

# Inflammatory markers IL-1 $\beta$ and RANK-L assessment after non-vital bleaching: A 3-month follow-up

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**Objective:** This study assessed IL-1 $\beta$  and RANK-L levels in vivo and color stability of non-vital teeth bleached using hydrogen (35%) and carbamide (37%) peroxides 3 months after treatment. **Materials and Methods:** Fifty teeth were randomly divided into two groups (n = 25): 35% hydrogen peroxide (HP) or 37% carbamide peroxide (CP). Four sessions of intracoronary walking-bleach procedure were performed. IL-1 $\beta$  and RANK-L levels were assessed from gingival crevicular fluid samples (from three vestibular and three palatines sites) at eight different time-points: at the beginning of the study (baseline), after four sessions of intracanal bleaching, and at 1 week, 1 month, and 3 months posttreatment. The color variations were visually detected using Vita bleach shade guide ( $\Delta$ SGU). **Results:** Significant increases of IL-1 $\beta$  and RANK-L levels were detected at all time-points (all P < .05) when comparing each time-point to baseline, and a high correlation (>0.8 Spearman) between variables. According to the  $\Delta$ SGU values, a color change of five for HP and four for CP were detected. **Conclusions:** Non-vital walking bleach technique promotes an increase in IL-1 $\beta$  and RANKL levels in periodontal tissues and also, it is maintained until the third-month posttreatment. **Clinical Significance:** The internal whitening of teeth increases the levels of cytokines associated with inflammation and bone resorption 3 months after the whitening procedure is finished; this should warn of possible harmful effects of this whitening technique. © 2019 Wiley Periodicals, Inc.

biomarkers

double-blind study

hydrogen peroxide

RANK-L

tooth bleaching

hydrogen peroxide

peroxide

tooth bleaching agent

urea

color

dental procedure

follow up

human

tooth discoloration

Color

Follow-Up Studies

Humans

Hydrogen Peroxide

Peroxides

Tooth Bleaching

Tooth Bleaching Agents

Tooth Discoloration

Urea