

Association between chronic periodontal and apical inflammation and acute myocardial infarction

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Abstrak

Evidence from epidemiologic studies suggests that periodontal diseases may exert a weak to moderate influence on the severity and course of coronary heart disease. The aim of this study was to investigate whether an association between chronic oral infections and the presence of an acute myocardial infarction (AMI) exists. A total of 248 patients after AMI and 249 healthy controls were recruited for this study. The oral assessment included caries frequency (DMFT indices), number of teeth, probing pocket depths, bleeding on probing, clinical attachment level, as well as radiographs to diagnose apical lesions. The medical examination included a blood analysis, e.g. the determination of the serum concentration of C-reactive protein (CRP). The data analysis showed statistically significant differences between AMI patients and the controls with regard to number of missing teeth ($p = 0.001$), DMFT index ($p = 0.001$) and presence of apical lesions of endodontic origin ($p = 0.001$). Logistic regression showed that the probability of having lesions of endodontic origin was with an odds ratio of 1.54 (95 % CI 1.10-2.16; $p = 0.012$) considerably higher in the AMI patient group. Likewise, the AMI patients had with an odds ratio of 1.21 (95 % CI 1.14-1.28; $p < 0.001$) a higher number of missing teeth. The data from the blood analysis, in particular the CRP values, showed no significant correlation with the number of apical lesions. The results of the present study underline that patients, who have experienced a myocardial infarction, had more missing teeth and a higher number of inflammatory processes, especially of endodontic origin, than healthy patients.