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Immediate clinical evaluation of a laser-assisted in-office bleaching using diode laser at 940nm

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This study aimed to compare the clinical outcome of two in-office dental bleaching techniques in vital teeth with hydrogen peroxide. Currently, new dental bleaching technologies have been introduced in the market to speed up the whitening results. Evaluate clinical performance of available technologies in relation to both efficacy and safety aspects are of utmost importance. All subjects were assigned to the treatments in a split-mouth study design. The systems tested were a brand new 46% hydrogen peroxide gel laser activated at 940 nm (400µm fiber diameter; 10 min; 7 W; 200 J) (LaserWhite20, Biolase, USA) or 38% hydrogen peroxide conventional gel (Power Whitening, WHITE smile, Germany). Laser-assisted system was evaluated on the right quadrants of upper and lower jaws, while conventional hydrogen-peroxide system on the left quadrants. The degree of color change was evaluated using a spectrophotometer based on VITA scale (Shade Star, Degudent, Germany) immediately after treatments. Data was analyzed using one-way ANOVA, followed by Tukey's test or Student t test setting a significance level of 5%. Both treatments performed were effective in promoting tooth whitening ($p < 0.05$). No differences among teeth and arches were observed within each treatment group ($p > 0.05$). Laser-assisted system resulted in lower shade values in both upper and lower jaws when compared to the conventional treatment ($p < 0.05$). Laser-assisted system has shown enhanced tooth whitening than conventional treatment without irradiation in an immediate post bleaching assessment.

Biography

Yalda Torabi Ardekani received her D.M.D degree from Iran University, Shiraz in 2004 and completed her Master of Science in Lasers in Dentistry from Aachen, Germany University in 2013.

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