

Retention of translucent endodontic fiber posts luted with flowable light curing composite resins

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I. Objectives

The aim of this study was to evaluate the use possibility of light curing flowable composite resins as a luting agent for translucent fiber posts.

II. Materials and Methods

20 single-rooted maxillary central incisors were selected and crown was sectioned below the cemento-enamel junction to obtain a 13 mm ling root. Root canals were filed, cleaned, and shaped to # 40 with K-file. Prepared canals were filled with gutta percha and AH26 root canal sealer by lateral condensation method. Teeth were then divided into 4 groups of 5 specimens each. In group 1 and 2, the canal space of each root was enlarged with # 3 DT Light post preparation drill (Bisco, USA) to a depth of 9 mm from the cervical. In group 3 and 4, canal space was prepared with size 1 canal reamer for FRC Postec (Ivoclar vivadent, Liechtenstein). Ten #3 DT Light post and ten size 1 FRC Postec post were sectioned to obtain 12 mm length from tip. In group 1, #3 DT Light post was luted with Dual cement(Bisco), in group 2, #3 DT Light post was luted with Tetric flow(Ivoclar vivadent) flowable resin, in group 3, size 1 FRC Postec post was luted with Panavia F(Kuraray, Japan), and in group 4, size 1 FRC Postec post was luted with tetric flow flowable resin. All specimens were cured with Optilux 501 light curing unit for 60 seconds from bottom of the post. Each specimen was sectioned perpendicular to the tooth axis into 4 mm length from cervical.

Retention force was measured with Instron universal test machine by push-out method from apical to cervical. The retention force among different cements and posts were compared using one-way ANOVA.

III. Results

There were no significant difference between light curing flowable resin and dual cured resin cement in retention force as a luting agent of translucent fiber post.

IV. Conclusions

According to this study finding, light curing flowable composites can use as a luting agent for cementation of translucent fiber posts.