- Oral Presentation 16

TITLE: Effect of different surface pretreatment and aging on composite onlays bond strength.

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Objectives

To evaluate the influence of different surface pretreatments on microtensile bond strength (μ TBS) of composite onlays after aging.

Materials and Methods

Composite onlays (Filtek Z250, 3M ESPE)($\varnothing$ 8 X 4 mm high) were randomly assigned to 6 groups, according to surface treatment: 1. Al₂O₃+1XT: Sandblasting with 27 μ m Al₂O₃ particles + Adper Scotchbond 1XT (3M ESPE); 2. Al₂O₃+Si+1XT: Sandblasting with 27 μ m Al₂O₃ particles + Silane application (ESPE SIL, 3M ESPE)+ Adper Scotchbond 1XT; 3. Al₂O₃+Universal: Sandblasting with 27 μ m Al₂O₃ particles + Scotchbond Universal (3M ESPE); 4. Silica+1XT: Tribochemical silica coating 30 μ m particles (Cojet, 3M ESPE) + Adper Scotchbond 1XT; 5. Silica+Si+1XT: Tribochemical silica coating 30 μ m particles + Silane application +Adper Scotchbond 1XT; 6. Silica+Universal: Tribochemical silica coating 30 μ m particles + Scotchbond Universal. Composite overlays were luted using RelyX Ultimate resin cement (3M ESPE) to fresh resin composite specimens. Bonded assemblies were stored in water (24h or 6 months) and subsequently prepared for μ TBS testing. Data were analyzed by two-way ANOVA, SNK and student t-tests ($p < 0.05$). Failure mode distribution was recorded and selected fractured beams were observed under SEM.

Results

μ TBS mean values in MPa and standard deviations (sd) are shown in the table. Different letters indicate statisti-

cally different μ TBS values among groups. *Means statistical differences between 24 hours and 6 months.

Conclusions

Sandblasting followed by Adper Scotchbond 1XT or Scotchbond Universal adhesives application provided higher adhesive strength values at 24 hours. The latter was the experimental group that presented higher bond strength also 6 months later. The application of sandblasting or tribochemical silica coating before Scotchbond Universal adhesive produced stable bond strength values after 6 months storage.

- Oral Presentation 17

TITLE: Influence of ultrasonics used in endodontics on cardiac pacemakers and implantables automatic defibrillators

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Objectives

The aim of this study is to determine whether ultrasound devices, commonly used in Endodontics, affect the functioning of cardiac pacemakers and implantable automatic defibrillators.

Materials and Methods

We selected two models of cardiac pacemakers and three models of automatic defibrillators. All of them were used with ultrasonic tips Star-X connected to two types of ultrasounds: Kavo and Newtron P.S of Satelec. The pacemakers and defibrillators were analyzed with a clinical measurement system (Medtronic® 2090 Programmer B.V. Netherlands).

A closed circuit was created by immersing one unir-

Surface pretreatment	24 hours			6 months		
	μ TBS (Sd) Mpa		n	μ TBS(Sd) Mpa		n
Al ₂ O ₃ +1XT	98(18)*	A	36	52,8(12,9)*	D	40
Al ₂ O ₃ +Si+1XT	76,9(19,9)*	BC	52	54(16,2)*	D	43
Al ₂ O ₃ +Universal	97,5(18,9)	A	45	91(19,15)	A	40
Silica+1XT	74,3(13,5)*	C	46	55,7(20,5)*	D	48
Silica+Si+1XT	83,3(15,6)*	B	44	68,3(24,8)*	C	47
Silica+Universal	71,2(18,3)	C	64	76,6(15,8)	B	46