



PARODONTOSIS IN THE ELDERLY PERSONS DUE TO DISORDERS

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Received: 20 th August 2022	Periodontal pathology is one of the most common problems in modern dentistry, which is a serious medical and social problem all over the world. The diagnosis and treatment of these diseases represents one of the most difficult problems of dentistry, moreover because the etiology, pathogenesis and even the name of the disease remain controversial for many years - this fact has led to many different classifications. It is known that any chronic disease is the final stage of a long pathophysiological process that occurs in the body under the influence of negative factors, which have a direct or indirect effect on the development of a disease. This article provides an overview of domestic and foreign literature on the main etiological factors of the development of periodontal diseases,	
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Periodontal pathology is one of the most complex and common problems in modern dentistry, so the relevance of its solution is beyond doubt. According to the World Health Organization (WHO), periodontal diseases in different regions occur: from 55.0 to 99.0% in the age group from 15 to 20 years, and in the group aged 35 to 44 years, this figure varies from 65, 0 to 98.0% [1, 2].

According to the WHO, the factors that cause human diseases consist of hereditary (they account for 20%), environmental conditions (they account for 25%) and lifestyle (55%) [3]. Numerous scientific studies show that in the etiology of periodontal diseases, in addition to the general immune status, the presence of general somatic diseases, genetic predisposition and others, one of the main reasons is the poor state of oral hygiene. Fedorov Yu. A. and Koren V. N. note that with regular oral care, periodontal diseases are observed much less frequently (30.4%), while with non-systematic care they occur in 37.5%, and in the absence of it – in 48.5% of cases [1, 4, 5]. This is directly reflected in the local immune status of the oral cavity, since all forms of inflammatory periodontal diseases occur against the background of progressive pathological changes in it [6, 7]. The low hygienic level of the oral cavity is the main factor in the formation of dental plaque and biofilm, which consist of a specific microflora, have a high periodontopathogenic potential and are considered as the main etiology factor in the occurrence of inflammatory processes in periodontal tissues [8, 9]. In the formation of dental plaque, the main role is given to microorganisms and their metabolic products. With improper and irregular brushing of teeth, microbial colonies grow rapidly. For example, in 4 hours the number of plaque microorganisms reaches approximately 10³–10⁴ bacteria per 1 mm² of the tooth surface. If hygienic rules for the oral cavity are not observed during the day, the number of bacteria increases by an order of magnitude. Here the main role is assigned to streptococci, which adhere to the pellicle and synthesize homopolysaccharide from sucrose, and it, in turn, is responsible for the accumulation of bacteria on the teeth. After 3 days, the accumulation of bacteria along the gingival margin leads to the subsequent creation of favorable conditions for the growth of the number of bacteria and a change in the composition of the microflora [4, 10, 11]. In addition to the microflora of plaque in the formation of the inflammatory process in periodontal tissues, the anaerobic flora, namely endotoxins of periodontopathogenic microorganisms, plays a leading role. According to WHO data, their representatives include those species that, along with a predominantly anaerobic type of respiration, are characterized by high invasive, adhesive and toxic properties in relation to periodontal tissues. At the same time, not one, but several microorganisms play a role in the formation and progression of periodontitis, which secrete several complexes - associations of microbes associated with periodontal diseases: 1. Porphyromonas gingivalis, Bacteroides forsythus, Treponema denticola; 2. Streptococcus sanguinis, Streptococcus mitis, Streptococcus oralis, etc.; 3. Actinomyces odontolyticus, Actinomyces naeslundii, Veillonella parvulla; 4. Prevotella intermedia, Fusobacterium nucleatum, Campylobacter rectus [12]. In addition to oral hygiene, local factors predisposing to the

development of inflammatory diseases in periodontal tissues include various anomalies of the maxillofacial region, attachment of the frenulum of the lips and tongue, abnormal bite, crowding of teeth, small vestibule of the oral cavity, pronounced strands of the mucous membrane, bruxism, bad habits, etc. [13]. Separately, it is worth touching on such a bad habit as tobacco smoking, which is one of the risk factors for the development of periodontitis. It suppresses the vascular reaction that usually accompanies gingivitis and periodontitis, as a result of which the body's immune response is sharply reduced. Nicotine leads to the destruction of periodontal tissues by regulating the release of cytokinin, which probably explains the less pronounced inflammation and bleeding of the gums in smokers [14, 15]. A separate role in the pathogenesis of a chronic inflammatory process in periodontal tissues is assigned to the immune system [16]. Macrophages, lymphocytes and mast cells, constantly making excursions to the surface of the gums, instantly respond to any changes from the external environment,

The inclusion of specific immune defense into the mechanism of pathogenesis of inflammatory periodontal diseases is evidenced by the high frequency of detection of positive skin tests for gingival antigen in patients with periodontitis [18]. Many microbial products (exo- and endotoxins) have been identified as activators of the mediated pathway of action on the macroorganism. Scientists have given the name "modulins" to such substances of microbial nature [19]. Numerous studies of domestic and foreign scientists have proven that there is a certain relationship between inflammatory periodontal diseases and any general somatic pathology [20–23]. Examples of such diseases are pathologies of the cardiovascular system, diabetes mellitus, atherosclerosis, diseases of the gastrointestinal tract, respiratory tract, central nervous system, immunodeficiency, etc. So, in the general structure of concomitant internal pathology in generalized periodontitis, diseases of the cardiovascular system (CVS) occupy up to 68% depending on the type of pathology: hypertension - 26%, coronary heart disease (CHD) - 10.5%, neurocirculatory disorders - 68% [24]. It is also worth noting that with the progression of chronic periodontitis, the index of peripheral vascular resistance of the periodontal complex increases, while an additional deterioration in blood flow in patients with various forms of coronary artery disease, including in combination with type 2 diabetes mellitus, has been reliably established [25]. The relationship between the oral cavity and the gastrointestinal tract is a predisposing factor to the development of periodontal diseases. It has been established that in patients with gastroesophageal disease, chronic pancreatitis, peptic ulcer of the stomach and duodenum, the prevalence of periodontitis occurs one and a half times more often than in healthy individuals [26]. In addition, modern researchers have shown that after a course of treatment for dysbacteriosis in patients with generalized periodontitis of stages I and II, there is a positive dynamics of local immunological parameters, which is another confirmation of the close relationship between diseases of the oral cavity and the gastrointestinal tract [27]. Pathogenetic commonality is also observed in diseases of the ENT and oral cavity. A significant effect is exerted by a decrease in the protective properties of the oral mucosa in patients with bronchial asthma [28–30]. Relief of attacks of bronchial asthma requires the appointment of drugs, in particular inhaled glucocorticoids [31]. Proved that these drugs cause a decrease in local immunity of the oral cavity, which creates favorable conditions for the reproduction of the microflora of the oral cavity and other pathogenic factors. In patients undergoing treatment for chronic kidney disease, due to intensive anti-inflammatory therapy, mild inflammation in the periodontium is observed.

There are some changes in metabolism in the periodontium. In more severe clinical cases, patients experience marginal periodontal recession and hyperesthesia of hard dental tissues even with mild periodontitis. In children, nephrogenic osteodystrophies are manifested by changes in the bone and cartilage tissue, which, according to clinical signs, resemble rickets, therefore this pathology is called "renal rickets". Adults develop osteomalacia, in the mechanism of development of which the main role belongs to impaired vitamin D metabolism [32–39]. There is also such a thing as "hepatic rickets", or "hepatic osteomalacia", which occurs in chronic hepatitis and cirrhosis. Such a pathology occurs with liver damage in childhood. The disease is accompanied by growth retardation, short stature and even dwarfism. In the mechanism of osteoporosis in liver damage, vitamin D is also important, namely its endogenous deficiency. In patients with chronic liver damage, atrophy of the alveolar bone increases [40, 41]. The pathology of the pituitary-adrenal system is also one of the etiological factors in the development of periodontal diseases. It is known that the use of glucocorticoids leads to partial resorption of the bone tissue of the alveolar bone. Cortisol reduces the activity of alveolar bone osteoblasts, causes destruction of collagen fibers, and accelerates osteoclastic resorption of bone tissue [4, 18]. Increased atrophy of the alveolar bone under the influence of glucocorticoids is explained by their catabolic effect. Inhibition of bone tissue building, an increase in the production of glucocorticoids may be due to a hyperplastic process in the adrenal glands or an increase in the production of adrenocorticotrophic hormone by the anterior pituitary gland (Cushing's disease) [7]. A similar effect occurs as a result of a primary or secondary increase in the activity of the parathyroid glands, which produce parathyroid hormone. This pathology often develops with hypoestrogenemia as a result of early extinction or shutdown of the function of the gonads in women. Under the conditions of this endocrinopathy, changes in the periodontium primarily reflect osteoporosis in the skeleton [42, 43]. This pathology often develops with hypoestrogenemia as a result of early extinction or shutdown of the function of the gonads in women. Under the conditions of this endocrinopathy, changes in the periodontium primarily reflect osteoporosis in the skeleton [42, 43]. This pathology often develops with hypoestrogenemia as a result of early extinction or shutdown of the function of the gonads in women. Under the conditions of this endocrinopathy, changes in the periodontium primarily reflect osteoporosis in the skeleton [42, 43].

The importance of the nervous system in the dynamics of inflammation does not raise any doubts. Under the action of any pathogenic factor, the nervous system and its trophic function are switched on primarily or secondarily.

It has been established that with short-term negative emotions in periodontal tissues, a long-term increase in vascular tone occurs [12]. In the blood, the content of glucocorticoids, which have a catabolic effect, increases, which leads to a slowdown in the recovery processes in cells. Lipid peroxidation is activated in tissues, as a result of which the content of free radicals increases, which have a toxic effect on cells [14]. Chronic emotional stress also has a negative effect on periodontal tissues. At the same time, in the periodontium there is a violation of metabolism and, first of all, lipids, the formation of lipid peroxides increases. They have a pathogenetic effect on periodontal tissues and accelerate involution [44]. As you know, acquired immunodeficiency syndrome affects many organs and systems, and, of course, this disease has manifestations in the oral cavity. Periodontal lesions are a typical manifestation in HIV-infected people [11]. Usually, periodontal lesions develop at low values of the CD4/CD8 ratio, their severity depends on the degree of reduction in the number of CD4 cells to a greater extent than on the degree of development of dental plaques or the presence of certain microorganisms [15]. Many authors note that microcirculation disorders are the starting link in the development of periodontal diseases [25, 43]. The microcirculatory bed reacts to the appearance of various pathogenic factors long before the appearance of clinical symptoms of inflammation, as it is a very sensitive system. The development of chronic microcirculatory changes in the periodontium is associated with a disturbance in the leukocyte-platelet-endothelial balance. In pathology, when blood cells pass through the microvasculature, their aggregation and adhesion to the vascular endothelium is observed, which possibly leads to blockage of the capillary network with the development of periodontal tissue hypoxia. It should be noted that the pathogenetic factor is not morphological, but functional changes in periodontal vessels, leading to hypoxia. Under such conditions, there is a significant decrease in the delivery of oxygen to periodontal tissues to such a level that it will not be enough to maintain the function, metabolism and cell structure [44–47]. In recent years, the planned sanitation of the oral cavity among the population of our country has significantly yielded to individual sanitation in terms of appeal, especially for an organized contingent [10, 29, 36]. Considering that the treatment of periodontal diseases is a laborious, step-by-step process that requires great effort and knowledge, it is obvious that timely prevention and the elimination of local and general etiological factors, which are started and carried out in the appropriate amount, will help reduce the likelihood of this pathology [16, 17, 48]. In addition, a significant role is played by the interest and literacy of the population in relation to the state of oral health and self-detection of periodontal diseases at the early stages of their occurrence and development. All patients Those who initially applied for dental care should be motivated to observe thorough oral hygiene using various personal hygiene products, followed by quality control of the manipulations performed. It is also important to tell patients about the leading role of the microbial factor in the occurrence and development of inflammatory periodontal diseases. One of the main tasks facing the doctor is the organization of hygienic measures for each patient, which include methods for monitoring the hygienic state of the oral cavity. This is the basis of sanitary and educational work. It is also important to tell patients about the leading role of the microbial factor in the occurrence and development of inflammatory periodontal diseases. One of the main tasks facing the doctor is the organization of hygienic measures for each patient, which include methods for monitoring the hygienic state of the oral cavity. This is the basis of sanitary and educational work. It is also important to tell patients about the leading role of the microbial factor in the occurrence and development of inflammatory periodontal diseases. One of the main tasks facing the doctor is the organization of hygienic measures for each patient, which include methods for monitoring the hygienic state of the oral cavity. This is the basis of sanitary and educational work.

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