EVALUATION OF ANTI-INFLAMMATORY AND ANTIOXIDANT EFFECT OF PUNICALAGIN (POMEGRANATE EXTRACT) WITH SCALING AND ROOT PLANING (SRP) AND SRP ALONE ON IL-1 BETA AND SUPEROXIDE DISMUTASE LEVELS IN PATIENTS WITH CHRONIC PERIODONTITIS

ABSTRACT

AIM: The aim of the present study is to evaluate the effects of subgingival application of punicalagin gelatin film as an adjunct to Scaling and Root Planing (SRP) compared with SRP alone in patients with Chronic Periodontitis.

MATERIALS AND METHODS: A total of 30 subjects each with bilateral 5-6 mm probing pocket depth (PPD) were selected. Group I consists of 30 sites, in which Scaling and Root Planning (SRP) was done (control sites). Group II consists of 30 sites, in which scaling and root planning was followed by the placement of the punicalagin gelatin film inside the pocket (SRP + Punicalagin gelatin film) (Test sites). Clinical parameters such as Plaque Index, Gingival index, Sulcus Bleeding Index, Probing Depth and Clinical attachment level were evaluated. Biochemical evaluation was also found on IL-1β and Superoxide Dismutase levels preoperatively and at 21 days post therapy in both the groups.

RESULTS: After treatment, Group II exhibited statistically significant differences in all the clinical parameters recorded such as Plaque Index, Gingival index, Sulcus Bleeding Index, Probing Depth and Clinical attachment level when compared to Group I. Similarly there was statistically significant decrease in the level of IL-1β after 21 days post-therapy in both the groups (p<0.001). When comparing both the groups, Group II had more statistically significant (p<0.05) increase in the level of Superoxide Dismutase than Group I after 21 days post-therapy.
CONCLUSION: The results showed that Punicalagin has the potential to serve as a therapeutic agent to treat Chronic Periodontitis patients. Compared to Scaling and Root Planing alone, adjunctive use of Punicalagin showed greater probing Pocket Depth reduction, Clinical Attachment Level gain and favourable changes in inflammatory and anti-oxidant markers.

KEYWORDS: Chronic Periodontitis, Punicalagin, Superoxide Dismutase