# 55. SPECIFICITIES OF THE ORAL FLUID COMPOSITION IN CHILDREN WITH CLEFT LIP AND PALATE

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**Introduction.** Cleft lip and palate (CLP) are the most common congenital facial deformities that significantly affect the structure and functions of the oral cavity. Individuals with CLP may experience severe functional impairments during eating, speaking, and breathing, leading to a significant aesthetic disruption of the face, posing a major obstacle to the social integration of children of various ages. Liquid biopsy is an attractive approach for diagnosing multiple pathologies, and oral fluid (OF) can become a useful diagnostic tool for the early detection of various dental conditions due to its multiple advantages: simple, rapid, safe, and non-invasive collection, avoidance of the risk of infection, easy transport, and better acceptance and collaboration with anxious patients.

**Aim of study.** To investigate the specificities of the oral fluid composition in children with cleft lip and palate.

**Methods and materials.** In a case-control clinical study, 48 children aged 1 to 17 years were included. The research group (L1) consisted of 16 children with cleft lip and palate (CLP). Out of the total of 16 children, 12 (75%) had unilateral CLP, and 4 (25%) had bilateral CLP. In the control group (L0), 32 conventionally healthy children were included, selected proportionally to the subjects in L1 by age, living environment, and gender. All children underwent clinical examination, assessing oral health status, dental hygiene level, and OF collection. OF pH and viscosity were assessed. The levels of TNF-α, cortisol, IL-8, and sIgA in OF were determined by the immunoenzymatic analysis method. The study was conducted in compliance with ethical standards, and written consent from parents for their children's participation in the study was obtained. Parametric and non-parametric tests were used for statistical data analysis using Epi InfoTM 7.0.

**Results.** Comparative analysis of OF indicators revealed a significant increase in viscosity, cortisol, and TNF-α levels, as well as a decrease in pH and sIgA levels in children with CLP compared to healthy subjects of the same age. The decrease in OF biomarker levels reflecting local immune protection and the increase in those indicating an unfavorable state of oral health were correlated with the results of the objective clinical examination.

**Conclusion.** Assessing the specificities of OF composition represents an innovative non-invasive analysis for the early detection and prognosis of dental conditions necessary for correcting preventive and treatment measures within the framework of comprehensive and personalized medical care and rehabilitation for children with CLP.