each of the teeth. Clinical photos and RX of the endodontic files introduced in the perforations and the correct location of the root canals are presented, as well as the root canal treatments performed in 2002.

The teeth perforations were exposed afterwards to perform a vestibular gingivectomy and were sealed with composite, after complete healing of the gingiva, the two teeth were treated with full coverage crowns. Images of the entire treatment were taken. Throughout these 12 years, we have been making regular checks, the patient never again had any pathology. The clinical and esthetic evolution as well as the evolution of the root canal treatment and the perforations were successful. We present photos of the progress of the case and of the current state.

Conclusions

The orientation of the access cavity to pulp chamber and the anatomical knowledge of the tooth are very important to perform endodontic treatments. It must be taken into account the possible abnormalities in the size and shape of the tooth, the position in the arch, possible destruction by caries, abrasions or scuffs when we start to opening the chamber access. The evolution of the case shows that Conservative Dentistry should always be the first treatment option.

- Oral Presentation 50

TITLE: Fluorescence of resin composites: Comparison between shade types of various brands

AUTHORS: Meller C, Connert T, Klein C.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S24.

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Objectives

The aim of this study was to determine the fluorescence properties of different commercially available resin composite shades.

Materials and Methods

A total of 234 different colors (122 enamel, 80 dentin, and 32 special shades) of 16 different brands (Miris®2: Coltène-Whaledent, Esthet-X®HD, Ceram-X®Duo, Spectrum®: Dentsply-DeTrey, EcuSphere®: DMG, ENAMEL-Plus HFO/HRi®: GDF, Venus®, Venus® Diamond, Charisma®: Heraeus-Kulzer, Tetric-EvoCeram®, IPS-Empress® Direct: Ivoclar-Vivadent, Filtek-TM SupremeXT, FiltekTMZ250: 3M-Espe, Amaris® and Grandio®: VOCO) were analyzed. The composites were light-cured for 40s with a polymerization lamp

(Bluephase®, Ivoclar-Vivadent) in 96-well assay microplates (Corning®) and fluorescence measurements conducted at 37°C using the monochromator-based fluorescence microplate reader Synergy™ Mx (BioTek®). The maximum fluorescence and the corresponding excitation and emission wavelength were evaluated for each shade.

Results

Maximum fluorescence was achieved at a nearly comparable combination of excitation and emission wavelength between shades, but with strongly varying intensities. Only two brands, Filtek™Supreme XT (dentin shades: 1585±507 RFU, enamel shades: 4473±330 RFU) and Filtek™Z250, (enamel shades: 867±279 RFU) resembled the fluorescence of natural human enamel and dentin probes. The shades of the other brands showed as much as three to fifteen times higher mean maximum fluorescence (dentin shades: 10331-47774 RFU; enamel shades: 19283-38264 RFU; special shades: 35934-60001 RFU). No relevant differences were recognized at the mean excitation (395-400 nm) and emission (450-458 nm) wave length for the assessed groups.

Conclusions

The results demonstrate that the analyzed composite brand shade types reached their maximum fluorescence at nearly the same excitation emission wavelengths combination, but with varying optical fluorescence intensities. The results provide fluorescence data of a vast sample of different well-known composite shades, data needed not only for the development of new aesthetic materials, but also for diagnostic reasons in routine (re- treatment, forensic and epidemiological research/ analyses).

- Oral Presentation 51

TITLE: Comparative study of the fatigue resistance of different rotary systems

AUTHORS: Mena Álvarez J, Zubizarreta Macho A, Rico Romano C.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S24.

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Objectives

The aim of this study is to compare the fatigue resistance of different rotary systems with different transverse section contributing files of taper and similar diameter apical, emphasizing Hyflex and F360 as new systems of rotary instrumentation.

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.

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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.

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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.