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Fracture resistance of zirconia FPDs with adhesive bonding versus conventional cementation.

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Source

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Abstract

This study investigated the fracture resistance of three different zirconia fixed partial dentures (FPDs) with different cementation methods. Forty-eight three-unit FPDs were adhesively bonded (AB) or conventionally cemented (CC). Sixteen glass-infiltrated zirconia FPDs were used as a control. Fracture resistance was determined after aging. The zirconia systems showed no significant different fracture forces with the different bonding methods (CC: Cercon [1,231.5 ± 410.1 N], Ceramill [1,311.3 ± 318.3 N], Vita YZ [1,269.0 ± 317.4 N]; AB: Cercon [1,072.3 ± 516.7 N], Ceramill [1,358.6 ± 176.4 N], Vita YZ [1,270.6 ± 267.6N]) or between the different materials. The control group provided significantly lower fracture strength. Regarding fracture resistance, adhesive bonding or conventional cementation of zirconia FPDs showed no restrictions for posterior application.