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EUROPEAN SOCIETY FOR ORAL LASER APPLICATIONS

S.I.L.O.

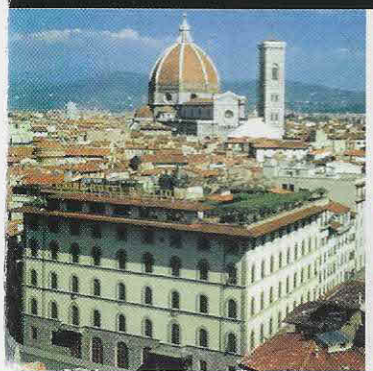
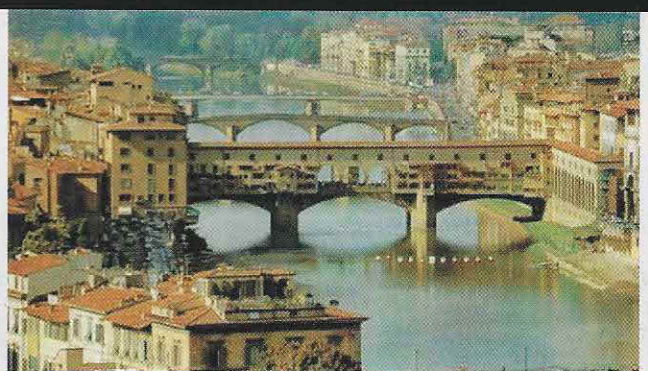
Laser Congress 2003

2nd Congress of the European Society for Oral Laser Applications ESOLA

2° Congresso della Società Italiana di Laser in Odontoiatria SILO

May 15 – 18, 2003
Florence, Italy
Firenze Expo – Palazzo dei Congressi

Programme

Poster Sessions

Poster Session I:

P1 **The DIAGNOdent value of Er:YAG laser irradiated tooth surface in vitro**
T. Eguro, T. Maeda, M. Ogawa, T. Suzuki, K. Yonemoto, H. Tanaka, I. Katsuumi (Tokyo, Japan)

P2 **Carious dentin removal using the Er:YAG Laser with DIAGNOdent: polarizing microscopic and microradiographic observation**
T. Maeda, T. Eguro, M. Ogawa, K. Yonemoto, T. Suzuki, H. Tanaka, I. Katsuumi (Tokyo, Japan)

P3 **A Scanning Electron Microscopic Comparison between Different Caries Removal Techniques for Root Caries Treatment in vitro**
K. Delmé, R. De Moor (Ghent, Belgium)

P4 **The advantages of using 830 nm diode laser, for conservative procedures**
A .Sharon-Buller, M. Sela (Jerusalem, Israel)

P5 **Basic and clinical estimation of Er:YAG laser root canal enlargement using cone-shaped tip**
S. Shoji, M. Nemoto, H. Suda, H. Horiuchi (Tokyo, Japan)

P6 **Bactericidal Effects of Er:YAG Laser Irradiation in Root Canals**
M. M. Stevanovic, M. Petrovska, M. Stevanovic, M. Mirceva (Skopje, Macedonia)

P7 **The diagnostic use of two-probe laser Doppler flowmetry in the long-term follow-up of autotransplanted human teeth**
H. J. J. Roeykens, R. J. G. De Moor (Ghent, Belgium)

P8 **Rebirth of Dental Pulp Tissue by Laser Perforation Technique**
K. Yokoyama, T. Ishizaki, W. Xiaogu, Y. Kimura, K. Matsumoto (Tokyo, Japan)

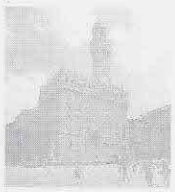
P8a **Antibacterial effects of laser/dye combination in artificial and human root canals**
J. Williams, G. Pearson, J. Colles, R. Pike, M. Wilson (London, UK)

P9 **Adhesion and growth of gingival fibroblasts on root surfaces treated with Er:YAG laser**
I. S. Feist, G. De Micheli, S. R. S. Carneiro, C. P. Eduardo, S. Miyagi, M. M. Marques (São Paulo, Brazil)

P10 **Adhesion and growth of cultured human gingival fibroblasts on periodontally involved root surfaces treated by Er:YAG laser**
I. S. Feist, G. De Micheli, S. R. S. Carneiro, C. P. Eduardo, S. P. H. Miyagi, M. M. Marques (São Paulo, Brazil)

P11 **Three Year Retrospective Study using the Diode Laser for Soft tissue management**
N. M. Raffetto (Redwood City, USA)

P12 **Effect of high intensity diode laser irradiation on growth of human gingival fibroblasts**
M. M. Marques, P. Haypek, F. P. Eduardo, C. A. Migliorati, D. M Zezell, C. P. Eduardo (São Paulo, Brazil)



days after seeding the specimens were prepared fos scanning electron microscopy analysis and the cells at the electronmicrographs were counted. The data obtained in triplicate were statistically compared by the Kruskall-Wallis test complemented by the Dunn test ($p<0,05$). Results: The human gingival fibroblasts adhered and grew on all treated surfaces. The group B presented a significantly higher cell number than the other two groups at days 1 and 2. Three days after seeding the cultures of groups A and B reached total confluence. The cell number of group B were significantly higher than those of group C.
Conclusions: The surfaces treated with Er:YAG laser irradiation (3 J/cm^2) promoted faster adhesion and growth than surfaces treated either with root planing or Er:YAG laser irradiation (5 J/cm^2).

P011
Three year retrospective study using the Diode laser for soft tissue management

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Objective: To examine the results of diode laser therapy for phase one periodontal care in a Soft Tissue Management program.
Materials and Methods: Fifty-two patients were drawn from a pool of one hundred eleven treated in initial therapy for periodontal disease. Two diode lasers were used by the clinician for the study: a Diolase ST diode laser (emission wavelength 800-830 nm, American Dental Technologies, Corpus Christi, TX) and a Diodent diode laser (emission wavelength 800-830 nm, Continuum Biomedical, Santa Clara, CA.) A Marquis periodontal probe was used by the same clinician to measure pocket depths pre and post therapy. All patients in the study were treated in the following sequence: 1) Anesthesia as necessary, 2) ultrasonic scaling with an antimicrobial irrigant of chlorhxidine, 0.12%, of the hard tissue surfaces, 3) hand instrumentation of those same surfaces with curettes as necessary, 4) laser removal of the diseased sulcular epithelium using a 300 or 320 micron initiated fiber at a power setting of 0.4 W continuous wave for 15-20 seconds per site, 5) laser hemostasis and bacterial reduction using the same initiated fiber at a power setting of 0.6-0.8 W continuous wave for 10 seconds per site, 6) irrigation of the treated areas with ultrasonically delivered antimicrobial irrigant, chlorhexidine 0.12%, and 7) post-operative and home care instructions. The healing assessment was done at three months post-therapy with the periodontal pockets measured and recorded.
Results: The tissue tone was excellent, there was no bleeding on probing and the pocket depths had decreased from 1-5mm overall.
Conclusion: Incorporating the diode laser into phase one non-surgical periodontal therapy is an excellent choice since clinical observations and studies are demonstrating good results. With training and experience, the clinician can successfully offer this therapy and effectively help his or her patients maintain optimum periodontal heatlh.
A clinical case study will be presented.

P012
Effect of high intensity diode laser irradiation on growth of human gingival fibroblasts

M.M.Marques, P.Haypek, F.P.Eduardo, C.A.Migliorati, D.M Zezell, C.P.Eduardo
School of Dentistry, University of São Paulo, Brazil

Purpose: Diode lasers present some advantages over the other surgical lasers. The equipments are more compact and can also be used in low intensity laser therapy. The aim of this study is to analyze a possible biostimulatory effect of the diode laser on human cultured gingival fibroblasts.
Material and Methods: The cell line FMM1 was grown in Dulbecco' modified Eagle medium. Laser irradiation was carried out with a GaAlAs diode laser (wavelength: 808 nm, power output: 3.5 W, Zap Lasers, CA, USA). The irradiation was done in a defocused and continuous wave mode using a fiber of 400 micrometers. The experiments were done in triplicate (Group 1: non-irradiated cells; Group 2: cells irradiated with 3 J/cm^2; and Group 3: cells irradiated with 4 J/cm^2). The data of the growth curves were analyzed by statistical means.
Results and Conclusion: The defocused diode laser irradiation used as low intensity laser therapy presents biostimulatory effect on growth of human gingival fibroblasts.