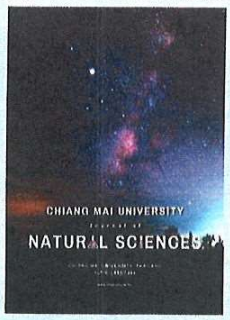

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Research article

Effect of Different Resin Cements on Shear Bond Strength between Acrylic Denture Teeth and Resin Composite

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Abstract The purpose of this study was to evaluate the effect of different bonding agents and resin cements on shear bond strength (SBS) between acrylic resin teeth and resin composite. Thirty acrylic teeth were cut along the long axis and embedded in cold-cure acrylic resin. The specimens were randomly divided into 3 groups (n = 10) according to the types of luting agents: Group C (OptiBond FL), Group P (Panavia F2.0), and Group S (Superbond C&B). SBS was measured using the Shimadzu EZ-S Universal Testing Machine. The collected data were analyzed using a one-way ANOVA to determine significant differences with P-value < 0.05. Multiple comparisons of SBS were calculated using the Tukey HSD test at a 95% confidence level. The average SBS values in MPa were 5.78 ± 0.97 for Group C, 13.60 ± 1.20 for Group P, and 17.93 ± 1.24 for Group S. The SBS value for Group S was significantly higher compared to the other groups, while the value for Group C was significantly lower. Group C was categorized as an adhesive failure, while Group S was accounted as a cohesive failure and Group P was shown to be a mixed failure. In conclusion, different resin cements significantly affected the SBS between acrylic resin teeth and resin composite.

Keywords: Acrylic denture tooth, Bonding agent, Resin cement, Resin composite, Shear bond strength

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