Clinical efficacy of Colgate® Sensitive Pro-Relief™ desensitizing paste in pre-procedural relief of dentin hypersensitivity


Clinical evaluation of the efficacy of a desensitizing paste containing 8% Arginine and calcium carbonate for the in-office relief of hypersensitivity associated with dental prophylaxis
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Study objectives:
The objective of the study was to compare the efficacy in reducing dentin hypersensitivity of two in-office pastes when applied as a pre-procedure to a professional dental cleaning.

Trial conditions and methods

Products under investigation
Test: Colgate® Sensitive Pro-Relief™ desensitizing paste (Colgate-Palmolive Company, New York, NY) containing 8% arginine in a calcium carbonate/silica base.

Control: Nupro pumice-based fluoride free prophylaxis paste (Dentsply, York, PA).

Study subjects
A total of 45 male and female subjects (aged between 23 and 66 years) with established dentin hypersensitivity (two hypersensitive teeth with a tactile sensitivity score [Yeaple probe] of 10-50 grams of force and an air blast score of 2 or 3 on the Schiff Cold Air Sensitivity Scale).

Methods
In this double-blind, parallel group study, 45 subjects with established dentin hypersensitivity were randomly assigned to either the test (n=22) or control (n=23) group. Following baseline evaluation of dentin hypersensitivity, the assigned in-office paste was applied as a pre-procedural step prior to professional cleaning. Immediately after completion of the cleaning procedure, subjects were re-evaluated for tactile and air blast sensitivity scores. Statistical analyses were performed separately for tactile and air blast scores. Within treatment comparisons were performed using a T-test. Comparisons between
treatments using baseline adjusted scores were performed using analysis of covariance (ANCOVA).

**Results and Conclusion**

**Results**

Immediately after the cleaning procedure, subjects assigned to the test product demonstrated statistically significant improvements from baseline in tactile (132.1%) and air blast (48.6%) sensitivity scores. At the same time point, subjects assigned to the control product demonstrated statistically significant improvements from baseline in air blast (13.9%) sensitivity score. The improvement from baseline in tactile sensitivity score (21.7%) in the control subjects was not statistically significant.

Immediately after the cleaning procedure, the test product group demonstrated statistically significant improvements compared to the control group in tactile (110.0%) and air blast (41.9%) sensitivity scores.

**Conclusion**

When applied prior to a professional dental cleaning, Colgate® Sensitive Pro-Relief™ desensitizing paste with 8% arginine and calcium carbonate provides a statistically significant reduction in dentin hypersensitivity measured immediately following the dental cleaning as compared to a control prophylaxis paste.