



CLINICAL FEATURES OF THE PROGRESS OF UROLITHIASIS IN CHILDREN

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Article history:	Abstract:
Received: March 6 th 2022 Accepted: April 6 th 2022 Published: May 17 th 2022	This article deals with the diagnostic aspects of urolithiasis in childhood. Along with a description of the most effective methods for visualizing calculi, the prevalence and clinical features of urolithiasis among children are discussed. It is concluded that, it is necessary to individually diagnose a number of metabolic markers in urine in children with urolithiasis for the purpose of metaphylaxis and recurrence of the disease in the future.

Keywords: Nephrolithiasis (urolithiasis), metaphylaxis.

RELEVANCE.

Nephrolithiasis (urolithiasis) is a metabolic disease caused by various causes, often of a hereditary nature, characterized by the formation of stones in the urinary system (kidneys, ureters, bladder or urethra). Stones can form at any level of the urinary tract, starting from the renal parenchyma, in the ureters, in the bladder and ending in the urethra. The problem of urolithiasis remains relevant throughout the world due to the steady growth of the disease, which annually amounts to 0.5-5.3% (1.3). Currently, the causes of urolithiasis are not well understood. Urolithiasis is registered in children of all age groups, including newborns, but more often at the age of 3-11 years (2.5).

Measures for the prevention of urolithiasis consist in the timely and thorough treatment of patients with urolithiasis, as well as in the elimination of causes, in the treatment of acute diseases of the bladder and urinary tract; in the rehabilitation of chronic foci of infection. A nurse should not only fulfill the doctor's prescriptions, but also be able to communicate correctly with the child and his parents, observe ethical and deontological principles, be able to examine the child, evaluate the data obtained, taking into account age norms. When organizing nursing care, it must be remembered that this is a continuous process, in the center of which is the child, and his health is completely dependent on the correct, competent and clear actions of nurses. It is important to treat the disease and organize proper care, but it is even more important to

prevent the disease. It is necessary to create such conditions for the child under which he can develop physically, mentally and socially healthy. To do this, children first of all need attention, healthy nutrition, enough sleep, a lot of movement in the fresh air, hardening of the body. After all, health, in accordance with the definition of the World Health Organization, is not only the absence of disease, it is a comprehensive physical, spiritual and social well-being. Urolithiasis in children is of great medical and social importance. Timely detection and competent tactics of a nurse will reduce the percentage of morbidity and complications.

OBJECTIVE.

To study the features of the clinical course of urolithiasis to improve the effectiveness of nursing care for this disease, as well as to study the degree of patient awareness about the features of the prevention and treatment of urolithiasis.

Material and methods. For the period from 2015-2020, 380 patients aged from 11 months to 15 years or more with bladder and urethra stones were treated in the Urology Department of the 2-clinic of SamMI. Of these, 180 (47.3%) had a bladder stone, 200 (52.6%) had a urethral stone. There were 153 (40.2%) children under the age of 3 years, 113 (29.7%) 4-7 years old, 104 (27.3%) 8-15 years old and 10 (2.6%) over 15 years old. There were 241 boys (63.4%) and 139 girls (36.5%). Patients from rural areas prevailed - 322 (84.7%), urban - 58 (15.2%). Table 1 shows the number of patients with urolithiasis out of the total number admitted to the department by years:



Year	Received	With a diagnosis of ICD	Girls	Boys
2015	1646	117- 7,1%	42-35,8%	75- 64,1%
2016	1792	61- 3,4%	45- 73,7%	16- 26,2%
2017	1651	63- 3,8%	40- 63,4%	23- 36,5%
2018	1674	65- 3,8%	34- 52,3%	31- 47,6%
2019	1705	45- 2,6%	30- 66,6%	15- 33,3%
2020	558	29- 5,1%	17- 58,6%	12- 41,3%

All patients underwent a comprehensive urological examination, including: clinical and laboratory examination, ultrasound sonography (US), survey and excretory urography, if necessary, magnetic resonance or computed tomography (CT) was performed. Parents of patients were asked to complete a questionnaire developed by us for patients with urolithiasis. The questionnaire included questions about age, gender, the presence of diseases of the urinary system in the patient's relatives, the location of the stone, the regularity of compliance with the recommendations of the attending physician, the presence of complications of urolithiasis (4,6).

Research results and discussion. In the process of questioning, it was found that the average age at which the first symptoms of the disease appeared was 3-4 years, the average age at which the diagnosis of urolithiasis was made was 4-5 years. Thus, the first symptoms of the disease appeared much earlier than the diagnosis was made. This may be due to the late treatment of patients for medical care, as well as the "low-symptomatic" clinical picture of the disease. When questioning, it was found that the patients surveyed were often accompanied by the presence of other

diseases of the urinary system. Most often, patients indicated the presence of chronic cystitis (41%), chronic pyelonephritis (30%), abnormal development of the urinary tract (29%). Most often, close relatives of patients indicated the presence of chronic pyelonephritis (45%). Complaints in children with urolithiasis are of a different nature than in adult patients. Classical colicky pain in the side with irradiation to the groin area is noted only in 7% of cases, complaints of abdominal pain or severe hematuria (14–33%), about 10% of cases of urolithiasis may be accompanied by dysuria and even ureteral obstruction. Conversely, kidney stones can be asymptomatic for many years and are discovered on a random examination. Visualization of stones in the urinary tract is carried out using computed tomography or ultrasound.

It was found that the only stone on the right was in 115 (30.2%) patients, on the left in 100 (26.3%), bilateral location was in 30 (7.8) patients.

Multiple stones on the right were found in 35 (9.2%), on the left in 62 (16.3%), bilateral location in 38 (10%) patients (table 2).

Location of kidney stones and upper third

<i>Number of stones</i>	<i>On right</i>	<i>On left</i>	Two-way arrangement
Single stone	115 (30,2%)	100(26,3%)	30 (7,8%)
Multiple stone	35 (9,2%)	62(16,3%)	38(10%)
Total	150 (39,4%)	162 (42,6%)	68 (17,8%)

Analyzing the personal data of patients, it was found that not all patients and parents have a sufficient level of knowledge about their own disease and measures for its prevention, adherence to the regimen and diet. It should also be noted a rather low level of adherence of patients to the therapy - only 34% of patients regularly complied with all medical prescriptions. Therefore, all the interviewed patients and their parents were given

recommendations on diet, drinking regimen, urination regimen, maintaining a healthy lifestyle. All patients noted the great importance of the preventive training conversations conducted with them, which resulted in a deepening of knowledge about their pathology, an increase in the possibilities for self-control of the disease.



CONCLUSION.

The conducted study demonstrates the insufficient level of public awareness about this disease. Not all patients suffering from urolithiasis regularly seek medical help during an exacerbation of the disease, and, having applied, not every patient regularly performs medical appointments. There is a need to find new methods to increase patients' awareness of the main symptoms of this disease in order to increase the effectiveness of self-monitoring measures for patients. Only the complex effect of various methods of drug and non-drug correction will contribute to a positive result in the treatment and rehabilitation of patients with urolithiasis.

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