Three-Month Evaluation of Vital Tooth Bleaching Using Light Units—A Randomized Clinical Study

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Operative Dentistry: January/February 2013, Vol. 38, No. 1, pp. 21-32.
Accepted: April 30, 2012

doi: http://dx.doi.org/10.2341/12-041-C

SUMMARY

The aim of this study was to evaluate the color stability of vital bleaching using a halogen unit, laser, or only chemical activation up to three months after treatment.

A total of 60 patients were divided into three groups, and their teeth were bleached with 38% hydrogen peroxide using three methods: acceleration of the bleaching process with halogen (eight minutes), laser (30 seconds), or chemical activation only. All teeth were bleached a maximum of four times (4 × 15 minutes) until a change of six shade tabs took place. The color was evaluated both visually and with a spectrophotometer before bleaching, immediately after bleaching, and one and three months after bleaching.

Directly after bleaching, the use of halogen showed better results than laser ($p \leq 0.05$). One and three months after bleaching, no significant difference was found between the tested methods relative to the shade change, independent of the method of shade evaluation ($p > 0.05$). As far as the color stability is concerned, bleaching with halogen resulted in stable color throughout the three months ($p > 0.05$), whereas the other two methods resulted in whiter teeth after one and three months compared with the color directly after bleaching ($p \leq 0.05$). Bleaching with laser needed more time than halogen for the desired shade change ($p \leq 0.05$).

Although directly after treatment bleaching with halogen resulted in better results, one and three months after bleaching the kind of acceleration used in the bleaching process did not have any effect on the esthetic results.

Clinical Relevance

Light acceleration of the bleaching process, using a laser or halogen light, does not seem to be more beneficial than chemical activation with regard to the stability of tooth color over a period of three months.