

Clinical effect of toothpaste with 1450ppm fluoride and Sugar Acid Neutraliser™ on enamel remineralisation.*

Cantore R et al. J Clin, Dent 24 spec Iss (2013), A32-44



Aim

To explore the clinical effect on enamel remineralisation of a 1450ppm fluoride with plus Sugar Acid Neutraliser™ versus a traditional 1450ppm fluoride toothpaste



Products under investigation

- 1450ppm fluoride toothpaste (MFP) with Sugar Acid Neutraliser™
- 1450ppm fluoride toothpaste (MFP)

In this study two more toothpaste were included, a negative control and another test toothpaste. Both not present at the European why they are not included here



Study subjects

29 healthy male and female subjects (adults aged 18 -70 years) from Mumbai, India, with a minimum of 20 uncrowned teeth and lower partial mandibular denture with enough space to fit 2 specimens completed the study.



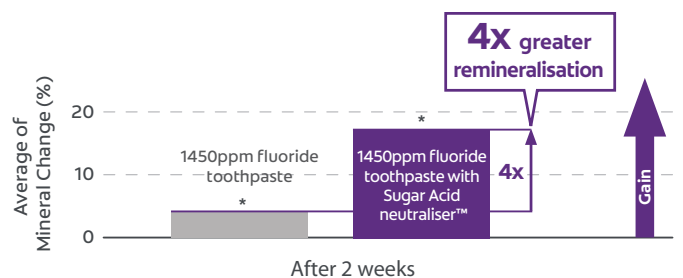
Method

An in-situ clinical double-blind randomised cross-over study, where enamel sections were prepared. Before mounting enamel sections on lower partial mandibular denture, artificial initial caries lesions were induced on enamel sections by immersion in acetic acid for 48 hours. Microradiographs from sound (before lesion formation), untreated (baseline) and treated (after study) enamel sections were taken. Image analysis software was used to obtain the mineral density profiles and determine the amount of mineral. The study started with 1 week wash-out phase. The subjects were then instructed to wear the dentures with mounted enamel sections for 24h/day during 2 weeks. Subjects were instructed to brush 2 x daily for 1 minute with assigned toothpaste. After 2 weeks, subjects returned dentures and enamel sections were analysed. After 1 week wash-out phase subjects started a new treatment phase with new enamel sections in the dentures (cross-over)



Results

A toothpaste with 1450ppm fluoride and Sugar Acid Neutraliser™ provides a 4-fold greater remineralisation than a traditional 1450ppm fluoride toothpaste after 2 weeks



*p < 0.0001 vs. negative control;
*p < 0.05 vs. positive control
only relevant data shown



Implications for practice

This study demonstrates that by changing the standard 1450ppm fluoride toothpaste to a 1450ppm fluoride toothpaste with Sugar Acid Neutraliser™ Technology patients can achieve a 4x greater remineralisation with no additional oral care step.

**This study summary covers only the remineralisation results - for entire study, see reference.*

Further published studies with this product

- Hu DY, Yin W, Li X, Feng Y, Zhang YP, Cummins D, Mateo LR, Ellwood RP. J Clin Dent 24 Spec no A (2013), A23-31
- Kraivaphan P AC, Triratana T, Mateo L.R, Ellwood R, Cummins D, DeVizio W, Zhang YP. Fluoride. Caries Res 47 (2013), 582-590
- Li X, Zhong Y, Jiang X, Hu D, Mateo LR, Morrison BM, Zhang YP. J Clin Dent 26 (2015), 7-12
- Petersen PE, Hunsrisakhun J, Thearmontree A, Pithpornchaiyakul S, Hintao J, Jürgensen N and Ellwood RP. Community Dent Hlth 32 (2015), 44 - 50
- Souza ML, Cury JA, Tenuta LM, Zhang YP, Mateo LR, Cummins D, Ellwood RP. J Dent 41 Suppl 2 (2013), S35-41
- Srisilapanan P, Korwanich N, Yin W, Chuensuwonkul C, Mateo LR, Zhang YP, Cummins D, Ellwood RP. J Dent 41 Suppl 2 (2013), S29-34
- Wolff M, Corby P, Klaczany G, Santarpia P, Lavender S, Gittins E, Vandeven M, -Cummins D, Sullivan R. J Clin Dent 24 Spec no A A45-54
- Yin W, Hu DY, Fan X, Feng Y, Zhang YP, Cummins D, Mateo LR, Pretty IA, Ellwood RP. J Clin Dent 24 Spec no A (2013), A15-22
- Yin W, Hu DY, Li X, Fan X, Zhang YP, Pretty IA, Mateo LR, Cummins D, Ellwood RP. J Dent 41 Suppl 2 (2013), S22-8