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Effect of Resin Coating on Adhesion of Composite Crown Restoration

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Abstract:
The purpose of this study was to evaluate the effect of a resin coating technique on the microtensile bond strength (μTBS) of resin cement to dentin in composite crown restorations. Crown preparations were done on human molars. A resin coating material, Hybrid Bond, was immediately applied to the prepared dentin and light-cured, while the tooth without resin coating acted as the control. An impression of the resin-coated tooth was taken, and a composite crown fabricated on the working cast. The composite crown was then bonded with a resin cement, Chemiace II. μTBSs were measured at a cross-head speed of 1 mm/ min, and the resin-coated group yielded significantly higher μTBSs than the non-coated group ($p<0.05$) . In terms of μTBS values between the axial and occlusal surfaces, no regional differences in resin-dentin bond strength were detected ($p<0.05$) . It was concluded that resin coating with Hybrid Bond significantly improved the μTBS of resin cement to dentin in composite crown restorations.

Key words:

Resin coating, Indirect restoration, Resin cement

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