Diagnosis of Gingivitis Based on Correlations of Laser Doppler Data and Gingival Fluid Cytology

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Abstract : One of the main problems of modern dentistry is development a reliable method to detect inflammation in the gums on the stages of diagnosis and assessment of treatment efficacy. We have proposed a method of gingival fluid intake, which successfully combines accessibility, excluding the impact of the annoying and damaging the gingival sulcus factors and provides reliable results (patent of RF№ 2342956 Method of gingival fluid intake). The objects of the study were students - volunteers of Dentistry Faculty numbering 75 people aged 20-21 years. Cellular composition of gingival fluid was studied using microscope "Olympus CX 31" (Japan) with the calculation of epithelial leukocyte index (ELI). Assessment of gingival micro circulation was performed using the apparatus «LAKK–01» (Lazma, Moscow). Cytological investigation noted the highly informative of epithelial leukocyte index (ELI), which demonstrated changes in the mechanisms of protection gums. The increase of ELI occurs during inhibition mechanisms of phagocytosis and activation of epithelial desquamation. The cytological data correlate with micro circulation indicators obtained by laser Doppler flowmetry. We have identified and confirmed the correlations between parameters laser Doppler flowmetry and data cytology gingival fluid in patients with gingivitis.

Keywords : gingivitis, laser doppler flowmetry, gingival fluid cytology, epithelial leukocyte index (ELI)
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