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Abstract

The physiological bacterial flora of the oral cavity is diverse and the composition of the microflora is related to the diet. Less diversified microflora of the oral cavity may favor the growth of pathogenic bacteria of all bacterial complexes. Literature data indicate that disturbances in the balance of the oral bacterial flora appear to contribute to both oral and systemic diseases. Untreated periodontitis can damage the gums and bones of the alveolar process, leading to periodontitis and premature tooth loss. Improper eating habits related to the consumption of highly processed foods, which adversely affect the oral and intestinal microbiome, increasing the risk of many chronic diseases, including enteritis, obesity, type 2 diabetes and cardiovascular disease are an increasing problem in developed countries. and cancer. Periodontal diseases are already treated as a civilization disease. The subject of our considerations is the influence of the type of diet on the formation of oxidative stress and inflammation caused by the bacterial biofilm in the oral cavity. The studies used a diet rich in vegetables W, a diet rich in T fats, a protein diet B, a diet of mixing F and non-invasively collected biological material in the form of a bacterial inoculum of the tooth surface from volunteers and their animals. Through dental, biomedical and laboratory tests, we assessed the influence of oxidative stress on the inflammation of the soft tissues in the oral cavity in the presence of residual supra- and subgingival biofilm. The analyzed material was grown on media that was complete and selective for specific strains of all bacterial complexes. It has been shown that the most important periopathogens of the oral microflora are bacteria of all complexes, including the red complex. Additionally, the zones of growth inhibition were analyzed by the disc diffusion method. The research was supplemented with the use of molecular biology methods related to bacterial DNA isolation, PCR reactions and sequencing. The results obtained suggest that eating a specific diet rich in vegetables can be helpful in the prevention and treatment of periodontal diseases, and the selected methods are an ideal screening test for the analysis of oral bacterial microbiota. It seems that the developed periodontal examination scheme can be practically a useful diagnostic tool for professionals and anyone interested in proper oral hygiene.