

The comparative effect of acidified sodium chlorite and chlorhexidine mouthrinses on plaque regrowth and salivary bacterial counts.

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Source

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Abstract

Acidified sodium chlorite (ASC) is recognised as a highly potent, broad spectrum antimicrobial system that has been successfully developed for uses in veterinary, food processing and medical device fields. The current studies aimed to investigate the persistence of antimicrobial action and plaque inhibitory properties of 3 ASC mouthrinses by comparison with positive control, chlorhexidine 0.12%, and placebo control, water, rinses. Both studies were randomised, double-blind, cross-over 5-cell designs balanced for carryover. The 1st study involved 15 healthy subjects who immediately before and at 30, 60, 180, 300 and 420 min after rinsing provided 2 ml saliva samples. The samples were immediately processed for total anaerobic bacterial counts recorded after 96 h incubation. Washout periods were a minimum of 3 days. The second study involved 20 healthy subjects who on day 1 of each study were rendered plaque free, suspended normal oral hygiene methods and commenced rinsing twice daily with the allocated rinse. On day 5, plaque was scored by index and area after disclosing with erythrosin. Washout periods were 2 1/2 days. The 3 ASC and chlorhexidine rinses produced similar reductions in salivary bacterial counts which remained significantly below the placebo control to 7 h. There were no significant differences between ASC and chlorhexidine rinses except at 30 and 60 min when significantly greater reductions were produced by 2 ASC rinses compared to the chlorhexidine rinse. Plaque indices and areas were considerably and significantly lower with the ASC and chlorhexidine rinses compared to the placebo rinse. There were no significant differences between plaque scores for the 3 ASC rinses and the chlorhexidine rinse, although for 2 ASC rinses plaque scores were lower than for the chlorhexidine rinse. The results indicate that the 3 ASC rinses have equivalent plaque inhibitory action to chlorhexidine as a rinse. Similar to chlorhexidine, the plaque inhibitory action of the rinses appears to be derived from a persistence of antimicrobial action in the mouth.

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