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Research Article

Impact of Fluoridated Dental Products on Surface Roughness and Morphology of Bleached Tooth Enamel: An In Vitro Study

ABSTRACT:

Purpose: To assess the impact of fluoridated dental products (Toothpaste, mouth rinse, and fluoride varnish) on bleached tooth enamel's surface roughness (SR) and surface morphology when used before, after, or before and after the tooth bleaching process

Methods: A total of (64) bovine permanent incisors were prepared and divided into two main groups: Group (A) was treated before and after the bleaching.

Group (B) was treated after bleaching only. The bleaching process used an Opalescence boost of 40% hydrogen peroxide. Each main group was divided into (4) subgroups: (A1, B1) Control, (A2, B2) treated with FluorKIN mouthrinse, (A3, B3) treated with FluorKIN toothpaste, (A4, B4) treated with Proshield FV. A profilometer was used to evaluate surface roughness. Also, to assess the morphological changes in the enamel surface, another (14) teeth samples were viewed under the SEM

Results: There was a statistically significant increase in SR after bleaching and a decrease in SR after treatment, and there was no statistically significant difference between the group receiving bleaching only and the group

receiving preventive protocol before bleaching, confirmed by SEM analysis. The slightest increase in surface roughness was found in the fluoride varnish group, followed by the FluorKIN toothpaste group, then the FluorKIN mouthrinse group.

Conclusion: According to the surface roughness means results in the present study, Surface roughness increased very little in the fluoride varnish group, followed by the toothpaste group and mouthrinse group, respectively.