

自锁托槽对关闭拔牙间隙阶段滑动阻力的影响

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【摘要】目的 比较在牙齿关闭拔牙间隙过程中不同自锁托槽和传统托槽与不锈钢丝组合所产生的滑动阻力。**方法** 在干燥环境下, 分别选择2种自锁托槽(被动 Damon[®] 和主动 Tomy[®])和传统托槽的2种结扎方式(橡皮结扎圈和结扎丝)与0.019×0.025英寸不锈钢丝组合, 测量严重牙列拥挤患者在拔牙后排齐整平的下颌模型上关闭拔牙间隙阶段的滑动阻力。采用方差分析的方法对各项测量数据进行统计学处理。**结果** 在关闭拔牙间隙阶段, 不同托槽组合、组间的滑动阻力的差异均具有显著的统计学意义($P < 0.01$), 最大静摩擦力和滑动摩擦力由小到大依次为被动 Damon 组 < 主动 Tomy 组 < 结扎丝结扎组 < 结扎圈结扎组。**结论** 在关闭拔牙间隙阶段, 被动自锁托槽的滑动阻力明显小于主动自锁托槽的滑动阻力, 自锁托槽的滑动阻力明显小于传统托槽的滑动阻力。

【关键词】 传统托槽 自锁托槽 滑动阻力

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A comparative study of self-ligating brackets frictional resistances during the orthodontic space closure

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【Abstract】Objective To compare the frictional resistance (FR) of two different self-ligating brackets and conventional brackets coupled with the stainless steel archwire during the space closure phase in the orthodontic treatment. **Methods** The patients with severe crowding malocclusion were treated by two different self-ligating brackets (Damon[®], Tomy[®]) and conventional brackets ligating by elastometric modules and stainless steel ligating wires of size 0.019×0.025 inch. The static and kinetic frictional resistance of each bracket-archwire system was examined in the dry state during the orthodontic space closure phase, and analyzed by ANOVA. **Results** During the space closure phase, there were significantly differences in these different bracket-archwire systems ($P < 0.01$), and the frictional resistance was as follows: Damon[®] group < Tomy[®] group < stainless steel ligature group < elastometric ligature group. **Conclusion** The frictional resistance of self-ligating brackets was significantly lower than that of the conventional bracket during the orthodontic space closure phase, and the frictional resistance of the passive self-ligating bracket was significantly lower than the active self-ligating bracket.

【key words】 Convention brackets Self-ligating brackets Frictional resistance

自锁托槽的出现和应用, 使矫治器发展到了一个新的阶段, 自锁托槽和传统的托槽相比, 能

有效地减小托槽与弓丝之间的滑动阻力, 并且可以有效地控制牙位, 可以在轻力作用下快速移动。自锁托槽在国内的应用还不是很广泛, 原因

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