Accuracy of an electronic apical foramen locator in revision endodontic treatment in the presence of different solvents: A randomized controlled clinical trial

Aim of this study is to evaluate the accuracy of an electronic apical locator in the determination of working length during an endodontic retreatment, in presence of different solvents in vivo. 120 canals needing retreatment were included in the study. Among those, 30 canals filled with gutta-percha, 30 with filling paste only, 30 with resin points and 30 were judged empty of filling material. The retreatment was initiated using the corresponding solvent respectively: xylol, orange solvent, acrylic liquid monomer and sodium hypochlorite. When the first exploring file reached the estimated length, two measurements were done using the electronic apex locator and the radiograph method. The values were compared by two observers blinded to the aim of the study. A non-parametric test of Kruskal-Wallis was used. A p-value less than 0.05 was considered statistically significant. The results were noted in charts. The results showed an accuracy of 83% in presence of xylol, 87% in presence of orange solvent, 77% in presence of monomer, and 87% in presence of ClONa, which gives an average of 83%. The presence of the solvents tested and sodium hypochlorite have no significant effect on the percentage of accuracy of the apical foramen locator. The particular cases of periapical lesions and apical resorption should make the subject of a different study.

Biography
Edmond Koyess completed his graduation from Saint-Joseph University in Beirut Lebanon. He received Post-graduate certificate in Oral Biology and Endodontics from Rene Descartes, Paris. He completed his Doctorate degree in Odontologic Sciences from Lebanese University. Presently, he is Director of Master in Endodontics at Lebanese University and Fellow of International College of Dentists. He is an International Lecturer and Opinion Leader in Endodontics.

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