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Evaluation of salivary markers variations (hs-CRP, IL-6) in hypertensive patients treated with HMG-CoA reductase inhibitors (Statins)

A thesis

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Abstract

Background: Hypertension is a chronic medical condition in which the blood pressure in the arteries is elevated, it's classified as either primary (essential) hypertension or secondary hypertension, It increases the risk of ischemic heart disease, peripheral vascular disease and other cardiovascular diseases. Several classes of medications collectively referred to as antihypertensive drugs like beta blockers, calcium channel blockers, angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers , renin inhibitors and statins (HMG-CoA) reductase inhibitor.

Statin medication may have some beneficial effects when subjects have dental plaque or signs of periodontitis as gingival bleeding , gingival crevicular fluid (GCF) levels of C-reactive protein , Interleukine-6 and Interleukine-1 β seem to be related to the association of periodontal disease and hyperlipidemia.

Aims of the study: The purpose of this study was to evaluate of anti-inflammatory salivary markers (hs-CRP, IL-6) in hypertensive patients treated with HMG-CoA reductase inhibitors (Statins).

Materials and methods: Ninety saliva specimens collected from three groups of subjects [thirty healthy patients "control"(Group I) , thirty hypertensive patients treated with anti-hypertensive medications without taking statins (Group II) and thirty hypertensive patients treated with anti-hypertensive medications with statins (Group III)]. The specimens were centrifuged and supernatant stored at -20°C then two ELISA kits were used for estimating the variables.

Results: Salivary flow rate is reduced in Group II and III patients compared with Group I. Significant low salivary flow rate observed in Group III patients (hypertensive treated with statins) compared with Group II (hypertensive untreated with statins) and Group I (healthy subjects) ; The median value of gingival index is significantly higher in Group II compared with corresponding value in Group I while it attended a significant low value in Group III patients; There is no significant difference in Decay-Missing-Filling score between Group I and Group III while a significant high score observed in Group II compared with Group I ; The percent of carries restoration in patients of Group II is significantly low compared with corresponding value of Group I . Although the percent of carries restoration in patients of Group III is less than corresponding value of Group I but it does not reach significant level ; saliva hs-CRP levels showed wide variation in all subjects of patients. The hs-CRP levels in hypertensive patients (Group II and III) are higher than corresponding levels in healthy subjects (Group I) to reach a significant higher level in Group III compared with Group I. There is no significant difference in hs-CRP levels between Group II and III. Reciprocal changes in saliva IL-6 are observed. The saliva IL-6 levels are decreased non-significantly in Group II and III compared with Group I .

Conclusions: The levels of anti-inflammatory markers are altered in patients treated with statins to reach significantly high levels with hs-CRP ; statins therapy have a beneficial effect on the oral cavity.