

Evaluating the Discoloration Effect of Tea on Kalore and Gradia Composites

Nasoohi N¹, Khorgami Kh², Tasoji Z³, Arian N²

¹ Assistant Prof, Operative dentistry Dept, Islamic Azad University, Dental Branch, Iran

² Specialist in Restorative Dentistry

Abstract

Background and Aim: Discoloration of composite restorations over time is among common factors causing their replacement, which weakens the tooth structure and causes pulpal injury. Since tea is a common drink among Iranians, the current study aimed to evaluate the discoloration effect of tea on Kalore and Gradia composite resins.

Materials and Methods: This experimental study was performed on 20 disc-shaped specimens of two composites, Kalore and Gradia. Ten specimens of each composite type with subgroups of 5 were stored in tea and distilled water for 72 Hours. Color measurements were obtained using Spectrophotometer (Minolta, Japan) before and after immersion in solutions. Final spectrophotometry was done after polishing. The results were analyzed using Kruskal-Wallis test.

Result: The discoloration value of both composites increased significantly after being immersed in tea ($P < 0.001$). Discoloration in Kalore was higher than Gradia ($P < 0.014$); and amount of discoloration was clinically unacceptable for both composites. ($\Delta E > 3/3$) After final polishing of the samples kept in tea, amount of discoloration decreased for both composites ($P < 0.001$) and ($P = 0.002$) respectively; this reduction was more prominent in Kalore ($P = 0.008$). Nonetheless, discoloration value was yet clinically unacceptable

Conclusion: Immersing the composites in tea caused clinically unacceptable amount of discoloration in both Gradia and Kalore and polishing had more corrective effect on Kalore.

Keywords: Composite resins; Gradia, aesthetics; dental; nanocomposites