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1435 A clinical trial on ART and conventional root fillings

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OBJECTIVES: To compare the success rates of root fillings placed with glass ionomer cement (GIC) using either the conventional or the atraumatic restorative treatment (ART) techniques. METHODS: A randomized double-blinded clinical trial was conducted on institutionalized elders aged 60-89 years in Hong Kong. Active root surface caries lesions deeper than 1 mm were restored randomly by one of the two techniques: (1) conventional - caries removed with the aid of a dental bur under local anaesthesia and then restoring the cavity with a light-cured resin-modified GIC, and (2) ART - caries removed with hand instruments only and then restoring the cavity with a chemical-cured high-strength GIC. Status of the restorations was assessed one year after placement by a masked independent examiner using the ART and the USPHS criteria. RESULTS: 84 conventional and 78 ART restorations were placed in 101 subjects. After one year, 63 conventional and 59 ART restorations were reviewed. The one-year success rates of the restorations according to the ART criteria were 92% and 88% for the conventional and the ART techniques respectively (Chi-square test, $p>0.05$). Same success rates were obtained using the USPHS criteria. There were no statistically significant differences in restoration success rates between restorations placed in anterior and posterior teeth, and between those placed on different tooth root surfaces (Chi-square test, $p>0.05$). CONCLUSION: The one-year success rates of GIC restorations placed in root surfaces using either the conventional or the ART technique were similar and both were high. ACKNOWLEDGEMENT: Study supported by the Hong Kong Research Grants Council (HKU 7244/02M).

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