive prevention of compulsory medical conditions, allowing prenosological diagnosis of hereditary predisposition to these diseases, identification of people in a borderline state and carrying out preventive measures at this level (8,10,32).

The organization of modern nephrology service is based on the promising principle of continuity and continuity of treatment of kidney diseases at different stages (27,49,51). Usually, when we talk about the quality of nephrological services, we mean, first of all, the diagnosis and treatment of diseases of compulsory medical insurance, where there are undoubtedly enormous achievements of the global nephrological community, while the priority aspect of the problem - preventive prophylaxis - is in a deep crisis: "…. until recently, preventive pediatric nephrology raises more questions than it gives answers" (22,21,36). Consequently, life has dictated the need to reorient the activities of the local (family) doctor from narrow treatment to broad preventive prevention of morbidity, the development and implementation of prenosological diagnostic programs for predisposition to kidney diseases and the principles of prenosological clinical examination. Currently, the specialized literature mainly discusses the issues of early detection of kidney diseases, timely verification of diagnosis, improvement of prognosis, prevention of relapses, chronicity, prevention of the development of chronic renal failure, the introduction of modern renoprotective technologies into practice, and the provision of replacement therapy to all those who need it. sick. Great strides have been made in clinical nephrology in these areas. However, despite all the achievements, chronic kidney disease in both adults and children around the world is becoming more frequent due to insufficient theoretical development and lack of implementation of existing achievements in preventive nephrology, which is a new qualitative stage in the history of the development of dispensary services (61,62,24,22). A qualitatively new level of preventive activity of doctors - preventive prevention of chronic somatic diseases dictates the need to develop preventive worldviews among doctors, i.e. conviction in the priority of preventive care, to have the skills for the practical implementation of the latest achievements of preventive medicine. The current system of training pediatricians is also focused primarily on acquiring theoretical and practical knowledge and skills in the field of diagnosis and treatment of major diseases in children, preventing their chronicity (II – level of prevention), preventing complications and disability (III - degree) and, to the least extent, early pre-symptomatic diagnosis and prenosological clinical examination (I - degree of prevention). In the future, obviously, it will be necessary to significantly expand the training and advanced training of doctors on the issues of prenosological diagnosis of hereditary predisposition to various chronic diseases and their clinical examination.

The opportunities for preventive prevention of CHI diseases provided by modern medicine are significant and include pregestational, gestational and subsequent periods, which should be accepted by practical healthcare (6, 8). It is the local doctor "integrates primary health care for the population and has a decisive influence on the level and quality of disease prevention" (16). Therefore, it is important to improve the knowledge of general network pediatricians on nephrology issues, issue special publications for general network doctors, organize seminars on new nephrological technologies, etc., so that they can perceive and implement new achievements in preventive nephrology in their practice. activity. All this is very important because the identification of children with hereditary and other predisposition to kidney diseases and the formation of prenosological clinical examination groups, as well as the identification of a contingent at risk of progression in the population suffering from kidney diseases is the prerogative of the local pediatrician (8,38). The current level of our theoretical and organizational capabilities allows us to identify already known nosological forms of pathology, and a significant part with pre-nosological conditions, but with a predisposition to chronic diseases, incl. to nephrapotology do not fall into the scope of prenosological clinical examination, which is the reason for the ineffective primary prevention of chronic somatic diseases (28,29,30). The traditionally established system of outpatient nephrological care has a number of defects, which is why it cannot meet the objectives of preventive prevention:

- the existing system of dispensary services for a healthy population is focused on “morbidity survey” (32), i.e. already developed nosological forms;
- identifying the early stages of diseases, latent forms is certainly important in practice, but this is a subject of metaphylaxis (prevention of chronicity, relapses, complications), but is in no way preventive;
- the basis of primary (preventive) prevention of chronic somatic diseases is medical examination of a phenotypically healthy population, identifying among them those with a predisposition (diathesis, borderline conditions), which requires the use of genealogical, enzymological, immunological, metabolic studies during that period, when there is no disease as such (8, 9); - from the above it is clear that at present there is still practically no system of high-quality preventive prevention of CKD.

Consequently, the existing system of medical care for both the adult and child population faces the fundamental task of organizing a system of scientific, advanced prenosological diagnosis of threatened conditions (predisposition) to certain diseases, including nephropathology, by establishing pathogenetic and associated markers predisposition and implementation of preventive measures, if necessary, preventive corrective therapy at this level, i.e. the pathogenesis of the disease has not yet begun. Thus, despite all the achievements of modern medicine, it would be wrong to think that it has reached its limit: every century confronts it with new classes of global problems that are very relevant in scientific and practical terms. Such problems of preventive medicine, individual and population levels of preventive prevention of chronic diseases, in particular chronic kidney disease, currently appear to be such, which does not yet have a sufficient fundamental basis. The 21st century has determined new directions in the development of scientific and practical pediatric nephrology, a new strategy for state pediatric nephrology service. At the current level of improvement of this service, it is necessary to recognize the justified organizational structure of the republican and regional specialized nephrology centers with hemodialysis departments, improve the scientific coordination system, create a system for training specialized pediatricians - nephrologists in state educational institutions, a system for advanced training of specialists (3). When talking about primary disease prevention, three conditions are usually distinguished: firstly, the presence of a scientific concept regarding primary disease prevention. Such a concept in pediatrics is currently the doctrine of diathesis, since 95% of chronic somatic diseases arise against the background of a hereditary predisposition (9,2,3,7,18, 25,26), and secondly, the readiness of medical workers implement preventive programs. Here it should be noted that practical doctors are still insufficiently trained in the basics of preventive medicine, incl. preventive nephrology. The current volume of work of the local service to identify families with a hereditary predisposition is clearly insufficient, as evidenced by the small number (even absence) of such families registered in children's clinics (II – health group); thirdly, the willingness of the population to accept preventive recommendations, which is proportional to the level of their medical and hygienic awareness. Speaking about the primary prevention of any chronic somatic diseases, it is impossible to ignore such concepts as “predisposition”, “conditions”, “risk factors”, “borderline conditions” and “causes” (etiology), for which there are still some differences in the definitions of researchers. According to some (35.11), risk factors “are specific significant factors of an etiological nature”; according to others, “risk factors” are not the cause, but act as a condition for a higher possibility of developing pathology (27.16.4). It seems that predisposition to nephropathology (hereditary and congenital) creates conditions for the development of pathology, i.e. "predisposition" and “risk factors” are not the same thing (27). Apparently, risk factors and the cause are often not the same thing, although in certain conditions, apparently, the risk factor can become the cause (etiology), as for example, with glomerulonephritis associated with HBs when it is carrier, pyelonephritis - with persistent infection in mother and child. According to modern concepts, situations such as non-hereditary (non-gene, non-chromosomal) kidney pathology in the mother, a burdened obstetric history (gestosis), and critical conditions suffered in the peri-neonatal period undoubtedly cause an increase in nephro-uropathology in this group of children (37,26,15). In our opinion, such situations represent “conditions of conditions” (35), that is, conditions that contribute to the formation of a predisposition to nephropathology in the antenatal period due to impaired nephrogenesis, the development of AOM,

and renal hypodysplasia (5,20,17). Their CMS diseases are formed under the influence of risk factors: repeated infectious and allergic exposures, persistent infection, exposure to nephrotoxic drugs, ecotoxicants (25). Preventive work with families in which there have been cases of spontaneous miscarriages, stillbirths, the birth of a child with congenital and hereditary diseases of compulsory medical insurance, death of adolescents and adults from chronic renal failure should begin in the pregestational period and include genealogical analysis, medical genetic counseling, assessment of metabolic and immunological status, to exclude the possibility of persistent infection in a woman (12,13,19), i.e. A significant reserve for reducing the incidence of nephropathies is the further development of perinatal and neonatal services. Successes and achievements in the search for risk factors that create the preconditions for kidney damage have attracted the attention of researchers to metabolic disorders (impaired metabolism of purines, oxalic acid, individual amino acids - cystine, tryptophan, etc.), as a result of which a group of "dysmetabolic nephropathies" has been identified, having a large share in the nosological structure of diseases of compulsory medical insurance (10,58,53). In case of metabolic disorders with the accumulation of nephrotoxic metabolites in the body, the kidneys are the early manifest organ as the main eliminating organ (10), which, regardless of the type of dysmetabolism, is based on nonspecific kidney damage with subsequent transformations into interstitial nephritis (IN), secondary pyelonephritis (PN), urolithiasis (10,14,15,31). The elimination of nephropathies of metabolic origin was facilitated by the improvement and widespread introduction into nephrological practice of methods of clinical genetics and biochemistry, which made fundamental additions and adjustments to the understanding of the essence of kidney diseases, changed approaches, tactics for choosing individual therapeutic tactics, and allowed the use of preventive measures even in the pre-manifest stage . The presence of dysmetabolism (oxalic, uric acids, tryptophan, etc.) creates a hereditary predisposition to nephropathies. External factors such as nutrition inappropriate to the metabolic status, heat load, hyperinsolation, environmental factors, intercurrent infections, toxic (including medicinal) and allergic influences contribute to the manifestation of nephropathies, i.e. represent risk factors.

The same factors contribute to the manifestation of nephropathies in the presence of a predisposition of another kind - structural changes of an anatomical, histological nature at the organ, cellular and subcellular levels (33,34). The presence of kidney diseases in the mother (GN, PN), the course of pregnancy by this child with OPG - gestosis is an essential condition that creates such a predisposition. To identify phenotypically healthy children with a dysmetabolic predisposition to nephropathology, screening programs have currently been developed (17,23). Currently, to determine hereditary dysmetabolic predisposition to nephropathies and nosological diagnosis of diseases of the compulsory medical insurance system, you can use a program that includes a complex of genetic, clinical and biochemical studies, which can be systematized in the following form. As can be seen from the table, almost all studies of the first three stages of this screening program are non-invasive and are based on urine testing. The pediatrician must show nephrological alertness when such a child suffers any infectious pathology, and provide antioxidant protection in any course of the disease. An important condition for prenosological medical examination of children with a hereditary predisposition to nephropathology is the determination of critical periods of adaptation to the climatic and geographical conditions of the place of residence. Specific factors "environmental stress" in the climatic conditions of Uzbekistan are prolonged heat load and hyperinsolation, which contribute to dehydration of the body, loss of water-soluble vitamins and stimulate LPO (lipid peroxidation) with all its consequences in children with dysmetabolic diathesis. The specified complex of risk factors in the absence of correction of dysmetabolism, drinking regimen and antioxidant protection in such children creates adaptation stress, metabolic overload on the kidneys (borderline state). A similar risk is created by intercurrent infections and nutrition that is not adequate to the constitutional type of diathesis (failure to follow an appropriate diet for purine dysmetabolism, hyperoxaluria, etc.). Clinical examination for dysmetabolic diathesis should be of a family nature, which allows:

Along with clarifying the nature of the diathesis, identify individuals who are in the pre-manifest stage and carry out primary (preventive) prevention; For persons with manifestation in pathology, clarify the stage of manifestation (DZMN, IN, PN, ICD) and carry out preventive therapy in order to prevent their

progression, prevent chronicity of diseases, complications (metaphylaxis). Thus, to achieve real effectiveness of primary (preventive) prevention, i.e. To preserve and strengthen health that has not yet been compromised, a system of primary prevention based on the innovation process (innovation) is necessary, i.e. introduction of fundamentally new methods that embody modern achievements of medical science (3). There should be and operate a state policy for professional retraining and improvement of local doctors on the achievements of modern nephrology, the formation of risk groups for compulsory medical insurance diseases, the development of differentiated prenosological medical examination programs taking into account the nature of predisposition, the training and advanced training of nephrologists (41,36,34). Republican and regional nephrological institutions should function not only as highly specialized medical institutions, but also perform the functions of methodological centers, monitor the implementation of best practices at all levels, and provide conditions for advanced training of doctors. Health care authorities need to have criteria for identifying children with risk factors and ensure the availability of all necessary laboratory and instrumental studies at the clinic level, and establish control over the quality of prenosological diagnostics and clinical examination (32). The local service is obliged to ensure the formation of a risk group for compulsory medical insurance diseases (health group II), the development of individual (family) programs for primary disease prevention depending on the nature of the predisposition, monitoring the health status of children at risk for compulsory medical insurance diseases, carrying out individual work with parents to improve the level of health literacy, taking into account the characteristics of the family.

Conclusions. The issue of preventive prophylaxis has a very important deontological aspect, since we are talking about monitoring and carrying out preventive measures in a practically healthy child, taking into account the nature of the established diathesis (predisposition), convincing parents and the child of the need for constant monitoring, compliance with all recommendations on diet, daily routine, and sometimes medication correction.

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