Surface conditioning	μ TBS values (MPa)		
	x (sd)	a	n
Silica coating+SBU	57.9 (15.2)	a	19
Silica coating + SI + XT	52.3 (16.1)	a	18
Alumina sandblasting + PA + SBU	43.0 (29.9)	a	15
Alumina sandblasting + PA + SI + XT	58.9 (13.4)	a	13
280 grit SiC paper + PA + SBU	41.6 (13.5)	a	14
Hydrofluoric acid + Silane	0		51
PA + XT	7.9 (1.2)	b	30

Similar mean μ TBS were obtained for the other surface treatments except for the groups in which specimens were repaired with PA application followed by XT Adhesive, which exhibited statistically lower results.

Conclusions. The application of hydrofluoric acid is not recommended to repair Lava Ultimate resin composite.

- Oral Presentation 8

TITLE: Fiberglass reinforcement in rebuilding fractured teeth

AUTHORS: Arroyo Bote S, Martínez Osorio J.
SOURCE: J Clin Exp Dent. 2014 1;6
(Supplement1):S4.

* doi:10.4317/jced.17643792

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Introduction

The anterior fracture is a common situation that represents a major clinical challenge. The goal of treatment should be to restore the anatomy and function of the fractured teeth, however the percentage of teeth that undergo re-fracture is high, so the use of all materials and techniques that can help restore fracture resistance of the tooth must be considered when we decide to start the treatment.

Case report

We present several cases of incisal angle fracture of upper anterior teeth, treated with esthetic materials: Adhesives, Composites and fiberglass-reinforced composite. In one case the treatment has been performed by re-attaching the broken tooth fragment to the remaining tooth structure with a fiberglass piece and in the remaining cases was performed fracture reconstruction by applying adhesive, composite and fiberglass. The aesthetic and functional result of the restorations has been satisfactory, doing control seasons of the restorations along to five years.

Conclusions

The aesthetic result of fractured anterior teeth restorations made with adhesive techniques and fiberglass composites is optimal, we can obtaining restorations with greater resistance to fracture than those performed without glass fiber reinforcement, so we should consider this materials in the restoration of teeth fractured as the best option.

- Oral Presentation 9

TITLE: Influence of different root dentin pre-treatments on the bond strength of fiber posts

AUTHORS: Baena E, Flores A, Ceballos L.
SOURCE: J Clin Exp Dent. 2014 1;6
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Objectives

The aim of this study was to assess whether different dentin conditioning protocols with strong or mild acids (phosphoric acid, ethylenediaminetetraacetic acid (EDTA) and polyacrylic acid) influence the bond strength of the self-adhesive resin cement RelyX® Unicem2 Automix (3M ESPE) when used to lute fiber posts along the radicular depth.

Material and Methods

Twenty single-rooted teeth were randomly divided into four experimental groups (n=5) according to the pre-treatment procedure performed before luting RelyX Fiber Post (3M ESPE). Group 1: no dentin pretreatment; Group 2: pretreatment with 35% phosphoric acid for 10s; Group 3: pretreatment with EDTA gel 17% for 60s and Group 4: pretreatment with 25% polyacrylic acid for 30s. Roots were transversally sectioned into nine 1 mm thick specimens, three corresponding to each root third: coronal, middle and apical third and push-out

tests were performed (Instron 3345). Data was analyzed by two-way ANOVA and Student-Newman-Keuls tests ($p < 0.05$). Failure mode was evaluated using a stereo-microscope at original x40 magnification, and the most representative failures for each group were analyzed by scanning electron microscopy.

Results

The two-way ANOVA showed that the variable dentin pretreatment influenced on the dependent variable bond strength ($p < 0.001$), whereas the root third variable and the interaction between them did not ($p > 0.05$). It was observed that bond strength values after phosphoric acid and polyacrylic acid treatments were statistically similar, but statistically higher than the results achieved by no dentin pretreatment group. The lowest values were obtained by EDTA group.

Conclusions

The bond strength of the self-adhesive resin cement Re-lyX Unicem2 Automix is improved when root dentin is pretreated with a mild (polyacrylic acid 25%) or strong acid (phosphoric acid 35%) before luting fiber posts. The root depth did not influence the push-out bond strength of the cement.

- Oral Presentation 10

TITLE: Five-year clinical evaluation of posterior restorations: silorane- versus methacrylate-based composite

AUTHORS: Baracco B, Fuentes MV, Perdigão J, Ceballos L.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S5.

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Objectives

To compare the five-year clinical performance in posterior restorations of three restorative systems including a low-shrinkage system and a methacrylate based composite combined either with an etch-and-rinse or a self-etch adhesive.

Materials and Methods

After signing an informed consent, 25 patients received three Class I (occlusal) or Class II restorations performed with one of three restorative systems: Filtek Silorane Restorative System; Adper Scotchbond 1 XT (two-step etch-and-rinse adhesive) + Filtek Z250; and Adper Scotchbond SE (two-step self-etch adhesive) + Filtek Z250. All materials belong to 3M ESPE and were applied following its

instructions. Two blind observers evaluated the restorations at four different moments (baseline, after one, two and five years) according to the USPHS modified criteria. Kruskal-Wallis and Mann Whitney U tests were used to compare the behavior of the restorative systems, while Friedman and Wilcoxon tests were applied to analyze the intra-system data ($p < 0.05$).

Results

After five years of clinical use, the restorations of Adper Scotchbond SE + Filtek Z250 showed statistically higher marginal staining than the other two restorative systems. Intra-system comparisons between baseline and five-year showed worse marginal adaptation scores for all the systems, while marginal staining increased in both systems composed by self-etch adhesives. Restorations performed with Adper Scotchbond SE + Filtek Z250 also recorded worse values in color match and surface roughness after five years.

Conclusions

The clinical performance of Filtek Silorane after five years was found acceptable. However, this long-term clinical study did not find any advantage of the silorane-over the methacrylate-based composite when combined with an etch-and-rinse adhesive.

- Oral Presentation 11

TITLE: Effects of irrigation solution on radicular dentin

AUTHORS: Barón M, Morales V, Linares M, Escribano N, Ceballos L.

SOURCE: J Clin Exp Dent. 2014 1;6 (Supplement1):S11.

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Objectives

The root canal treatment is potentially aggressive for the radicular dentin. The endodontic solutions used to eliminate bacterial infection can also induce chemical and physical changes in dentin's inorganic and organic components. The aim of this study is to evaluate these changes in dentin composition.

Materials and Methods

Four single root teeth were sectioned at cemento enamel junction. The specimens were instrumented with 10 diameter k-file (Dentsply Maillefer, Switzerland) followed by Protaper Universal system: SX, S1, S2 F1 And F2 (Dentsply, Maillefer, Switzerland). All roots were sectioned into 600-500 μm thick slices. Six specimens