

Clinical efficacy of Colgate® Sensitive Pro-Relief™ desensitizing paste in providing instant and lasting relief of dentin hypersensitivity

Schiff T, Delgado E, Zhang YP, Cummins D, DeVizio W, Mateo LR (2009)

Clinical evaluation of the efficacy of an in-office desensitizing paste containing 8% arginine and calcium carbonate in providing instant and lasting relief of dentin hypersensitivity.

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Study objectives:

The objectives of the study were 1. to compare the efficacy of two in-office pastes in reducing dentin hypersensitivity immediately after a single application following dental scaling and 2. to assess the duration of relief over a period of 4 and 12 weeks.

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 68 male and female subjects (aged between 24 and 56 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, 68 subjects with established dentin hypersensitivity were randomly assigned to either the test (n=32) or control (n=36) group. Following baseline evaluation of dentin hypersensitivity, subjects received a professional dental scaling, after which tactile and air blast sensitivity scores were determined. The assigned in-office paste was then applied as the final polishing step of the professional cleaning procedure. Tactile and air blast sensitivity scores were determined immediately after product application.

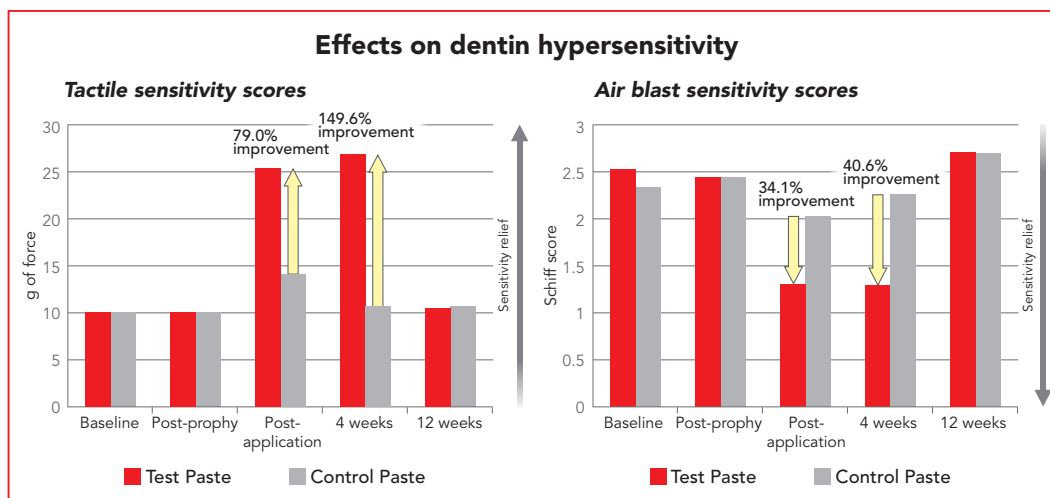
Subjects then brushed twice daily with a commercial fluoride anti-cavity toothpaste and a soft bristled toothbrush for 12 weeks. Dentin hypersensitivity scores were determined after 4 and 12 weeks. Statistical analyses were performed separately for tactile and air blast scores. Within treatment comparisons were performed using a T-test. Comparisons between treatments using baseline adjusted scores were performed using analysis of covariance (ANCOVA).

Results and Conclusion

Results

No statistically significant differences from baseline scores were indicated at the post-scaling examination between the two groups. Immediately post product application and after 4 weeks, subjects assigned to the test product demonstrated statistically significant improvements from baseline in tactile (156.2% and 170.3%, respectively) and air blast (44.1% and 45.9%, respectively) sensitivity scores. At the same time points, subjects assigned to the control product demonstrated statistically significant improvements from baseline in tactile (43.1% and 8.3%, respectively) and air blast (15.1% and 8.9%, respectively) sensitivity scores.

Immediately post product application and after 4 weeks, the test product group demonstrated statistically significant improvements compared to the control group in tactile (79.0% and 149.6%, respectively) and air blast (34.1% and 40.6%, respectively) sensitivity scores. No statistically significant differences between test and control groups were indicated at the post-scaling and 12 week examinations.



Conclusion

Colgate® Sensitive Pro-Relief™ desensitizing paste provides a statistically significant reduction in dentin hypersensitivity as compared to a control prophylaxis paste immediately after a single application following dental scaling. This relief lasts for 4 weeks.