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Research Article

FEATURES OF THE CLINICAL DEPICTION OF UROLITHIASIS IN CHILDREN URGENTLY HOSPITALIZED IN A HOSPITAL

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ABSTRACT

It follows from the literature data that the absence of obvious clinical symptoms of urolithiasis and calculous pyelonephritis in children can lead to diagnostic errors in 8-32% of cases. The purpose of this study was to identify the features of the clinical course of urolithiasis in children hospitalized for emergency indications. In the course of the work, the results of clinical and laboratory diagnostics of 158 children with emergency pathology of the kidneys and urinary tract were analyzed. In accordance with the data obtained, the main clinical signs of urolithiasis in children were identified during their emergency hospitalization.

KEYWORDS

Urolithiasis, children, clinic, diagnosis.

INTRODUCTION

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Various studies have noted a steady increase in the incidence of urolithiasis worldwide. Urolithiasis in children of different age groups is one of the forms of metabolic disorders. Scientists predict that this trend will continue to intensify due to an increase in the number of adverse environmental and social factors [3, 6, 7, 8, 9].

A variety of clinical manifestations of diseases of the genitourinary system, as well as diagnostic errors in their recognition, often lead to emergency hospitalization of children with a diagnosis of "acute abdomen" [1, 5, 6, 10]. Incorrect diagnosis can make therapy ineffective, cause psychoemotional injuries in patients and their relatives, and lead to irreversible metabolic disorders, which negatively affects the health and quality of life of the child [4, 8].

With the development of new technologies in medicine, including in urology, the approach to the diagnosis and treatment of urolithiasis has changed significantly in recent years. Minimally invasive methods of removing stones from the urinary system in children, such as percutaneous and contact nephrolithotripsy, are becoming more common. They are less traumatic and provide effective sanitation of the kidneys from stones [1, 2].

The purpose of the research

Having studied the results of clinical and instrumental studies, to identify the characteristic features of the course of urolithiasis in children who were urgently hospitalized.

METHOD

The analysis of the results of diagnosis and treatment was carried out in 158 children with emergency pathologies of the kidneys and urinary organs, who were hospitalized in the department of surgery and combined childhood trauma of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care for the period from 2020 to 2021. Of these, 87 (55.06%) were boys, and 71 (44.94%) were girls.

Despite the widespread use of modern diagnostic methods, the implementation of objective research methods remains relevant. Important data on the condition of patients were obtained during an objective examination, including an assessment of the skin and mucous membranes, as well as signs of discoloration, which may indicate the presence of pathology of the urinary system and disorders of the water-electrolyte balance, as well as signs of chronic kidney disease. Special attention was paid to the symmetry of the zones, the absence of protrusions, the presence of redness on the skin and scars after surgery during visual examination of the lumbar and abdominal areas. During palpation, the abdominal organs and the suprapubic zone were also examined.

In the initial diagnosis, data from clinical, laboratory and instrumental examinations, including X-ray and ultrasound examinations, were used to clarify the diagnosis of calculous pyelonephritis. The general

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condition of the patient at admission, as well as various manifestations of urolithiasis, determined the non-standard scope and sequence of diagnostic methods used.

RESULTS

According to the data obtained, the majority of patients with acute diseases of the urinary system were 123 patients with "Urolithiasis", urinary tract infection was diagnosed in 19 patients. 15 children were urgently hospitalized with obstructive uropathies. During the observed period, 1 child was treated with a kidney injury (Fig. 1.).

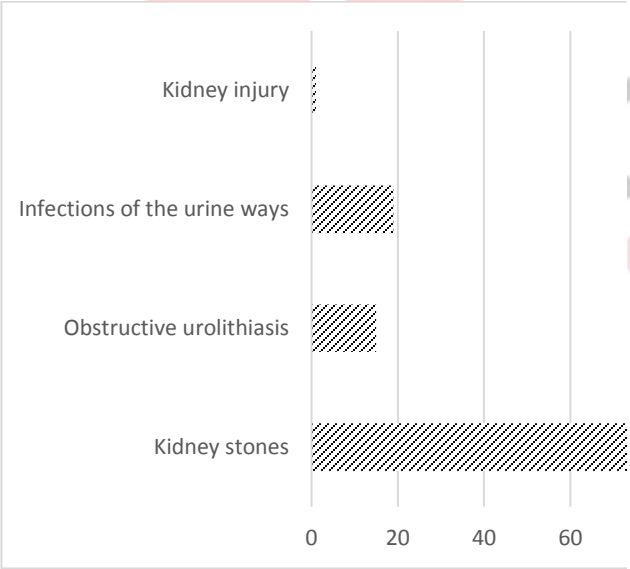

Figure 1. Causes of acute surgical diseases of the urinary tract in children.

During the examination of 123 patients suffering from urolithiasis, it was revealed that the most common concomitant pathology is chronic calculous pyelonephritis. Based on the anamnestic data and the clinical picture, 92 (74.8%) patients were diagnosed with infectious and inflammatory diseases of the urinary tract.

The analysis of the clinical material revealed that among 123 patients with urolithiasis, the condition of moderate severity was noted in 107 (86.9%) children, while 16 (13.1%) were in serious condition. In 97 patients, unilateral kidney damage was detected: in 57 - in the right kidney, in 40 - in the left. 9 patients had bilateral lesions.

One of the most striking symptoms, which became a signal for parents to seek emergency help from a pediatric surgeon, was abdominal pain in children. The nature of the pain varied depending on the age of the child: it could be constant or periodic, cramping or aching, but in most cases it was severe. Such symptoms often led parents to assume that there was a surgical pathology. Pain in the area of stone localization was the main clinical sign that led to the emergency hospitalization of all children.

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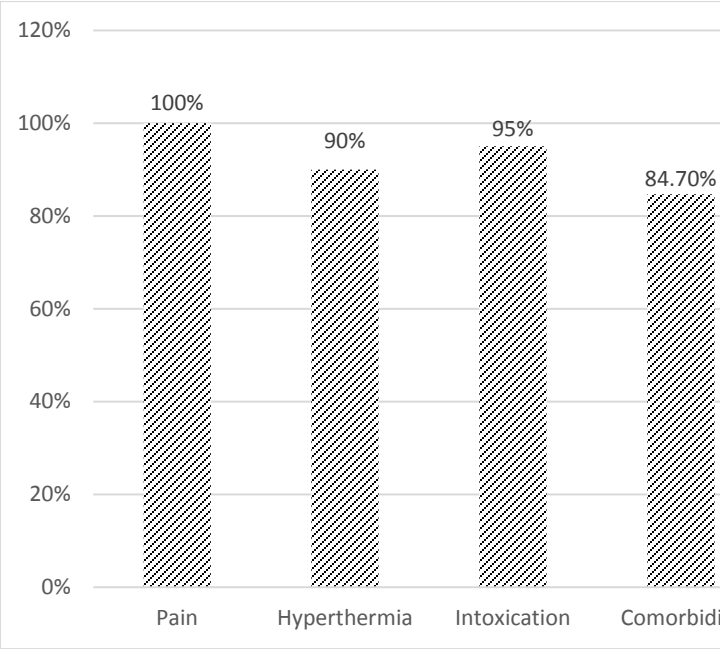

Figure 2. Clinical manifestations of urolithiasis in children

High body temperature of 38-400 C. was observed in 90% of patients. Children with urolithiasis hospitalized for emergency indications showed signs of intoxication in the form of general weakness, fatigue, and headache. In comorbidity with other somatic pathology, ICD occurred in the overwhelming number of patients – 84.7% of cases.

The analysis of clinical material showed that about 90% of children with urolithiasis suffered from rickets in infancy, had a body weight deficit of 10 to 40%, anemia, immunodeficiency, hypoproteinemia, as well as the threat of exacerbation of chronic purulent septic diseases.

The study of some indicators of homeostasis showed that in the examined children with urolithiasis, homeostasis undergoes significant changes. Thus, 87% of patients had anemia, of which 65% had a red blood cell count of 2.6 ± 0.3*1012L, 35% - 3.2 ± 0.2*1012/l. Accordingly, in 80% of patients the hemoglobin content was 80.0±12.4 g/l, in 20% the hemoglobin was on average 102.0±11.0 g/l. The severity of the inflammatory process was assessed by the degree of leukocytosis, increased ESR and leukocyturia. Leukocytosis above 8.0x109 was detected in 85.5% of patients with an average value of 8.3 ± 1.8, increased ESR was noted in 92.7% - an average value of 20.2 ± 3.0.

Dysuric syndrome was the main clinical manifestation of urinary infection, manifested in patients with calculous pyelonephritis and cystitis. The syndrome manifested itself in the form of painful urination, macrohematuria, leukocyturia and bacteruria. These symptoms, combined with intoxication, indicated the activity of the inflammatory process in the urinary tract and the kidney itself. Exacerbations of pyelonephritis were, on the one hand, a reason for children to go to medical institutions, and on the other hand, they testified to the progression of the pathological process in a burdened form.

To identify the nature of the microflora of the urinary tract and determine the sensitivity of antibacterial drugs to them, a bacteriological examination of urine was performed. Of 123 patients, 82 had bacteriological urine tests. Of these, 12 (14.6%) had no growth, 29

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(35.4%) had E,coli, 10 (12.2%) had Stafilococcus, 9 (11.4%) had Enterobacter, 8 (12.1%) had Proteus, 7 (5.3%) had Streptococcus, Citobacter was found in 7 patients (3%). As can be seen from Figure 3, in patients with signs of chronic latent pyelonephritis and the clinic of acute pyelonephritis, bacterial infection was mainly caused by microorganisms of the family E.coli, Stafilococcus, Enterobacter, Proteus, the degree of bacteriuria – 10^5-1012 microbial bodies in 1 ml. urine. rephrase the same thing leaving out percentages and numbers.

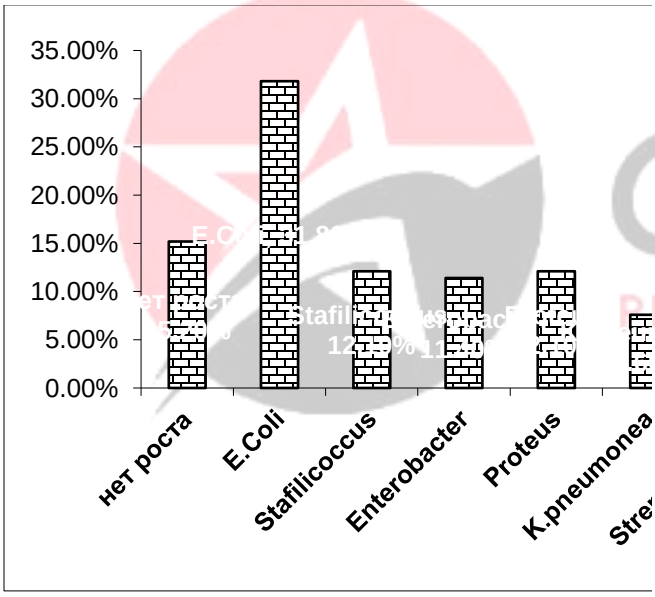

Figure 3. Landscape of urine microflora in children with urolithiasis (N=82)

DISCUSSION

Children with urolithiasis have a variety of clinical symptoms, which is associated with damage to several organs and body systems. This is due to several factors, such as insufficient treatment of the underlying disease, late medical treatment, as well as relapses of inflammatory processes, leading to the chronization of pathology as the child grows up.

- The study revealed the main complaints of children during emergency hospitalization with urolithiasis:
- Renal colic, accompanied by intense pain in the abdomen, lower back and genitals.
- Increased body temperature.
- Decrease in urination volume.
- Blood impurities in the urine.
- Vomiting and nausea.

CONCLUSIONS

Urolithiasis in children is a serious medical and social problem, the prevalence of which remains at a high level and tends to increase. Difficulties arise in cases where the stone causes acute or chronic obstruction of the urinary tract, which requires the earliest possible surgical or conservative intervention.

The clinical picture becomes more complicated with the addition of concomitant somatic diseases and malformations of the organs of the urinary system, which leads to a latent course of the disease and complicates timely diagnosis. Improving the quality of diagnosis of urolithiasis in children and reducing tactical errors is possible only with an integrated approach that takes into account patient complaints, medical history and clinical and laboratory data.

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REFERENCES

1. Sh.A. Badalov, K.M. Sayyodov, B.A. Azizov, G.T. Bakieva. Diagnosis and tactics of surgical treatment of acute obstruction in nephrolithiasis in children // Mat. I – Congress of Urologists of the Republic of Tajikistan. Healthcare of Tajikistan No. 3 Dushanbe, 2011. pp. 346-349.
2. Sh.A. Badalov, H.I. Ibodov, T.Sh. Ikromov, Sh.Sh. Moyanova, N.S. Ibodov, K.M. Sayyodov Results of mini percutaneous interventions in unilateral nephrolithiasis in children // Healthcare of Tajikistan. Dushanbe, – 2021 No.1. From 36 to 40.
3. S.I. Belai, M.A. Dovbysh, I.M. Belai Urolithiasis: the relevance of the issue and the prospects for its development // Bulletin of the Vitebsk State Medical University. - 2016. - Vol. 15, No. 5. - pp. 19-26.
4. Z.A. Boboev, D.M. Makhmadzhonov, Sh.R. Sultonov Determination of the quality of life of children with urolithiasis after surgery // J. Pediatrics. - Tashkent, 2017. - No. 2. – pp. 56-58.).
5. M.S. Ignatova Pathology of the urinary system organs in children // A nephrologist. and dialysis. - 2004. — No. 2. — pp. 127-131.
6. F.M. Tukhtaev, Mavlyanov F.S. The structure of pathology of the genitourinary system in children who received inpatient care in the department of surgery and combined childhood trauma of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care // Journal of Reproductive Health and uro-nephrological Research 2023, vol. 4, issue 2, pp.37-41
7. M.A. Sharafutdinov. Primary and general morbidity of the population with diseases of the genitourinary system: dynamics and prognosis // Social aspects of public health. – 2011. – No. 4. – p. 5.
8. K. Sakhaee. Epidemiologyandclinicalpathophysiologyofuricacidkidneystones // J. Nephrol. – 2014. – Vol. 27, № 3. – P. 241-245. – doi: 10.1007/ s40620-013-0034-z.
9. J. Shoag, G.E. Tasian, D.S. Goldfarb, B.H. Eisner. The New Epidemiology of Nephrolithiasis // Adv. Chronic Kidney Dis. – 2015. – Vol. 22, № 4. – P. 273-278. – doi: 10.1053/j.ackd.2015.04.004.
10. F. Sh. Mavlyanov The Structure of the Pathology of the Genitourinary System in Children Who Received Inpatient Care in the Department of Surgery and Combined Trauma of Childhood of the Samarkand Branch of the Republican Scientific Center for Emergency Medical Care // American Journal of Medicine and Medical Sciences 2023, 13(5): 596-599.