“COMPARATIVE EVALUATION OF SHEAR BOND STRENGTH OF BIODENTINE WITH THREE DIFFERENT TYPES OF ADHESIVE SYSTEMS: AN IN VITRO STUDY”

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ABSTRACT

Title: "COMPARATIVE EVALUATION OF SHEAR BOND STRENGTH OF BIODENTINE WITH THREE DIFFERENT TYPES OF ADHESIVE SYSTEMS: AN IN VITRO STUDY"

Background and Objective: The bond strength between restorative and pulp capping materials is important for the quality of the filling and the success of restorations. Thus, objective of this study was to evaluate and compare the shear bond strength of Biodentine with different types of adhesive systems.

Methods: Eighty specimens were prepared using cylindrical acrylic blocks, having a central cavity of 4 mm diameter and 2 mm depth. Biodentine was mixed and placed in the prepared cavity and were divided into 4 groups. Group 1: No adhesive; Group 2: One step self-etch adhesive; Group 3: Universal adhesive; group 4: Self adhering flowable composite. After the application of adhesives, composite resin was placed over the Biodentine surface and light cured. Then, the specimens were tested for shear bond strength and readings were statically analyzed using One-way ANOVA and Tukey's post hoc analysis.

Results: Biodentine showed highest mean shear bond strength value with universal adhesive group than one step self-etch and the self-adhering composite groups.

Interpretation & Conclusion: This in-vitro study showed when Biodentine is used as pulp capping material, universal adhesive is preferred over one step self-etch adhesive and self-adhering flowable composite.

Keywords: Biodentine; self-adhering flowable composite; shear bond strength; universal adhesive.