

Three-year Clinical Evaluation of G-Bond in Non-carious Cervical Lesions

Introduction: The aim of this study was to evaluate the clinical performance of G-Bond (GC Corporation, Japan) dentine bonding agent, over 3 y in unprepared non-carious cervical lesions (NCCL).

Materials and Methods: Ethics Committee approval was obtained, and 47 restorations were placed (30 anteriors, 13 premolars, 4 molars) in 10 patients aged 45-75 y (mean 62 y), using Gradia resin composite (GC) and G-Bond dentine bonding agent, according to the manufacturer's instructions. Patients were recalled at 6 mo, 1 y, 2 y and 3 y, and photographs taken for assessment of colour match and marginal discoloration.

Results: Eight patients were available for recall at 3y, providing 40 restorations for evaluation, all of which were present. One restored tooth had been extracted for unassociated reasons. One restoration had minor marginal discoloration at 1 y; at 2 y, four restorations had slight and clinically insignificant marginal discoloration; at 3 y, the marginal staining was unchanged.

Discussion: G-Bond is a HEMA-free, 'mild-etch' all-in-one bonding agent, i.e., etching, priming and bonding are achieved simultaneously. The functional ionomer 4-MET and a phosphate ester achieve bonding by hybridization. The absence of HEMA precludes possible hypersensitivity. Pre-etching the uncut enamel with phosphoric acid overcomes the sub-optimal etching which occurs with 'mild-etch' dentine bonding agents, which is confirmed by the absence of enamel marginal staining. The mild staining at the dentine margin could indicate bond degradation, but may also be a consequence of the difficulty of isolation of the area during restoration. A key requirement when using G-Bond is to dry the adhesive aggressively in order to evaporate the acetone solvent and thus prevent phase separation.

Conclusion: G-Bond shows good clinical performance in NCCL after 3 y. Supported by GC Corp, Japan.

100% RETENTION



G-BOND

Three-year Clinical Evaluation of Gradia Direct restorations

Objectives: Recently, the demand of the patient for aesthetic restoration has been increased, but nowadays almost all cases of the direct resin composite restorations use only one shade. Gradia Direct (GC) is a brand-new resin composite with multiple color shade variations to match to surround tooth color. G-Bond is a one-bottle one-step bonding system containing phosphoric ester monomer with high bonding efficacy. The purpose of this study was to evaluate the 3-year clinical performance with G-Bond and Gradia Direct system.

Methods: A total of 37 non-carious cervical lesions were restored in 37 patients using this system. The baseline records were made immediately after placement according to the modified Ryge/USPHS criteria for retention, marginal discoloration, marginal adaptation, surface texture, abrasion, marginal fracture, and body fracture. Restored teeth were assessed for secondary caries and pain. Soft tissue around restored teeth was also assessed for gingival irritation and soft tissue irritation. The patients were followed up routinely up to 36 months and the restorations were evaluated for clinical acceptability.

Results: At 36 months, data available for all assessment periods were 100 per cent, and all the restorations were classified as clinically satisfactory and assigned with an Alpha rating. No restorations were recorded with Bravo or Charlie. The Kaplan-Meier probability of survival rate for these restorations was 1.00. Especially, all the patients were very satisfied with the color match to the surround tooth structure.

Conclusion: As a result, the G-Bond & Gradia Direct restorative system was very aesthetic and noted to be a promising for next generation restoratives.