ABSTRACT

Background. It is now believed that postoperative sensitivity is caused by bacteria that present in the saliva and gain access to the tooth at the margin of the restoration where there is a microscopic space between the restoration and the tooth surface. To eliminate or reduce that space, cavity lining material or liner used to protect pulp from penetration of bacteria or residual substances. One of the most commonly used liner material is Glass Ionomer Cement. Purpose. The aim of this study was to evaluate the difference of powder and liquid ratio of Glass Ionomer Cement Type II as lining material to prevent cavity micro leakage. Method. This study used 3 groups of samples, each groups consist of 7 maxillary premolar that were prepared in the occlusal with round shape diameter 3 mm and depth 3,5 mm using a round bur. The first group was Glass Ionomer Cement Type II as lining material with powder and liquid ratio 1,4 g : 1 ml; the second group was 1,2 g : 1 ml powder and liquid ratio; the third group was 1 g : 1 ml powder and liquid ratio. Each sample in all group were soaked in a solution of methylene blue 0,5 % to see any penetration of methylene blue 0,5 % between lining materials and wall cavities. Result. The result was analyzed statistically using one way anova with level of significance of 0,05. The result showed that the mean penetration of methylene blue 0,5 % for the first group is 2,6 mm; for the second group is 2,3 mm; and for the third group is 1,9 mm. This showed that there is significant differences between 3 group with p < 0,05 . Conclusion. The powder and liquid ratio1 g : 1 ml of Glass Ionomer Cement Type II as lining material would produce a less viscous consistency and minimal micro leakage.

Key word: Glass Ionomer Cement, Consistency, Micro leakage