

Abstract

Comparison of surface microhardness from two fluoride varnishes on primary teeth

Jinpathakan Taweepattarapongkul, Kannika Deechooen, Nantapope Chanchoo Wong, Nuntanuch Charoensap, Pakaporn Soonthonpakasit, Patchateeya Sengphanich, Ratchanu Promnaree, Thanapat Thamprasom, Vasana Gulati

Aungsuma Chaloryoo, Chairat Rattanapongpaisarn, Jintanaporn Siripipat, Sukrit Poonsuk
Faculty of Dental Medicine, Rangsit University, Pathumtani

Objective : This study aims to evaluate the effect of a 5% Sodium fluoride varnish with ACP (Enamel Pro[®]) compared with conventional 5% Sodium fluoride varnish (Duraphat[®]) on surface microhardness of caries-like lesions on primary teeth enamel.

Materials and methods : Twenty seven extracted healthy primary anterior teeth were randomly divided into three groups (A,B,C ; n = 9) ; group A teeth were exposed to distilled water (Control group), group B were applied with 5% NaF varnish (Duraphat[®]) and group C were treated with 5% NaF varnish with ACP (Enamel Pro[®]). A Vicker microhardness number (VHN) was measured for baseline measurements. All groups were subjected to demineralization process before the treatment. After seven days of pH cycling, VNH was measured again.

Results : Differences in mean microhardness number were analysed using the paired t-test and one way ANOVA at a 95% level of confidence. The mean microhardness of Group B and C were significantly different from control group. (Group A = 248.49, Group B = 379.97, Group C = 1065.82). Comparisons made among treatment with 2 fluoride varnish groups showed that the mean VNH of 5% NaF varnish with ACP group was greater than that of 5% NaF varnish group.

Conclusion : The results of this study shows that the average changes of surface microhardness for 5% Sodium fluoride varnish with ACP was significantly higher than that of 5% NaF varnish.