0582 α-D-Glucosidase, α-β-D-Galactosidases, and Host Cells in Gingival Crevicular Fluid from Subjects with Aggressive Periodontitis

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Objectives: The aim was to study α-D-glucosidase, α-β-D-galactosidases, and host cells in gingival crevicular fluid (GCF) from subjects with aggressive periodontitis (AgP-group). Methods: The participants were 20 subjects and 5 healthy controls. Gingival crevicular fluid (GCF) was collected from the deepest sites, 4 sites/subject. GCF was collected in an intracrevicular washing system. The protein content was assayed by a protein-staining method. The activity of α-D-glucosidase, α-β-D-galactosidases were determined by measuring the release of 4-methylumbelliferone at 450 nm. Cell counts were performed in a Bürker chamber. Analysis of Variance (ANOVA) and regression analysis were the statistical methods used. Results: There were significant differences in all clinical parameters (p<0.05-p<0.001) between the groups except number of remaining teeth. The number of mononuclear cells was significantly higher (p<0.05) in the AgP-group compared to controls. The total protein content was in the AgP-group mean 267.1(± 25.1SD) µg/ml and in the controls 111.4 (± 29.1SD) (p<0.01). There were statistically significant differences between AgP-group and controls in α-β-D-galactosidase activities (p <0.05). In the AgP-group there was a correlation between α-D-glucosidase activity and α-β-D-galactosidase activity (r = 0.81, p<0.001). Conclusions: α-D-Glycosidase and α-β-D-galactosidases in the GCF seem to react as sensitive biomarkers for subclinical changes that may later lead to clinical disease.