IN INFLAMMATORY PERIODONTAL DISEASESB PROFESSIONAL ORAL HYGIENE

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Annotation: The article presents data reflecting risk factors in inflammatory periodontal diseases, atherosclerosis, diabetes mellitus, and metabolic disorders. Periodontitis and these systemic diseases are considered through common pathogenetic mechanisms associated with systemic inflammation. Studies on bacteremia arising from the treatment of periodontitis are discussed, since episodic bacteremia is observed even with minimal trauma, including brushing the teeth, flossing, chewing, removing dental deposits. Treatment of periodontal diseases improves glycemic parameters and reduces the risk of cardiovascular complications.

Keywords: inflammation, periodontitis, atherosclerosis, diabetes mellitus, bacteremia.

INTRODUCTION

According to epidemiological studies, the prevalence of inflammatory periodontal diseases in people older than 30 years reaches 85–90%. Periodontitis is an inflammatory process in the tissues of the gums, alveolar bone and supporting tissues surrounding the tooth. Diseases of periodontal tissues, as a rule, have a chronic course and are the body's response to biofilm and plaque. The two most common inflammatory periodontal diseases are gingivitis and periodontitis. Gingivitis is characterized by inflammation of the gum tissues, is a reversible process (if caused by poor oral hygiene) and proceeds without damage to the supporting tissues of the tooth.

MATERIALS AND METHODS

Although inflammatory periodontal disease is a polymicrobial infectious process, the pathogen P. gingivalis is present in most cases in periodontitis. Two categories of risk factors for the development of periodontitis should be distinguished - immutable and variable. Unchangeable risk factors include age, ethnicity, genetic factors, and gender. Numerous studies have found that the incidence of periodontitis increases with age. However, modifiable risk factors such as diabetes mellitus (DM), smoking, alcohol abuse, low education and social status, stress, osteoporosis, and viral diseases are also important in the pathogenesis of periodontitis [1, 2].

RESULTS AND DISCUSSION

Dental biofilm contains oral streptococci and is a functioning microflora. A structured biofilm containing up to 100 types of various microbes continuously continues its construction and can cause the development of a disease. Depending on local factors, the biofilm composition can vary significantly. Thus, biofilm microbes can lead to enamel demineralization, caries, pulp necrosis, inflammation of the gums and supporting tissues, including bone. Removal of the biofilm is achieved by regular individual and professional oral hygiene [4, 10, 30]. A huge number of microbes are found in different areas, including the gums, cheeks, teeth, palate, periodontal sulcus, and interact with the human body in the form of disease or health. There are approximately 1 billion bacteria in the oral cavity of an adult. It has been established that patients with periodontitis have episodic bacteremia even with minimal trauma, including brushing their teeth. In addition, chewing, scaling, and flossing contribute to the development of bacteremia, which is observed in patients with periodontitis in comparison with patients with gingivitis and individuals with healthy periodontium. The more pronounced periodontal destruction and inflammation, the more important bacteremia becomes, especially if there is a subgingival biofilm

P. gingivalis. At the same time, pathogens such as P. gingivalis, S. sanguis, Chlamydia pneumoniae are also found in atherosclerotic plaques. Oral bacteria such

as P. gingivalis induce matrix metalloproteinases, which cause periodontal destruction and rupture of atherosclerotic plaques [3, 31].

A number of studies have noted that the treatment of periodontal tissues reduces the risk of cardiovascular complications. The progression of CVD may also depend on the effectiveness of periodontal treatment. It has been established that CVD markers change during periodontal treatment. 1–2 months after periodontitis treatment, there is a decrease in the total level of CRP, E-selectin, IL-6, as well as a decrease in the number of pathogenic microbes in dental plaque. It has been proven that in patients with arterial hypertension, after treatment of periodontal tissues, there is a decrease in the level of CRP, IL-6, fibrinogen, and blood pressure, which may reduce the risk of CVD. Periodontal therapy, including conservative methods such as removal of dental deposits, smoothing of the tooth surface and antibiotic therapy, leads to a decrease in the level of inflammatory mediators, including CRP, IL-6, fibrinogen, and an inhibitor of plasma plasminogen activator-1.

CONCLUSION

The joint recommendation of periodontists and cardiologists on the need to inform patients with moderate and severe periodontitis about the increased risk of developing CVD and conduct a cardiological examination [2] seems important. It should be noted that inflammatory periodontal diseases are associated with a significant deterioration in the quality of life, while periodontal treatment can improve this indicator. In addition, treatment of periodontal tissues reduces the risk of developing CVD and DM associated with periodontal pathology. Thus, an important task is to prevent inflammatory periodontal diseases in order to reduce the overall incidence among the population.

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