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Enhancement of Adhesion between Resin Coating Materials and Resin Cements

Tomoaki UDO[1)], Toru NIKAIDO[1)], Masaomi IKEDA[1)], Dinesh S WEERASINGHE[1)], Naoko HARADA[1)], Richard M. FOXTON[2)] and Junji TAGAMI[1)3)]

1) Cariology and Operative Dentistry, Department of Restorative Sciences, Graduate School, Tokyo Medical and Dental University
2) Division of Conservative Dentistry, King's College London Dental Institute at Guy's, Kings' and St. Thomas' Hospitals, Kings' College
3) Center of Excellence Program for Frontier Research on Molecular Destruction and Reconstruction of Tooth and Bone, Tokyo Medical and Dental University

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Abstract:
Resin coating technique is a unique method that improves the dentin bond strength of resin cements in indirect restorations. However, the weak link of a specimen bonded using the resin coating technique was reported to be the bonded interface between the resin coating material and resin cement. The purpose of this study, therefore, was to enhance the bonding performance between a resin coating material and a resin cement. Two light-cured flowable composites, Protect Liner F and Clearfil Flow FX, were used as coating materials, and two dual-cure composite materials, Panavia F 2.0 and Clearfil DC Core Automix, were used as resin cements. The ultimate tensile strength of each material and the microtensile bond strengths of the bonded specimens of resin coating material and resin cement were measured using a crosshead speed of 1.0 mm/min. Three-way ANOVA (p=0.05) revealed that the highest microtensile bond strength was obtained using a combination of Clearfil Flow FX and Clearfil DC Core Automix, and when the surface of the coating material was treated with ED Primer II. It was strongly suggested that materials with a higher ultimate

tensile strength, when used in both resin coating and cementation, could enhance the bond strength between the two.

Key words:
Resin coating, Resin cement, Pretreatment

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