

Evaluation of micro leakage on etched enamel surface of premolars in total etch technique by applying single bond on dry and wet enamel

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Abstract

Background and purpose: Primer on dentin bonding groups contains hydrophilic groups so that it reacts on moist dentin surface and provides hybrid layer but since the enamel is hydrophobic tissue, this question will be raised that whether the use of dentin bonding to the enamel and dentin should be similar and with relative humidity Or when using the dentin bonding, enamel should be completely dry? The aim of this study was determine the amount of microleakage of single bond to dry and moist enamel in premolar teeth.

Method: In this study 40 extracted premolars were selected and evaluated. A standard V-shaped groove in the buccal and lingual tooth was prepared. The samples were divided into two groups randomly. 37% phosphoric acid etchant was applied to the enamel surfaces in each group for 15 seconds and then rinsed with water for 20 seconds. In the first group, Enamel surface was completely dry, and the second group, the enamel surface remained wet. In both group Single bond of bonding agent was used. The specimens were subjected to thermocycling for 500 cycles. Then teeth were sectioned and microleakage of restorations was determined.

Results: Microleakage of total-etch technique using single bond on wet enamel surface was significantly less than dry enamel surface ($P = 0.033$).

Conclusions: According to the statistical analysis should be before use of single bond, the complete drying enamel avoided, but excessive moisture is removed with a cotton pellet.

Key words: Total etch, Single bond, Wet and dry enamel, Microleakage