REGENERATIVE AND HEALING POTENTIAL OF HYALURONIC ACID IN THE TREATMENT OF HORIZONTAL BONE LOSS IN CHRONIC PERIODONTITIS- A CLINICAL AND RADIOGRAPHIC EVALUATION.

by

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Background: Horizontal bone loss is widely prevalent and is known to have the least predictability in regenerative treatment approaches. A wide range of treatment modalities have been attempted over the past several decades and still remains elusive. A new biomaterial hyaluronic acid (HA) has shown promising results in both surgical and nonsurgical therapy. Modified papilla preservation technique (MPPT), a novel surgical approach achieves good primary closure with for regeneration of periodontium. The aim of the study is to evaluate the regenerative potential of HA combined with MPPT in the treatment of horizontal bone loss in chronic periodontitis. Collaplug, a porcine derived type I collagen will be used as a carrier for HA as the gel can be easily absorbed due to its porous nature.

Materials and methods: 15 systemically healthy subjects were included in the present double blinded, randomized, and controlled split-mouth study. Test sites were treated with MPPT and 1% Hyaluronic acid with Collaplug as carrier and control sites were treated with MPPT alone. The clinical parameters clinical attachment level (CAL), probing depth PD and gingival recession (GR) were recorded at baseline and 6 months post-operatively. IOPA radiographs taken using long cone parallel technique at baseline and 6-months post-operatively were digitized and analyzed using AutoCAD 2007 software to assess changes in alveolar crest position (C-ACP).

Results: The baseline clinical and radiographic parameters between test and control group were non-significant. The primary mean clinical parameters i.e. CAL, PD and GR at baseline and at 6 months post-operatively in both the groups were statistically significant. Inter-group comparison for CAL-G, PD-R and C-GMP revealed no statistical significance. The radiographic parameter CEJ-AC at baseline and at 6

months post-operatively in both the groups was statistically significant. Inter-group comparison of C-ACP (bone resorption) revealed statistically significant values ($P<0.001$).

Conclusions: Both the MPPT +1% Hyaluronic acid with Collaplug and MPPT procedure alone showed statistically significant clinical outcomes at the end of a 6 month observation period. The use of 1% HA provided some additional benefits in terms of decreased crestal bone resorption compared to MPPT alone in the treatment of horizontal interproximal defects.

Keywords: MPPT, 1% HA with Collaplug, horizontal interproximal defects.