

# Cardiovascular risk assessment in periodontitis patients

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**Aim:** Cardiovascular disease (CVD) is worldwide a major health problem. The pathology of CVD goes often undetected due to absence of clear symptoms and/or lack of patient awareness. Periodontitis is considered as a risk indicator for CVD. Our main aim of the study is to assess the 10-year risk for CVD mortality in the university dental clinic from patients with and without periodontitis.

**Methods:** In this cross-sectional study periodontitis (PD) patients and non-PD controls were recruited. The periodontal condition, as well as CVD related characteristics were assessed. Levels of total cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides, HbA1c, creatinine and CRP were measured with a validated plasma finger stick analysis. CVD related parameters were included in an algorithm to determine the 10-year risk for CVD mortality according to the Systematic Coronary Risk Evaluation (SCORE) system. Independent t-tests and chi-square tests were performed for differences in CVD risk, suspected DM prevalence and biochemical values between both groups.

**Results:** In total 90 non-PD controls and 105 PD patients (61 localized stage III-IV and 44 generalized stage III-IV) were included for analysis. Significantly more PD patients have a high (5-10%) to very high ( $\geq 10\%$ ) 10-year risk for fatal CVD compared to non-PD controls (42.9 vs. 26.7%) ( $p=0.018$ ). The amount of patients with a very high CVD risk ( $\geq 10\%$ ) was significantly greater in localized stage III-IV PD patients (20.0%) and generalized stage III-IV PD patients (27.3%) compared to non-PD controls (5.6%) ( $p=0.004$ ).

**Conclusion:** More patients with a high to very high 10-year risk for fatal CVD were found in PD patients compared to non-PD controls. About 43% of the patients with PD has a high or very high 10-year risk for fatal CVD. Therefore we suggest that dental offices with particular focus on periodontitis patients are a suitable location for assessing the cardiovascular risk.