

Radioisotope Determination of Apical Seal Following Dowel Preparation

Salma H Elashry* and Madiha M Gomaa**

Abstract:

Aim: to evaluate the apical seal of root canal obturation after dowel preparation

Materials and Methods: fifty freshly extracted anterior teeth were cleaned, shaped, and obturated with gutta-percha and sealer using the lateral condensation technique.

Obturated teeth were then divided into five groups according to the method of gutta-percha removal in preparation for post receiving. Specimens were submerged in radioactive isotope solution of ^{137}Cs chloride for 48 hours, rinsed under running water for three hours then sectioned longitudinally and washed again and dried. Sectioned roots were placed with their canals down on an ultraspeed Kodak x-ray films to quantify leakage.

Results and conclusions: results showed that, the least leakage was found with hot pluggers while the maximum leakage was detected when rotary instruments were used for post space preparation.