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ASSESSMENT OF ISCHEMIC PROCESSES IN PERIODONT TISSUE IN PATIENTS WITH HYPERTENSION

Davronov Sh. O'.
Bukhara State Medical Institute

Relevance of the study. Cardiovascular disease is one of the common causes of death. In addition, they are risk factors for triggering the atherosclerotic process. Nowadays, diseases in parodont tissues can also be considered a risk factor for cardiovascular diseases. In this, there will be inflammatory, immunological and humoral effects, which will form inflammatory cytokines and destroy the epithelium. This allows endotoxins and exotoxins to enter the bloodstream, which can cause atherogenesis as well as thromboembolic conditions. Changes in microcirculatory flow in hypertension can call ischemia in the periodont, which creates conditions for the development of a pathological process in periodontal tissues. In addition, endothelial dysfunction leads to the formation of an atherosclerotic rash as well as the development of lesions in the target organs. Periodontitis is also associated with insulin resistance as well as a high risk of developing metabolic syndrome, which is characterized by oxidative stress. It is this that explains the interdependence between each component of metabolic syndrome (including hypertension) and periodontitis . Periodontitis is a destructive disease that affects the basal structures of teeth, including the periodontal ligament, cement and the alveolar part of the bone. It is characterized by the presence of a chronic mixed infection called by several microbial agents (both Gram-negative and Gram-negative). Recent studies have shown that periodont diseases damage more than 50% of the total population. In turn, cardiovascular disease (YUTK) is the leading cause of death in developing and developed countries. For example, the incidence of cardiovascular disease in Brazil is 30% of total deaths and it responds to 1.2 million hospitalizations. Therefore, these clinical conditions are the most common disease among the adult population, which makes the prevention and treatment of YUTK an important strategy of the global health system. The study of cases showing a link between chronic periodontitis and cardiovascular disease was carried out with a secondary analysis of the data. These studies have shown that people who have PD are susceptible to high risk of cardiovascular disease, namely: stroke, ischemic heart disease (YUIK), etc. Hypertension is the most common disease among all cardiovascular diseases and covers 30-40% of the large population. The atherosclerotic process, called by typical cardiovascular risk factors, manifests itself in the anatomical substrate for the development of primary cardiovascular disease. However, despite all the recommendations for the prevention and treatment of this disease, atherosclerosis continues to develop, which leads to an increase in fatal cases of cardiovascular disease. PD is common throughout the population today. Although PD is another cardiovascular risk factor, it has not been well studied by cardiologists [1.3.5.7.9.11.13.14].

The prevalence and severity of the disease increases with age. Nevertheless, in older age groups, its prevalence decreases, while the percentage of acute illness increases. Periodontitis damages bone and periodontal ligaments and is characterized by bleeding, swelling and increased crevicular fluid. This calls for inflammatory activation (due to bacteria or endotoxins) and an immunological and humoral reaction (due to polymorphyadroly leukocytes, lymphocytes, immunoglobulins and the Complement System). These reactions lead to the formation of inflammatory cytcoins and markers such as interleukin-6, interleukin-1 beta, interferon-gamma, Alpha tumor necrosis factor (TNF-α), inhibitor of plasminogen-activator 1 activity, fibrinogen, C-reactive protein (CRP), prostaglandin E2, and matrix metalloproteinase. There are several common risk factors that can affect both cardiovascular disease and PD. They provide a pathophysiological connection, despite the fact that PD is considered a direct etiological factor. Thus, most likely, diseases of the parodont tissue are a potential risk factor for cardiovascular diseases. In periodontitis, a bacterial rash disrupts the epithelium of the perodontal pocket and absorbs a barrier that protects tissue and blood-carrying flow, allowing endotoxins as well

as exotoxins to enter the bloodstream. There is also a direct invasion of the vessel wall with the help of peroral pathogens, which calls for an inflammatory response that leads to endothelial dysfunction. Peroral hygiene, chewing or dental procedures can call for bacteremia without temporary signs and allow microorganisms to have direct contact with blood flow and, consequently, coronary endothelium. Periodontal pathogens detected in atherosclerotic lesions testify to this. As described above, PD leads to an increase in local inflammatory mediators leading to chronic endothelial inflammation (manifested by an increase in CRP and inflammatory cytokines). This fact testifies to the fact that the inflammatory process can lead to vasospasm, thrombosis and swallowing.

Systemic entry of bacteria or endotoxins can produce infiltration of inflammatory cells in large arteries that form the main facets of the natural history of atherogenesis, as well as proliferation of vascular smooth muscles. On the other hand, cytokines can trigger endothelium to form vasoconstrictors and cause leukocyte adgesia and aggregation that can lead to thrombogenesis. Thus, the systemic inflammatory response that can be observed in periodontitis is probably a connecting link between PD, atherosclerosis and its complications in the cardiovascular systems. However, studies that study the correlation between cardiovascular pathologies (in particular, ischemic heart disease) and chronic inflammatory diseases of parodont are of particular interest and are of paramount practical importance. Today, the inflammatory concept at the base of the development of the Atherosclerosis process, which lies on the basis of most of the destruction in the vein, can be considered the main one. Since the main and most common inflammatory process in dentistry is undoubtedly periodontitis, then the issue of interdependence between periodontitis and ischemic heart disease is of great interest to both dentists and cardiologists, which is reflected in a number of studies by our country and foreign authors. N. the relationship between the state of the organs and the tissue of the oral cavity. A. Yudina, E. N. Ostapenko (2009). When the dental status of patients with ischemic heart disease was evaluated, the authors found that there were statistical reliable differences in the indicators compared to the condition of patients without this pathology. Against the background of unsatisfactory oral hygiene in patients with YUTK, as well as the expression of inflammatory processes, an increase in the level of inflammatory biomarkers and dyslipidemia biomarkers in the blood serum was noted.

At the time of studying the harmonious effects of periodont diseases, ischemic heart disease and other somatic pathology, the main focus of most researchers is on the systemic effects of pathogens characteristic of disorders of hemodynamics and inflammatory diseases of the periodont. In addition to bleeding-free hygiene in the oral cavity, disorders of hemodynamics observed with a number of somatic diseases, it is established that parodont can be the most important factor that detects inflammatory diseases or greatly aggravates their course, since it is microangiopathies that cause hypoxia in parodont tissues. The correlation between foci of chronic infection in the oral cavity (including – chronic general periodontitis and apical periodontitis) and ischemic heart disease (YUTK) is considered one of the most important problems in modern medicine, since, among a number of authors, including Beck J. D. in the opinion of, these diseases aggravate each other. Detected monositar-macrophagal infiltration of parodont as well as intimations of blood-carrying vessels, caused by direct exposure of pathogens in patients with chronic general periodontitis and ischemic heart disease, and associated with the onset of immunopathological reactions. The expression of morphological changes increases as the severity of pathological changes increases in the parodont. Considering that the prevalence of ischemic heart disease in the adult population is 47%, compared to 56% and 50% of the causes of death in developed countries, this problem becomes more relevant. Ischemic heart disease is an injury to the developing heart muscle caused by a sharp decrease in coronary blood flow, which is observed by insufficient oxygen reach to the heart muscle along the coronary arteries. A discrepancy occurs between the functionality of the coronary vessels and the myocardium's need for oxygen. The most common cause of this disease is considered to be atherosclerosis of the coronary arteries, with the formation of rashes inside the vessels, which is observed with narrowing of the opening of the vessels. However, the etiological factors of YUTK should include not only sclerosis of the coronary arteries, but also spasm of the coronary arteries and their thrombosis. In most cases, the harmonious effect of all the listed factors is determined. The

mechanism of development of YUTK is described in the National manual on cardiology and consists in the fact that as a result of the action of etiological factors, a sharp decrease in coronary blood flow develops, which leads to necrosis of the myocardium as well as a weakening of its pumping function. This leads to a number of clinical signs as well as secondary damage to the organs. Periodontal disease is common in patients with rheumatoid arthritis, and this disease initiates an autoimmune response in rheumatoid arthritis. Both periodontal disease and rheumatoid arthritis have similar pathogenic mechanisms. Alveolar bone destruction and tooth loss are highly prevalent in people with rheumatoid artiritis, which is also a consequence of periodontal disease.

The importance of optimal oral care in patients with chronic obstructive pulmonary disease (sok) has been highlighted due to its association with periodontitis. Chung et al. It used data from 5,878 adults from the Korean national survey and found a significantly higher prevalence of periodontitis in patients with sok compared to healthy people. In 59 large cohort studies, about 22,332 patients with sok were compared with non-sok individuals, and it was proposed that patients with sok were at higher risk of developing periodontal disease. 60 similarly, a meta-analysis of 14 epidemiological studies showed a significant correlation between periodontal disease and sok, and periodontal disease is recognized as an independent risk factor for sok [2.4.6.8.10.12.14].

The prevalence and severity of Parodont disease has been linked to smoking, drugs, alcohol use, and stress. Due to the fact that stress and smoking have been considered the most important factors among the risk factors of swallowing for many years, for a long time ischemic heart disease was considered a disease of "men", but now this disease is given by both women and men aged 40-65 years, in which a sharp "rejuvenation" tendency of the disease is noted. Such a trend is associated with the prevalence of risk factors that develop YUTK, both among men and among women, in which hypodynamics and obesity were added to the range of smoking and stress. As a result of this, diseases of the cardiovascular system currently ranked first among the causes of death in the world (more than 50%), which is especially characteristic of highly developed countries. V.V. According to Gorbachev, 98% of patients suffering from YUTK were diagnosed with atherosclerosis of the coronary arteries as well as diseases such as arterial hypertension, type two diabetes mellitus.

Conclusion. The author has proven that chronic periodontitis is much more severe in comparison with patients who do not have cardiovascular diseases in such patients. In patients with a combination of YUTK and arterial hypertension, it was established that chronic general periodontitis of the middle and severe levels occurs in 67.9% of cases, and in patients with yutk and Type II diabetes-in 78.1% of cases. T.A. According to barteneva, patients who are observed with functional class II-III loading stationary stenocardia are diagnosed with an expressive violation of blood flow within the tissue in the parodont. Analysis of hemomicrosirculation disorders in the parodontal complex based on ultrasound dopplerography in patients with YUTK made it possible to identify reliably impaired volumetric and linear characteristics of blood flow in parodont compared to individuals in the control group.

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