

Relationship between periodontal diseases and C-reactive protein among hypertensive patients under β -blocker antihypertensive drug

(Clinical and Biochemical study)

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Periodontics

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ABSTRACT

Background: Hypertension is the most important public health problem in the world and one of the major risk factors for cardiovascular diseases, and it has been reported that hypertension is linked with periodontal diseases and both condition have reported to elevated levels of C-reactive protein.

Aim of the study: To determine the periodontal health status and the concentration of C-reactive protein in saliva among patients with hypertension and under β -blocker treatment and to compare the results with systemic healthy individuals, also to correlate the clinical findings with biochemical findings.

Materials and Methods: Test group consist of 25 hypertensive patients and under β -blocker treatment {Atenolol(Tenormin) 50 mg/day}, the test group further subdivided into three groups according to the duration of medication into: test I group under medication less than one year, test II group under medication between one to four years, test III group under medication more than four years. In addition to 25 control group. Their age was between (40-45) years and all patients in both groups were male and non-smokers. Periodontal disease was evaluated by recording the plaque index, gingival index, bleeding on probing, probing pocket depth and clinical attachment level. Unstimulated salivary samples were collected and then chemically analyzed using high sensitivity ELISA to determine the concentration of C-reactive protein.

Results: The mean value of all recorded periodontal parameters were highest among test group compared to control with statistically significant

difference existed between both groups ($p=0.001$) for plaque index, ($p=0.008$) for gingival index, ($p=0.006$) for bleeding on probing, ($p=0.017$) for probing pocket depth, ($p=0.002$) for clinical attachment level.

In regard to the concentration of salivary C-reactive protein, the mean value was highest among test group compared to control with statistically non-significant differences between both groups ($p=0.606$).

The correlation coefficient between salivary C-reactive protein and periodontal parameters showed statistically non-significant correlation in both test group and control. Among test group, result revealed statistically significant correlation between salivary C-reactive protein and pocket depth among test group III (under medication more than four years) ($p=0.039$).

Conclusion: The study revealed poor condition of the oral cavities regarding the periodontal condition of patients with hypertension, so the co-operation between general practitioners, cardiologists and dentists needs to be intensified. The concentrations of salivary C-reactive protein of test groups were higher than control.