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296.67 m to 200 and 300 mJ, respectively). The volume also increased when 300 mJ was used. Our finding indicated that cavities obtained were round or slight oval. The diameter was not affected by energy level, however high energy level increased depth and volume of the cavities.

### P39

#### Comparison between photodynamic therapy and a bactericidal solution in the treatment of dental alveolitis microbiological evaluation.

**Hayek, R.R.A.;** Yamada Júnior, A.M.; Garcez, A.S.; Nuñez, S.C.; Suzuki, L.C.; Ribeiro, M.S..  
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Photodynamic therapy is a new therapeutic modality to treat microbial infections. The aim of this pilot study was to compare this new therapeutic approach with chlorhexidine in mini pigs induced alveolitis. Alveolitis is an inflammatory disease that involves the superficial bone layer in the dental alveolus. Eight dental elements were extracted from mini pigs and immediately after the alveolus were contaminated with *Streptococcus aureus*. After seven days the area presented edema and hyperemia. In the chlorhexidine group the alveolus were debrided and irrigated with a 0.12% solution of chlorhexidine. In Laser group the alveolus were debrided and photodynamic therapy was performed consisting in the application of a azulene paste inside the alveolus with a pre-irradiation time of 5 minutes followed by irradiation with a low power diode laser,  $\lambda = 685$  nm, P= 50 mW, E= 9 J, for 3 minutes. Microbiological samples were harvested before and after treatment for both groups with sterile paper points. The results showed bacterial reduction in both groups, although photodynamic therapy was significantly more effective to reduce the population of *S. aureus*. This finding indicates that photodynamic therapy can be an alternative method to the treatment of alveolitis.

### P40

#### Effects of the diode laser irradiation on root surfaces. thermal analysis.

**Haypek, P.;** Theodoro, L.H.; Bachmann, L.; Eduardo, C. P.; Sampaio, J.E.C.; **Zezell, D.M..**  
Doutoranda em Dentística Restauradora- Faculdade de Odontologia da Universidade de São Paulo-USP.  
The purpose of this study was to evaluate the temperature rising

inside the pulpar cavity during the diode laser irradiation on the root surface. Twelve single root teeth were used and their mesial and distal surfaces were irradiated (808 nm, 400 m, 30 s), in a continuous mode (CW) and in a switched mode (SW) (10 Hz). The temperature rise was evaluated depending with the power used (0.4 W to 2.2 W). The temperature was monitored with a thermopar (T) fixed inside de pulpar cavity during the irradiation. In a second step two parameters was used in a SW (10 Hz). The safety temperature was keep using the power: Group A - 0.9 W (mesial) and Group B - 1.08 W (distal). The results showed the thermal pulpar events (T) during the irradiation, based in an specific relation with the power (P), like  $T = -0.4 + 3.7P$  in a CW and  $T = -0.2 + 2P$  in a SW. The temperature rising during the irradiation was  $3.4 \pm 0.4^\circ\text{C}$  on Group A and  $4.0 \pm 1.0^\circ\text{C}$  on Group B. The irradiation mode and the power are much important to temperature rise inside the pulpar cavity and the 0.9 W and 1.08 W radiation on the root surfaces were safety.

### P41

#### Effects of Nd:YAG laser irradiation to fauces.

**Hotta, K.;** Yamaguchi, H.; Sekine, A.; Kobayashi, K.; Gomi, K.; Arai, T..

Department of Periodontics and Endodontics Tsurumi University School of Dental Medicine. Yokohama, Kanagawa, Japan Aims:

The aim of this study was to evaluate in vivo systemic blood pressure and pulse rate during Nd:YAG laser irradiation of fauces (Mandibular fauces was distributed in glossopharyngeal nerve of Rr.linuales :parasympathetic nerve). Material and Methods: The 6 adult volunteers participated in this study. The experimental site for each patient was mandibular fauces. Mandibular fauces area was irradiated with Nd: YAG laser irradiation (30 sec at energy level of 100mJ pulses at 15pulses/sec). The systemic blood pressure and pulse rate were monitored for each patient's throughout the laser irradiation procedure. Results: No significant change in systemic blood pressure and pulse rate were found in laser irradiation of fauces. Discussion and Conclusion: Systemic blood pressure and pulse rate were affected for the irradiation to