



The influence of the application mode of the adhesive on the adhesive interface of cementing fiber pins

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1 INTRODUCTION

The simplification of the strategies for cementing the fiberglass pins aims to minimize possible errors in the mechanism of the root dentin cementation system and optimize the operative time. Universal adhesives contribute significantly to this purpose, as they can be used in the "condition and lava" or self-conditioning strategy. The objective of this study was to evaluate two modes of application of universal adhesive systems, with manual applicators or rotational brush, in the cementation of fiberglass pins and the effects on the strength of union and mode of failure of the dentinal thirds after 6 months.

2 METHODOLOGY

Forty bovine teeth were endodontically treated and prepared for pin cementation. The specimens were randomly distributed into 4 groups (n=10) according to the mode of application of the universal adhesive (micro brush or rotational brush), in the strategy "condition and lava", and with cementation systems, using: MB-SU-RU: Universal Scotchbond adhesive applied with a micro brush and Relyx Ultimate as resin cement; RB-SU-RU: Universal Scotchbond adhesive applied with a rotational brush and Relyx Ultimate as cement; MB-AM-AC: Universal Ambar adhesive applied with a micro brush and Allcem Core as resin cement; and RB-AM-AC: Universal Ambar adhesive applied with a rotational brush and Allcem Core as cement. After cementation, the push-out test was performed in the different thirds of dentin, and an analysis of the failure mode. ANOVA 2-Way and Tukey post-test were used ($\alpha=5\%$).



3 CONCLUSION

Regardless of the evaluated third and the mode of application, the SU-RU system presented higher union resistance than the AM-AC system ($p < 0.05$). The RB-AM-AC protocol, in the apical third, presented the lowest union resistance ($p < 0.05$). The SU-RU system presented a higher incidence of cohesive failures, regardless of the third mode of application. It was concluded that the application of the adhesive with a rotational brush had a positive effect on the cementation protocol with Scotchbond Universal and Relyx Ultimate.