

## 641 Microleakage of Dentin Adhesives with Wet and Dry Bonding Techniques

Thursday, July 15, 2010: 3 p.m. - 4:15 p.m.

Location: Exhibit Hall (CCIB)

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Total-etch single-bottle dentin adhesives come with different monomer and solvents compositions to improve adhesion to dentin. Objective: To compare Class V composite restorations microleakage when bonded on dry or wet demineralized dentine with three total-etch single-bottle dental adhesives. Methods: 90 class V cavities were prepared in 45 sealed-apex molars, randomly assigned into 3 groups (G1 = XP Bond, (Ivoclar-Vivadent); G2 = Prime & Bond NT (Dentsply) and G3= Excite, (Ivoclar-Vivadent). The cavities were restored with resin composite after the application of dentin bonding agents, using wet bonding (facial surface) and dry bonding (lingual surface) for each material. Restored samples were submitted to thermocycling (10,000 cycles, 5 degrees-55 degrees C, 30s-dwell time). The teeth were then coated with nail varnish except for 1 mm from restoration gingival margin and immersed in 2% methylene blue solution for 24 hours. They were washed and vertically sliced through the middle of the restoration with a slow speed diamond saw and qualitatively evaluated under a stereomicroscope (40 x magnification) by three calibrated examiners using a 0-3 score scale. Results: There was a statistically significant difference in the amount of microleakage observed among groups ( $p= 0.001$ ) (Kruskal-Wallis test). Most of the G1 samples showed significantly lower microleakage scores than the other groups. There was no statistically significant difference between wet and dry-bonding technique at the gingival margins ( $p > 0.307$ ) (Mann-Whitney U-test, Wilcoxon W, Z). Conclusions: Better sealing capability was observed for G1, which could be due to the particular solvent and mixture of several monomers in this dental adhesive's composition.

See more of: [In-vitro Leakage](#)

See more of: [Dental Materials 2: Adhesion - Leakage/Margin Assessments](#)