Does the Use of a "walking bleaching" technique increase bone resorption markers?

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Objective: This randomized clinical trial evaluated the effect of 35% hydrogen peroxide in comparison with 37% carbamide peroxide in a nonvital bleaching technique of "walking bleaching" (four sessions of treatment) on periodontal markers: nuclear factor kappa Bligand (RANK-L-process of root resorption marker) and interleukin 1b (IL-1?-inflammatory response marker). Methods and Materials: Fifty volunteers presenting with discoloration of nonvital teeth and endodontic treatment in good condition participated. Fifty teeth were randomly divided into two study groups according to bleaching gel: HP = 35% hydrogen peroxide (n=25) and 37% carbamide peroxide (n=25). Nonvital bleaching was performed with a walking bleaching technique consisting of four sessions of bleach application. Gingival crevicular fluid samples were taken in order to quantify the RANK-L and IL-1? levels by enzyme-linked immunosorbent assay. Samples were obtained from six periodontal sites for each bleached tooth: Three vestibular and three palatine (mesial, middle, and distal) at seven time periods: baseline, after each of the four sessions of nonvital bleaching, at one week, and at one month after nonvital bleaching. Tooth color variations were analyzed in each session by VITA

Bleachedguide 3D-MASTER (DSGU). Results: Significant increments in the RANK-L and IL-1? levels were detected in each evaluated time compared with baseline ($p<0.05$); however, no differences were detected between hydrogen peroxide and carbamide peroxide on increments of the biomarkers studied. The change of color was effective for both nonvital bleaching therapies ($p<0.05$). Conclusions: Nonvital bleaching induced a significant increment in the RANK-L and IL-1? levels in periodontal tissues around bleached, nonvital teeth.