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Abstract

PURPOSE: To examine the effect of CHX pre-treatment on long-term bond strength of fiber posts luted with self-adhesive resin cements.

MATERIALS AND METHODS: Seventy-two single-rooted teeth were selected for root canal treatment and post space preparation. The tested self-adhesive cement/post combinations were (N = 36): 1. RelyX Fiber-Posts luted with RelyX Unicem; 2. Rebilda Posts luted with Bifix SE Cement. For both self-adhesive cements, half of the specimens (experimental groups) were luted after the application of a solution of 2% CHX, while no CHX application was performed for the remaining specimens (control groups). Luted specimens were cut and used for push-out bond strength evaluation immediately, and after storage in artificial saliva for 6 months or 1 year. Additional specimens were processed for quantitative interfacial nanoleakage analysis.

RESULTS: ANOVA showed that the variable times of storage had a significant influence on the results (p < 0.05), while no influence of the luting procedure (cements with or without CHX) on the final outcome (p > 0.05) was found. Tukey’s pairwise post-hoc test showed that the radicular bond strength decreased with time of storage. In particular, a significant difference was found between T0 and T1y, but not between T0 and T6m. In contrast, in terms of pretreatment, no significant reduction in push-out bond strength was observed, irrespective of the aging time.
CONCLUSION: CHX pretreatment did not prevent bond strength degradation of fiber posts luted with self-adhesive cements.

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