

nail varnish, except two 4mmx1mm windows on both buccal and lingual surfaces. The windows were randomly assigned to groups 0,1,2, and 3, receiving no irradiation, 100mJ, 200mJ and 300 mJ irradiation, respectively. Then a two-day pH-cycling was performed, with an 18-hours demineralization followed by a 6-hours of remineralization. Lesion depth was measured using polarized light microscope coupled with an image analysis software. Results: The laser treatments of 100mJ and 200mJ have demonstrated significant protection of demineralization in enamel ($p=0.01$ and 0.001 respectively) but not the treatment with 300mJ. Compared with the control, a lesion reduction of 32.78% and 26.93% for 200mJ group and 100mJ group were obtained respectively. Conclusion: Cavity preparation and caries prevention may be simultaneously performed by Er:YAG laser treatment if the optimal range of laser parameters for laser induced caries prevention can be employed.

P52

Low-intensity laser therapy and functional orthopedics in the treatment of pain from temporomandibular dysfunction.

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Temporomandibular Dysfunction (TMD) is a term used to describe disorders, which involve temporomandibular joint (TMJ), masticatory muscles, and associated structures, isolated or not, whose most frequent symptom is pain. The aim of this study was to evaluate pain and buccal mobility in subjects with CI II malocclusion and TMD symptoms, treated with low-intensity laser therapy (LILT) and functional orthopedics (FO), associated or not. Eighteen subjects were selected and divided into three groups. Group 1 was treated with LILT, $\lambda = 780\text{nm}$, 70 mW, 15 J/cm² per point during two weeks. The application was in three points around the TMJ, and trigger points of masticatory muscles. Group 2 received Planas functional appliances and it was evaluated once a week during two weeks. Group 3 received both treatments at the same time, and the first laser application coincided with the appliance installation. Subjects answered a questionnaire with a score for pain evaluation after palpation. There was pain relief for the 3 groups and no statistical differences were observed among them, however, group 3 showed a remission of pain faster than other groups. This finding indicates the association of the LILT with FO for pain relief in TMD.

P53

Evaluation the effect of Er:YAG laser for non-surgical periodontal disease treatment. A controlled clinical study.

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The aim of the present study was to compare the effectiveness of an Er:YAG laser (2.94 μm), with a combination or not, to that of scaling and root planning (SRP) with hand instruments for non-surgical periodontal treatment. Twenty-one healthy patients with chronic periodontal disease were selected presenting 4 periodontal pockets between 5 and 9mm. The sites were divided randomly in four groups: Group 1: SRP + Er:YAG Laser; Group 2: Er:YAG laser; Group 3: only SRP with hand instruments; Group 4 (control): no treatment. The parameters used for the Er:YAG laser were 100 mJ/pulse and 10 Hz (12.9 J/cm²). Clinical assessments plaque index, gingival index, bleeding on probing, probing depth, gingival resection, and clinical attachment level were made prior to and at 30 and 90 days after the treatment. The results, after 90 days, demonstrated that all treated groups showed a improvement statistics significant ($p<0.05$) on parameters bleeding on probing, probing depth and clinical attachment level. In conclusion, the present results have indicated that an Er:YAG laser, combined or not with SRP with hand instruments, it may represent a suitable alternative for the treatment periodontal, however without additional advantages when compared to the conventional treatment of SRP.

P54

Laser therapy in patient with Cri-Du-Chat syndrome.

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The Cri-Du-Chat syndrome is a chromosomal anomaly caused by the break of the short arm of chromosome 5. The main characteristics of the syndrome are: congenital cardiac and kidney's problems, poor muscle tone, low weight and stature and developmental delay. Patient J.M.S, 12 years old, masculine gender, with medical diag-