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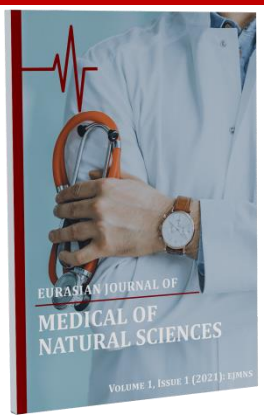

FEATURES OF THE CONDITION OF THE ORAL CAVITY IN CHILDREN OF A PATIENT WITH CHRONIC PYELONEPHRITIS

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ABSTRACT

Among the diseases, diseases of the kidneys and urinary tract in children occur in 3-4% of cases. In addition to a high indicator in the composition of children's diseases, the pathology of the urinary system attracts attention with the severity of the prognosis. Unspecified diseases and late treatment often lead to the development of a pathological process and the development of chronic kidney failure, which leads to a delay in the growth and development of Children, Disability and a significant decrease in life expectancy.

The relationship between oral condition and general somatic disorders is consistently emphasized by dentists . This is a constant interest of researchers to study the features of the course of dental pathology against the background of certain forms of somatic diseases.

The literature contains data on the condition of the hard tissues of the teeth, periodontal tissues and mucous membranes of the oral cavity in children with chronic pyelonephritis. Morphological Association of pathological processes is manifested in children with chronic pyelonephritis by damage to the kidneys and periodontal tissues, they are lymphocytic infiltration, fibrosis, microvascular vessels. With the development of chronic pyelonephritis, structural and functional changes in periodontal tissues are dystrophic, accompanied by vasoconstriction of microtomirs and Sclerosis of tissues .[3]

During the period of exacerbation of the disease in children with chronic pyelonephritis, changes in the functional parameters of the oral fluid are observed: a decrease in the speed of salivary detachment, an increase in the viscosity of the oral fluid, a decrease in its surface tension, mineralization potential, they appear more pronounced.[6]

Osokin M.V. (2007) noted in his dissertation that large and small salivary gland lesions have been found in children with patients in the last stage of chronic kidney failure, which in some cases proceed without clinical signs, of which 7% of patients are diagnosed in children, with sialadenosis accompanied by an increase in salivary glands observed. In all children with chronic renal failure, xerostomia was observed, the amount of immunoglobulins of Type A, M, G in the mixed saliva, as well as increased activity of the enzymes aspartataminotransferase, glutathionperoxidase, superoxidismutase, which indicates a change in homeostasis. and the

development of inflammatory-dystrophic processes, manifested by pronounced changes in the mucous membranes of the oral cavity and solid tissues of the teeth. Yashuk E.V. (2009) notes that chronic renal failure the severity of inflammatory processes in the periodont in children with the last stage increases with a decrease in bone density and a decrease in the level of oral hygiene, a large number of microcracks appear on the tooth enamel of such patients.[8,13]

Patient children with the last stage of chronic renal failure treated with hemodialysis have poor oral hygiene, destructive changes in the hard tissues of the teeth (Cengiz ml., Sumerian R., 2009), a decrease in the reactivity of dental pulp, characterized by numerous denticles and stones, complicating the outcome of endodontic treatment(Orekhov D.E., 2009). Souza S.M. and according to others (2008), the majority (55%) of sick children complain of bad breath. [4]

Similar data were obtained by many researchers in the study of the dental condition of children with hemodialysis due to chronic kidney failure: decreased saliva content, poor oral hygiene, high intensity of dental caries, and periodontal diseases. The authors also note the presence of pigmented tooth sediments containing iron compounds.

Takeuchi Y. (2007) and others found an increase in the number of microorganisms in the oral cavity when a patient with chronic kidney disease analyzed data from microbiological studies of the oral cavity using Dentocult System tests in children.[3]

Data on the prevalence of dental caries in children with chronic pyelonephritis are contradictory, and according to different authors, 69.8% of all these are included (Kuchma S.N., 2008) to 97%.[4]

A number of authors have found that in children with chronic pyelonephritis, the amount of ionized calcium in the blood and saliva is 1.5 times higher than in somatically healthy people. When conducting electrometry of solid dental tissue, a clear trend was found to increase electrical potential in children with patients with chronic inflammatory diseases of the kidneys, indicating an increase in micro spaces in enamel and dentin [8,15].

National guidelines for pediatric therapeutic dentistry (2010) provide information on the need for oral rehabilitation to more than half (62%) of children with chronic pyelonephritis. The authors proposed that the reactions of periodontal and renal tissue (hematuria, diffuse bleeding from the gums) are similar due to hypersensitivity to intoxication. In addition to changes in the gingival border in 1/3 of children with chronic pyelonephritis, dental sediments are recorded in the form of dark brown, soft yellow or white plaque, firmly fixed on the neck of the teeth. Dark-colored dense plaque also occurs in sick children who do not have inflammatory changes in the periodont. Thus, the authors identify a triad of symptoms characteristic of chronic pyelonephritis in the oral cavity: pallor of the mucous membrane, dark pigmentation in the neck of the teeth and carious dentin, trophic disorders of the epithelial lining of the back of the tongue.[2,5,8,10]

A study of literature data showed the prevalence of oral pathologies in children with chronic kidney disease, but most of the research is devoted to the terminal stage - chronic kidney failure, and a patient with chronic pyelonephritis does not solve the problem of dental pathology in children and adolescents.

According to modern concepts, dental caries and periodontal diseases are the main diseases that determine the structure of dental pathology in adults and children . In this regard, the causes of the origin of these diseases, the risk factors are studied with what interest, the

nature of the disease, the clinical features of diseases, as well as various approaches to the treatment and Prevention of diseases that are very important for a person are being developed. Childhood dental caries is a multifactorial disease with many biological risk factors (. There are also risk factors such as artificial feeding of the child in infancy, impaired oral microflora , frequent use of easily digestible foods. Carbohydrates (Gordon Y., Reddy J., 1985), poor oral hygiene (Seow W.K., Amaratunge A., 1996), intrauretin and postpartum developmental disorders (Lai P.Y., Seow W.K.,1997; Thitasomakul S., Piwat S., 2009), malnutrition (Psoter W.J., Reid B.C.,2005), parents ' low-level data on diseases (Marino R.V., Bomze K., 1989).

In 1998, the International Institute for Life Sciences (ILSI) published the monograph "caries Preventive Strategies" () on the etiology, pathogenesis and Prevention of dental caries. In this article, the authors identify two groups of factors that should be considered when assessing the risk of caries. The first group includes factors that damage dental tissues - plaque, easily digestible carbohydrates, the composition and functions of saliva. The second group includes features associated with the development of caries, but not directly involved: socio-economic factors, dental diseases and general somatic diseases.The current theory of caries etiology and pathogenesis recognizes the priority of the chemical-parasitic concept. Many researchers have shown the polyethiological nature of periodontal diseases, and inflammatory reactions triggered by oral microflora play a large role in their development[5].

Bacterial colonization of tooth surfaces is an important etiological factor in the most common diseases of the oral cavity-dental caries and periodontal disease (Rupesh S., Winnier J.J., 2010). There are many studies in foreign literature showing the leading role of Streptococcus mutans in the appearance and development of caries in temporary, removable and permanent teeth [7]. Sticky polysaccharides help bacteria find their place in the plaque and ensure their adhesion to the enamel. the contact of the enamel apatite surface with bacterial polysaccharides is provided by hydrogen bonds, Sa2+ ions and adesin proteins. Adesin proteins include glycoprotein with a molecular weight of 200 kda, released by streptococci [10]

In the oral cavity, there are more than 300 types of microorganisms that form on the surface of the teeth, especially in places of proximal surface and fractures, seizures such as plaque. The effect of microflora on tooth enamel occurs through its colonization in the oral cavity, which is carried out in the form of the formation of dental plaque. The appearance of caries is associated with progressive demineralization of the hard tissues of the tooth under the influence of organic acids, the formation of which is associated with the activity of microorganisms of the permanent microflora of the oral cavity[6]. Dental plaque has a high metabolic activity, defining more than 50 different enzymes, mainly bacterial origin. Acid and alkaline phosphatases, RNA-aza and DNA-aza, glycolysis enzymes, tricarboxylic acid cycle, peroxidases and other enzymes are included. The activity of all enzymes increases with inflammation of many caries and periodontal tissues. The accumulation of organic acids formed in the process of breaking down food carbohydrates is accompanied by a local decrease in rn. Accumulated n + protons begin to replace Sa2 + ions in enamel hydroxyapatite crystals, which leads to the destruction of its mineral component. The results of experimental studies showed that the proteolytic enzymes of plaque are able to destroy the organic part of the enamel, and then the phosphates are released. All these reactions begin the development of the carious process[9].

The development and course of dental caries is largely determined by the ratio of processes of Re-and demineralization of the surface layer of enamel [12]. Remineralization of teeth is provided by the components of oral fluid[12]. At the same time, plaque prevents the necessary micro - and Macroelements from entering the enamel from the oral fluid, thereby disrupting the processes of mineralization and remineralization of tooth enamel[14].

In children, such changes develop faster due to the low mineralization of caries hard tooth tissue, the furnace of demineralization becomes a carious cavity faster than in adults[5]. It has been found that children have fewer mineral components in their newly erupted teeth than adults in enamel, characterized by morphological and functional maturity. During the period of complete mineralization of enamel, molars are considered to have the highest sensitivity to caries[7].

Tooth resistance to caries is also largely determined by the composition and properties of the saliva [6]. Experimentally, it was found that RN = 6.2 is a critical value of the hydrogen index, in which a clear violation of the structural properties of the saliva develops, and its mineralization potential decreases [9]. The shift of PH in the saliva to the acid side leads to a decrease in the level of extreme saturation of the oral fluid with calcium and phosphate ions and an increase in the active concentration of sodium ions [11]. Rinsing the mouth with a 5% glucose solution was found to cause a decrease in rn within 10-12 minutes after the procedure; it would take more than 1 hour to restore rn. The dynamics of RN changes in patients vary, allowing this indicator to be used as a specific test to divide people into caries-resistant and caries-sensitive groups.[11]

When developing treatment and preventive measures, dentists should take into account all risk factors for the development of dental caries and periodontal diseases, take into account the correction of the child's hygiene skills, the culture of eating easily digestible carbohydrates, as well as the timely diagnosis of violations of the composition and functions of the saliva.

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