2 种自制牙本质粘接剂的微拉伸粘接强度和耐久性能的实验研究

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【摘　要】 目的　测试自行研制的自酸蚀及全酸蚀粘接剂的微拉伸粘接强度和耐久性能，并与市售的进口同类产品进行对比。**方法**　选用正畸拔除前磨牙 60 颗，随机分成 4 组，每组分循环前、后各 2 个亚组，各 15 个试件，分别为自制的自酸蚀粘接剂 (44 组) 和全酸蚀粘接剂 (45 组)，Easy one(EO 组) 和 Single Bond2(SB 组)。测试各组冷热循环前后的微拉伸粘接强度变化，并进行统计分析，体视显微镜观察断裂模式。**结果**　冷热循环前，各组微拉伸粘接强度从大到小分别为 SB 组 (35.05±3.01)Mpa ＞ 44 组 (27.76±1.44)Mpa ＞ 45 组 (27.65±1.67)Mpa ＞ EO 组 (26.03±2.15)Mpa，45 组和 SB 组之间及 44 组和 EO 组之间微拉伸粘接强度的差异有统计学意义 (P<0.05) 。冷热循环后，各组从大到小为 SB 组 >44 组 >EO 组 >45 组，45 组和 SB 组之间及 44 组和 EO 组之间微拉伸粘接强度的差异有统计学意义 (P<0.05)。同一粘接剂冷热循环前后相比，粘接强度均呈下降趋势 (P<0.05)；试件的断裂面类型以混合型断裂为主。**结论**　自制牙本质粘接剂和市售的进口同类产品相比，自酸蚀粘接剂粘接强度高且耐久性能好，全酸蚀粘接剂则与之相反。冷热循环后各组粘接剂的微拉伸粘接强度均有下降。

【关键词】 牙本质粘接剂　微拉伸强度　冷热循环

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Experimental study of the microtensile strength and durability of two different dentin adhesives

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【Abstract】 Objective　To compare microtensile bond strength (μTBS) and bonding durability of self-etch and etch-and-rinse adhesives from shanghai Nano center and 3M corresponding products. **Methods** 60 human premolars extracted for orthodontic reasons were collected for the experiment. The specimens were divided randomly into 2 groups and 4 sub groups (n=15), according to whether thermal cycling and types of resin cements rendered. Four resin cements respectively are Shanghai Nano center's self-etch adhesive (44、T44) and etch-and-rinse adhesive (45、T45), Easy one(EO、TEO) and Single bond2(SB、TSB). All specimens were subjected to microtensile bond strength test (μTBS) by a microtensile tester machine. The μTBS rate was analyzed using one-way ANOVA and paired t-test (α= 0.05), and stereoscopic microscope images of the fractured areas were used to evaluate the fracture mode. **Results** Before thermal cycling, μTBS rate was increased from EO(26.03±2.15)Mpa

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