



**“EVALUATION OF THREE DIFFERENT AGENTS FOR  
IN-OFFICE TREATMENT OF DENTIN HYPERSENSITIVITY  
– A CONTROLLED CLINICAL TRIAL”**

by

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Dissertation Submitted to the  
*Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore*

In partial fulfillment  
of the requirements for the degree of *t-988*

**MASTER OF DENTAL SURGERY (M.D.S.)**

in

**CONSERVATIVE DENTISTRY & ENDODONTICS**

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T-00988

**April 2014**

## ABSTRACT

**Background and objectives:** Dentin hypersensitivity (DH) is a symptom complex which results from stimulus transmission across exposed dentin, producing pain mediated by a hydrodynamic mechanism. For few, DH may represent only a minor inconvenience but for many the degree of discomfort and emotional anguish can be overwhelming. The ultimate goal in the treatment of dentin hypersensitivity is the immediate and permanent alleviation of pain with restoration of the original impermeability of the dentinal tubules. The ideal desensitizing agent is yet not known. Conclusive evidence of successful treatment regimen with 100% efficacy remains elusive. Despite a multitude of products available for treatment, no product represents the “gold standard” in the treatment of DH. The present study was conducted to evaluate and compare the clinical effectiveness of a dentin desensitizer, a combination of a dentin desensitizer + adhesive and one-bottle self-etching adhesive for in-office treatment of dentin hypersensitivity.

**Methodology:** This double-blind, randomised, parallel, longitudinal study was undertaken in the Department of Conservative Dentistry & Endodontics, SDM College of Dental Sciences and Hospital, Dharwad. After obtaining subject's informed consent, a total of 54 teeth were randomly allocated to one of the three study groups, each having 18 teeth in each group as follows: Group A – Gluma Desensitizer, Group B – Gluma Comfort Bond + Desensitizer, Group C – Single Bond Universal. Dentin hypersensitivity was assessed by means of tactile (hand-held scratch device), thermal (cold) and evaporative (dental unit air syringe) stimuli which was recorded at four

different investigation times (baseline, immediate, three weeks and six weeks post treatment) using visual analog scale (VAS). The application of the experimental agents was done according to the manufacturer's instructions by co-investigator while the main investigator assessed the sensitivity levels at all investigation times. The data was analyzed by the Kruskal Wallis test, Mann Whitney U test, Wilcoxon signed ranks test and Friedman's test.

**Results:** All three treatment groups showed a very highly significant difference ( $P < 0.001$ ) between baseline, immediate, third week and sixth week follow-up on application of various stimuli at all time intervals. A statistically significant difference was noted between Gluma Desensitizer (A) and Single Bond Universal (C); between Gluma Comfort Bond + Desensitizer (B) and Single Bond Universal (C) in all testing parameters and non-significant difference was noted between Gluma Desensitizer (A) and Gluma Comfort Bond + Desensitizer (B) in all testing parameters.

**Interpretation and Conclusion:** Within the limitations of the study, Gluma Desensitizer and Gluma Comfort Bond + Desensitizer showed a statistically significantly greater reduction in dentine hypersensitivity than Single Bond Universal especially at three weeks and six weeks. Single Bond Universal showed the least reduction in dentin hypersensitivity.

**Keywords:** Dentin Hypersensitivity, Gluma Desensitizer, Gluma Comfort Bond + Desensitizer, Single Bond Universal, Visual Analog Scale