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Oral Presentation

in intimate contact with the extracellular matrix, while the collagen fibers appeared more aggregated and organized than those of the second group. These results were also observed in the healthy teeth. The results suggest that laser irradiation accelerates the recovery of the structures at the dentine-pulp interface involved during cavity preparation layer.

OP61

Low level laser therapy in treatment of TMJ and masticator muscles disease: biometrical and pain evaluation.

Eduardo, L.R.P.; Ribeiro, M.S.; Duarte, M.; Zezell, D.M. Mestre em Ciências pelo IPEN.

A sample of 11 patients showing temporomandibular joint disease, in one or both sides, was selected. Clinical examinations were performed on patients to define which side was the most compromised by the disease. Only the worst side was chosen to be treated by the laser therapy. The Laser Unit used was a diode laser (AlGaAs) in which the wavelength was 810 nm (infra-red spectrum). Irradiations were done in three points of TMJ, with 22,5 J/cm²; two points in the masseter muscle, with 15 J/cm²; and three points in the temporal muscle, with 7,5 J/cm². All points were irradiated for 30 seconds. The other side, of lesser complaint received a sham therapy. Treatment was done during two weeks, three irradiation with 48 hours interval in the first week, and two irradiations with the same interval in the second week. Patients reported improvement in relation to the level of pain, mainly after the fourth irradiation, and the level of pain decreased until the last day of treatment. In relation to the degree of mouth opening, the majority of patients showed a significant increase, mainly after the fifth day of irradiation.

OP62

Effect of low level laser therapy on the viability and proliferation of human primary bone cells.

Moraes, V.; Almeida-Lopes, L.; Tuebel, J.; Saldamli, B.; Juergens, P.; Sader, R..

Technologies for improving bone formation and regeneration are a constant research in tissue engineering. Biostimulatory effects of low level laser therapy (LLLT) on hard tissue have been previ-

ously described, but the parameters (total energy doses, irradiation mode, power density) for Laser irradiation on bone remain uncertain. Moreover, no data was found concerning LLLT on human primary bone cells (HPBC). Our objective was to investigate the effect of different laser irradiation parameters on the viability and proliferation of HPBC. A HPBC culture was established. Cells were plated in DMEM, 5% FCS, simulating nutritional deficit. They were irradiated 3 times with 72 hours interval. An 830 nm-GaAlAs-Laser, 100 mW power output was used in continuous or pulsed mode, each with total energy doses of 2, 4, 6, 8 and 10 Joules. Cellular proliferation was analyzed with BrdU colorimetric immunoassay; viable cells were counted with a hemocytometer. Phenotype changes were investigated with ALP staining. We found out, in the present nutritional deficit conditions, that LLLT improved the viability and proliferation of HPBC in vitro without changing their phenotype. Different doses and irradiation modes resulted in different cellular responses. Further investigations about LLLT effects on ALP, collagen and protein expression are being performed.

OP63

Histologic aspect of maxillary bone repairing after autogenous graft influenced by the use of AsGaAl laser and BMP.

Nascimento, P. L.; Genovese, W. J. ; Bastos Neto, F.V.R., Soares, N.S.

Mestrando em Bioengenharia.

Objectives: To analyze the potential of regeneration of autogenous graft interface, treated or not with BMP and AsGaAl laser. Material and Methods: We selected patients with necessities of bone grafts for installation of implantations in the region of previous maxilla. The autogenous donor area was the mentum symphysis and the patients had been divided in 4 randomly groups: G1-only graft (control), G2-graft and BMP, G3-graft and laser, G4-graft and BMP + laser. In the groups G3 and G4 we used the AsGaAl laser, 50mW, 3J/cm² and wave length of 670nm. After 150 days, the region of the interface graft-bed was removed with aid of a trefina drill of 3mm of diameter. These bone fragments had been descalcificated and processed for histomorfometric analysis. Results: We observed the formation of a compact bone tissue with great marrow sockets. However, bigger number of osteocytes in the treat groups was observed. The marrow tissue