

What to use in those pesky Class V Lesions . . . ? (9/06)

Franco EB, Benetti AR, Ishikiriama SK, Santiago SL, Lauris JRP, Jorge MFF, Navarro MFL. 5-year clinical performance of resin composite versus resin modified glass ionomer restorative system in non-carious cervical lesions. *Oper Dent* 2006;31:403-408.

The best method of evaluating the utility of a dental material is during a long-term clinical study. Both resin-modified glass-ionomer (RMGI) restorative materials and resin composites have been evaluated as restorative materials for non-carious Class V lesions. The aim of this study was to comparatively assess the five-year clinical performance of an etch-and-rinse two-step adhesive and resin composite system with resin-modified glass-ionomer restorative material. One clinician placed 70 restorations (35 resin-modified glass-ionomer and 35 resin composite restorations) without mechanical preparation in 30 patients using rubber dam isolation. The restorative materials used were an etch-and-rinse, two-step bonding agent (Excite, Ivoclar-Vivadent) combined with Tetric-Ceram resin composite. The RMGI material was Vitremer Restorative (3M/ESPE). All materials were used as to manufacturer instructions and were finished and polished one week after placement. Restorations were evaluated at baseline, 6, 12, 24, and 60 months by two independent, calibrated examiners using the United States Public Health Service (USPHS) criteria for retention, marginal discoloration, marginal integrity, anatomical form, and secondary caries. A double-blind evaluation was attempted, but material differences made it occasionally possible for examiners to identify the material used. One-hundred percent of the patients were available for evaluations at the 6- and 12-month recall, while 93 percent and 73 percent were available at the 24- and 60-month recalls, respectively. At the end of five years the RMGI restorations demonstrated significantly more retention ($p < 0.002$) as compared to the resin composite (96.4% vs. 51.5% retention rate, respectively). For the restorations that did survive no significant difference was noted using the USPHS criteria. **The results of this study led the authors to conclude that a resin-modified glass-ionomer restorative material provided superior performance compared to the etch-and-rinse, two-step bonding agent combined with a resin composite.**

DECS Comment: The most rigorous test of any dental material is a long-term clinical evaluation. Due to many reasons, five-year clinical evaluations such as this one are rarely reported in the scientific, peer-reviewed dental literature. During this evaluation, the treatment of the non-carious cervical lesions was very demanding as no mechanical retention was used. Furthermore, although it was not mentioned, most non-carious cervical lesions usually have a level of dentin sclerosis higher than that observed with normal dentin. Both of these factors combine to provide a difficult substrate to obtain reliable adhesion. This study reinforces other studies that show the utility of RMGI materials while demonstrating some of the difficulty with bonding agents for treatment of non-carious cervical dentin.

References

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