

# The Effect of Bleaching Agents on the Shear Bond Strength of Recently Bonded Restorations to Enamel

Manal Hussain Abd-Alla (PhD)<sup>1</sup>

## Abstract

**Background:** Fuji II LC, one type of resin-modified glass ionomer cements, has an excellent bonding efficacy to both enamel and dentin. This material is considered the material of choice for treatment of cervical lesions located along the cements/enamel junction.

**Objectives:** To evaluate the effect of post-operative bleaching on the shear bond strength of resin-modified glass ionomer cement to enamel.

**Methods:** Enamel specimens of human molars were bonded with resin-modified glass ionomer (Fuji II LC) and divided into six groups: three control and three bleaching groups. Two bleaching groups were bleached with a 38% hydrogen peroxide either within one hour (B1) or after one week of bonding (B2). The third group (B3) was exposed to a 10% carbamide peroxide bleaching agent for two weeks. Shear bond strength was tested with a universal-testing machine and the data were analyzed by ANOVA test.

**Results:** A significant difference in Shear bond strength was found between the groups ( $p=0.032$ ). Tukey's test revealed a significant reduction in the shear bonding strength of B3 compared with the control group ( $p < 0.05$ ).

**Conclusions:** Post-operative bleaching with 38% hydrogen peroxide did not compromise bonding efficacy to enamel. However, bleaching with 10% carbamide peroxide reduced bonding strength of resin-modified glass ionomer to enamel significantly.

**Keywords:** bleaching; resin-modified glass ionomer; shear bond strength.

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<sup>1</sup> Department of Operative Dentistry - College of Dentistry - Al-Mustansiriya University – Baghdad – Iraq.