Evaluation of the Bactericidal Effect of Er,Cr:YSGG, and Nd:YAG Lasers in Experimentally Infected Root Canals

Qian-qian Wang, DDS, Cheng-fei Zhang, DDS, PhD, and Xing-zhe Yin, DDS

Abstract

The aim of this study was to evaluate the bactericidal effect of the Er,Cr:YSGG laser and the Nd:YAG laser in experimentally infected root canals. Sixty single-rooted teeth with straight canals were selected. After preparation and sterilization, the specimens were inoculated with Enterococcus faecalis for 3 weeks. After irradiation by lasers, the number of bacteria in each root canal was examined. The Er,Cr:YSGG laser gave a reduction of 77% after irradiation at 1 W and 96% at 1.5 W, but there was no significant difference (p > 0.05). The Nd:YAG laser gave a reduction of 97% at 1 W and 98% at 1.5 W, and there was no significant difference (p > 0.05). Compared with the Er,Cr:YSGG laser, the Nd:YAG laser is more effective (p < 0.05). In conclusion, both lasers systems have a significant bactericidal effect in infected root canals, and the Nd:YAG laser is more effective than the Er,Cr:YSGG laser. (J Endod 2007;33:830 – 832)

Key Words

Bactericidal, Er,Cr:YSGG laser, Nd:YAG laser, root canal