

An In Vitro Comparative Study Of Four Different Root Canal Obturation Techniques On The Apical Seal Using Two Different Sealers

The objective of obturation in endodontic is total obliteration of the root canal system and development of a fluid-tight seal at the apical foramen. The aim of this work was to compare the apical seal of four root canal obturation techniques namely lateral condensation technique, vertical condensation technique, warm lateral condensation technique with an ultrasonically activated spreader and Thermafil, when used with two different root canal sealers. 80 human extract maxillary anterior teeth were used in this study. All root canal were instrumented by the step back technique. Roots were divided into four groups (according to the technique of obturation and each group were further subdivided into two subgroups according to the type of sealer used. Leakage evaluation was done by using clearance technique for maximum linear apical dye penetration. The results were tabulated and statistically analyzed. The obtained result showed that there was no significant difference among the four obturation techniques, regarding the apical leakage with insignificant difference between the two sealers. Vertical condensation is the most time consuming technique. Sealer extrusion occurs with all the specimens obturated by Thermafill. Clearing technique is a valuable method in evaluating apical leakage in extracted teeth.