

Effectiveness of 38% Silver Diamine Fluoride with or without Potassium Iodide in Indirect Pulp Capping of Young Permanent Molars (12 M, RCT)

Baraka M. (BDS, MSc), Tekeya M. (BDS, MSc, PhD), Bakry N.(BDS, MSc, PhD), Fontana M. (DDS, PhD)



BACKGROUND

- Nowadays, a minimal-invasive approach is advocated in cariology.
- Research into use of indirect pulp capping materials that possess anti-cariogenic properties has been advocated to assess their impact on prevention of secondary caries, while helping maintain pulp vitality.

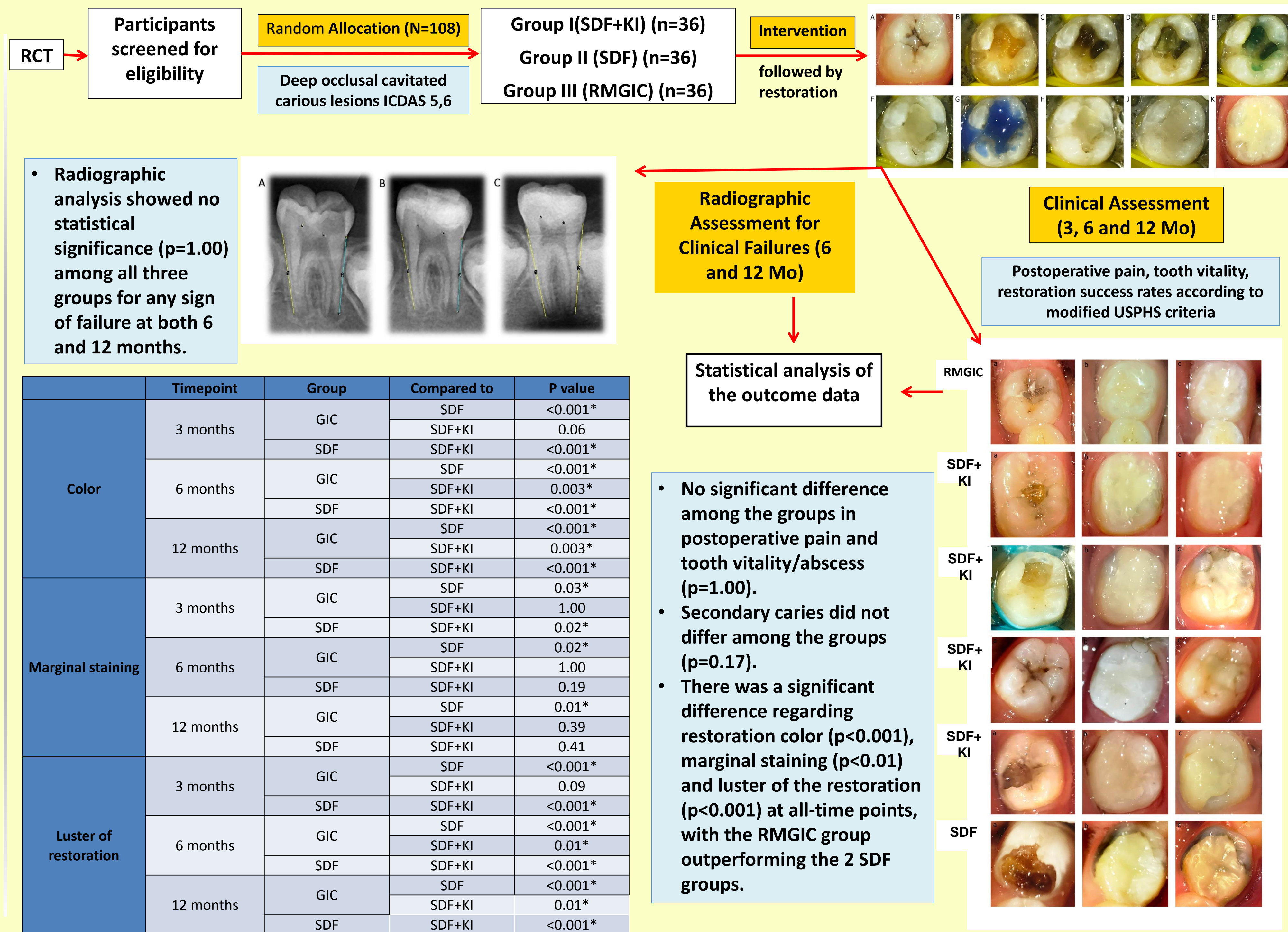
INTRODUCTION

- SDF can be used to arrest cavitated lesions, but lesions will stain black.
- Knight et al, 2005 suggested application of KI immediately after SDF to minimize staining of an overlying restoration.
- There is no data in the literature regarding the clinical effectiveness of SDF/KI in indirect pulp therapy, and limited data on SDF.

Aim: To assess the effectiveness of 38% SDF with and without KI under a RMGIC in indirect pulp capping of deep carious lesions in young permanent molars.

- American Academy of Pediatric Dentistry, Reference manual guidelines for pulp treatment for primary and young permanent teeth, *Pediatr. Dent.* (2021) 399-407.
- G.M. Knight, J. M. McIntyre, G. G. Craig, P. S. Zilm, and N. J. Gully, An in vitro model to measure the effect of a silver fluoride and potassium iodide treatment on the permeability of demineralized dentine to *Streptococcus mutans*, *Aust. Dent. J.* 50 (2005) 242-245.

METHODS & RESULTS



DISCUSSION

- None of the materials used negatively impacted the vitality of the pulp; however, RMGIC group showed better clinical restoration outcomes in color, marginal staining and luster.
- Regarding, postoperative pain and tooth vitality, all materials, used under well-sealed resin composite restorations, showed equal high success rate at 12 months; confirming the success of using selective caries removal, with no difference regarding the indirect pulp capping material used.

SUMMARY

- Clinical and radiographic success of all groups, however, the RMGIC group showed better clinical restoration outcomes in color, marginal staining and luster.
- While addition of KI had a temporary reduction of the black staining effect of SDF, restorations still tended to darken overtime.

Future Direction

