CHANGES IN PERIODONTAL TISSUES UNDER THE INFLUENCE OF OVER BODY WEIGHT AND METHODS FOR PREVENTING THEIR COMPLICATIONS

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Summary: Obesity is one of the most common chronic diseases in the world.

According to modern data, every fourth inhabitant of our planet suffers from some degree of obesity or is overweight. According to the 2014 WHO, more than 1.9 billion adults aged 18 and over are overweight.

Research shows a link between periodontal disease and obesity.

The aim of this study is to assess the prevalence, clinical features, and the relationship between periodontal disease and obesity.

Key words: Periodontitis, obesity, metabolic syndrome, dyslipidemia.

Relevance of research: Periodontal pathology, being very common, progresses with age, and by the age of 40, almost 100% of the population suffers from it. Often periodontal diseases are asymptomatic, therefore, for their early diagnosis and prevention, a comprehensive examination and characteristics of the state of the protective factors of the oral cavity in patients are necessary [6,9,14,17,22,25].

Despite a significant number of annual studies devoted to the problem of periodontal diseases, both in our republic and abroad, many aspects of pathogenesis, clinical variants of complications, its timely diagnosis and effective prevention remain unclear, controversial and poorly understood. One of the insufficiently studied issues of the problem is the clinic, diagnosis and prevention of generalized periodontitis in persons suffering from background diseases and especially their association. Meanwhile, in the last decade, there has been a tendency towards a significant increase in the combined forms of somatic pathology in patients with periodontitis. [4,6,8,10,12,15,17,19,25]

Modern literature data indicate that there is an etiopathogenetic relationship between obesity and periodontal disease [1,5,7,10,13,15,18,19,21].

Adipose tissue is a powerful endocrine organ in a state of so-called aseptic inflammation. Fat cells secrete a number of hormones, cytokines that provoke the development of inflammatory diseases that have a common pathophysiological basis with obesity and periodontitis [3]. There is a close relationship between obesity and inflammation, which is reflected in the plasma concentration of C-reactive protein (CRP) [3,5,7,11,13,15,17,19]

In a study by Boucher N.E., Hanrahan J.J. and Kihara F.Y. in 1967, an association was shown between serum CRP and inflammatory diseases of the oral cavity. Recent data have shown that patients with various forms of periodontitis have elevated CRP levels. But they do not show that periodontitis was the cause of the observed serum CRP levels [5,8,15,19]

Recent studies show that the hormone leptin is initially

Known for its effects on body weight regulation, metabolism and reproductive function, it may also be part of some inflammatory diseases by affecting innate and acquired immune responses. Defects in the expression of the gene for the production of leptin or its receptors (gene diabetes) can lead to extreme obesity [1,3,5,8,13, 14,15,19,24,26].

The purpose of this study is, on the basis of clinical and laboratory studies, to assess the incidence and characteristics of the clinical course and the relationship between periodontal disease and overweight. And also the development of a way of prevention.

Materials and research methods: The study involved 47 patients (30 of them with obesity) at the age of 25-45 years (45 + 2.3 years), including 29 women and 18 men. The condition of the periodontal tissues was assessed using clinical (determination of the depth of the tooth-gingival pockets; the degree of Mulleman gingival recession; indices: hygiene Fedorova-Volodkina, PMA, PBI, CPITN, Russel) and paraclinical (orthopantomography) examination methods and ultrasound Doppler sonography. The data obtained were statistically processed.

Research results: Based on the analysis of the results of clinical and X-ray studies, the diagnosis of chronic generalized periodontitis (CGP) was made in 93.3% of patients. In patients of the control group, CGP was diagnosed only in 42.7% of patients. When comparing the severity of periodontal pathology in the main and control groups using correlation analysis, significant differences were obtained between the groups ($I = 184.0$; $p < 0.0001$).

Doppler ultrasound data revealed an inverse correlation

The relationship between clinical diagnosis and indices of disorders of regional blood circulation in periodontal tissues ($r = 0.72$, $p = 0.001$).

Conclusions:

1. Based on the analysis of the literature and clinical and statistical studies, an etiopathogenetic relationship between the severity of changes in the periodontium and obesity was revealed.

2. There is a need for an integrated approach in the treatment and prevention of obesity in combination with periodontal disease.

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