Superiority of Essential Oils Versus 0.075% CPC-containing Mouthrinse: A Two-Week Randomized Clinical Trial

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Abstract

• **Objective:** The objective of this randomized, examiner-blind, parallel, controlled clinical study was to compare the antiplaque/antigingivitis efficacy of an essential oil-containing mouthrinse (EO) to a new 0.075% cetylpyridinium chloride mouthrinse (CPC) using a two-week experimental gingivitis model with a 5% hydroalcohol rinse serving as the negative control.

• **Methods:** After signing informed consents and completing baseline examinations, 185 subjects were randomized into three groups. Subjects began supervised/recorded rinsing with 20 ml of their assigned rinse for 30 seconds twice daily for two weeks, with no mechanical oral hygiene permitted. Baseline and two-week assessments were conducted as follows: Turesky Modification of the Quigley-Hein Plaque Index (PI), Modified Gingival Index (MGI), and the Gingival Bleeding Index (BI). Analysis of efficacy variables (i.e., mean PI, mean MGI, mean BI, and proportion of bleeding sites derived from the BI) was performed using a one-way analysis of covariance (ANCOVA).

• **Results:** Among the 182 subjects who completed the study, the EO rinse showed statistically significant reductions compared to the negative control within the range previously reported in this model; PI = 36.5% (p < 0.001) and MGI = 17.5% (p < 0.001). A 43.2% reduction in proportion of bleeding sites (p < 0.001) was demonstrated. Mean PI, MGI, and proportion of bleeding sites at two weeks were statistically significantly lower for the EO rinse compared to the CPC rinse (p < 0.001), showing 27.7%, 11.9%, and 30.0% reductions, respectively.

• **Conclusion:** An EO rinse provided superior antigingivitis/antiplaque efficacy compared to a 0.075% CPC rinse in this short-term clinical trial, and demonstrated efficacy within the range shown in previous studies using this model.

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