

Invitro Study of The resistance of three different fiber - posts to Fracture

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Abstract:

Background and Aim: Posts are used as retention mechanism in repairing fractured or missing crowns of teeth. Nowadays composite fiber postes have eliminated most disadvantages of prefabricated metal and casting posts. the purpose of this study is to compare the amount of fracture resistance in three fiber posts (carbon fiber ,quartz fiber,glass fiber) while shearing force (perpendicular to long axis) is applied.

Materials and Methods: This invitro, experimental study was performed on 30 maxillary Incisors with the same size without fracture, dentin caries or any root problems they were in three groups randomly. (Carbon fiber, quartz fiber,glass fiber) After root canal treatment and post space preparation with specified drill, samples were carried under universal test machine (prinston) to evaluate the amount of fracture resistance Data was analyzed with Kruskal-wallis Test under spss13.

Results: There was significant difference in fracture resistance in all three groups. (P=0.001).Also, the carbon fiber posts had the maximum & the glass fiber posts had the minimum amount of fracture resistance.

Conclusion: since the carbon fiber posts have the maximum fracture resistance in comparison with other groups, their application in anterior teeth is preferred.

Keywords: carbon fiber, glass fiber, Quartz fiber, Shwaring force, resistance to fracture.

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