Clinical Evaluation of Two Carbamide Peroxide Tooth-Whitening Agents

HO Heymann, et al. 1998 Compendium

ABSTRACT

A blinded study was conducted to evaluate the efficacy and safety of a dentist-prescribed, accelerated carbamide peroxide tooth-whitening system. Fifty-one patients with discolored teeth completed a clinical trial using an overnight bleaching regimen. One group used an experimental bleaching (whitening) regimen with 10% carbamide peroxide bleaching paste, and another group used the Colgate Platinum Professional Overnight Whitening System™. The study included an initial 1-week control/compliance phase using a placebo gel, followed by a 1-week active phase using the assigned bleaching agent. The shade of each participant's maxillary anterior teeth was evaluated by 2 trained and calibrated evaluators at the start of the control/compliance phase, the beginning of the active phase, and days 3, 5, and 7 of the active phase. A value-oriented VitaÒ shade guide with 16 rankings was used to measure color changes, and the number of shade guide units of change (D sgu) was calculated. Potential side effects, such as tooth hypersensitivity and gingival irritation, also were assessed at each recall examination, as well as recorded by the patients in their daily diaries. At the end of the 7-day active phase, the mean D sgu for the group using the experimental bleaching agent was 7.1 ± 2.4, and for the Colgate Platinum Overnight group, the D sgu was 7.5 ± 2.2. There were no statistically significant (p ≥ 0.05) differences between the results of both groups at the 0-, 3-, 5-, and 7-day evaluations. After 7 days, the change in shade guide units for both groups ranged from 3 to 13 units, far exceeding the minimum required change by the American Dental Association Guidelines (D sgu = 2 units) for demonstrating efficacy. There was no statistical difference in the whitening achieved at day 5 vs. day 7 for either tooth-whitening group. There were no notable changes in any gingival, bleeding, or plaque indexes for the 50 patients completing the active phase. The number of days of mild tooth sensitivity during the active phase was 0.9 ± 1.3 days for the experimental agent group and 1.1 ± 1.5 days for the Colgate Platinum group.