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## **EVALUATION OF ORAL MUCOSAL MICROBIOTA IN CHILDREN AND ADOLESCENTS AFFECTED BY CHRONIC GINGIVITIS**

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### **Relevance**

The pathogenic potential of certain representatives of the oral microbiota is quite pronounced and may be realized under various conditions, both from the transient flora and from the resident microbiota [1-3]. Researchers believe that the identified qualitative and quantitative shifts in the oral auto-microflora in children with chronic catarrhal gingivitis may lead to prolonged disease course, frequent relapses, and chronic progression [4-6].

### **Materials and Methods**

A total of 425 children and adolescents were included in the study; among them, 195 (45.9%) with chronic catarrhal gingivitis (Group 1), 165 (38.9%) with chronic hypertrophic gingivitis (Group 2), and 65 (15.3%) practically healthy subjects (control group, CG). All groups were stratified by age and gender. The study involved interviews, objective oral examinations, standard clinical-laboratory and dental diagnostic methods. Microbiological analysis of biological samples, particularly primary cultures of aerobic and facultative anaerobic microorganisms, was performed using selective and enriched nutrient media. The biological (biochemical) characteristics and pathogenic factors of isolated strains were studied using both classical and modern methods (bacteriological analyzer Vitek 2 Compact; mass spectrometry MALDI-TOF MS).

### **Results and its Discussion**

In Group 1, the most frequent complaint was gingival bleeding (63.6%), while bleeding during tooth brushing was observed in 6.1% of cases, and dental calculus



was detected in 23.03% of patients. In Group 2, inflammatory processes in the gingiva were recorded in 67.9% of cases, with 80.1% of patients reporting pain and bleeding during brushing; dental calculus was present in 35.4% of patients. Microbiological studies revealed that the predominant microorganisms of the gingival sulcus and oral fluid were  $\beta$ -hemolytic streptococci of group A. A significant increase in the number of *Neisseria* spp. representatives (*Neisseria mucosa*, *Neisseria sicca*, *Neisseria flavescens*) was observed, ranging from  $10^5$ – $10^6$  to  $10^{12}$ – $10^{13}$  CFU/ml, indicating their leading role. In both chronic catarrhal gingivitis and chronic hypertrophic gingivitis, a considerable rise in *Candida* spp. was noted, with *Candida albicans* being detected 1.8 and 1.4 times more frequently, respectively.

## Conclusion

The prevalence of chronic catarrhal gingivitis and chronic hypertrophic gingivitis among children and adolescents aged 6 to 18 years is high, with these forms representing the main share of chronic gingival diseases. The development of these pathologies was shown to be associated with age, oral hygiene status, and the presence of dental deposits as an etiological factor of the studied conditions.

**Keywords:** chronic catarrhal gingivitis, chronic hypertrophic gingivitis, periodontal tissue inflammation, malocclusion, gingivitis treatment.

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