Chlorine Dioxide for Treatment of Periodontitis in an Institutionalized Geriatric Population

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Abstract

Objectives: The aim of this pilot study was to assess the role of chlorine dioxide (ClO_2) "penetrator" ® in elderly patients aged 65 years and older in reducing periodontic pocket size.

Method: A double-blind, randomized, controlled study was conducted to test the efficacy of ClO_2 in combination with scaling and root planning (SRP) in our institutionalized geriatric population with chronic periodontitis (CP). Thirty patients, aged 65 years and older, with evidence of CP manifested by baseline clinical attachment levels (CAL) of 5-9 mm, probing depths (PD) of 4-8 mm and bleeding on probing, were controlled. At baseline, patients were treated by a standardized treatment of SRP and randomized so that 15 patients received, in addition to SRP, 2 treatments of ClO_2 over 2-week periods (one per week), while the remaining 15 patients received SRP only. Complete mouth PD was measured using the manual UNC-15 periodontal probe at baseline 2 weeks, 4 weeks, and 6 weeks post baseline to assess the response to treatment. Tooth sites were stratified by baseline PD value. Sites with PD 4-6 mm were considered mild-moderately diseased and sites with PD $\geq$ 7 mm severely diseased. Treatment groups by comparison of per patient mean PD changes were performed using appropriate analysis of variance.

Results: SRP only resulted in PD reductions similar to those reported previously in the literature. However, SRP + ClO_2 resulted in clinically significant PD reduction relative to baseline and to SRP with only 2 applications of ClO_2.

Conclusion: ClO_2 when used as an adjunct to SRP provided greater benefits for elderly CP patients compared to SRP alone.

Estimated Mean Change
Evaluated at the pocket depth at time 1