Evaluation of three cement type on FRC post retention

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Abstract

Background and Aim:

One of the challenges of restoring endodontically treated teeth with fiber reinforced composite (FRC) posts is their deboning from root canal dentin. Different factors such as cement type, affect the post retention. According to the controversies in this regard, this study aimed to evaluate the effect of three luting cements on retention of FRC posts in the root canal.

Materials and Methods:

In this in-vitro study 30 selected root canal treated premolar teeth were randomly allocated to three experimental groups. After post space preparation, RTD fiber posts, with 10mm length and ¼ mm diameter, were cemented in the canal with one of the following luting agents: zinc phosphate(Harvard), Glass-Ionomer(GC) and resin cement Maxcem(Kerr). They were then fixed and force was applied using Instron 5500 machine. The Data was subjected to ANOVA for statistical analysis.

Results:

The observed retention in studied groups was as follows: resin cement 127±18.5 (MPa), zinc phosphate 102±29.7 (MPa) and glass-ionomer 51±14.8 (MPa).

Conclusion:

In order to increase the retention of FRC posts, cementation with resin cements is recommended.

Keywords: Resin cement, ZincPhosphatcement, GlassIonomercement, Fiber Reinforced Compositepost, Bondstrength,retention

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