Effect of Oxalic Acid-Based Desensitizing Agent on Cervical Restorations on Hypersensitive Teeth: A Triple-Blind Randomized Controlled Clinical Trial

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Resumen

Aims: To assess the effects of application of an oxalic acid based desensitizing agent before restoration of noncarious cervical lesions (NCCLs) with either a silorane-based or a methacrylate-based composite resin on decreasing the absolute risk and intensity of dentin hypersensitivity over the course of a 1-year follow-up. Methods: NCCLs in 31 patients (age range 24-66 years) were selected and randomly divided into four groups (n = 31 in all groups). In the Z250 and P90 groups, the restorations were performed with a methacrylate-based composite resin (Filtek Z250) and a silorane-based composite resin (Silorane P90), respectively. In the Z250 + OA and P90 + OA groups, the same composite resins were used, but an oxalic acid based desensitizing agent (Desenssiv, SSWhite) was first applied. All NCCLs were evaluated before restoration (BR) and at 30, 60, 90, 180, and 360 days after treatment. Teeth sensitivity to evaporative and tactile stimuli was measured by a visual analog scale (VAS). The results were analyzed with statistical tools including Wilcoxon and Friedman tests for within-group comparisons and ANOVA and Bonferroni post hoc tests for between-group comparisons (P<.05). Results: Reduction in dentin hypersensitivity was observed for all treatment groups; however, these reductions were more pronounced when oxalic acid was applied before restoring the NCCL (P<.001). Complete elimination of pain was not achieved by any treatment modalities for the first 6 months; afterwards, in the groups that had received application of the oxalate-based desensitizing agent, the absolute risk of dentin hypersensitivity was significantly reduced (P < .01). Conclusion: The restoration of sensitive NCCLs with composite resins reduces dentin hypersensitivity. This reduction is more pronounced if an oxalic acid based desensitizing agent is applied prior to the restoration. In addition, its application reduces the absolute risk of dentin hypersensitivity after 6 months of treatment.

Palabras clave

Palabras clave de autor:dental pain; dentin hypersensitivity; noncarious cervical lesion; oxalic acid; randomized clinical trial
KeyWords Plus:DENTIN HYPERSENSITIVITY; LESIONS; PAIN; RECOMMENDATIONS; SENSITIVITY; ADHESIVE; DESIGN

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Editorial

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