0185 Relationship of periodontitis to systemic cardiovascular biomarkers

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Periodontitis may be associated with systemic cardiovascular biomarkers; however a comparison of biomarker levels in a cohort selected by periodontal status has not been reported. Objective: Compare levels of systemic biomarkers for subjects with and without periodontitis. Methods: 62 periodontitis cases with at least 4 sites with PD 5+mm and AL 2+mm and 28 non-periodontitis controls with no sites with PD 5+mm or AL 2+mm (median age 47.0 (cases) and 50.5 (controls), P=0.06) were examined. A complete dental examination was performed including pocket depth, cemento-enamel junction, and attachment level. Body mass index (BMI) was calculated from height and weight; obesity was defined as BMI >30. Serum was assayed for high sensitivity C-Reactive Protein (CRP), Interleukin-6 (IL-6), and total 8-iso prostaglandin F2 alpha (8-isoPGF2α) by ELISA. Median level of each biomarker was compared for cases and controls using the Wilcoxon rank sum test. Results: Cases trended toward higher median CRP (4.6 versus 1.2 pg/ml, P=0.16) and had higher IL-6 (3.3 versus 0.8 pg/ml, P<0.0001), 8-isoPGF2α (729.0 versus 359.9 pg/ml P=0.0002) and BMI (28.2 versus 25.3, P=0.08) compared to controls. Obese subjects had higher median CRP compared to the non-obese subjects (7.2 versus 1.2 pg/ml, P=0.0005). While non-obese cases had higher median CRP compared to non-obese controls (2.1 versus 0.25 pg/ml), the relationship was reversed for obese cases compared to obese controls (5.7 versus 9.2 pg/ml); the interaction of periodontal case status and obesity was not significant (P=0.27). The periodontitis:IL-6 and periodontitis:8-isoPGF2α relationships did not differ by obesity. Conclusions: These preliminary results suggest that periodontitis may be positively associated with systemic cardiovascular biomarkers; however, a larger study is necessary to determine if the periodontitis:CRP relationship is modified by obesity. This study was supported by NIDCR grant 5P60DE013079-05 and a contract from Warner Lambert Company.

Seq #29 - Periodontal-Systemic Connections
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