was still below pretreatment levels for both groups. The black pigmented CFU and the level of Aa, Pg e Pi decreased significantly after the treatment but 30 days after there was an increase almost equal to baseline levels for both groups. The Nd:Yag laser associated with convencional treatment promoted bacterial reduction on class II furcation immediately after its application.

OP73

Ultrashort pulses over bovine dental enamel.

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The interaction of lasers with the hard structures of the teeth, has found the excess of heat as a problem for its utilization. This study analyzes, in vitro, the interaction of the ultrashort pulse laser of Ti:safire (830 nm) with the bovine dental enamel.

The system consisted in one main oscillator integrated with an amplifier (CPA). The pulses extracted before the temporal compression inside the amplifier had 30ps, 1000Hz and ~1mJ. The pulses extracted after the compression had 60fs, 1000Hz and ~0,7mJ. The M2 was 1,3, the focal lens 2,5 cm, the focal distance 29,7 and a computadorized translation stage x,y,z moved the sample.

We evaluated the amount of tissue removed per pulse,the resulting cavities and the surrounding tissues not irradiated, under OM and SEM.

The fluency was the major factor for differentiating the two regimens studied, therefore, the intensity was not so important as we expected in this process. We found: one ablation region in "cat tonge", one ablation length, one fluency ~0,7J/cm2 for 30ps and ~0,5J/cm2 for 60fs (50% ofhigh speed burr), smooth edge for 30ps and high precision of the shrp edge cut of submicrometric order for 60fs.

OP74

Bonding of self-etching and total-etch systems to Er:YAG laser-irradiated dentin. Tensile bond strength and scanning electron microscopy - Bonding to lased dentin - Tensile strength and SEM.

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This study investigated the effect of Er:YAG laser on bonding to dentin and the interaction pattern of different adhesive systems with the lased substrate. Tensile bond strength of a self-etching [Clearfil SE Bond(CSEB)] and two total-etch [Single Bond(SB) and Gluma One Bond(GOB)] systems to lased and non-lased dentin was evaluated and the adhesive interface morphology was examined by SEM. Dentin was either treated following the manufacturers' instructions (A) or submitted to Er:YAG lasing (80mJ;2Hz) + adhesive protocol (B). Resin cones were bonded to demarcated dentin site and tested in tensile strength. For SEM, dentin discs were obtained, bisected and the halves were treated as described above (A or B). The adhesive interfaces were examined. TBS means in MPa were: CSEB: (A)20.65(±1.81), (B)14.06(±1.88); SB: (A)18.36(±1.48), (B)16.19(±1.90); GOB: (A)16.58(±1.94), (B)14.07(±2.13). ANOVA and Tukey tests revealed that lasing of dentin resulted in significant decrease in bond strength ($p<0.05$). In the non-lased subgroups, CSEB had higher bond strength than the total-etch adhesives ($p<0.05$). Conversely, in laser-ablated specimens, CSEB provided the lowest bond strength, while SB yielded the highest means ($p<0.05$). Consistent hybrid layers were observed for conventionally treated specimens, whereas either absent or scarce hybridization zones were viewed for lased subgroups. Er:YAG laser irradiation severely undermined the formation of consistent resin-dentin hybridization zones and yielded remarkable lower bond strengths. CSEB self-etching primer appeared to be the most affected by the laser ablation on dentin substrate, resulting in the weakest adhesion.

OP75

Cavosurface angles of Er:YAG laser cavity preparations in deciduous teeth.

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The purpose of this study was to evaluate the rounding of the cavosurface margins and cavity floor. Measurements of cavosurface angles and the angle of cavity concavity were made at the margins and the bottom of the lased deciduous teeth enamel using