

1377 Effect of Chlorhexidine on Microtensile Bond Strength of Self-etching Adhesives

Thursday, July 15, 2010: 4:45 p.m. - 6 p.m.

Location: Exhibit Hall (CCIB)

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[Presentation](#)

The use of self-etching dental adhesives have become very practical and popular in dental practice. The effect of chlorhexidine pretreatment on Self-etch adhesive bond is not clearly understood. Objective: To determine the effect of chlorhexidine pretreatment on the micro-tensile bond strength (μ TBS) of two different one-step self-etch dental adhesives, One Coat Bond 7.0, Coltene (OC) and Futurabond NR, Voco (FB). Methods: Exposed flat occlusal dentine surface of 16 human molars were polished up to 320-grit silicon carbide paper. Teeth were assigned into 4 groups: Group A (OC), Group B (OC) + Chlorhexidine gluconate 2%, Group C (FB), and Group D (FB) + Chlorhexidine gluconate 2%. A 4-mm layer of Z250 hybrid composite applied in two increments. A water irrigated low speed diamond saw was used cut the samples to obtain 4 micro-specimens from each tooth. Micro-specimens were glued to two stiff acetate veneers and tested to failure in tension at 1 mm/min using a Shimadzu universal testing machine. Data was recorded in MPa and analyzed with ANOVA and Tukey post hoc test in SPSS software. Results: Mean μ TBS expressed in MPa and standard deviation (\pm SD) are shown here: Group A: 20.33 (\pm 6.9); Group B 14.21 (\pm 7.49); Group C 16.17 (\pm 6.65); Group D 10.05 (\pm 7.32). There was statistically significant difference ($p=0.0015$) among the groups, being A>B and C>D. Conclusions: The two one-step self-etch dental adhesives used in this study showed decrease in the bond strength when a 2% chlorhexidine treatment is applied prior to composite bonding thus such pretreatment should be used with caution with self-etch adhesives.

See more of: [Effect of Chlorhexidine](#)

See more of: [Dental Materials 1: Adhesion - Bond Strength Testing and Mechanisms](#)