

Sialic Acid Levels of Serum, Parotid and Whole Saliva Before and After Initial Periodontal Therapy in Chronic Marginal Gingivitis, Chronic Periodontitis, Aggressive Periodontitis Patients

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Objective: This study investigated serum, parotid and whole saliva sialic acid levels before and after initial periodontal therapy (IPT) in chronic marginal gingivitis (CMG), chronic periodontitis (CP) and aggressive periodontitis (AP) patients.

Methods: Clinical parameters as plaque index (PI), gingival index (GI), bleeding on probing (BOP) and probing depth (PD) were measured; saliva and serum samples were collected before and 90 days after the completion of IPT. Saliva and serum sialic acid levels were evaluated biochemically. Saliva and serum samples were also obtained from 10 periodontally healthy individuals and compared with the initial clinical and laboratory data of the 3 study groups.

Results: Multiple comparisons of initial parameters all groups revealed significant differences ($p=0.001$). However there was no significant differences between KP and AP groups for in all clinical parameters ($p>0.05$) and between the KMG and healthy groups for PD. Significant differences were obtained for all laboratory parameters between the KMG-KP, KP-healthy, AP-healthy groups and for whole saliva and serum values between the KMG-KP groups ($p=0.001$). There was no statistically significance between the sialic acid KMG and healthy groups regarding sialic acid parameters ($p>0.05$). Positive correlation was detected between the sialic acid levels and parameters related to the inflammation and periodontal destruction. Significant clinical improvements were observed in all groups parallel to the laboratory findings.

Conclusion: Our results supported the view that sialic acid could be used as a marker to determine inflammatory changes and whole saliva is the first choice to evaluate sialic acid because of easy sampling. This study is a pioneer for further studies.

Key words: Parotid saliva, periodontitis, serum, sialic acid, whole saliva