

Comparison different methods of gutta percha removal for post space preparation on apical microleakage.

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Abstract

Background and Aim: Post and core requires removal of a portion of the gutta-percha from the root canal space. When gutta-percha is removed some factors may have a negative effect on obturating material seal. the purpose of this study compare different methods of gutta percha removal immediately after obturation on apical leakage.

Materials and Methods: Samples randomly divided into 4 experimental groups (N=15) and two positive & negative control groups (n=5). In group 1 post space were prepared immediately with counter clock wise rotating GG. In group 2 post space were prepared immediately with clock wise rotating GG. In group 3 post space were prepared immediately with post space bur. In group 4 post space were prepared immediately with heat carrier. Leakage was measured by using bovin serum albumin, immediately, 48 hours and 1 week after obturation. The mean of apical microleakage is evaluated by ANOVA & Post Hoc statistical analysis in each group & in different times.

Result: Heat carrier group showed significantly less leakage than Other groups in all intervals ($p < 0/05$). Then, reverse rotating GG showed less leakage and forward rotating GG showed the greatest leakage. The difference between these two groups was significant at immediate and 48 hours after obturation. Post space bur showed more leakage than reverse rotating GG but less leakage than forward rotating GG. This difference was not significant in all intervals ($p > 0/05$).

Conclusion: According to this study heat carrier technique recommended for immediate post space preparation.

Keywords: Micro leakage, serum albumin, post space preparation, Gutta-percha