TEXT 1: LACK OF CAUSAL RELATIONSHIP BETWEEN DENTINAL MICROCRACKS AND ROOT CANAL PREPARATION WITH RECIPROCATION SYSTEMS

(De Deus et al. JOE — Volume 40, Number 9, September 2014)

Introduction: This study aimed to evaluate the frequency of dentinal microcracks observed after root canal preparation with 2 reciprocating and a conventional full-sequence rotary system using micro-computed tomographic analysis. Methods: Thirty mesial roots of mandibular molars presenting a type II Vertucci canal configuration were scanned at an isotropic resolution of 14.16 mm. The sample was randomly assigned to 3 experimental groups (n = 10) according to the system used for the root canal preparation: group A—Reciproc (VDW, Munich, Germany), group B—WaveOne (Dentsply Maillefer, Baillagoux, Switzerland), and group C—BioRaCe (FKG Dentaire, La-Chaux-de-Fonds, Switzerland). Second and third scans were taken after the root canals were prepared with instruments sizes 25 and 40, respectively. Then, pre and postoperative cross-section images of the roots (N = 65,340) were screened to identify the presence of dentinal defects. Results: Dentinal microcracks were observed in 8.72% (n = 5697), 11.01% (n = 7197), and 7.91% (n = 5169) of the cross-sections from groups A (Reciproc), B (WaveOne), and C (BioRaCe), respectively. All dentinal defects identified in the postoperative cross-sections were also observed in the corresponding preoperative images. Conclusions: No causal relationship between dentinal microcrack formation and canal preparation procedures with Reciproc, WaveOne, and BioRaCe systems was observed.

RESPONDA EM PORTUGUÊS, DE ACORDO COM O TEXTO 1

1. O que significa o título do trabalho? ( traduza ou escreva o que entendeu)
   - Falta de relação entre “microcracks” dentinários (defeitos dentinários, trincas) e o preparo (instrumentação) do canal radicular com sistemas reciprocantes.

2. Descreva o método utilizado na pesquisa?
   - Trinta canais mesiais de molares inferiores classe (tipo2) Vertucci foram escaniados. A amostra foi randomicamente dividida em 3 grupos experimentais (n=10) de acordo com o sistema utilizado no preparo do canal radicular. Grupo A – Reciproc, B – Waveone e C – Biorace. Segundo e terceiro escâners foram obtidos após o preparo dos canais com instrumentos tamanho 25 e 40 respectivamente. Em sequencia (então) imagens seccionais pré e pós operatórias foram rastreadas (analisados, no sentido de identificar as trincas) para identificar a presença de defeitos dentinários.

3. Descreva os resultados?
   - Defeitos dentinários foram encontrados em 8.72% (n = 5697), 11.01% (n = 7197), e 7.91% (n = 5169) nas secções dos grupos A (Reciproc), B (WaveOne), e C (BioRaCe), respectivamente. Todos os defeitos dentinários identificados nas secções pós preparo foram também observados nas correspondentes imagens pré preparo.

4. Diante desses resultados, pode-se concluir que todos os sistemas de instrumentação dos canais radiculares causaram defeitos dentinários? Justifique a resposta.
   - Não. O estudo mostrou que esses defeitos já existiam nos dentes antes de serem submetidos ao preparo (instrumentação) com os sistemas analisados.
**TEXT 2: THE ASSOCIATION OF CHRONIC APICAL PERIODONTITIS AND ENDODONTIC THERAPY WITH ATHEROSCLEROSIS**


**Objectives:** Chronic apical periodontitis (CAP) appears to be a risk factor for coronary heart disease. The aims of the study were to estimate the significance of AP for the atherosclerotic burden and to examine the potential effect of endodontic treatment. **Materials and methods:** The whole-body computed tomography (CT) examinations of 531 patients with a mean age of 50 ±15.7 years were evaluated retrospectively. The atherosclerotic burden of the abdominal aorta was quantified using a calcium scoring method. The parameters of periodontitis were measured using the CT scan. **Results:** The patients had a total of 11,191 teeth. The volume of the aortic atherosclerotic burden for patients with at least one CAP lesion was 0.32±0.92 ml, higher than for patients with no CAP (0.17±0.51 ml; p<0.05). The atherosclerotic burden increased with age and number of CAP lesions without root canal treatment, but not with number of CAP lesions with endodontic treatments (p<0.05 each). In logistic regression models, age (Wald 90.8), CAP without endodontic treatment (Wald 39.9), male gender (Wald 9.8), and caries per tooth (Wald 9.0) correlated positively and the number of fillings (Wald 11) correlated negatively with the atherosclerotic burden (p < 0.05 each). Apical radiolucencies in teeth with endodontic treatment were irrelevant with respect to atherosclerosis. **Conclusions:** CAP correlated positively with the aortic atherosclerotic burden. In regression models, CAP without endodontic treatment was found to be an important factor, not however apical radiolucencies in teeth with endodontic treatment. **Clinical relevance:** Further research is needed to clarify the possible clinical significance of these associations.

"The percentage of teeth affected by apical radiolucencies was 11.4 %, somewhat above average when compared with the data from other studies, which reported between 2 and 13.6 %. By contrast, the number of teeth that had undergone root canal treatment (7.4 %) was about average in comparison with literature, where 1.3 to 22.8 % was reported "

**RESPONDA EM PORTUGUÊS, DE ACORDO COM O TEXTO 2**

1. Qual foi o objetivo do trabalho ?
   - Estimar a significância de periodontite apical (AP ou CAP) para ateroesclerose e examinar o potencial efeito do tratamento endodontico.

2. Descreva o que você entendeu dos resultados encontrados ?
   - O volume da ateroesclerose aórtica para pacientes com pelo menos uma CAP foi mais alto do que para pacientes com nenhuma CAP (houve aumento com a idade e com o numero de CAP também). Dentes com lesão sem tratamento de canal radicular apresentaram um aumento da ateroesclerose, diferente dos dentes que tinham lesão apical e o tratamento de canal.

3. Quais as conclusões do trabalho ?
   - CAP correlacionou positivamente com ateroesclerose aórtica. Em modelos regressivos, CAP sem tratamento endodontico foi um importante fator, diferente de CAP em dentes com tratamento endodontico.

4. O parágrafo entre aspas e sublinhado faz parte da discussão do trabalho.
   - Escreva o que você entendeu ao fazer a leitura.
     - A porcentagem de dentes afetados por CAP foi 11,4%, um pouco acima da média quando comparado com os dados de outros estudos, os quais relataram entre 2 e 13,6%. Por contraste (outro lado), o número de dentes que foi submetido a tratamento de canal 7,4% foi na média em comparação com a literatura, onde 1,3 a 22,8% foi reportado."
TEXT 3: ANTIMICROBIAL ACTIVITY OF TOOTHPASTES CONTAINING NATURAL EXTRACTS, CHLORHEXIDINE OR TRICLOSAN
(De Rossi et al., Braz Dent J 25(3) 2014)

A - The objective of this in vitro study was to evaluate the antimicrobial effect of toothpastes containing natural extracts, chlorhexidine or triclosan. The effectiveness of toothpastes containing natural extracts (Parodontax®), 0.12% chlorhexidine (Cariax®), 0.3% triclosan (Sanogil®) or fluoride (Sorriso®, control) was evaluated against yeasts, Gram-positive and Gram-negative bacteria using the disk diffusion method. Water was used as a control. Disks impregnated with the toothpastes were placed in Petri dishes containing culture media inoculated with 23 indicative microorganisms by the pour plate method. After incubation, the inhibition growth halos were measured and statistical analyses (α=0.05) were performed. The results indicated that all formulations, except for conventional toothpaste (Sorriso®), showed antimicrobial activity against Gram-positive bacteria and yeasts. The toothpaste containing natural extracts (Parodontax®) was the only product able to inhibit the growth of Pseudomonas aeruginosa. The toothpastes containing chlorhexidine, triclosan or natural extracts presented antimicrobial activity against Gram-positive bacteria and yeasts.

B - Currently, chlorhexidine is considered the most effective antimicrobial agent, if used as mouthwash in dentistry (8,9), due to its broad-spectrum action against Gram-positive and Gram-negative bacteria, viruses and yeasts.

C - Although chlorhexidine is considered the gold standard of oral antiseptics, its antibacterial effect in dentifrices may be influenced by other ingredients in the dentifrice composition such as sodium lauryl sulfate, an anionic ingredient that may inhibit chlorhexidine action 

RESPONDA EM PORTUGUÊS, DE ACORDO COM O TEXTO 3

1. Descreva a metodologia do trabalho? (em “A”)
   - A efetividade das pastas dentais Parodontax, Cariax, Sanogil e Sorriso foi avaliada contra fungos e bactérias gran positivas e negativas usando o método da difusão disco. Água foi usada como controle. Discos impregnados com as pastas dentais foram colocados em placas de petri contendo cultura inoculada com 23 microorganismos indicativos pelo método "pour plate". Após a incubação, os halos de inibição de crescimento foram medidos e analisados estatisticamente.

2. Quais as conclusões do trabalho? (em “A”)
   - As pastas contendo clorexidina, triclosan ou extratos naturais apresentaram atividade antimicrobiana contra bactérias gran positivas e fungos (levedura).

3. Traduza o que entendeu do parágrafo “B”?
   - Atualmente, clorexidina é considerado o mais efetivo agente antimicrobiano, se usado como enxaguatório bucal em odontologia, devido a sua ação de amplo espectro contra bactérias gram positivas e negativas, vírus e fungos (leveduras).

4. Traduza o que entendeu do parágrafo “C”?
   - Embora clorexidina seja considerada o padrão ouro de antissepticos orais, a sua efetividade antibacteriana em dentifrices pode ser influenciada por outros ingredientes da composição do dentifrice tais como sodium lauryl "sulfato, um ingrediente aniónico que pode inibir a ação da clorexidina.
This study evaluated the bone regeneration process in rabbit calvariae induced by three types of biomaterials. Two were of xenogenous origin, consisting of deproteinized bovine bone, while the other was alloplastic, based on biphasic calcium phosphate. Five New Zealand white rabbits weighing between 2900 and 3500 g were submitted to four standard 8 mm-diameter perforations at the parietal bone. Three perforations were filled with three grafts and biomaterials, of which two received bovine Bio-Oss® and Endobon® Xenograft Granules, and the other consisted of a fully alloplastic Straumann® Bone Ceramic. The fourth remaining cavity was used as control with coagulum. After eight weeks, the animals were sacrificed, and the samples were prepared for morphometric and qualitative analysis. The cavities filled with alloplastic biomaterials showed higher percentages of newly formed bone (p<0.05), while the cavities with xenogenous biomaterials showed higher amount of residual graft (p<0.05). Although the results showed greater bone formation with Straumann® Bone Ceramic, further studies are needed to prove the more effective biomaterial for the process of bone induction.

RESPONDA EM PORTUGÊS, DE ACORDO COM O TEXTO 4

1. Qual a origem dos 3 tipos de biomateriais?
   - Dois de origem xenógena e 1 aloplástico.

2. Qual o tipo de animal do experimento e em qual região foram feitas as cavidades para colocação dos biomateriais?
   - Coelhos brancos nova zelândia. Na calvaria, (osso parietal)

3. Foram feitas 4 cavidades, 3 receberam os biomateriais. A quarta cavidade serviu para quê e recebeu o quê?
   - Serviu de controle e recebeu coágulo.

4. Qual biomaterial mostrou maior porcentagem de osso neoformado?
   - O aloplastico. biphasic calcium phosphate, (Straumann)
Objective: Considering the high incidence of Temporomandibular Disorders (TMD) in the population aged 15–30 years and the fact that students are exposed to stressful psychosocial factors, the purposes of this study were: to verify clinical symptoms and jaw functionality in college students with TMD according to the anxiety/depression (A/D) level and to evaluate the correlation between A/D and functionality, maximum mouth opening (MMO) and pain and muscle activity. Material and Methods: Nineteen students with TMD diagnosed according to the Research Diagnostic Criteria for Temporomandibular Disorders underwent two assessments during an academic semester. The evaluations were based on questionnaires (MFIQ - Mandibular Function Impairment Questionnaire; HADS - Hospital Anxiety and Depression Scale), clinical measurements (MMO without pain, MMO and assisted MMO; palpation of joint and masticatory muscles), and electromyography. The HADS scores obtained in the two assessments were used to classify all data as either "high" or "low" A/D. Data normality, differences and correlations were tested with the Shapiro-Wilk test, Student’s t-test (or the Wilcoxon test), and Spearman test, respectively. The alpha level was set at 0.05. Results: None of the clinical variables were significantly different when comparing low and high A/D data. In low A/D there was a significant correlation between HADS score and: MFIQ (P=0.005, r=0.61), and MMO without pain (P=0.01, r=-0.55). Conclusions: Variation in A/D level did not change clinical symptoms or jaw functionality in college students with TMD. Apparently, there is a correlation between TMJ functionality and A/D level, which should be further investigated, taking into account the source of the TMD and including subjects with greater functional limitation.

1. Quais foram os objetivos desse estudo?

- verificar sintomas clínicos e funcionalidade dos maxilares (mandíbula e maxila) em estudantes de faculdade com TMD de acordo com o nível de ansiedade/depressão(A/D) e avaliar a correlação entre (A/D) e funcionalidade, máxima abertura de boca e atividade muscular e de dor.

2. Quantos estudantes participaram do estudo e como foram avaliados?

- 19 estudantes. As avaliações foram baseadas em questionários, mensurações clínicas, (MMO sem dor, MMO e MMO assistida; palpação dos músculos mastigatórios e articulações) e eletromiografia.

3. O que justificou a realização desse estudo?

- devido a alta incidência de desordens temporomandibulares na população com idade 15-30 anos e o fato destes estudantes estarem expostos a fatores psicossociais estressantes

4. Traduza o título para o português?

Existe associação entre ansiedade/depressão e desordens temporomandibulares em estudantes de faculdade?