- Oral Presentation 62

TITLE: In vitro study of flexure strength of flowable composite resins

AUTHORS: Rico Carrillo V, Martínez Huesca M, Baguena Gómez JC, Chiva García F. SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S30.

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Objectives

To compare the flexure strength of six flowable composite resins

Materials and Methods

30 Rectangular bar-shaped specimens (20mm x 7mm x 1mm thickness) of six flowable composite resins (X-tra base, Voco; SDR, Dentsply; X-flow, Dentsply; Opticor Flow, Spofa Dental; Filtek Supreme XTE, 3MEspe y Grandio Flow, Voco) were made with a metal mold (n=5 each). Composite resins were photopolymerized with Demetron LC curing light (Kerr) according to manufacturer's instructions and stored in distilled water 24 hours at 37°C. Specimens were tested in three-point flexure in an universal testing machine (Autograph AGS- 1KND, Shimadzu, Japan) at a crosshead of 1mm/min. Oneway analysis of variance and Tukey's post-hoc test were made (significance level:p<0,05) using SPSS v.15

Results

Three-point flexure strength (MPa) was 157,2935,02 (Grandio flow), 138,2438,47 (FiltekXTE,3Mespe), 112,9916,39 (Opticorflow,Spofa), 11066,4 (X-trabase,Voco), 101,0148,7(SDR,Dentsply) y 42,379,46 (X-flow,Dentsply), showing significant statistical differences between Xflow (lower strength) versus Grandio flow (p=0,002) and Filtek Supreme XTE (p=0,011).

Conclusions

Flowable composite resins Grandio Flow and Filtek Supreme XTE showed the highest flexure strength and X-flow was the lowest.

- Oral Presentation 63

TITLE: Treatment of type II dens invaginatus by guided endodonctics

AUTHORS: Rico-Romano C, Zubizarreta-Macho A, Soto-Pereira E, Sierra-Armas L, Alonso-Ezpeleta LO, Mena-Álvarez J. SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S30.

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Introduction

Dens invaginatus is a rare dental malformation probably resulting from an infolding of the dental papilla during tooth development, whose treatment is a challenge for the clinician. Numerous therapeutic alternatives have been proposed for the treatment of this anatomical alteration: nonsurgical root canal treatment, endodontic surgery, intentional replantation, extraction, and combinations of the previous one. This range of possibilities is the result of ignorance of the internal anatomy of dens invaginatus. Structural variations make very difficult the conventional root treatment, condemning these teeth to submit new therapeutic procedures.

Case report

This case report shows the root canal treatment of a type II dens invaginatus diagnosed by cone beam computed tomography. The pulp access was planned using a planning software osseointegrated implants and was guided by splints made by stereolithography.

Conclusions

Cone beam computed tomography is the most effective diagnostic method of teeth with anatomical malformations. The planning software osseointegrated implants are an effective method for planning the root canal treatment, and the confection of stereolithographic splints allows a guided and conservative pulp access.

- Oral Presentation 64

TITLE: Cervical root resorption: Report on two clinical cases

AUTHORS: Robles Gijón V, Lucena Martín C, Pulgar Encinas RM, Navajas JM. SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S30.

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Introduction

Cervical root resorption (CRR) is an aggressive form of external resorption which begins in the cervical region of the root surface, underneath the epithelial insertion. Clinically, it is a challenge to the dentist, as the symptoms appear late.

Case report

CASE 1: This case presented A 29- year-old male who complained of acute nocturnal pain at the right maxillary central incisor level. His medical history was not contributory with the exception of an episode of renal colic. Intraoral examination revealed a small lesion at the cervical-distal angle of 1.1, and a change in underlying coloration to a pinkish tone. Periapical radiogaphy revealed a rounded radiolucid cervical lesion restricted to the cementoenamel junction level. Therefore the CRR was diagnosed as Heithersay Class 2. In this case a conservative treatment that included endodontic treatment, realization of periosteal flap surgery and restoration with resin composite was performed. CASE 2: A 22-year-old woman complained of pain at the right maxillary central incisor level. The patient's medical history only indicated a nephrolithiasis episode. In the intraoral inspection of 1.1, a well-defined small lesion was found at cervical area of the palatal surface. The underlying area of the lesion showed pink coloration. Periapical radiography detected an irregular radiolucid lesion that extended from the cementoenamel junction towards the middle third of the root. To confirm the true extent of the lesion, we used cone-beam computerized tomography (CBCT), which showed severe root resorption corresponding with a Heithersay class 4. In view of the extensive nature of the lesion, the treatment option selected included tooth extraction and placement of an immediate implant with a temporary crown.

Conclusions

As the therapeutics options for CRR can range from relatively simple direct restoration techniques from to complex multidisciplinary approaches, an accurate diagnosis is essential to devise an appropriate treatment plan. In this sense, CBCT constitutes an useful tool.

- Oral Presentation 65

TITLE: Influence of finishing procedures on color and translucency of composite resins

AUTHORS: Roldán C, Robles V, Espinar C, Pérez MM, Lucena C. SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S31.

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Objectives

To evaluate the finishing procedures effect on color and translucency of three composites: micro-hybrid, nano-fill and microfilled.

Materials and Methods

Cylindrical specimens of microhybrid, nanofiller (1cm in diameter, 1mm thick) and microfilled (1cm in diameter, 0.5 mm thick) resin composite A3 Renamel (Cosmedent, Chicago, USA) were fabricated. The composite was placed in a micrometer mold (Smile Line, Switzerland) in bulk, pressed with a glass slide and then light-cured through the glass slide with Style Bluephase unit (Ivoclar, Vivodent; 1100 mW/cm2) for 15 seconds.

The surface appearance was assessed under magnification and the sample thickness at three points was checked with a caliper before, and after finishing procedures. For each type of composite 6 samples were obtained, which were randomly assigned to two subgroups (n=3). The specimens of subgroup 1 were finished with aluminum oxide discs (Flexidisc, Cosmedent, Chicago, USA), while in subgroup 2, the resin composite surface was texturized with a diamond bur Periocare (831-524, Dentacare). All samples were polished with diamond (3 and 1 micron) and aluminum oxide pastes.

The spectral radiance of each sample was measured with a spectroradiometer (PR-704 Spectra-Scan, Photo Research Inc., Chatsworth, CA, USA) on white, black and gray standard backgrounds. Measurements were made at basal conditions, and after finishing and polishing steps. Finally, color differences and changes in the translucency parameter were calculated from these measurements.

Results

Color difference (ΔEab^*) ranged from 0.04 to 2.15 Cie-Lab* units for the microhybrid composite polished with discs and for the nanofill composite finished with diamond bur, respectively.

Conclusions

Composite surface texturization with diamond bur induces perceptible color changes although within the clinical acceptable limits. The above changes are mainly linked to an increase in lightness. Changes in translucency parameter were imperceptible for all composites.

- Oral Presentation 66

TITLE: Antimicrobial activity of alexidine, chlorhexidine and cetrimide against Streptococcus mutans biofilm

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