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GINGIVAL FLUID MMP-8 EVALUATION IN THE INTERRELATION DIABETES - PERIODONTITIS

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Introduction: Major periodontal tissue breakdown results from persistent host inflammatory immune reaction in response to bacteria. In inflammatory disorders, matrix metalloproteinases (MMPs) is highly involved. Diabetes mellitus (DM) has been associated with impaired collagen metabolism and boost the response of the periodontal tissue to pathogenic microorganisms. **Objective:** The aim of the study was to evaluate the MMP-8 levels in gingival crevicular fluid (GCF) in diabetes patients, correlated to the degree of metabolic control and clinical indicators of periodontal damage. **Materials and Methods:** 46 patients with periodontal impairment have been selected and allocated to 2 main groups: diabetic group - DM (n=22) and control - C (n=24) subdivided further after assessing clinical indicators of periodontal impairment into: gingivitis, chronic and aggressive periodontitis. Gingival fluid - GCF samples were collected from each patient using special paper strips, and analyzed for inflammatory biomarker MMP-8 (ELISA). Clinical periodontal assessment correlated to the biomarker level, dental pattern and the degree of metabolic control have also been achieved. **Results:** Analysis of MMP-8 in GCF recorded statistically significant differences between the two groups, with higher levels in patients with poorly controlled DM. GCF MMP-8 values were higher in the group with poorly controlled diabetes than in control, and well-controlled diabetes subjects. The correlation of GCF enzyme values with the level of glycemic control in subjects with DM recorded for the molars the strongest correlation, with a poor correlation in premolars. **Conclusions:** Gingival fluid evaluation of MMP-8 could be a support point in assessing the host response under conditions of inflammation.



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