Clinical Effects of a Stannous Fluoride Mouthrinse on Plaque

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ABSTRACT

The purpose of this 3-week, double-blind study was to determine the effect of a stannous fluoride-containing mouthrinse on existing and developing dental plaque. A total of 55 subjects (mean age = 31.42 yrs.) received a professional prophylaxis in randomly assigned contralateral quadrants and were then stratified into two balanced groups based on screening plaque scores: one group (27 subjects) used the placebo rinse, the second group (28 subjects) used the test mouthrinse (0.63% diluted to 0.1% stannous fluoride). Plaque index (PI) and stain index (SI) were scored at baseline, week 1 and week 3. Gingival inflammation (GI) was monitored as a measure of product irritancy potential.

The PI for the stannous fluoride rinse was significantly lower than the placebo, \( p<0.0001 \), for both prophied and unprophied sites with an average reduction of 29% at week 1 and 28% at week 3. There was no statistically significant difference between the presence or absence of prophylaxis. Plaque indexes for both stannous fluoride and placebo showed significant reduction \( p<0.0001 \) compared to baseline in all sites. Differences in staining potential between stannous fluoride and placebo were significant \( p>0.05 \) at any time during the study. The stain index for both stannous fluoride and placebo showed a non-significant increase from baseline in the prophied and unprophied sites. No irritancy was noted, although a trend towards lower GI scores was observed at 3 weeks for the stannous fluoride group.

In conclusion, the results of this study demonstrate that the use of a stannous fluoride rinse twice daily significantly reduced PI compared to placebo in both prophied and unprophied sites (29% overall). Therefore, the product was effective in preventing new plaque accumulation as well as reducing existing plaque.