

1007 Caries Prevention Potential of a Tooth-coating Material Containing Casein Phosphopeptide-Amorphous Calcium Phosphate (CPP-ACP)

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Objectives: The purpose of this study was to evaluate the caries prevention potential of a newly developed tooth coating material *in vitro*. **Methods:** A newly developed tooth coating material: Tooth Mousse (TM, GC Corp), a CPP-ACP free placebo (PP) and fluoride (900ppm F) added placebo (FP) were prepared. Bovine enamel specimens were prepared and assigned to 6 test treatments using 10 specimens per treatment group. They were immersed in 10 wt. % diluted solution of each material for 10 minutes, followed by 10 minutes immersion in demineralization solution (pH=4.75, Ca: 0.75mM, P: 0.45mM) twice a day for 4 days. Except those treatments, the specimens were immersed in ion exchanged water (IEW) or were stayed in air of 100% RH at 37 degree Celsius. The extent of demineralization of the enamel specimens was determined by Knoop hardness measurements. The hardness reduction (Δ KHN) was chosen as the primary efficacy viable. Buffer capacity of TM was also measured by pH monitoring. Ten vol. % diluted solution of TM and IEW was added to suspension of *Streptococcus mutans* (pH=4.5) and the pH of suspension was monitored for 2 hours. **Results:** In IEW immersing group, Δ KHN of TM, FP and PP were 22.8, 51.6 and 59.6 respectively and in air staying group, Δ KHN of TM, FP and PP were 9.3, 24.2 and 30.6 respectively. Compared with FP and PP, TM showed less Knoop hardness reduction ($p < 0.05$). Two hours after the addition of samples, the pH of TM and IEW showed 6.0 and 4.0 respectively. **Conclusions:** The results show that TM is effective in preventing the enamel demineralization *in vitro* and has strong buffer capacity to acid produced by *S. mutans*.

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