



Effect of commercially available bleaching agents on microshear bond strength of composite resin to enamel

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I. Objectives

This study evaluated the microshear bond strength of teeth bleached with commercial whitening strips and compared with those bleached with home bleaching gel.

II. Materials and Methods

Twelve extracted human central incisors were cut into pieces and central four segments were chosen from each tooth and embedded in acrylic resin. Four blocks with 12 tooth segments embedded in acrylic resin were acquired and numbered from one to four. Block 1 was bleached with Crest Whitestrips, block 2 with Claren, block 3 with Opalescence tooth whitening gel (10% carbamide peroxide). Block 4 was used as control group. The bleaching procedure was conducted for 14 days according to the manufacturer's instructions, the bleaching strips twice a day for 30min and the bleaching gel once a day for 2hr. After bleaching, composite resin(Filtek Supreme) was bonded to the enamel surfaces with a self-etching adhesive(Adper Prompt L-Pop) using Tygon tube. Microshear bond strength was tested with a universal testing machine(EZ-test). The data were statistically analysed by one-way ANOVA.

III. Results

The study resulted in no statistical differences in microshear bond strength between the tooth segments bleached with 2 different whitening strips and bleaching gel.

IV. Conclusions

It can be concluded that the effect of bleaching with either commercial whitening strips or bleaching gel on enamel is minimal in bonding with self-etching adhesive to composite resin.