CLBA2012
8 e 9 de novembro
Rio de Janeiro, Brasil
Associação Brasileira de Adesão e Adesivos - ABAA
Associação Portuguesa de Adesão e Adesivos - APAA
http://clba.cefet-rj.br

Influence of NaOCl Irrigation and Water-Storage on Degradation and Microstructure of Resin-Dentin Interface.

CS Sampaio[1], PA Sacramento[1], FG Carvalho[2], FM Pascon[1],
AFS Borges[3], MC Alves[1], Y Hosoya[4] , RM Puppin-Rontani[1].

[1]State University of Campinas, Piracicaba Dental School, Piracicaba, São Paulo, Brazil
[2]State University of Paraíba, Campina Grande, São Paraíba – Brazil
[3]Bauru dental School, University of São Paulo, Bauru, São Paulo – Brazil
[4]Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan.

To verify the influence of NaOCl irrigation and water-storage time-WST on the degradation and microstructure of the resin-dentin interface bonded with different adhesive systems using Microtensile Bond Strength test-MTBS and scanning electron microscopy-SEM observations. Materials and Methods: Ninety sound third molars were used. Eighteen groups were set by adhesive systems (Adper Single Bond 2:SB, Clearfil Protect Bond:CP, Adper Prompt L-Pop:APL), with or without NaOCl irrigation ,for simulate endodontic irrigation, and water-storage time (24 h, 45 d, 90 d). The adhesive procedure was performed at the middle dentin previously exposed. The data were analysed with ANOVA and Tukey tests ($p<0.05$). The failure modes, presence or absence of resin tags, and the resin/dentin interface were evaluated by Scanning Electron Microscopy (SEM) and data were analyzed with the Cochran-Mantel-Haenszel Statistics ($p<0.05$). Results: There were no significant interactions between water-storage time, adhesive systems and irrigation. There were significant interactions between irrigation and the storage time, and irrigation and the adhesive system, but not between the adhesive system and the storage time. A significant decrease in MTBS values was noted in the non-NaOCl irrigation groups during WST evaluations. Compared with CP and SB, APL showed a decrease in MTBS values when NaOCl was used. After 90 days of storage, resin tags partially disappeared. Conclusion: NaOCl irrigation did not affect the bond strength for up to 90 days, and when it was used with APL, there was a negative effect on bond strength, which was not found with CP and SB.

Key-words: Adhesive systems. Bonding degradation. Micro-tensile bond strength. Sodium hypochlorite.