TITLE: Invitro evaluation of fracture strength of maxillary central incisors restored with an Iranian glass fiber post and two foreign glass-fiber posts.

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Abstract: Statement of Problem:
Glass-fiber prefabricated endodontic posts are becoming more popular because of their satisfactory physico-mechanical properties and cosmetic results. It’s the first time that a glass-fiber post is produced in Iran.

Purpose:
This invitro study compared fracture strength of maxillary central incisors restored with an Iranian glass-fiber post and two foreign glass-fiber posts.

Materials & Methods:
A total of 30 recently extracted human maxillary central incisors with their crown removed were endodontically treated. Three groups of 10 specimens were formed. Post space were prepared to a depth of 10mm. Teeth were restored with HtCo (HtCo, Iran), Anthogyr (France) and stevensk (Sweden) posts and numbered as group 1, 2 and 3. All posts were cemented with Panavia F (Kurarvey, Japan) dual polymerizing adhesive resin cement and restored with composite resin (Z100) according to the incremental technique. Each specimen was embedded in acrylic resin and then secured in universal testing machine. Compressive load was applied at a 45 degree angle to the long axis of the tooth until fracture, at a cross head speed of 1mm/min. One way ANOVA and Duncan tests were used to determine the significance of the failure loads between groups. (α=0.05)

Results:
The mean failure loads (N) were 564.74±213.59 for group 1, 629.12±390.33 for group 2, and 779.84±282.59 for group 3. There is no significant difference between groups. (P>0.05)

Conclusion:
Within the limitation of this study, the Iranian HtCo glass-fiber post gives the same fracture strength to restored teeth as Anthogyr and stevensk posts.

Presentation: Poster