

Objectives

To quantify and determine the extrusion of sodium hypochlorite for different final irrigation systems used in semi-closed environment, simulating the periodontal ligament

Materials and Methods

48 human single-root teeth extracted for orthodontic or periodontal reasons were selected. They were cut at cement-enamel junction and the root portions were embedded in an agarose 0.3 % colloidal gel placed in individual transparent methacrylate boxes. Six experimental groups were established: needle -1 mm of the working length, needle -4 mm of the working length, EndoActivator, EndoVac, WaterPik power flosser and ultrasonic activation. The samples were randomized and were endodontically treated using PathFlie®, Pro-Taper® (Until F2) and Profile® (35.04), and were instrumented following the same protocol of irrigation. The final irrigation was different depending on the group. A mixture of sodium hypochlorite 5.25% and methylene blue was used as irrigant (96% of sodium hypochlorite and 4% of methylene blue).

During instrumentation phase, blue irrigant mixture was extruding through the apical foramen and was created a blue different size periradicular area. Two pictures of each sample were taken, the first one at the end of the instrumentation phase and the other one after the final irrigation. The size of these areas was quantified by ImageTool® 3.0 analyzer. The results were subjected to statistical analysis using Kruskal Wallis test for multiple comparisons and Wilcoxon test for paired samples, by the IBM SPSS 22 program.

Results

There were statistically significant differences in the extrusion recorded after the final irrigation in three groups: needle -1 mm of the working length, WaterPik and ultrasound. In needle -4 mm of the working length, EndoVac and EndoActivator groups there were no differences when compared with prior recorded extrusion.

Conclusions

Although there are differences in the degree of extrusion of different final irrigation systems employees, most of the extrusion of the irrigant it was produced during the instrumentation of the root canals.

- Oral Presentation 29

TITLE: Effect of adhesive expiration day on bond strength

AUTHORS: Garcia Belando A, Teruel Rodriguez A, Alegria Anierte A, Cabello Colas M, Chiva Garcia F.
SOURCE: J Clin Exp Dent. 2014 1;6(Supplement1):S14.

* doi:10.4317/jced.17643813

<http://dx.doi.org/10.4317/jced.17643813>

Objectives

To evaluate the dentin shear bond strength of 3M ESPE adhesive systems: Adper Scotchbond Multi-Purpose (expired in 2015) and Scotchbond Multi-Purpose (expired in 1999).

Materials and Methods

Sixteen permanent posterior teeth were randomly assigned to two groups (n=8 each) : (1) non-expired adhesive and (2) expired adhesive. Flat dentinal labial surfaces were carved and adhesives were applied on the dentinal surface accord to manufacturer instructions.

Filtek Supreme A3 body (3M) composite cylinders (4 mm diameter; 2 mm high) were polymerized 20 seconds on the treated dentin surface.

After 24 hours of immersion in water at 37° C , shear bond strength was performed using a universal testing machine (Autograph AGS- 1KND, Shimadzu, Japan) at a crosshead speed of 1mm/min.

Data were analyzed by t-test at an alpha level of 0,05 using SPSS v.12.

Results

The shear bond strength of unexpired adhesive (18,33 MPa;SD 1,59) was higher than expired adhesive (8,69 Mpa; SD 3,55). Significant differences were observed between groups (p>0,001).

Conclusions

As expected, expired adhesive system presented lower bond strength than unexpired adhesive system.

- Oral Presentation 30

TITLE: Six-month clinical evaluation of a universal adhesive

AUTHORS: Giráldez I, Fuentes MV, Baracco B, Ceballos L, Perdigo J.
SOURCE: J Clin Exp Dent. 2014 1;6(Supplement1):S14.

* doi:10.4317/jced.17643814

<http://dx.doi.org/10.4317/jced.17643814>