

EPIDEMIOLOGICAL RISK FACTORS OF UROLITIASIS IN CHILDREN (LITERATURE REVIEW)

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✓ Resume

The experience of medical science and practice shows that there are close and varied links between diseases and environmental conditions. It is known that the adaptive capabilities of a person to adapt to the effects of harmful agents are limited, and real long-term adaptation is practically impossible.

The territory of the Republic of Uzbekistan belongs to the arid zone of Central Asia. The authors analyzed the prevalence of complicated infections against the background of nephrolithiasis among the child population, and this issue, its scientific solution to complex metabolic treatment, correction of the nutrition of this disease is the basis for a deep comprehensive scientific research in this direction.

Key words: Nephrolithiasis, complicated inflammatory diseases of the kidneys, children, correction of PMT in arid zones.

ЭПИДЕМИОЛОГИЧЕСКИЙ ФАКТОРЫ РИСКА УРОЛИТАЗА У ДЕТЕЙ (ОБЗОР ЛИТЕРАТУРЫ)

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✓ Резюме

Опыт медицинской науки и практики показывает, что существуют тесные связи между заболеваниями и условиями окружающей среды, и они разнообразны. Известно, что адаптационные возможности человека к воздействию вредных агентов ограничены, а реальная длительная адаптация практически невозможна. Территория Республики Узбекистан относится к аридной зоне Средней Азии. Авторами анализированы распространенности осложненные инфекции на фоне нефролитиаза среди детского населения, и данный вопрос, его научный решения комплексного метоболического лечения, коррекции питания данного заболевания является основой для глубокого комплексного научного исследования в данном направлении.

Ключевые слова: Нефролитеаз, осложненные воспалительные заболевания почек, дети, коррекция питания в аридных зонах.

BOLALARDA UROLITAZISNING EPIDEMIOLOGIK XAVF OMILLARI (ADABIYOTLAR SHARHI)

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✓ Rezyume

Tibbiy fan va amaliyot tajribasi shuni ko'rsatadiki, kasalliklar va atrof-muhit sharoitlari o'rtasida yaqin va xilma-xil bog'liqliklar mavjud. Ma'lumki, odamning zararli vositalar ta'siriga moslashish qobiliyatlari cheklangan va haqiqiy uzoq muddatli moslashish deyarli mumkin emas. O'zbekiston Respublikasi hududi O'rta Osiyoning qurg'oqchil zonasiga kiradi. Mualliflar bolalar populyatsiyasi orasida nefrolitiz fonida murakkab infektsiyalarning tarqalishini tahlil qildilar va bu masala, uning metabolik davolashni ilmiy echimi, ushbu kasallikning ovqatlanishini to'g'irlash ushbu yo'nalishdagi chuqur ilmiy tadqiqotlar uchun asos bo'lib xizmat qilmoqda.

Kalit so'zlar: Nefrolitiaz, buyraklarning murakkab yallig'lanish kasalliklari, bolalar, quruq zonalarda PMTni tuzatish.

Relevance

Numerous studies conducted in our country and abroad show that in terms of progressing anthropogenic habitat changes worsen health outcomes. Human health is a complex multifactorial problem. So far, no consensus on the impact of natural systems and their individual components (climate, soil, hydrology), on health, on the occurrence of diseases and geography. However, the experience of medical science and practice shows that there are close links between diseases and environmental conditions, and they are diverse [9,41].

Epidemiological analysis of the characteristics of infectious disease has a special role in the assessment of

pre-disease population. It is known that the adaptive capacity of a person to adapt to the effects of harmful agents is limited and the real long-term adaptation is practically impossible. The territory of the Republic of Uzbekistan belongs to the arid zone of Central Asia. In Uzbekistan, the number of days with high temperature behavior has increased, and, in general, the climate in Uzbekistan extremity increases, ie, marked continental type of climate. The average July temperature is changed to a plain area with 260S to the north, up to 300 ° C in the south, the maximum temperature reaches 45-470S, rainfall in the plains of 80-200 mm, in the foothills of It is necessary to take into account the fact that the largest area of desert ecosystems include Plains (70% of the territory),

sandy deserts - 27% of the plain part of Uzbekistan [16]. There is a high salinity of groundwater, more than 2 g / l on the bed of the Zeravshan River, located in the irrigated areas. [16].

It is necessary to take into account the fact that environmental factors affect the body complex, and the degree of changes occurring in the body depends on the duration of the impact factors [51]. That is, environmental conditions determine the tension of regulatory systems, adaptive mechanism. Constant voltage reserve capacity leads to over-adaptive mechanisms, at the same time in the body mostly nonspecific changes occur. Further negative influence of the environment exacerbates the work of regulatory mechanisms, and this leads to the disruption of adaptation, and develop specific pathological form of the disease [1, 6]. According to the academician N.A. Agadzhanlyan (1991) [7], one of the most important determinants of health indicator is the state of the environment. In 80% of cases, the incidence of related adverse effects of the environment, reducing health reserves. Anthropogenic factors in northern Uzbekistan, impact on life expectancy and health, promote the rise of the psycho-physiological and genetic stress and form of human pathology. Human health depends on the health of the biosphere, including sanitary and hygienic state of natural resources.

Adaptability of the organism is closely related to his personal sensitivity to environmental factors, that is, some individuals are more sensitive than other resistance. Susceptibility or resistance to diseases associated with stimulation of migration of lymphocytes, response of lymphocytes and their interaction with other immunologic processes, as well as the severity of inflammation, with the neuroendocrine mechanisms of regulation, the regulation of hormones, with exchange and other physiological processes with a specific antigenic structure of HLA- tissue antigenic composition of human tissues [7, 47]. The reduction of water in the Aral Sea affected the northern part of the country the temperature [43].

According to the results of research Mambetullayev SM et al. (2002) [34], the overall incidence of child population in the conditions of the northern part of the country found that overall, the explained variance of 68.4%. Quickie drinking water is the most intense negative effect on the child's body. Overall, its contribution is 32.6%. These include: increased hardness, salinity, chlorides, sulfates. Air pollution also contributes to the total explained variance to 19.4%.

According Sh.T. Iskandarovoy (2001) [21] The annual average concentration of dry residue in 1991 at the site of "Tuyamuyun" increased 1.5 times and amounted to 1674 mg / l. The maximum increase in the mineralization observed in the end portions of the Amu Darya, where the concentration of chlorides and sulfates significantly exceed the permitted levels, and the concentration of magnesium and calcium significantly exceed the water quality in the river upstream of the (cross-sections 1.2). The percentage of samples of water of water bodies in places of water use by the population of the sanitary-chemical indicators reached 58.6% in 1996.

According E.I. Chembarisova et al. (2001) [49] integrated assessment of river water quality within the Amu Darya basin, to 76.9% of the territory is occupied, a satisfactory water and of poor quality, it is mainly middle and lower reaches of Surkhandarya, Kashkadarya and Zarafshan, Khorezm oasis in the northern part of the country.

Before Tuyamuyunvodohranilitsem (in alignment Dargan Ata) water mineralization within a year for the past 10 years steadily varies between 0,60-1,8 g / l. Stiffness mg.ekv ranges from 6-18 / L. Nutrients, nitrogen compounds () doing with agricultural runoff, recorded the maximum values in May, June, and phosphates in late spring-early summer to 1.5 mg/dm³.

Sh.T. Iskandarovoy (2001) [21] found that in white rats treated for 4 months with the value of intragastric water total hardness of 13 mEq / L, marked changes in the peripheral blood, reducing the activity of enzymes - ALT AST, LDH in blood serum; increasing blood levels of alkaline phosphatase, sodium and potassium, i.e. It noted a violation of redox processes and water metabolism.

Formed climatic conditions intensified the continental climate: it was 90%, the amplitude of the summer and winter temperatures ranged from 1.5 to 2.50. The number of dry days [41].

Drained bottom of the sea is the source of the active removal of dust particles that pollute the atmosphere and reach the distance of 200-400 km in length. During the year, the atmosphere received from 13 to 23 million tons solepyli [41].

Outside of his study showed a high dust content. In 1988, the average dust concentration exceeded MPC by 79.2% - 100% of the time, in 1989, from 84.6 to 100% in 1990 from 55% to 100 in 1988, the dust concentration exceeded MPC 4.2 times, in 1990 by 3.3 times [2,3].

Research Sh.T. Iskandarovoy (1996) [22] found that the Aral Sea salt to ion composition contains a percentage: NaCl - 73,9-76,3, CaSO₄ - 0,44-0,47; MgSO₄ - 0,85-1,53; Na₂SO₄ - 0,71-0,76; K₂ - 0,03; MgCl₂ - 0,70-0,85, dry matter - 6,07-6,75, moisture - 4. Appearance in the air-spray.

P.C. Iskandarov (1996) [20] on a large amount of factual material on experimental animals showed that inhalation of aerosol salt Aral 4.8 mg / m³ concentration caused functional changes in a number of indicators. Thus, a statistically significant decrease of cholinesterase activity in animals, catalase and sulfhydryl groups of whole blood, potassium ion content, magnesium and calcium, ALT, AST, alkaline phosphatase activity and serum urea occurred on day 45-60 primer.

In a number of scientific papers [8, 9, 10, 11, 19, 26, 28] showed a significant relationship between environmental factors and the northern part of the country the state of human health; factor between aqueous and renal pathology, including with urolithiasis [21].

It is generally known that the formation of urinary tract stones are caused by complex factors. Most of the stones in chemical research contain calcium, ie, condition for calcium stone formation are high Calciphylaxis urine and stone formation is influenced by change of pH. So, when routine inspection in 200 healthy children, 60 children had a positive test for calciphylaxis [13, 14, 15].

In the Aral Sea zone using chromatographic and spectrometric analysis chromatomass organic acid urine of patients with urolithiasis were investigated. The data obtained are shown - the amount of uric acid risen to 3.33 times schavelevoy acid - 2.5 times, phosphorite - 2.01 times, the amount of glucuronic acid decreased by 11.38%, a marked increase in the content of sodium in the urine 1.65 times, calcium 34.2%, magnesium - 9.8 times, 2.73 times in phosphate [22, 23, 24, 25, 42].

It was established a close statistical relationship between hardness of drinking water and the intensity of

indicators urolithiasis. In the study on calcium absorption, it turned out that affects the nature of food consumed, which causes the acidity of the intestinal contents, the conditions for enhanced calcium absorption from the intestine, therefore, its separation in large quantities in the urine [12,27,29,30].

In determining the interdependence of the prevalence of urolithiasis on the size ratio of Ca / Sr and of Mg / Sr water obtained correlation coefficients equal to 0.797 and 0.679 respectively. The resulting correlation coefficients have negative values, i.e. indicated an inverse relationship [31,32,33,38].

Experiments have shown that when giving the animal in an excess amount of silicon, the latter being allocated by the kidneys, damage the epithelium of convoluted tubules. Damaged epithelium atrophy, slushivayutsya and undergo necrobiosis and necrosis. Here is the deposition of calcium phosphate salts formed microlite-rock forerunner of the future [35,36,37,48].

Detected nedostatochnostperiodiksina nephrolithiasis in the body, which was confirmed as lower amounts of citric acid in the blood of patients and the increase in acid content schavelevoy recurrent forms of the disease [17,40].

Favorable conditions for stone formation in children are at schavelevoy acidic nephrolithiasis, it may be due to a deficiency of magnesium in the surface waters and soil. magnesium deficiency increases in the summer, while the body is significant vegetable, rich in carbohydrates and calcium food [39,46].

Sharply continental climate, high rigidity drinking water violation vodnosolevogo exchange increases the risk of stone formation due to the additional load of calcium salts of the body. Uratemicrooliths in the urinary tract are caused by a violation of purine metabolism, ie, essential role played by the food factor, comprising absorption, excretion, distribution and nature of the accumulation of nitrates, nitrites, chlorine-organic toxic substances, long-term receipt of the human body. From diet composition depends not only on the type and amount of nitrate nitrite pesticides, herbicides, calcium, magnesium, phosphorus, ammonia, bacteria, fungi, coming from the food, but also the nature of their metabolism in the body [4, 5, 44].

According Tynaliyev M.T. (1995) [45] pesticide DDT, HCH in 10 tested samples of kidney tissue of patients with urolithiasis in 4 times more than in the control group samples. It was also found that in the development of kidney stones immet nature more important food and water mode [45].

Thus, studies and calculations show that there is a real relationship between the environmental parameters and indicators of morbidity in conditions of imbalance of natural climatic conditions and it affects the metabolism not only cells in the body, but is a pathological factor in the destabilization of the cellular structures, particularly its membrane cells.

The basis of urolithiasis component balance is disturbed, through the consumption of plastic material, which leads to an imbalance of essential amino acids security, lipids, carbohydrates, minerals and vitamins. This leads to disruption of metabolic processes in the cells, with the destruction of the cell membrane, which manifests as an imbalance of phospholipid structure of cell membranes. Episodic or long-term destruction of cell structures lead to a breach of the colloid-crystalloid composition of urine, increasing the crystallization of salts in the urine to microliths a starting torque of urolithiasis. A connection of infection or stasis of urine

leads to crystallization microliths to makrolitov in the urinary tract.

The book is based on years of scientific and experimental, clinical and laboratory material disclosed pathogenetic mechanism of urolithiasis in children. Subsequently, the material on a large study proved dysfunction causes structural and functional condition of the phospholipid-foot frame cytomembranes kidney cells as a consequence of the disturbed balance of amino acids proceeds, fats, carbohydrates, trace elements, vitamins, leading to abnormally increased excretion of phospholipids in the urine, and to a change in the composition of colloidal kristaloid urine. In this long-term scientific and experimental, practical work to analyze the dynamics of clinical and laboratory data of sick children, which traditional and metabolite-dietary treatment methods developed by the authors have been appointed, before and after the elimination of urostaza, and urinary tract infections.

In this scientific work in each chapter, the series was an attempt to disclose the protein, lipid, vitamin, microelement exchange in urolithiasis in children. An attempt was made consistently shows the result of a complex metabolite-dietary treatment for the correction of an amino acid, lipid, vitamin, microelement disbansa in this pathology in children. The data demonstrate the dynamics of the recovery of the immune, enzymatic cell status, and confirmed significant improvement in clinical and biochemical parameters in patients with children than those receiving conventional therapy. The results confirmed the effectiveness of the chosen tactics decrease 2 times a relapse of the disease in the study group than in the comparison group [50, 51, and 52].

The territory of the Republic of Uzbekistan belongs to the arid zone of Central Asia. The prevalence of complicated infections against the background of nephrolithiasis among the child population is one of the main issues of a comprehensive scientific solution to metabolic treatment, correction of the nutrition of this disease is the basis for a deep comprehensive scientific research in this direction.

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