- Oral Presentation 3

TITLE: Using Case Based Reasoning System to predict composite restorations failure

AUTHORS: Aliaga I, García-Barbero AE, Vera V, Campo L, Hernando B, Montalvo N, De Paz JF.

SOURCE: J Clin Exp Dent. 2014 August 1;6 (Supplement1):S2.

* doi:10.4317/jced.17643787

<http://dx.doi.org/10.4317/jced.17643787>

Objectives

The objective of this study was to validate if the Case Based Reasoning System is an appropriate tool for predicting composite restoration failures in the posterior teeth and establish the variables more statistically significant on the failure.

Materials and Methods

The study included patients from the Complutense University of Madrid, School of Dentistry, who needed dental treatment. Forty patients were recruited; Fourth year dental students treated patients during clinical practices in the Conservative Department. Once the teacher reviewed the treatment plan, the student did the treatment and clinical questionnaire was filled up. Clinical, radiographic data and two questionnaires were collected. The restoration was revised after twelve months. The University of Salamanca, Department of Informatics in the School of Science, coded the data to facilitate the statistical analysis and generate a prediction system.

Results

The study shows the statistically most influential variables, perforation of the rubber dam, incomplete caries removal, tooth-brushing habits, and age of the patient. Applying the algorithm SMO to all cases were studied and the system shows an 87.5 % of predictive power.

Conclusions

Case Based Reasoning System is a useful tool in predicting the failure of composite restorations and will determine which variables are statistically more influential on the failure.

- Oral Presentation 4

TITLE: Diastema closure with composite

AUTHORS: Álvarez-Maldonado de Castro N, Albertí Vich C, Araujo E, Luengo Capilla MA, Cura Peña M.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S2.

* doi:10.4317/jced.17643788

<http://dx.doi.org/10.4317/jced.17643788>

Introduction

Restoring dentofacial harmony in young patients after orthodontic treatment is common for clinicians in their daily practice. One of the toughest challenges is doing in young patients, where the most conservative techniques, are often more difficult and technical skill required. So far we have complex systems of composite resins that require some experience when stratifying masses with different opacity and optical characteristics. Recently there have been systems where, with a single mass, we achieve excellent results that satisfy both clinicians and patients.

Case report

A 16 year old male with none medical history of relevance, that comes to Expert in Cosmetic Dentistry, University Rey Juan Carlos, after orthodontic treatment demanding improved aesthetics, introducing diastemas of 13-23.

Previous waxed and mock up, we decided to make a first home bleaching with thermoplastic individualized splints and carbamide peroxide 10 %.

As restorations, we decided to use direct composite, selecting a resin system that would allow us to use a single mass of opacity due to the inability to stratify different masses by not having sufficient thickness. We decided to use Estelite Asteria (Tokuyama) in its opacity body, achieving great results thanks to its excellent properties.

Conclusions

Selecting either case, we can get satisfactory results with a single mass of composite, simplifying the technique to eliminate stratification and laborious selection of color to focus only on the final shape we want to give our restorations, thus bringing the general dentist to aesthetic dentistry.

- Oral Presentation 5

TITLE: Endocrown as an alternative to conventional restoration techniques of non-vital tooth

AUTHORS: Amorós Carazo C, Ortega Molina A, González Villafranca P, Valenzuela Triviño V, García Bravo M, Rosel Gallardo E, Conde País J, González López S.

SOURCE: J Clin Exp Dent. 2014 August 1;6 (Supplement1):S2.

* doi:10.4317/jced.17643789

<http://dx.doi.org/10.4317/jced.17643789>

Introduction

Nowadays, it is considered that the viability of a non-vital tooth is reduced by the loss of tooth tissue, so if it is less dental tissue, the tooth is more susceptible to fracture. There are interesting techniques that allow us to preserve the more possible dental tissue. Endocrown consists of a unique structure that uses the camera as retention and covers the overall occlusal surface without using intracanal pin.

Case report

42 year old patient who came to the Multidisciplinary Master Aesthetic Dentistry at the University of Granada to present symptoms at upper right second molar. Endodontics was performed with the same system files Protaper and sealed with Thermafil. As an alternative to conventional restoration techniques, post and crowns, we chose conducting a Endocrown indirect composite.

Conclusions

Currently, Endocrown is a good alternative instead of using full coverage crowns, because it respects more dental tissue by using pulp camera as retention. Using pins is not required, and also, with the current adhesion system, we have a good prognosis against occlusal loadings and a good biomechanical behaviour.

- Oral Presentation 6

TITLE: Anterior front rehabilitation with lithium disilicate crowns

AUTHORS: Armenteros Pe érez A, Palomares Muriana T, Gonza ález Villafranca P, Rodri íguez Pe érez M, Otero A Ávila A, Costas Soto A, Gonza ález Lo ópez S.

SOURCE: J Clin Exp Dent. 2014 August 1;6 (Supplement1):S3.

* doi:10.4317/jced.17643790
<http://dx.doi.org/10.4317/jced.17643790>

Introduction

Esthetic and functional rehabilitation with lithium disilicate crowns in anterior front.

Case report

46-year-old female patient comes to Esthetic Master demanding for a restorative treatment of anterior front. After a periodontal and radiological evaluation, we designed a treatment plan which included an esthetic rehabilitation using lithium disilicate full coverage crowns. Treatment consisted in extraction of 12, root canal treatment in 21, reinforcing it with glass fiber post, and placement of lithium disilicate crowns in 21, 22 and 23

and a same material bridge from 13 to 11, after phase with long term provisional crowns and ovate pontic in 12 to remodel soft tissues.

Conclusions

Lithium disilicate crowns play an integral role in providing high-quality and natural-appearing restorations as long as we can obtain enough ferrule effect that guarantees their longevity.

- Oral Presentation 7

TITLE: Microtensile bond strength of aged Lava Ultimate composite repaired following different protocols

AUTHORS: Arpa C, Ceballos L, Fuentes MV, Perdigão J.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S3.

* doi:10.4317/jced.17643791
<http://dx.doi.org/10.4317/jced.17643791>

Objectives

To evaluate the effect of surface conditioning on repair microtensile bond strength (μ TBS) of artificially aged Lava Ultimate (LU) indirect restorative material.

Materials and Methods

Twenty-one LU blocks (6.0x6.0x5.5) were prepared, thermocycled (10,000 cycles, 5-55°C) and then randomly assigned to one of seven surface conditioning protocols: A. Silica coating (Cojet, 3M ESPE) and Scotchbond Universal Adhesive (SBU, 3M ESPE); B. Silica coating, silane (SI, ESPESil, 3M ESPE) and Adper Scotchbond 1XT Adhesive (XT, 3M ESPE); C. Sandblasting with alumina particles, phosphoric acid (PA) and SBU; D: Alumina sandblasting, PA, SI and XT; E. Abrasion with 280 grit SiC paper, PA and SBU; F. 4.9 % Hydrofluoric acid (IPS Ceramic Etching Gel, Ivoclar Vivadent) etching for 20s and silane application (Monobond Plus, Ivoclar Vivadent); G. PA and XT. All specimens were repaired with Filtek Supreme XTE (A4B, 3M ESPE) resin composite. Repaired blocks were sectioned in order to obtain stick-shaped specimens (0.8mm²) and submitted to μ TBS test. Data were analyzed with Kruskal-Wallis, Mann-Whitney U and Bonferroni tests ($p < 0.05$). The lowest μ TBS value obtained for each group was assigned to pre-test failures.

Results

Mean μ TBS in MPa and standard deviations are shown in Table. Surface conditioning with hydrofluoric acid and silane application resulted in 100% pre-test failures.