

COMMENTARY

Effect of a Nano-Hydroxyapatite Paste on Bleaching-Related Tooth Sensitivity

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Tooth sensitivity is a common adverse effect associated with hydrogen peroxide and carbamide peroxide bleaching procedures. Methods to reduce this tooth sensitivity include (1) a reduction in bleach concentration, (2) a reduction in bleach application duration, (3) a reduction in bleach application frequency, or (4) the use of desensitizing agents before, during, or after the bleach procedure. This clinical study investigated the effect of a desensitizing paste containing nano-hydroxyapatite (n-HAP) crystals on the tooth sensitivity that is related to bleach treatment.

The n-HAP paste was worn within the bleaching tray for 5 minutes after each twice-daily 30-minute bleach treatment using a 7% hydrogen peroxide gel. The results indicated a significant reduction in the number of days of reported tooth sensitivity during the bleach treatment, and a trend toward a decreased proportion of patients experiencing tooth sensitivity and toward a lesser intensity of tooth sensitivity in the n-HAP paste group compared with the control group.

The results of this clinical study suggest that the n-HAP paste, worn in a tray for 5 minutes daily, could lessen the tooth sensitivity experienced by patients during at-home tooth bleaching procedures. The convenience of this method is dependent on the patient already having a bleaching tray. The 5-minute postbleach desensitizer application is more work for the patient than the use of conventionally brushed-on desensitizing toothpaste or a bleach product that already contains tooth desensitizing agent. The relative effectiveness of n-HAP paste compared to other desensitizing agents was not assessed. Therefore, the ideal method for the prevention or reduction of tooth sensitivity associated with bleach procedures remains unknown. However, this study does provide evidence that an n-HAP paste can be used to reduce bleach-related tooth sensitivity.

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