

Clinical evaluation of a compomer in the restoration of Class I and II cavities in permanent posterior teeth: 1-year results

Contents

The clinical performances of a compomer (Dyract AP[®]) in combination with a non-rinse conditioner (K-0100[®]) and self-priming adhesive (K-0107[®]) were compared with a hybrid composite resin (Spectrum TPH[®]) in combination with a 36% phosphoric acid conditioner (DeTrey Conditioner[®]) and self-priming adhesive (K-0107[®]) in a randomized controlled split-mouth model. 23 patients with bilateral occlusal and/or interproximal caries had their teeth restored with Dyract AP in one quadrant and Spectrum TPH in the opposite quadrant by either one of the 2 evaluators. Removal of tooth structure was as dictated by caries and access. All non-caries fissures were sealed with either a compomer pit and fissure sealant (K-0093[®]) for compomer restorations or an opaque resin sealant (Delton DDS[®]). All enamel and dentin were treated with conditioner prior to application of 1 layer of self-priming adhesive. A total of 42 compomer restorations (12 with fissure sealants and 18 complex) and 35 composite resin restorations (13 with fissure sealants and 15 complex) were evaluated at baseline, 6 months and 1 year using the USPHS criteria for retention, colour match, marginal discolouration and integrity, secondary caries, anatomical form, occlusal and proximal contacts, surface texture and hypersensitivity. Two evaluators compared the epoxy resin casts of the restorations with models of the Leinfelder clinical wear standards. All clinical parameters were rated alpha except for fissure sealant with 2 bravo and 1 charlie for compomer restorations and 1 bravo for composite restorations at 6 months and 1 year. Two Class I restorations (1 Dyract AP and 1 Spectrum TPH) from same patient were rated bravo for marginal integrity and one large Class II compomer restoration was bravo for hypersensitivity. No detectable wear was observed except for 1 compomer and 2 composite restorations that exhibited wear of 25µm. There was no significant difference in all parameters measured between compomer and composite restorations (Fisher Exact Test $p < 0.01$). The clinical results indicate that compomer (Dyract AP) in combination with a non-rinse conditioner and self-priming adhesive can be used for restoring posterior teeth with good clinical response at 1 year.

This study was supported by DENTSPLY DeTrey, Germany with "materials supplied by the same company.

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Clinical Evaluation of a Compomer in the Restoration of Class I and II Cavities in Permanent Posterior Teeth: 1-year results C.G TOH*, NH ABU-KASIM (Dept of Conservative Dentistry, Faculty of Dentistry, University of Malaya, MALAYSIA)

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