



STUDENT SCHOLARSHIP RECIPIENT
**Er:YAG Laser Reduces Post-Operative Discomfort
Following Osseous Resection for Periodontal Crown Lengthening**
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Abstract

Objective

The aim of this case series was to evaluate postoperative discomfort following use of an Er:YAG laser for osseous resection during periodontal crown lengthening procedures.

Materials and Methods

A series of patients referred for periodontal crown lengthening were treated with routine periodontal flap surgery. After flap reflection, all ostectomy and osteoplasty procedures were performed with an Er:YAG laser (DELIGHT, Hoya ConBio, Fremont, California), 2940-nm wavelength, pulse width <300 μ sec. A 600- μ m diameter fiber with a 30° tip was used at 25 Hz, 300 mJ, and maximum water spray. Caution was exercised so that the laser tip was not directed toward the root surface and a distance of 1-2 mm from the osseous tissue was maintained at all times. Following osseous resection, flaps were sutured to provide complete coverage of the alveolar bone and a periodontal dressing was placed. The patients were followed once a week for 4 weeks and at the 8-week final evaluation. Healing and postoperative discomfort, evaluated by the number of analgesics taken, were recorded at each appointment.

Results

The Er:YAG laser performed efficient osseous surgery at 25 Hz and 300 mJ. Compared to conventional osseous surgery, the laser surgery required more time; however, postoperative discomfort was minimal. For most patients the laser surgery was effective; however, when thick osseous ledges were present, a bur was a more efficient means of osseous resection. There seemed to be more postoperative discomfort when the bur was used extensively.

Conclusions

The Er:YAG laser is an effective means of performing osseous resection for periodontal crown lengthening following reflection of a mucoperiosteal flap. In all cases, healing was uneventful and postoperative pain and discomfort were minimal.

Biography: *Dr. P.G. Stathopoulou is a second-year resident in Periodontics and a PhD candidate in Microbiology/Immunology at the University of Louisville. She received a DDS from the University of Athens in 2003 and a MS in Microbiology/Immunology from the University of Louisville in 2004.*

Disclosure: *Dr. Stathopoulou reported no commercial relationships relative to this presentation.*

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