Effect of Salivary Contamination on the Bond Strength of Total-etch and Self-etch Adhesive Systems - An in vitro Study

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Bibliography

1. Ranganath L, Rajesh A, Justin RM, Paranthaman H, Varghese RP. Effect of Salivary Contamination on the Bond Strength of Total-etch and Self-etch Adhesive Systems: An in vitro Study. *The Journal of Contemporary Dental Practice*. 2012;13(5):655-660. doi:10.5005/jp-journals-10024-1204

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Abstract

Abstract

ABSTRACT

Aim

To evaluate the influence of salivary contamination during dentin bonding procedures on shear bond strength and to investigate the

effect of contaminant-removing treatments on the recovery of bond strength for two dentin-bonding agents.

Materials and methods

Seventy-seven human maxillary and mandibular molars were randomly divided into two groups for total-etch adhesive (Single bond-3M ESPE, USA) and self-etch primer (UniFil Bond-GC, Tokyo, Japan) and subjected to contamination with saliva.

The data for each group were subjected to one-way analysis of variance (ANOVA) followed by the Student Newman-Keuls test to make comparisons among the groups ($p < 0.05$).

Results

Salivary contamination had less adverse effect on the shear bond strength of single bond total-etch adhesive when it was blot dried or washed. UniFil bond was tolerant of salivary contamination, except when contamination occurred after application of the primer.

Conclusion

In single bond adhesive, when the etched surface is contaminated by saliva, blotting the surface and applying the primer can recover the bond strength. Complete drying of the salivary contaminated surface should be avoided. In the UniFil bond groups, the repriming treatment (UF-V and UF-VI) resulted in the recovery of shear bond strength in the specimens contaminated after priming.

Clinical significance

The results of this study showed that total- etch adhesive (single bond) was not affected by salivary contamination on the etched surface when the bonding surface was kept moist. Self-etch adhesive (UniFil bond) also tolerated salivary contamination except when the contamination occurred after application of the primer.

How to cite this article

Justin RM, Paranthaman H, Rajesh AG, Varghese RP, Ranganath LM. Effect of Salivary Contamination on the Bond Strength of Total-etch and Selfetch Adhesive Systems: An

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Annotations

⚠ Warning

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Zotero-Notes

1，唾液污染对两种通用型粘接剂性能的影响（中国知网）：

本文章使用了离体牙，粘接剂的选择为Singlebond Universal粘接剂和AllBond Universal粘接剂。收集同1位志愿者饭后1 h以上非刺激性唾液，并在收集唾液后30 min内用于污染样本，然后制备粘接模型。实验结果为，两种粘接剂都出现了有唾液污染的实验组剪切强度高于无唾液污染的实验组，实验结论为以上两种通用型粘接剂被唾液污染，不影响牙本质粘接强度。

2，Adverse effects of salivary contamination for adhesives in restorative dentistry. A literature review（PubMed）：

本篇是综述，在1990-2017的六千多篇相关文献中筛选出来54篇，这54篇中其中64.6%的显示出唾液污染会对粘接有着负面效果（即也存在35.4%的情况下唾液污染不会对粘接效果产生负面效果），然后提到两步酸蚀剂和rinse adhesives(冲洗粘接剂？)相对不容易受唾液污染。

3，Effect of salivary contamination on the bond strength of total-etch and self-etch adhesive systems: an in vitro study(PubMed):

本篇将77颗人上颌磨牙随机分为两组，分别使用全蚀型粘结剂(Single bond-3M ESPE，美国)和自蚀型粘结剂(UniFil Bond-GC，日本东京，先用自酸蚀预处理剂酸蚀，再涂布粘接剂)进行唾液污染。实验结论为：1.如果在涂布底涂剂前粘接表面保持湿润，则唾液污染对全蚀刻粘接剂剪切强度的不利影响较小。相反，当通过风干去除唾液时（这时则未能使粘接表面在涂布底涂剂前保持润湿），剪切结合强度显著降低。2. 自蚀型粘结剂对唾液污染具有耐受性，除非在应用自酸蚀预处理剂后发生污染。并且，通过重新涂抹自酸蚀预处理剂，几乎可以完全恢复粘合强度。3. 潮湿（尽管唾液被污染）的牙本质表面比干燥的表面表现出明显更高的粘合强度

Notes

⚡ Danger

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