Push-out Bond Strength of Luting Agents to Fibre-Reinforced Post: an in vitro Study

Abstract

The objective of this study was to investigate the effect of various luting agents on bond strength of fibre-reinforced posts to root canal dentine. 40 extracted single rooted sound premolar teeth were root filled, decoronated and randomly divided into four groups. Fibre posts, Aestheti-Plus (TM) (Bisco,Inc. Schaumburg, IL, USA) were cemented using four luting agents: Group A (control): Elite 1000 Zinc phosphate (GC Corp, Japan), Group B: Calibra (TM) Esthetic Resin Cement (Dentsply Caulk, USA), Group C: RelyX ARC Adhesive Resin (3M ESPE), Group D: RelyX Unicem Aplicap (3M ESPE). Each roots were sliced into 2 discs representing the coronal and middle portions of the root canal giving rise to 20 specimens per group. Bond strength was determined using push-out tests and data were analyzed using SPSS version 14.0. The mean bond strength of Group A to Aestheti-Plus (TM) post was 7.71 MPa (+/- 2.51) and Group B was 5.69 MPa (+/- 3.23). Group C exhibited the lowest mean bond strength, 4.29 MPa (+/- 3.53) while the highest bond strength was obtained from Group D, 7.98 MPa (+/- 2.61). One way ANOVA showed significant interaction between all groups (p=.001). Post-hoc Bonferroni test revealed that bond strength of Group C was significantly lower compared to Group A (p=.008) and D (p=.004). In conclusion, the mean bond strength of Aestheti-Plus (TM) post to root canal dentine was highest when cemented with RelyX Unicem followed by Elite 100, Calibra and RelyX ARC. However, the bond strengths of Calibra and RelyX Unicem were not significantly different from Elite 100 (R).

Authors:	Yahya, N. A. ; Lui, J. L. ; Chong, K. W. F. ; Lim, C. M. ; Abu Kasim, N. H. ; Radzi, Z.

Book:	4th Kuala Lumpur International Conference on Biomedical Engineering 2008, Vols 1 and 2
Year:	2008
Pages:	341 - 345

Keywords :

Fibre post; Luting agents; Bond strength; Push-out test, ENDODONTICALLY TREATED TEETH; ROOT-CANAL WALLS; RESIN CEMENTS; DENTIN; SYSTEMS; MICROTENSILE; MICROLEAKAGE; RETENTION; ADHESION; EFFICACY.

Please cite as :

Yahya, N. A., J. L. Lui, et al. (2008). **Push-out Bond Strength of Luting Agents to Fibre-Reinforced Post: an in vitro Study**. 4th Kuala Lumpur International Conference on Biomedical Engineering 2008, Vols 1 and 2. N. A. AbuOsman, F. Ibrahim, W. A. B. WanAbas, H. S. AbdulRahman and H. N. Ting. Kuala Lumpur, Univ Malaya, Fac Dent, Kuala Lumpur 50603, Malaysia. **21:** 341-345.

URL :

http://www.springerlink.com/content/ln056m82183728q2/

http://books.google.com.my/books?id=sdG-1hN_4TYC&pg=PA341&lpg=PA341&dq=Push-out+Bond+Strength+of+Luting+Agents+to+Fibre-Reinforced+Post:+an+in+vitro+Study&source=bl&ots=eL04WIJ57V&sig=z8_Zb0weK-as5615fMgeyjNVCRQ&hl=en&ei=smLhTtqnKMTyrQe3wOXyAQ&sa=X&oi=book_result&ct=result&resnum=6&sqi=2&ved=0CEYQ6AEwBQ#v=onepage&q=Push-out%20Bond%20Strength%20of%20Luting%20Agents%20to%20Fibre-Reinforced%20Post%3A%20an%20in%20vitro%20Study&f=false

http://www.researcherid.com/ProfileView.action?queryString=KG0UuZjN5WnikDkr0zr0q61%252BzIIA8iXzhONMg1NkkZQ%253D&Init=Yes&SrcApp=CR&returnCode=ROUTER.Success&SID=Q1kPHPplCJ9fBjIndL7