

2772 ART restoration and silver fluoride treatment for decayed primary molars

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OBJECTIVE: To compare the success rates of using atraumatic restorative treatment (ART) and application of silver diamine fluoride (SDF) to treat decayed primary molars in an outreach dental service. **MATERIALS AND METHODS:** Primary molars with caries lesions into dentine but not involving pulp in 218 primary school children aged 6-7 years in Guangdong Province, China, were randomly allocated into one of two treatment groups: 1) restored with glass ionomer using the ART technique, and 2) caries arrest treatment by annual topical applications with SDF solution. The treatments were provided in school using hand instruments only. The treated teeth were clinically assessed every 6 months by two calibrated examiners. ART treatment was classified as successful if the restoration was intact and had no major defects or secondary caries. SDF treatment was classified as successful if the treated lesion became arrested, i.e. surface hard on probing with a sharp explorer using a light force. For both treatments, failure was recorded if there was pain in the treated teeth, the tooth being non-vital, or received other treatments. **RESULTS:** At baseline, 240 and 228 caries lesions were treated with ART restoration and SDF application respectively. After 12 months, 98.2% and 92.5% of the ART and the SDF treated lesions were assessed, respectively. The respective success rates of the ART and the SDF treatments were 53% and 54% (Chi-squared test, $p > 0.05$). Furthermore, the 12-month success rate of the Class I ART restorations was higher than that of Class II restorations (82% vs. 41%, $p < 0.001$). The 12-month success rates of the SDF treatment in the Class I and Class II lesions were not significantly different (61% vs. 51%, $p > 0.05$). **CONCLUSION:** The 12-month success rates of the ART and SDF treatments for decayed primary molars were similar. Funded by Research Grants Council of Hong Kong (Ref: HKU7422/04M).

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