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THE STUDY OF PATHOGENETIC FEATURES OF THE DIAGNOSIS OF PERIODONTAL  
DISEASE IN OBESITY*Gubayev Muhiddin Sarimsakovich**Samarkand State Medical University, Uzbekistan*

## ABOUT ARTICLE

**Key words:** Periodontal diseases, obesity, amine test, key cell.**Received:** 08.01.2024**Accepted:** 13.01.2024**Published:** 18.01.2024**Abstract:** An amine test, a qualitative and quantitative indicator of the intestinal microbiota in the contents of periodontal pockets of 67 patients with periodontal diseases, measurement of "key cells" and comparative analysis with obesity showed that the violation of the oral microbiota was more pronounced in obese patients. This is a prerequisite for a more severe course of the disease and a decrease in the effectiveness of treatment. The results of the amine test and the identification of key cells are useful for the diagnosis of oral diseases.

## INTRODUCTION

With the change in living conditions, conditions called lifestyle-related diseases have appeared, and their frequency is steadily increasing. Obesity is one of the most common conditions related to lifestyle-related diseases. Changes in the functional state of organs and body systems have systemic characteristics and are a factor in increasing the severity of various diseases, including infectious ones [1-4]. Odontogenic infections occupy an important place in dental pathology, and their prevalence is steadily increasing. The role of conditionally pathogenic and obligate flora in the etiology of periodontal pathology is increasing, and the frequency of unsatisfactory treatment results ranges from 21.3 to 27.6% [1]. Against the background of obesity, there is an increase in blood clotting, leading to tissue hypoxia, which leads to the centralization of blood circulation [2] and is accompanied by a decrease in the metabolic activity of peripheral tissues. In particular, a decrease in the metabolic activity of the mucous membrane of the luminal tract leads to a decrease in its protective function and creates conditions favorable for the pathogenic development of opportunistic and endemic flora. In this regard,

it is interesting to study the features of the development of paradontosis against the background of obesity. This periodontal disease is characterized by periodontal disease without signs of inflammation and develops against the background of systemic changes in the body. The purpose of the study: a comparative analysis of the results of amine tests in the material of periodontal pockets, quantitative indicators of bacterial contamination and the presence of "key cells" in orthodontic patients and patients with periodontal disease on the background of obesity. Materials and methods of the study The study is based on a comparative analysis of the results of bacteriological tests for quantitative indicators of seeding on endo- and endo-bismuth media, amine tests and identification of "key cells" in material from periodontal pockets in 67 patients with periodontal diseases. The patients were divided into two groups depending on the presence or absence of obesity. Group I included 40 periodontal patients with normal body mass index (BMI) values ranging from 20.2 to 24.1. Group II included 27 patients with a BMI of 30.2 to 33.4, that is, obese. At the same time, insulin resistance was not observed: the average age of patients in group I was  $34.6 \pm 3.4$  years, in group II -  $35.1 \pm 2.7$  years. In other words, both groups corresponded to each other in age: 14 (35%) men and 36 (65%) women in group I and 10 (37.1%) men and 17 (62.9%) women in group II. The amine test and the identification of "key cells" are most often used in gynecological practice to diagnose bacterial vaginosis - a violation of the vaginal flora without signs of inflammation. By analogy with the diagnostic criteria of bacterial vaginosis and paradontosis, it can be assumed that the development of both BV and PD is based on systemic changes at the level of all organs. During the amine test, a 10% KOH solution is added to the test material. If the test result is positive, it is considered that it smells like rotting fish, which is due to the presence of volatile amines in the material. When examining the material from the gingival pockets, the smears were Gram-stained to determine the presence of "key cells". Key cells" are epithelial cells with microorganisms adhering to their surface, which indicates a decrease in the local resistance of the mucosal microflora. Stereometric morphometry with counting in 50 fields of view was used to evaluate the quantitative results of the detection of "key cells". Then the variation series were constructed and the arithmetic mean, the error of the arithmetic mean and the reliability of the differences in the Student were calculated. Bacterial contamination of the oral cavity is very high and reaches  $2.7-3.4 \times 10^{11}$  CFU. At the same time, representatives of the unstable microflora of the oral cavity, including enteric, are found in small amounts up to  $10^2-3$  KOM and are eliminated in a short time, due to the action of non-specific protection factors and antagonism of the indigenous microflora. The long-term presence of intestinal microflora in the oral cavity and an increase in its quantitative indicators indicate the occurrence of a pathological process. Therefore, microbiological studies were aimed at the frequency of detection of intestinal microflora and its quantitative indicators. Inoculation of the material from the gingival pockets was

carried out on endo- and endo-bismuth media specific to the culture of the intestinal microbiota. RESULTS AND DISCUSSION A comparative analysis of the results of diagnostic tests in the study groups was carried out (see the table). The results showed that 25 patients ( $62.4 \pm 7.6\%$ ) in group I had a positive amine test. On the contrary, in group II, all 27 (100%) patients had a positive amine test, which was significantly higher than in group I ( $p < 0.05$ ).

## RESULTS

The results of the identification of "key cells" deserve special attention, which reflects the state of resistance of the mucous membrane to microbiological aggression. In contrast to group I, where "key cells" in the material from the dentoalveolar pockets were found in 21 ( $52.5 \pm 7.8\%$ ) patients, in group II they were detected in 24 ( $88.9 \pm 6.0\%$ ) patients. At the same time, the differences between the groups were significant ( $p < 0.05$ ). Moreover, the number of "key cells" in all cases of detection was significantly higher in group II than in group I ( $p < 0.05$ ), where patients with normal body weight were considered. Bacteriological examination of the material from the dentoalveolar pockets for the presence of intestinal microflora revealed that in group I it was detected in 19 ( $72.5 \pm 7.1\%$ ), and in group II — in 25 ( $92.6 \pm 4.9\%$ ) patients, but the differences between the groups were unreliable ( $p > 0.05$ ). However, when assessing the quantitative indicators of the intestinal microbiota in the material from the dentoalveolar pockets, they amounted to  $6.7 \times 10^7 \pm 1.8 \times 10^3$  K in group I versus  $3.1 \times 10^9 \pm 3.7 \times 10^4$  K in group II, which is significantly higher than in group I ( $p < 0.05$ ).

## CONCLUSION

Thus, a comparative analysis of the results of the amine test, microscopic examination of material from periodontal pockets and bacteriological examination shows that in obese patients there is a more pronounced violation of microbiocenosis against the background of reduced resistance of the oral mucosa, with a more severe clinical course in this condition and the effectiveness of periodontal treatment, the results of the study showed, that the prerequisites for the formation of this condition are formed with a decrease In this case, it is advisable to continue research in this direction.

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