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3491. Salivary Levels of Matrix Metalloproteinase-8 in Incipient Periodontal Lesions

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Aim: The aim of the current study was to assess whether initial periodontal lesions could be associated with changes in salivary levels of matrix metalloproteinase 8 (MMP-8) in order to predict ,at early stages ,the progress of periodontal tissue breakdown.

Methods: In a cross-sectional study, which was conducted in March and April 2016, 30 patients, aged 19-34 years (mean age 26.7±4.23), with initial periodontal lesions, were recruited. Ethical approval was granted by the Ethics Committee of the University of Medicine and Pharmacy „Nicolae Testemitanu" and informed consent was obtained, prior to study, from the participants. They were each allocated into one of three groups according to mean clinical attachment loss (CAL) values: ≥1 mm (n=10), ≥2 mm (n=10), ≥3 mm (n=10). Periodontal clinical parameters such as periodontal pocket depth (PPD), CAL, bleeding on probing (BOP), plaque index (PI) were assessed for each patient at six sites per tooth. Unstimulated saliva was collected from each patient in Ependorf tubes, 2 ml each, and analyzed by the use of Quantikine ELISA test. Periodontal parameters assessments and saliva collection was performed by one clinician. Data were analysed using descriptive analysis and the Pearson correlation test.

Results: There was a direct significant correlation between the CAL and MMP-8 levels ($p<0.001$). Level of salivary MMP-8 was significantly higher in third group (CAL≥3 mm) than in second (CAL≥2mm) and first (≥1 mm) groups of patients. Regarding periodontal parameters , there was a statistical correlation between PPD and MMP-8 levels rxy=0.813 ($p<0.001$); BOP and MMP-8 levels rxy=0.699 ($p<0.001$). A moderate correlation was found between patient's age and salivary levels of MMP-8 rxy=0.408 ($p=0.025$).

Conclusions: Clinical parameters such as PPD, CAL, PI, BOP are useful tools in periodontal diagnosis, but unfortunately they do not have a predictable characteristic. Saliva is an accessible and easily collected material, which contains a great number of various biomarkers of a potential use in the early diagnosis and screening of periodontal status.

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