

## **The effect of Sodium hypochlorite, EDTA and saline on the composite bond strength to the root dentin of the primary anterior teeth**

### **Abstract**

**Intruduction:** one of the available treatment options for restoring severely damaged anterior primary teeth is using composite posts. For placing the post, intracanal space should be prepared by various irrigators to create a proper and strong bond between the post and intracanal space as well as the post and the composite resin. The purpose of this study was to determine the effect of chlorhexidine, EDTA and saline on the bond strength of composite to dentin of anterior primary teeth

**Material and Metods:** 33 anterior primary teeth were prepared and were randomly divided into 3 groups Group 1: In this group, saline solution was placed on the root canal for 60 seconds. Group 2: In this group, 1% sodium hypochlorite solution was placed on the root canal for 60 seconds. Group 3: In this group, EDTA was placed on the root canal for 60 seconds; then the next steps were done for all three groups as follows: First application of bonding agent (G premio; 3M ESPE) ; air drying for 5 seconds; and light curing for 10 seconds. After preparing and placing the composite inside the canals, samples were thermocycled. The bond strength was determined by "Push out" test using universal machine. The data obtained from the study were analysed using the statistical software "SPSS V.20" and one\_way analysis of variance ( $P<0.05$ ).

**Finding:** There was a statistically significant difference between the mean bond strength of the group 1(normal salin) and the other two groups (EDTA & Sodium hypochlorite) and the variable mean bond straight of the normal salin group was lower than the other groups ( $P.value <0.001$ ). There was a significant statistically difference between the mean bond strength of the EDTA and Sodium hypochlorite ( $P.value<0.05$ ). As a result, the most adhesive failure was observed in the normal salin group.

**Conclusion:** Due to this study Sodium hypochlorite has the higher average bond strength compared to the normal salin and EDTA groups.