

3rd Euro Congress and Expo on

Dental & Oral Health

June 16-18, 2015 Alicante, Spain

***Invitro* comparison of effect of some antioxidant(sodium ascorbat, EGCG, sage, grape seed)in improvement of reduced shear bond strength of composite resin to enamel after bleaching**

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Introduction: Adhesion of composite resin restoration to enamel reduces, when bonding procedure performs immediately after bleaching. Application of some antioxidant decreases effect of bleaching agents and increases bond strength between resin composite and enamel surface. The aim of present study was comparative effect of EGCG, sodium ascorbat, sage and grape seed on shear bond strength of composite resin to the bleached enamel.

Methods and Materials: In this *In vitro* study, 90 enamel surfaces were divided into 6 groups as follows: G1: Control (no bleaching); G2: Bleaching; G3: Bleaching and application of 1000 μmol EGCG; G4: Bleaching and application of 10% sodium ascorbat; G5: Bleaching and application of 10% sage; G6: Bleaching and application of 5% grape seed. The specimens were bleached with 40% hydrogen peroxide gel and were bonded in all of groups. Shear bond strength of samples were measured. Data was analyzed using the one-way ANOVA and Tuckey HSD tests ($\alpha=0.05$).

Results: Maximum and minimum mean shear bond strength were observed in G1 (22.61 ± 3.29) and G2(5.87 ± 1.80), respectively. Reduction of bond strength in G2 was significant in compared with other groups ($P<0.001$). There were no significant differences between G3 – G6 ($P>0.05$).

Conclusion: Bleaching decreases bond strength of composite to enamel immediately after bleaching. Using sodium ascorbat, EGCG, sage and grape seed solution could increase reduced bond strength of composite to the bleached enamel.

Key words: Antioxidant, Tooth bleaching, Composite resin, Shear bond strength.

Biography

Zahra Khamverdi undertook her dentistry degree at Isfahan University of Medical Sciences in Iran. She completed her specialty in Operative and aesthetic dentistry at Isfahan University of Medical Sciences in Iran. She received the bonded aesthetic restorations fellowship from dental faculty of Hamadan University of Medical Sciences. She has been teaching at Hamadan University since 1999 to present. Her research line is dental bleaching and dental bonding systems. She has many scientific articles in these fields

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