عنوان مقاله:

Effect of different adhesive systems and silane application on shear bond strength of resin cement to indirect restorations

محل انتشار:

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خلاصه مقاله:

Objective: This study compared the influence of various adhesive systems and silane application on the adhesion of resin-based luting cement to lithium disilicate, indirect composite resin, and zirconia restorations.Methods: Lithium disilicate (n=۵۰), indirect composite resin (n=۵۰), and zirconia (n=۵۰) blocks were divided into five groups (n=۱۰), according to the adhesive protocol applied as follows: ۱. Optibond XTR, ۲. silane + Optibond All in One, ۳. One Coat ۷ Universal, ۴) Adper Scotchbond Multi-Purpose, and ۵) Silane + Single Bond Universal. The blocks were bonded to a resin-based luting cement after surface treatments (silica coating and acid application). The bonded specimens were incubated in ۳۷° C water for ۲۴ hours and thermocycled for ۵,۰۰۰ cycles. The shear bond strength (SBS) was evaluated by a universal testing machine. The adhesion protocols for each type of restoration were compared by one-way ANOVA and Dunnett T۳ test.Results: There were significant differences in the bond strength of cement to indirect restorations between various adhesive protocols (P<۰.۰۵). In all types of restorations, the highest SBS was observed in group ۵, which was silanized and bonded with Single Bond Universal. The bond strength of group ۵ in lithium disilicate, indirect composite resin, and zirconia groups were ۲۶.۱ ± ۴.۹ MPa, ۲۰.۵ ± ۵.۷ MPa, and ۱۵.۴ ± ۴.۷ MPa, respectively.Conclusions: It appears that the best adhesive protocol for bonding cement to lithium disilicate, indirect composite resin, and zirconia restorations is the use of silane and a universal adhesive containing silane (Single Bond (Universal). (J Dent Mater Tech ۲۰۲۳;۱۲(۲): ۱۰۴-۱۱۰

کلمات کلیدی:

Bond Strength, Composite Resin, Lithium disilicate, silane, Zirconia