

Abstract

Thesis topic: Evaluation of the effect of bleaching on the secondary staining of dental composites with different resin monomer

Introduction: Following bleaching treatment, there may be changes in the structure of composite restorations. The aim of this study was to evaluate the effect of bleaching on the secondary staining of dental composites with different resin monomer.

Methods and Materials: In this experimental-laboratory study, 80 composite discs were prepared from two types of different resin composition, including Charisma Diamond (Kulzer, Germany) with TCD-Urethane base and Charisma Smart (Kulzer, Germany) with Bis-GMA base. The specimens were divided into two subgroups of bleaching and control according to bleaching and non-bleaching (n=20). For bleaching, 20% home bleaching gel (Opalecens, Ultradent, USA) was used for two weeks. Control specimens were kept in distilled water for two weeks. After this step, the initial ΔE was calculated. Then, in each subgroup, half of the specimens were exposed to coffee and the other half were exposed to distilled water (n=10), and the secondary ΔE was calculated. For statistical analysis, two-way ANOVA test was used for primary ΔE , Kruskal-Wallis and Mann-Whitney U tests were used for secondary ΔE . The significant level was set at 5%.

Results: There was no statistically significant difference between the initial ΔE of tested composites in terms of exposure to home bleaching and the type of composite. Also, there was no statistically significant difference between the secondary ΔE of the tested composites in terms of exposure to home bleaching and type of composite. But exposure to coffee caused a significant color change.

Conclusion: The results showed that exposure to bleaching did not change the initial color of the tested specimens. Also, bleaching and the combination of resin monomer did not increase the staining susceptibility of the tested composites.

Keywords: Bleaching, Secondary staining, Resin composite