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 radiography revealed a rounded radiolucid cervical lesion restricted to the cemento-enamel 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 cemento-enamel 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.

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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 (ΔE_{ab}^*) ranged from 0.04 to 2.15 Cielab* 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

AUTHORS: Ruiz-Linares M, Baca P, Arias-Moliz MT, Aguado B, Ferrer-Luque CM.

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Objectives

The use of antimicrobial solutions has been recommended to disinfect demineralized dentin prior to placing the filling material. The aim of this study was to evaluate the ability of several antimicrobials in controlling *Streptococcus mutans* biofilm formed in dentin.

Materials and Methods

Antimicrobial activity of 1% and 2% alexidine, 0.2% and 2% chlorhexidine, 0.2% cetrimide and 0.2%, 0.5%, was assayed on 1-week *S. mutans* biofilm formed on standardized coronal dentin blocks. Results of *S. mutans* biofilm antimicrobial activity by different protocols were, respectively, expressed as the kill percentage of biofilm and the term "eradication" was used to denote the kill of 100% of the bacterial population. To compare the efficacies of the different protocols the Student t test was used, previously subjecting data to the Anscombe transformation.

Results

All alexidine concentrations tested and 0.2% cetrimide achieved a kill percentage higher than 99%, followed by 2% chlorhexidine with percentages above 96% (no statistically significant difference among them). Whereas 2% alexidine and 0.2% cetrimide respectively showed eradication in 10 and 9 of the twelve specimens, 0.2% chlorhexidine did not produce eradication in any case.

Conclusions

The present study shows that, when used for one minute, 2% and 1% alexidine, and 0.2% cetrimide, achieve eradication of *Streptococcus mutans* biofilm in most specimens when applied to a dentin-volumetric model.

- Oral Presentation 67

TITLE: Minimally invasive aesthetics through interdisciplinary orthodontic-restorative treatment

AUTHORS: Ruiz-Sánchez C, Faus-Matoses V, Faus-Matoses I, Alegre-Domingo T, Faus-Llácer VJ.

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Introduction

One of the greatest challenges which the professional faces is to fulfill the aesthetic expectations of the patient for the restoration of anterior teeth. Patients increasingly demand more aesthetics without excessive teeth preparation.

An interdisciplinary management should be planned in order to satisfy the aesthetic and the conservative needs of the patient.

Case report

A 50-year-old woman came to the office asking for an improvement of the aesthetics of the maxillary incisors. Clinical examination showed the discoloration of the maxillary anterior teeth was observed due to a calcification caused by an occlusal trauma, along with attrition and compensatory extrusion.

The treatment plan consisted of the intrusion of the maxillary central incisors to bring gingival zenith to their original location and the alignment of the mandibular incisors with orthodontic treatment to prevent further occlusal trauma.

Once the orthodontic treatment was finished, coreless feldspathic veneers (Noritake, Japan) were placed in 1.1 and 2.1 with a minimally invasive preparation.

After diagnostic wax-up, a mock-up made of Integrity resin (DeTrey Dentsply, Konstanz, Germany) was performed. The impression was taken with Aquasil Hard Putty and Aquasil Ultra XLV (DeTrey Dentsply, Konstanz, Germany).

In a subsequent appointment, try-in and placement were performed under complete isolation. Adhesive Prime & Bond NT (Dentsply DeTrey, Konstanz, Germany) and translucent cement Calibra (Dentsply DeTrey, Konstanz, Germany) were used for bonding.

Conclusions

The combined orthodontic-restorative treatment allowed the resolution of the aesthetic and functional problems of the patient with a minimally invasive approach that preserved all the healthy dental tissue.

- Oral Presentation 68

TITLE: MAPK is involved in leptin signalling pathways in human dental pulp

AUTHORS: Sánchez Domínguez B, Martín González J, Martín Jiménez M, Crespo Gallardo I, Segura Egea JJ.

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