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**Repair Bond Strength of Aged Ceramics With Various Surface Treatments**

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**Objectives** To investigate the effects of different surface treatments on repair bond strength (RBS) between two types of aged glass ceramics and a composite resin.

**Methods** Eighty specimens were prepared from leucite-reinforced (G-Ceram) and lithium disilicate glass-ceramics (IPS E-max CAD). These specimens underwent thermocycling (between 5°C and 55°C for 5500 cycles) and were divided into five subgroups (n=8) based on the surface treatment: Group C (control), Group A (air abrasion with 50-µm glass bead particles), Group CP (Clearfil Ceramic Primer Plus application), Group MEP (Monobond Etch&Prime application), and Group MN (Monobond N application). A universal bonding agent (Nova Compo B Plus) was applied, followed by the application of nanohybrid composite resin (Clearfil Majesty Esthetic). All the specimens were stored in distilled water at 37°C for 24 h. RBS was measured by means of shear bond strength testing using a universal testing machine (1 mm/min). Data was statistically analyzed using two-way ANOVA, Tukey and Bonferroni post-hoc tests ( $\alpha=0.05$ ).

**Results** Surface treatment and its interaction with the material significantly affected RBS values ( $P<0.05$ ). However, there was no significant difference between the glass-ceramic materials ( $P>0.05$ ). Regardless of the ceramic used, the mean RBS values of Groups C and A were significantly lower than those of Groups CP, MEP, and MN. Although there was a significant difference between the MEP and MN groups ( $P<0.05$ ), the CP group had similar SBS values ( $P>0.05$ ). The surface treatments had a similar effect on the ceramics used; however, the bond strength of the lithium disilicate ceramics in the CP group was higher than that of the leucite ceramics ( $P<0.05$ ).

**Conclusions** The application of ceramic primers enhanced the SBS between glass-ceramics and the composite resin material. Clinically, using these agents instead of glass bead abrasion alone may improve the bond strength of composite resins for repairing glass-ceramics.