

4078 Resin-Bonded Fiber-Reinforced Composite FPD: Clinical follow-up

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Objectives: Resin-bonded, glass fiber-reinforced composite (FRC) fixed partial dentures (FPD) have been under development. Short-term clinical pilot data has previously been published. The clinical performance of 29 resin bonded FRC FPDs was evaluated in a clinical follow-up survey.

Methods: The FPDs were made to replace 1-3 missing maxillary or mandibular teeth of 29 patients. The FPDs were retained with surface bonding wings, inlays, complete crowns, or their combinations. The FPD had a framework made of continuous unidirectional E-glass fibers with multiphase polymer matrix (Stick, Stick Tech Ltd) and light-polymerized particulate composite resin veneering (Sinfony, 3M-ESPE; Vita Zeta LC, Vita) and cemented with resin cement. The FPDs were followed by recall examinations one to three times per year for up to 63 months (mean 42 months). Partial or total de-bonding or the framework fracture was considered a treatment failure. Results: Two frameworks fractured and three de-bondings occurred. Kaplan-Meier survival probability at 63 months was 75%. Three of the failed FPDs were rebonded in situ resulting functional survival of 93%.

Conclusion: FRC FPD may be considered an alternative for resin-bonded FPDs with metal framework and can be used as multiple-unit restorations combining various retaining elements.

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