Plaque Control Evaluation of a Stabilized Stannous Fluoride Dentifrice Compared to a Triclosan Dentifrice in a Six-Week Trial

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Abstract

• Objective: To compare the anti-plaque efficacy of a stabilized 0.454% stannous fluoride (referred to as SnF₂) dentifrice versus a 0.3% triclosan dentifrice formulated with a copolymer and sodium fluoride (referred to as triclosan).

• Methods: The study had a randomized, double-blind, two-treatment, parallel-group design, and compared plaque reduction from baseline after both three and six weeks of treatment with either the SnF₂ or triclosan dentifrices using a manual toothbrush. Subjects brushed their teeth using their assigned treatment dentifrices according to the manufacturer’s instructions. Following overnight plaque accumulation, levels of plaque were assessed by an experienced examiner using the Rustogi, et al. Modified Navy Plaque Index at the start of the study (baseline), and after three and six weeks of regular brushing. Groups were compared using analysis of covariance separately for Weeks 3 and 6, and by repeated measures for Weeks 3 and 6 combined.

• Results: One-hundred and twenty subjects were randomized to treatment and 114 subjects completed the study. Both treatment groups showed a statistically significant reduction from baseline in mean plaque values for all three tooth areas (whole mouth, gingival margin, interproximal) at both Weeks 3 and 6 (p < 0.02 for all comparisons). Analysis of covariance showed a statistically significantly (p < 0.0001) lower adjusted mean plaque level for the SnF₂ group compared to the triclosan group for all three tooth areas at both Weeks 3 and 6, and for Weeks 3 and 6 combined. Weeks 3 and 6 combined adjusted mean plaque was 36.5% lower for whole mouth for the SnF₂ group versus the triclosan group. Weeks 3 and 6 combined adjusted mean plaque reduction from baseline was three times greater for the SnF₂ group relative to the triclosan group.

• Conclusion: Both dentifrices showed statistically significant reductions from baseline in whole mouth, gumline, and interproximal accumulated overnight plaque after three and six weeks of brushing, but the SnF₂ dentifrice showed statistically significantly greater plaque reductions versus the triclosan dentifrice.

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