

Push out bond strength of glass ionomer impregnated gutta percha/Glass Ionomer sealer system to root canal dentin conditioned with different endodontic irrigants



Ahmed Elsheikh

Cairo University, Egypt

Biography

Elsheikh A has completed his PhD at the age of 34 years from Calonia University, USA. His work is limited to Endodontics and Dental Business Administration.



Abstract

The present study evaluated the push out bond strength of Active GP system versus Guttapercha/AH Plus sealer using different irrigants. Fifty six human single rooted teeth were instrumented with a crown-down technique using Endosequence rotary Ni-Ti file system. The teeth were equally divided into two main groups and eight subgroups according to final irrigant: NaOCl, EDTA, Citric acid, and MTAD. Obturation was done by single cone technique in Active GP system, and with lateral compaction in GP/AH Plus group. Each obturated tooth was embedded in Epoxy cylinder, where three sections of 2 mm were done using the Isomet saw. The push out bond strength was done using universal testing machine working at a speed of 0.5 mm/ min. Data were analyzed using one way analysis of variance followed by Newman-Keulsposthoc test. Stereomicroscopic examination determined the type of bond failure. Results showed that in Active GP group, NaOCl dentin-treated subgroup had the highest bond strength mean value ($6.98 \pm 1.9\text{MPa}$) followed by citric acid subgroup ($5.40 \pm 1.1\text{MPa}$), then MTAD subgroup ($4.71 \pm 0.7\text{MPa}$), while EDTA subgroup recorded the lowest value ($4.14 \pm 1.4\text{MPa}$), however they were statistically nonsignificant ($P > 0.05$). In the GP/AH Plus group, EDTA dentin-treated subgroup showed statistically significant higher mean bond strength ($5.9 \pm 0.7\text{MPa}$) followed by NaOCl subgroup ($5.40 \pm 1.1\text{MPa}$), then citric acid subgroup ($4.6 \pm 0.6\text{MPa}$), while MTAD subgroup recorded the lowest value ($3.5 \pm 0.1\text{MPa}$). Failure in Active GP group was mainly cohesive in the Gutta-percha, while GP/AH Plus group showed mainly adhesive failure of AH Plus sealer with the gutta-percha.

[3rd International Conference on Dentistry and Oral Health](#) | July 20-21, 2020

Citation: Ahmed Elsheikh, JBR Journal of Interdisciplinary Medicine and Dental Sciences, Push out bond strength of glass ionomer impregnated gutta percha/Glass Ionomer sealer system to root canal dentin conditioned with different endodontic irrigants, Dental Congress 2020, 3rd International Conference on Dentistry and Oral Health, July 20-21, 2020, 05