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Effect of 8% Hyaluronan as an Adjunct in the Treatment of Chronic Periodontitis and anaerobic periodontal pathogen (Comparative Study).

A thesis
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Abstract

Background:

Hyaluronic acid (HA) has a lot of important physiological and biological functions.

It plays a structural role in cartilage and other tissues, Hyaluronic acid showed the anti-inflammatory, antiedematous, anti-oxidant, Biocompatibility, non‑antigenicity and bacteriostatic effect on periodontal disease

Aim of the study:

The periodontal effect of 8% hyaluronic acid as adjunct in the treatment of chronic periodontitis and anaerobic periodontal pathogen were evaluated in this study.

Material and Methods:

Thirty patients with chronic periodontitis were recruited to participate in this study, Hyaluronic gel was administered subgingivally in the test sites at baseline visit.

They were divided into three groups; the first group 1 G1 (10 patients) was treated with scaling and root planning and 8% hyaluronic acid gel was locally applied, the second group 2 G2 (10 patients) treated with 8% hyaluronic acid gel only, and the third group 3 G3 scaling and root planning (10 patients) treated with scaling and root planning.

Subgingival plaque sample and clinical periodontal parameters which include Plaque index (PLI),Gingival index (GI), Bleeding on probing(BOP), Probing pocket depth (PPD) and Relative Attachment level (RAL) were assessed at base line , one week and four weeks post treatment.

Results:

1. Regarding intragroup comparison for clinical parameter and bacteriological result between visits was showed for Group 1 (HARP).

Result showed that's there was highly significant difference for BOP, RAL and PPD while there was no significant different for Colony forming unit (CFU) between 1st and 2nd visits.

Also the result showed that there was highly difference for PLI, GI, BOP, RAL, PPD and significant difference for CFU between 1st and 3rd visit.

While there was highly significant difference for BOP, RAL and PPD, CFU, and no significant difference for PLI and GI between 2nd and 3rd visit.

2. Intragroup comparison for clinical periodontal parameter and bacteriological result between visits was showed in Group 2 (HA only) , it was found that there was highly significant in all clinical periodontal parameter 2nd visits , also the result showed that there was highly difference in all periodontal parameter, and significant different for CFU between 1st and 3nd.

3. Intragroup comparison for clinical parameter and bacteriological result between visits was showed in Group 3 (SRP).

It was found that there was highly significant difference in all clinical periodontal parameter, while there was no significant difference for CFU between 1st and 2nd visits and between 1st and 3 rd visit.

While it was highly significant difference for PPD, GI and significant RAL and PLI, and non-significant for CFU between 2nd and 3rd visit

4. Intergroup comparison for clinical periodontal parameter and bacteriological result between visits of groups showed that there was highly significant difference in PLI in 1 st visit between HARP-HA, HARP-RP, but no significant between HA-RP.

It's also found that there was highly significant difference in BOP in 2 nd visit between HARP-RP, but no significant between HARP-HA and significant difference between HA-RP.

Conclusion:

The application of hyaluronan gel (8%) locally as adjunctive with scaling and root planning or used as alone have the important effect on clinical periodontal parameter, in the treatment of patients with chronic periodontitis.

It could be used as an adjunct to mechanical therapy in the treatment of periodontal disease .