ABSTRACT

The success of root canal treatment depends on root canal irrigation. The purpose of this research was to evaluate the difference of various irrigation treatment sequence of a combination of 2.5% sodium hypochlorite, 17% EDTA, and 0.12% chlorhexidine and the second was the sequence of combinations of 2.5% sodium hypochlorite, 0.12% chlorhexidine and 17% EDTA on the shear bond strength of resin-based root canal filling at root canal wall.

This study used 40 mandibular premolars. The entire root canals were prepared using rotary files up to file # 35 / 0.06. The subjects were divided randomly into 2 treatment groups of 10 , 3 positive control group, and 1 negative control group of 5 teeth each. Group I was irrigated using a sequence of 2.5% NaOCl, followed by EDTA 17%, and a final rinse with 0.12% chlorhexidine. Group II was irrigated using a sequence of 2.5% NaOCl, followed by 0.12% chlorhexidine, and ends with 17% EDTA. All study subjects were obturated using resin cones and resin sealer, and then stored in an incubator for 14 days. Teeth were then horizontally sectioned into 3 pieces of 2 mm thickness. Sections were tested with the push-out technique. Data were analyzed with one-way ANOVA and Tukey test at 95% confidence level ($\alpha = 0.05$).

The means of shear bond strength in Group II were higher than Group I. A one-way ANOVA test proved that there were differences on the shear bond strength of resin based root canal filling material between the treatment groups, positive control and negative control and the Tukey test showed no difference on shear bond strength between Group I and Group II.

Conclusion: It was concluded that there was no statistical difference for the shear bond strength value between the root canal irrigation treatment sequences of 2.5% sodium hypochlorite, 17% EDTA, ended by 0.12% chlorhexidine and 2.5% sodium hypochorite, 0.12% chlorhexidine, ended by 17% EDTA.

Key words: irrigation, the shear bond strength, resin