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Prevalence and Course of Dental Diseases Among Younger Patients

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Annotation. Many parents mistakenly believe that childhood dental diseases do not require treatment and a healthy permanent tooth will grow in place of a destroyed baby tooth. But in fact this is not the case, because if a baby tooth is affected by caries or another disease, a permanent tooth will become infected with pathogens during eruption. Therefore, it is necessary to start taking care of the health of baby teeth as early as possible.

Keywords. cariesogenic factors, periodontal factors, general somatic diseases.

The identification of risk factors and their elimination in various diseases make it possible to introduce a number of fundamentally new provisions into the prevention system. First, objective evidence to identify those in need of prevention in the first place. Secondly, the elimination of risk factors gives a high degree of probability for the prevention of the disease. Thirdly, when working with patients who have identified risk factors, you can significantly improve the medical and economic effectiveness of prevention in order to reduce the economic costs of these measures. Risk factors are involved in different ways in various links of pathogenesis, therefore, in accordance with the possibilities of a particular dental disease, they are called cariesogenic, periodontogenic, etc.

The following conditions can be considered cariesogenic risk factors: crowding of teeth, their early eruption, viscous saliva and a low level of its mineralization and secretion, the presence of anomalies of the dental system, low calcium and phosphorus content in enamel, low fluoride levels in drinking water, poor oral hygiene, a tendency to form soft plaque.

Among the common factors, first of all, general somatic diseases such as rheumatic fever, frequent respiratory diseases, diabetes mellitus, gastrointestinal diseases, mental disorders and other severe chronic diseases, toxicosis of pregnant women, artificial feeding, uncontrolled carbohydrate intake, vitamin deficiency, overweight [3,4,5].

Risk factors for periodontal disease include: tendencies to plaque deposition, high mineralizing activity of saliva, predisposition to an alkaline saliva reaction, low salivation rate, its high viscosity, malocclusion, crowding of teeth, abnormalities of the structure of soft tissues, overload of some and underutilization of other areas of the periodontium [7,9]. Caries and periodontal diseases have a number of common risk factors, which allows the use of the same measures [oral hygiene, effects on salivary glands, elimination of malocclusion and malocclusion defects] to prevent both diseases. Among the risk factors for dental anomalies of soft tissue attachment to the alveolar process, dentition defects, impaired function of chewing, swallowing and breathing, slow erasure of temporary teeth, bad habits of children, violation of the timing and sequence of teething, hereditary predisposition, a number of general somatic diseases, rickets, mental disorders [11,12]. The presence of risk factors does not necessarily lead to the appearance of diseases. Each of these factors is characterized by the probability and level of awareness of the possibility of diseases. For some signs, the probability is very high, for others it is small, therefore, the ranking of risk factors, their combination in order to prevent various diseases plays a very important role in the development of preventive measures. For each risk

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factor, you can develop a specific method aimed at eliminating it. Thus, the identification of risk factors and their quantitative assessment make it possible to individualize preventive measures depending on a variety of factors. An approach to prevention from the perspective of identifying, ranking and eliminating risk factors can significantly improve the effectiveness of prevention.

Currently, the number of newborns with intrauterine growth retardation syndrome born with low weight is increasing, which has severe long-term consequences [13,14]. It is known that the delay in the growth and development of a child in the antenatal period is quite common. Violation of the vascular system at the level of the microcirculatory bed may be one of the links in the chain of development of inflammatory periodontal diseases [15,17]. It has been established that in children with intrauterine growth retardation syndrome, there is a delay and violation of the timing and sequence of teething. There is a violation of microcirculation in periodontal tissues. Biochemical studies have confirmed violations of the function of nitric oxide metabolism.

Caries remains the most common disease today. According to WHO, caries damage in most countries ranges from 80-98% and shows an upward trend, especially in children. Epidemiological studies show that the intensity of caries in children and adolescents remains quite high and ranges from 3 to 5.5 depending on the region. Dental caries belongs to a group of diseases for which both internal and external conditions are etiological factors. And the frequency of occurrence is significantly influenced by heredity. When studying caries indicators in adolescents with high caries intensity, a decrease in the level of enamel resistance and poor oral hygiene, an increase in the viscosity of the oral fluid, an increase in total calcium and a decrease in total phosphorus in the oral fluid were found [17,18]. Parasitic diseases have a high prevalence among the population. According to WHO experts, almost 1 billion people are affected by ascariasis. The majority of them are children and teenagers. The pathological effects of ascarides on the human body have been studied in numerous scientific papers. The parasitization of these worms causes stomach upset, mechanical irritation and inflammation of the intestinal mucosa, leads to the development of hypovitaminosis and causes a state of immunosuppression, autoallergic reactions. Violation of intestinal microbiocenosis changes the microbial composition of the oral microflora. Thus, in children with ascariasis, a high prevalence of caries of 90.4% and an intensity of 4.97 caries was revealed [19,21]. They have poor hygiene, a decrease in mineralizing potential, a decrease in the concentration of total calcium and a decrease in the Ca/P coefficient, a state of dysbiosis. It is known that human life in the conditions of the development of civilization is inevitably associated with the influence of various factors on his body. A special place, as a leading factor in the occurrence and development of pathological processes in the body as a whole, including in the oral cavity, environmental pollution with xenobiotics of man-made origin is important. Another risk factor for the development of dental pathology against the background of increased anthropogenic load is the nutritional deficiency of phytoadaptogens, including polyphenols [23,25]. The conducted studies [27,29,31] indicate that a diet in which there are insufficient alimentary phytoadaptogens causes demineralization of tooth enamel and an increase in cases of combined pathology [caries + chronic catarrhal gingivitis].

The intensity of the inflammatory process in periodontal tissues increased with age and was observed in all age groups. It was also determined that most children have a combined pathology in the oral cavity [caries and chronic catarrhal gingivitis]. Children suffering from chronic diseases of various organs and systems require special attention. Because the prevalence of major dental diseases is higher in people with general somatic pathology than among healthy children. The severity of caries and

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periodontal diseases is directly related to the severity of somatic pathology. Numerous studies indicate that the deterioration of the external environment significantly reduces the resistance of the child's body and its compensatory and adaptive capabilities, and thus, there is a tendency to increase general somatic diseases. The problem of concomitant diseases is becoming more relevant every year. In children who suffer from the atopic form of bronchial asthma, increased lipoperoxidation, depletion of antioxidant protection, increased proteolytic activity, stress of cellular immunity factors were revealed, which leads to a significant deterioration in the course of caries and periodontal diseases. A decrease in the level of lysozyme by 28.75% and secretory IgA by 21.57% was revealed. The problem of causation in the formation of combined pathologies from the point of view of psychosomatic correlation and assessment of quality of life is important. One of the factors of periodontal disease is a violation of the mechanisms of systemic and local immune mechanisms. This proves that one of the causes of the development and progression of chronic diseases is a violation of non-specific protective and adaptive reactions and the body's resistance to adverse factors of the external and internal environment. That is why the prevalence of periodontal diseases in people with a high level of depressive feelings was studied [33,35,37]. It was revealed that the prevalence of the disease increases with age and duration of mental illness. In patients with periodontal tissue damage and oral mucosa in combination with depressive disorders, manifestations of hyposthenia, high levels of anxiety, introversion and psychoticism were found. He pointed out the influence of mental characteristics and personality traits on the course of periodontal diseases. The main risk factors are hyposalivation, low hygiene, decreased pH, impaired microbiocenosis due to the difficult emotional state of patients. Periodontal diseases in people with depressive disorders are accompanied by significant suppression of the mechanisms of systemic and local immunity.

During the study of the prevalence of caries in children who were registered at the dispensary for various general somatic diseases of organs and systems, there was a high prevalence of caries of temporary teeth at the age of 3 to 6 years, the intensity was 5.0 compared to 2.52 in healthy children. The highest intensity and prevalence of caries was in children with diseases of the respiratory and digestive systems. In children aged 7-10 years, the prevalence of caries was 98% with the presence of respiratory pathologies and 97% with diseases of the digestive system. It was found that these children develop a state of local immune deficiency, which is characterized by a decrease in the content of secretory IgA in mixed saliva with a change in the phagocytic activity of IgG. The condition of the hard tissues of the tooth, periodontal, and oral mucosa has a close relationship with the condition of the esophagus, stomach, intestines, and digestive glands [37]. It is believed that changes in periodontitis are due to a single process of inflammatory genesis with simultaneous involvement of the oral cavity and gastrointestinal tract, which proceeds with the participation of proteolytic enzymes. The course of these processes is mutually burdensome due to the close functional relationship between them [38].

Conclusion. All this requires further, more detailed study of the mechanisms of interrelation and identification of new links in the pathogenesis of development and the mutual influence of general somatic pathology and dental status, as well as an integrated approach to the examination and preventive measures among this contingent of children, a differentiated choice for therapeutic and preventive measures that should be carried out by pediatric dentists together with pediatricians specialists of various profiles.

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