

A clinical study on the anti-caries efficacy of a 1450ppm fluoride toothpaste with Sugar Acid Neutraliser™ assessed by using Quantitative Light-induced Fluorescence (QLF)*

Yin W, et al.: J Dent 41S (2013), 22-28



Aim

To assess the ability of a toothpaste with 1450ppm fluoride and Sugar Acid Neutraliser™ Technology to arrest or reverse naturally occurring buccal caries lesions.



Products under investigation

- 1450ppm fluoride (MFP) + Sugar Acid Neutraliser Technology™
- 1450ppm fluoride toothpaste (NaF)



Study subjects

463 children aged 9-13 years from 5 schools in Chengdu with at least one initial caries lesion on the buccal surface of one of the 6 upper anterior teeth completed the study



Method

In-vivo, parallel, double-blind, randomised clinical study. At baseline QLF were measured and participants were then instructed to brush 2 x daily with the assigned toothpaste. On school days, participants brushed under supervision for 2 minutes. After 6 months, QLF were measured again.

The QLF software was used to calculate the area (mm2) and percentage loss of fluorescence (%) of the lesions. The percentage loss of fluorescence and area were then used to calculate the ΔQ (mm2%) which correlated with the volume of the lesion



Results

After 6 months, the 1450ppm fluoride toothpaste with Sugar Acid Neutraliser™ almost halved the inital caries lesion volume and provided superior efficacy in reversing inital caries lesions compared to a traditional toothpaste with 1450ppm fluoride alone





Implications for practice

This clinical study demonstrated that by changing from a standard fluoride toothpaste to brushing with a 1450ppm fluoride toothpaste with Sugar Acid Neutraliser™ patients can halve initial caries lesion volume without an additional oral hygiene step.

Further published studies with this product

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- 2. 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
- 3. Li X, Zhong Y, Jiang X, Hu D, Mateo LR, Morrison BM, Zhang YP. J Clin Dent 26 (2015), 7-12
- **4.** Kraivaphan P AC, Triratana T, Mateo L.R, Ellwood R, Cummins D, DeVizio W, Zhang YP. Fluoride. Caries Res 47 (2013), 582-590
- Srisilapanan P, Korwanich N, Yin W, Chuensuwonkul C, Mateo LR, Zhang YP, Cummins D, Ellwood RP. J Dent 41 Suppl 2 (2013), S29-34
- 6. Souza ML, Cury JA, Tenuta LM, Zhang YP, Mateo LR, Cummins D, Ellwood RP. J Dent 41 Suppl 2 (2013), S35-41
- 7. 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
- 9. Petersen PE, Hunsrisakhun J, Thearmontree A, Pithpornchaiyakul S, Hintao J, Jürgensen N and Ellwood RP Community Dent Hlth 32 (2015), 44-50