Materials and Methods

For this study there have been selected 72 rotary nickel-titanium (NiTi) instruments

11 groups were realized: Group A Mtwo System 25/06 (VDW, Munich, Germany) Group B K3 System 25/06 (SybronEndo, Orange, CA) Group C TF System 25/06 (SybronEndo, Orange, CA) Group D Protaper Universal System F2 (Dentsply, Maillefer, Switzerland) Group E GT series X System 30/06 (Dentsply, Maillefer, Switzerland) Group F GT series System X20/06 (Dentsply, Maillefer, Switzerland) Group G Profile System 25/06 (Dentsply, Maillefer, Switzerland) Group H HyflexCM System 20/04 (Coltene, Alstatten, Switzerland) Group I HyflexCM System 25/04 (Coltene, Alstatten, Switzerland) Group J HyflexCM System 20/06 (Coltene, Alstatten, Switzerland), Group K F360 System 25/04 (Komet Dental, Brasseler GmbH & Co. Lemgo, Germany), Group L F360 System 35/04 (Komet Dental, Brasseler GmbH & Co. Lemgo, Germany).

The cyclic fatigue test was performed in a customized artificial stainless steel canal (60° degree curvature with 5 mm radius). Instruments were rotated at 300 rpm until fracture. All data obtained were recorded and statistically analyzed using an ANOVA test.

Results

Profile 25/06 were found to be the most flexible instruments, showing a significant difference ($P < .05$) in comparison with the other instruments. Followed by the limes Hyflex and F360 in descending order (20/04, 25/04, 20/06, 35/04). Protaper F2 was the system that showed a minor resistance to the cyclical fatigue.

Conclusions

The systems with a major area of section are more vulnerable to the fracture than those of minor section turning in the same curvature. Of the current systems Hyflex and F360 are those who obtain better results without significant differences among their different tapers.

- Oral Presentation 52

TITLE: Problems in anterior maxillary teeth

AUTHORS: Miraglia Cantarini J, Escribano Mediavilla N.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S25.

* doi:10.4317/jced.17643836

<http://dx.doi.org/10.4317/jced.17643836>

Introduction

Endodontic procedures consist in clean, shape and fill in three dimensions, with definitely materials, the root canal system.

Case report

A referred patient with acute symptoms in subnasal region attended the dental office. Diagnostic and radiographic tests were done in the upper anterior teeth. The diagnosis was Chronic Apical Periodontitis with a flare up process caused by inadequate root canal treatments in teeth 1.1, 1.2, 2.1 and 2.2. Retreatment of all previous root canal procedures was the treatment option: 1.2 and 2.2 were orthograde retreatments, 1.1 apical foramen resorption was sealed with MTA and 2.1, once the broken Hedstroem file was removed from the root canal, apical third and the lateral root perforation were sealed with MTA.

Conclusions

After 2 years follow up 2 years, periapical health is evident and no symptoms are presented.

- Oral Presentation 53

TITLE: Effect of adhesive vibration with Compothixo® in shear bond strength

AUTHORS: Miralles Alvarez AF, Duran Jimenez B, Guillen Sanchez J, Chiva Garcia F.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S25.

* doi:10.4317/jced.17643837

<http://dx.doi.org/10.4317/jced.17643837>

Objectives

To compare the effect of the adhesive vibration with Compothixo® on the shear bond strength of composite resin to dentin with the manual application of the adhesive system.

Materials and Methods

12 molars extracted for periodontal reasons were used. Flat dentin mesial surface were made by diamond bur to expose the dentin. Teeth were randomly divided into two groups (n=6 each): (Group1) adhesive without vibration, rubbing with a microbrush (15 seconds), (2) Adhesive vibrated with Compothixo® (15 seconds). After etching the dentin surface (37 % orthophosphoric acid), OptiBond® Solo Plus™ adhesive was placed according to the manufacturer's instructions. Composite cylinders (2mm high, 4 mm internal diameter) (Herculite XRV Ultra A3®) were polymerized 20 seconds with Demetron Kerr® curing light and were stored in distilled water at 37 ° during 24 hours. Shear bond strength was performed using an universal testing machine Autograph AGS (Shimadzu) at a crosshead speed of 1mm/min. Data were statistically analyzed using t-test (significance level: $p < 0.05$) with SPSS v15.