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Application of Combined Chlorhexidine and Hydrogen Peroxide In Periodontal Pockets "Bacteriological and Clinical Outcomes"

A Thesis Submitted to the Council of College of Dentistry/ University of Baghdad in a Partial Fulfillment of the Requirement for the Degree of Master of Science in Periodontics.

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Abstract

Background: The periodontal pocket is a pathologically deepening of gingival sulcus, it's a primary clinical characteristic of periodontal disease. The sub gingival debridement (scaling and root planing) in combination with supra gingival plaque managing is an valuable treatment for clinical outcomes improving. Many studies show that the adjunctive use of sub gingival anti-bacterial agents such as chlorhexidine or hydrogen peroxide with scaling and root planing resulted in clinically and microbiologically significant improvement. Since no previous data available regarding the efficacy of a combination of both chlorhexidine and hydrogen peroxide as adjunct to scaling and root planing, this study will be undertaken.

Aims of the study:

To determine if scaling and root planing alone or subgingival application of combined 0.2 % chlorhexidine and 3% hydrogen peroxide gel (glucosite gel) adjunct to scaling and root planing have a significant effect on clinical periodontal parameters (bleeding on probing, probing pocket depth and relative attachment level) and on viable aerobic and anaerobic bacterial count in chronic periodontitis patients.

Material and methods:

Twenty patients of both sexes aged from 35 to 50 years with chronic periodontitis which associated with clinical attachment loss and they have at least two periodontal pockets ranged from 5mm to 6mm depth on each side participated in this study. The study protocol included a pre-treatment phase to improving oral hygiene. Each patient treated with split mouth technique. The patient jaw divided into two sides, one treated with scaling and root planing with application of glucosite gel , while the other side treated with scaling and root planing only. The measurement of clinical periodontal parameters were plaque index and gingival index recorded every week to monitor oral hygiene , while bleeding on probing, probing pocket depth and relative attachment level

were recorded at day zero and after 4 weeks along with subgingival plaque sampling to measure viable aerobic and anaerobic bacterial count.

Results:

Statistical analysis of data revealed significant improvement in clinical periodontal parameters and microbiological results after one month of treatment for both sides. The results of intergroup comparison of bleeding on probing and microbiological results showed significant differences, while probing pocket depth and relative attachment level were non significant when two sides were compared with each other at one month visit of treatment.

Conclusion:

This study showed that applications of glucosite gel subgingivally combined with scaling and root planing were reduce bleeding on probing and subgingival viable bacterial count with no additive effect on probing pocket depth and relative attachment level.