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1555 Effect Of Using Self-Etching Primer For Bonding Orthodontic Brackets

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Aim: Conventional adhesive systems use 3 different agents (an enamel conditioner, a primer, and an adhesive resin) during the bonding of orthodontic brackets. Currently introduced self-etching primers combine conditioning and priming agents into a single Product. The aim of this study was to compare the shear bond strength of brackets bonded to enamel with a conventional bonding system and a self-etching primer system. **Materials and methods:** Metal brackets were bonded to buccal surfaces of thirty human upper premolars according to 1 of 3 protocols. Group I, chemically cure resin Unitek (3M Unitek, Monrovia, Calif) were used with 37% phosphoric acid. Group II, Light cure resin Transbond XT (3M Unitek, Monrovia, Calif) were used with 37% phosphoric acid. Group III, Transbond XT were used with self-etching primer Transbond Plus (3M Unitek, Monrovia, Calif). The specimens were stored in distilled water for 24 hours at 37°C. Brackets were loaded to failure in Instron machine. Descriptive statistics were calculated. ANOVA, Kruskal-Wallis tests were used. **Results:** The self etching primer provided no significantly higher shear bond strength (10.01 ± 5.46 MPa) than light cure adhesive (8.59 ± 4.07 MPa) and statistically comparable with chemically cure adhesive (11.32 ± 6.39 MPa). A comparison of the adhesive remnant index scores indicated that there was not significantly difference between the groups with less residual adhesive remaining on the teeth that were treated with self etching primer than in the conventional acid etching. **Conclusions:** The tested self-etching primer and adhesive systems produced clinically acceptable bond strength with a tendency to have less amount of residual adhesive left on the enamel after debonding, so it has the potential to successfully bond orthodontic brackets.

Keywords: Adhesion, Cohesion and Orthodontics

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