

عنوان مقاله:

Microleakage under Orthodontic Metal Brackets Bonded with Three Different Bonding Techniques with/without Thermocycling

محل انتشار:

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خلاصه مقاله:

Introduction: The aim of this study was to compare the microleakage of beneath the orthodontic brackets bonded with 3 different bonding techniques and evaluate the effect of thermocycling. **Methods:** One hundred and twenty premolars were randomly divided into 6 groups, received the following treatment: group 1: 37% phosphoric acid gel+Unite primer+Unite adhesive, group 2: 37% phosphoric acid gel+ Transbond XT primer+Transbond XT adhesive, group 3: Transbond plus Self Etching Primer (TSEP)+Transbond XT adhesive. Groups 4, 5, and 6 were similar to groups 1, 2, and 3, respectively. Evaluation of microleakage was done following to thermocycling test. After bonding, the specimens were sealed with nail varnish except for 1 mm around the brackets and then stained with 0.5% basic fuchsin. The specimens were sectioned at buccolingual direction in 2 parallel planes and evaluated under a stereomicroscope to determine the amount of microleakage at bracket-adhesive and adhesive-enamel interfaces from gingival and occlusal margins. **Results:** Microleakage was observed in all groups, and increased significantly after thermocycling at some interfaces of Unite adhesive group and conventional etching+Transbond XT adhesive group, but the increase was not significant in any interface of TSEP group. With or without thermocycling, TSEP displayed more microleakage than other groups. In most groups, microleakage at gingival margin was significantly higher than occlusal margin. **Conclusion:** Thermocycling and type of bonding technique significantly affect the amount of microleakage.

کلمات کلیدی:

Adhesive, Microleakage, orthodontic bracket, thermocycling

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