

1045 Biocompatibility Analysis of three Calcium Hydroxide based Endodontic Sealers* VELOSO, H. H. P.*; SANTOS, R. A.; ARAÚJO, T. P.

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The purpose of this study was to analyse, using histological techniques, the reaction of subcutaneous connective tissue of rats after polyethylene tubes implants containing freshly mixed calcium hydroxide based sealers (Sealapex, Apexit and Sealer 26). Equal size polyethylene tubes were also implanted and used as control. Sixty male white albino rats of the Wistar type were used throughout the study and were divided into eight groups, four test groups with ten rats and four control groups with five rats which was analysed after 48 hours, 7, 21 and 60 days. Histological examination of the tissue sections revealed varied levels of inflammation. During the initial periods (48h and 7days) intense neutrophilia was seen in response to all sealers, from severe to moderate respectively. In late periods (21 and 60 days) the inflammatory response to Sealapex was characterized by a sharp reduction in the number of polymorphonuclear cells, followed by Apexit and Sealer 26 which were characterized by the persistence of an intense granulomatous reaction. The control groups showed less inflammatory cells than test groups, that decreased as the observation periods increased. These results suggests that Sealer 26 was considered the most irritating sealer followed by Apexit and Sealapex.

1046 Microleakage in Composites: Importance of the use of the Bonding Agents GOUVÊA, C. V. D.; MORAES, R. C. M.; ALMEIDA, L. R.; MATUCK, I. C.; GOUVÊA, M. V.; LOPES, D. M.* - Fac. Odontologia - UFF.

To minimize the problem of the microleakage it is used the bonding systems. Our work it aims at to evaluate the microleakage when it is used bonding agents of last generation with composites filling. Forty bovine teeth were used, that were divided in four groups of ten specimens each. Group A: specimens testimony, without bond application, recuperated with the resin APH of Dentsply; group B: specimens testimony, without bond application and restorative material Z100 the 3M; Group C: specimens with bond application Pro-Bond and restorative material APH; group D: specimens with bond application Scotchbond MP and restorative material Z100. The vestibular aspect of the teeth was planned out and the executed preparations, all the same. The specimens were embedded in cylinders of acrylic and submitted to the acid etching. The restorative materials were inserted in the cavities of the four groups by the increment technique. Submitted to finish, it was applied two enamel layers on the teeth, leaving gets rid a frame of 1.0 mm about of the restorations for penetration of the colouring solution. The samples were placed in metileno blue to the 2% and submitted to the thermalcycle. It was broken for reading of the pigmentation through optical microscope. We ended: the microleakage happened in all the cases in the axial walls of the preparations; none of the techniques with the use of bonding system impeded, in your totality the marginal microleakage; the use of the bonding system is beneficial with views to the microleakage.

1047 Defects in Marginal Adaptation Among Composite Resins: Conventional X Condensable. GOUVÊA, C. V. D.; MORAES, R. C. M.; ALMEIDA, L. R.; GOUVÊA, M. V.; AMARANE, J. E. V.; JORGE, M. Z.* - Faculdade de Odontologia - UFF - Niterói / RJ.

One of the factors that more it commits a restoration it is the absence of sealing for the restoring material in its interface with the dental surface. The objective of that study was compare the behavior of a conventional composite resin and other condensable in what it refers to the defects in marginal adaptation. Thirty teeth bovine divided, by aleatory way, were used in two groups (A and B). The dental surfaces, of both groups, were prepared equal forms of cavities and to follow acid conditioning and adhesive system. Later were inserted in the group A the conventional resin type and in the group B the one of the condensable type, according to the manufacturers' instructions. The test bodies were stored in artificial saliva by the same time, dived in basic fuccina and submitted to the thermocycling process. That done, the penetration of the pigment were evaluated by means of conventional resin: 10 test bodies were classified in the degree 2, and 5 in the degree 3; and of condensable resin: 8 were classified in the degree 2, and 7 in the degree 3. The data was analyzed by Mann Whitney's no-parametric test and there was not significant statistical difference among the groups ($p > 0.05$). It can be concluded that, although none of the resin types has been capable to avoid defects in marginal adaptation, there was a larger tendency for that aspect in the one of the condensable type.

1048 EFFECT PULSED LASER ND:YAG WITH A DIAMMINE SILVER FLUORIDE SOLUTION. AVILEZ A.C.*, GROTH E., MIRAGE A. LASER FO-USP/IPEN. 55 21 556-4739. zezila@zaz.com.br

All studies with ND:YAG LASER in dentistry work with relationship between caries and its interaction. The aim of this research is to obtain a good new interaction between caries and the ND:YAG.

In this study, artificial caries like-lesion formation were made in 15 deciduous teeth. After that, diammine was applied in cavity. Q-Sweetched ND:YAG was irradiated with 0.8 W average power and 80 mJ energy by pulse. We evaluated with the SEM and an optic microscopic subsurface morphologic changes.

The results presented good interaction, dentin was bonding and the effect of diammine brought a new resistance for teeth. This capacity of interaction promote a new procedure for treatment regarding cavities prior treated by diammine.

1049 Evaluation of adhesion by self-etching primers to human and bovine dentin PARIZO, M.*; GABRIEL, J.M.; MACHADO, M.; RABELLO, T.; DIAS, K.

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The aim of this study was to compare human and bovine dentin, by shear bond strength test. Freshly extracted bovine (Gr. 1, 2 and 3) and human (Gr. 4, 5 and 6) teeth were included in PVC tube, using self cure resin. Buccal surfaces were flattened until get a 3 mm diameter area. Systems were applied following manufacturers instructions. Six groups were formed: Gr. 1 - Scotchbond MultiPurpose Plus (3M); Gr. 2 - Clearfil Liner Bond 2V (Kuraray); Gr. 3 - Etch & Prime 3.0 (Degussa); Gr. 4 - Scotchbond MultiPurpose Plus; Gr. 5 - Clearfil Liner Bond 2V; Gr. 6 - Etch & Prime 3.0. Upon these surfaces were buit composite resin cylinders (TPH Spectrum - Dentsply). After a week at 100% umidity, they were tested in a EMIC machine at 0.5 mm/min cross speed. Results were treated by ANOVA, Kruskal-Wallis and Mann-Whitney Means and standard deviations were (MPa): Gr. 1 - 12.76 ± 6.56; Gr. 2 - 7.73 ± 5.48; Gr. 3 - 3.77 ± 2.39; Gr. 4 - 9.03 ± 4.60; Gr. 5 - 11.98 ± 5.98; e Gr. 6 - 8.03 ± 2.94. Self-etching primers were similar to control (Scotchbond MultiPurpose Plus) in human dentin, while bovine dentin were worse. Authors concluded that bovine dentin was more sensible to distinct adhesives systems action, so results shouldn't be transported to human dentin.

1050 Surface texture of restorative materials throughout brushing preceded by acid challenges. TURSSI, C. P.*; MAGALHÃES, C. S.; SERRA, M. C.; RODRIGUES JR., A. L. FOP (UNICAMP) / FORP (USP) / FO (UFMG) / FOAr (UNESP) - mcserra@forp.usp.br

This study was intended to evaluate the surface texture of restorative materials throughout brushing preceded by a regimen of acid challenges. One hundred specimens (n=20) were obtained from two composite resins (Renamel Microfill [Re] and Charisma [Ch]), two polyacid-modified composite resins (Compoglass-F [Co] and Dyract AP [Dy]), and one resin-modified glass-ionomer cement (Fuji II LC [Fj]). After finishing and polishing, the average surface roughness (Ra) of the specimens was carried out. The experimental units were subjected to an acid challenge, and then to 10,000 brushing strokes. New readings of the Ra parameter were obtained. The same protocol of acid challenge, brushing simulation, and surface roughness measurements was repeated ten times. ANOVA demonstrated significant effect for material-brushing strokes interaction. The Tukey's test ($\alpha=0.05$) and the polynomial regression method revealed that restoratives, except Re, showed a significant increase in surface roughness after the first brushing simulation. Throughout the other brushing simulations, Re, Ch, Co, and Dy did not exhibited significant increase in surface roughness, whereas Fj did. It was concluded that the composite resins and the polyacid-modified composite resins showed steady textures as a function of brushing strokes preceded by acid challenges and that the resin-modified glass-ionomer exhibited a progressive increase in surface roughness. (Supported by FAPESP, grants # 99/01638-0 and 99/03605-1)

1051 The influence of 5% NaOCl on micromorphology of desmineralized dentin. RABELLO, T. B.*; MIRANDA, M. S.; DIAS, K. Restorative Dentistry Department - UFRJ and UERJ

The aim of this study was to evaluate and compare the influence of the 5% NaOCl treatment on micromorphology of demineralized human superficial dentin by scanning electron microscopy (SEM). The NaOCl was applied to etched dentin for 15, 30 or 60 seconds. 110 extracted erupted human third molars dentin disks were prepared. Dentin disks were treated with: Gr. 1 = 37% phosphoric acid (PA); Gr. 2 = Non Rinse Conditioner (NRC); Gr. 3 = 5% NaOCl, 15 s. (15); Gr. 4 = 5% NaOCl, 30 s. (30); Gr. 5 = 5% NaOCl, 60 s. (60); Gr. 6 = PA + 15; Gr. 7 = PA + 30; Gr. 8 = PA + 60; Gr. 9 = NRC + 15; Gr. 10 = NRC + 30; Gr. 11 = NRC + 60. After each treatment the dentin discs were air-dried overnight and then gold-coated for SEM evaluation. The micrographs were scored from 0 to 4. The data were statistically analysed by ANOVA, Kruskal-Wallis and Mann-Whitney tests ($p < 0.05$). The average ranks were: Gr. 1 = 41,00; Gr. 2 = 38,95; Gr. 3 = 6,55; Gr. 4 = 20,50; Gr. 5 = 20,50; Gr. 6 = 77,00; Gr. 7 = 68,00; Gr. 8 = 95,00; Gr. 9 = 65,00; Gr. 10 = 89,00; Gr. 11 = 89,00. The results showed the formation of 5 distinct groups: (Gr. 3); (Gr. 4, Gr. 5); (Gr. 1, Gr. 2); (Gr. 7, Gr. 9); (Gr. 8), and 1 transition group: (Gr. 6, Gr. 10, Gr. 11). The authors concluded that: a) SEM results showed progressive changes of the dentin surface as the treatment time of NaOCl increased; b) The morphology of acid-etched and deproteinized dentin was different from acid-etched dentin; and c) NaOCl applied on dentin smear layers did not significantly modify their SEM morphology.

1052 Amplitude of the cariostatic effect provided by fluoride restorative materials on root dentin. HARA, A. T.*; TURSSI, C. P.; SERRA, M. C. FOP-UNICAMP/FORP-USP mcserra@forp.usp.br

The aim of this study was to evaluate the amplitude of the cariostatic effect on root dentin provided by four restorative materials with fluoride: Ketac-fil/Espe [Ke], Fuji II LC/GC Corp. [Fj], Dyract AP/Dentsply [Dy] and Surefil/Dentsply [Su], and one without fluoride: Z250/3M [control]. Ninety-five bovin root dentin fragments (6.0x5.0mm) were obtained, embedded in polyester resin and planed. Cavities (1.5x3.5x1.0mm) were made and restored by the five restorative materials (n=19), according to the manufacturers' instructions, in a randomized complete block design. After 24h, the dentin/restoration surface was polished. The restoration surface and an adjacent area of 3.0x3.0mm were demarcated and submitted to a pH-cycling model. Dentin surface Knoop microhardness values were obtained (5.0g, 5.0s) in ten distances: 50, 100, 150, 300, 600, 900, 1200, 1500, 1800, 2100um from the margin of the restoration. The dentin microhardness means for each restorative materials in each distance were considered by the multi-factor split-plot ANOVA ($\alpha=0.05$). The interaction between restorative material and distance was statistically significant. The Tukey's test and the regression analysis showed that the means of [Ke] e [Fj] were similar, being higher than the [control] in the distances 50, 150 and 300um. The microhardness means of [Dy] and [Su] were not statistically different from the [control], remaining steady throughout the studied distances. It was concluded that the amplitude of the cariostatic effect on root dentin was 300um for [Ke] and [Fj]. [Dy] and [Su] did not show any cariostatic effect.

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