

題名:Laser tooth whitening

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摘要:This aim of the present study was to evaluate the pulp chamber penetration of 35% hydrogen peroxide activated by LED (light-emitting diode) or Nd:YAG laser in bovine teeth, after an in-office bleaching technique. Forty-eight bovine lateral incisors were divided into four groups, acetate buffer was placed into the pulp chamber and bleaching agent was applied as follows: for group A (n = 12), activation was performed by LED; for group B (n = 12), activation was performed by Nd:YAG laser (60 mJ, 20 Hz); group C (n = 12) received no light or laser activation; and the control group (n = 12) received no bleaching gel application or light or laser activation. The acetate buffer solution was transferred to a glass tube and Leuco Crystal Violet and horseradish peroxidase were added, producing a blue solution. The optical density of this solution was determined spectrophotometrically and converted into microgram equivalents of hydrogen peroxide. The results were analysed using ANOVA and Tukey's test (5%). It was verified that the effect of activation was significant, as groups activated by LED or laser presented greater hydrogen peroxide penetration into the pulp chamber (0.499 +/- 0.622 microg) compared with groups that were not (0.198 +/- 0.218 microg). There was no statistically significant difference in the penetration of hydrogen peroxide into the pulp chamber between the two types of activation (LED or laser). The results suggest that activation by laser or LED caused an increase in hydrogen peroxide penetration into the pulp chamber.