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2435 ART and Conventional Root Restorations in Elders after 3 Years

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Objectives: This longitudinal study aimed to investigate the effectiveness of using the ART approach in managing root caries in institutionalized elders. The null study hypothesis was that survival rates of root restorations placed by the ART and the conventional technique were similar.

Methods: A randomized, double-blind, parallel group clinical trial was conducted in 21 elderly homes. Root caries lesions deeper than 1 mm and not involving the pulp were treated using either (1) conventional approach - caries removed by dental drills under local anesthesia and the cavity filled with light-cured resin-modified glass ionomer cement (GIC), or (2) ART approach - caries removed using hand instruments only and the cavity restored with a chemical-cured high-strength GIC. Status of the restorations was assessed 6, 12, 24 and 36 months after placement by an experienced examiner who was not involved in the treatment provision.

Results: At baseline, 84 conventional and 78 ART restorations were placed in 103 elders with the mean age of 78 years. After three years, 45 conventional and 44 ART restorations were reviewed. The main reason for loss to follow-up was the subjects having passed away or being too ill for proper examination. The cumulative survival rates of the ART and conventional restorations were 76% and 79% respectively ($p=0.27$). All the restoration failures seen at the 36-month examination were due to loss of retention.

Conclusion: The survival rates of both the ART and conventional root restorations after three years were acceptable and similar. Since the ART approach only requires a few hand instruments and involves a simpler technique, it can be considered as an appropriate approach for use in community dental services in the management of root surface caries in elders. Supported by Hong Kong Research Grants Council (Ref. HKU 7244/02M).

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