

ABSTRACTS

The effectiveness of sealants in managing caries lesions

Griffin, S.O., Oong, E., Kohn, W., Vidakovic, B., Gooch, B.F., et al (CDC Dental Sealant Systematic Review Work Group).

A barrier to providing sealants is concern about inadvertently sealing over caries. This meta-analysis examined the effectiveness of sealants in preventing caries progression. We searched electronic databases for comparative studies examining caries progression in sealed permanent teeth. We used a random-effects model to estimate percentage reduction in the probability of caries progression in sealed versus unsealed carious teeth. Six studies, including four randomised controlled trials (RCTs) judged to be of fair quality, were included in the analysis (384 persons, 840 teeth and 1,090 surfaces). The median annual percentage of non-cavitated lesions progressing was 2.6% for sealed and 12.6% for unsealed carious teeth. The summary prevented fraction for RCT was 71.3% (95% CI: 52.8%-82.5, no heterogeneity) up to five years after placement. Despite variation in design and conduct among studies, sensitivity analysis found the effect to be consistent in size and direction. Sealing non-cavitated caries in permanent teeth is effective in reducing caries progression.

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Non-vital tooth bleaching: a review of the literature and clinical procedures

Plotino, G., Buono, L., Grande, N.M., Pameijer, C.H., Somma, F.

Tooth discolouration varies in aetiology, appearance, localisation, severity, and adhesion to tooth structure. It can be defined as being extrinsic or intrinsic on the basis of localisation and aetiology. In this review of the literature, various causes of tooth discolouration, different bleaching materials, and their applications to endodontically treated teeth, are described. In the walking bleach technique the root filling should be completed first, and a cervical seal must be established. The bleaching agent should be changed every three to seven days. The thermocatalytic technique involves placement of a bleaching agent in the pulp chamber followed by heat application. At the end of each visit the bleaching agent is left in the tooth so that it can function as a walking bleach until the next visit. External bleaching of endodontically treated teeth with an in-office technique requires a high concentration gel. It might be a supplement to the walking bleach technique, if the results are not satisfactory after three to four visits. These treatments require a bonded temporary filling or a bonded resin composite to seal the access cavity. There is a deficiency of evidence-based science in the literature that addresses the prognosis of bleached non-vital teeth. Therefore, it is important to always be aware of the possible complications and risks that are associated with the different bleaching techniques

Journal of Endodontics 2008; 34 (4): 394-407.

The potential impact of periodontal disease on general health: a consensus view

Williams, R.C., Barnett, A.H., Claffey, N., Davis, M., Gadsby, R., Kellett, M., et al.

Background

Evidence for a link between periodontal disease and several systemic diseases is growing rapidly. The infectious and inflammatory burden of chronic periodontitis is thought to have an important systemic impact. Current evidence suggests that periodontitis is associated with an increased likelihood of coronary heart disease and may influence the severity of diabetes.

Scope

This paper represents a UK and Ireland cross-specialty consensus review, undertaken by a group of physicians and dentists. The consensus group reviewed published evidence (PubMed search for review and original articles), focusing on the past five years, on the contributory role of periodontal disease to overall health. In particular, evidence relating to a role for periodontal disease in cardiovascular disease and in diabetes was considered.

Findings

Initial studies of large epidemiological data sets have sought to find links between periodontitis and systemic disease outcomes, but a causal relationship still needs to be demonstrated between periodontal disease, cardiovascular disease and diabetes through prospective studies. There is a need for prospective studies assessing the association between periodontal disease and patients at particular risk of cardiovascular events, which will allow assessment of both cardiovascular disease clinical endpoints and surrogate markers of cardiovascular risk. Of note, periodontal disease is also often more severe in subjects with diabetes mellitus, a group at already increased risk for cardiovascular events.

Conclusions

While further research is needed to define the population-attributable risk of periodontal disease to both cardiovascular diseases and to diabetes control and progression, health education to encourage better oral health should be considered as part of current healthy lifestyle messages designed to reduce the increasing health burden of obesity, cardiovascular disease and diabetes.

Current Medical Research and Opinions 2008; 24 (6): 1635-1643.

ABSTRACTS

Periodontal parameters and cervical root resorption during orthodontic tooth movement

Giannopoulou, C., Dudic, A., Montet, X., Kiliaridis, S., Mombelli, A.

Objectives

To assess the relationship between periodontal parameters and cervical root resorption in orthodontically moved teeth.

Material and methods

In a standardised experimental tooth movement in 16 periodontally healthy subjects, 29 pre-molars were tipped buccally for eight weeks. A total of 18 contralateral pre-molars not subjected to orthodontic movement served as controls. Plaque index (PI), gingival index (GI), probing depth and bleeding on probing were assessed three times before and six times during the experimental phase. Teeth were extracted and scanned in a micro-computed tomography scanner. The presence or absence, and the severity, of cervical root resorption were evaluated on the three-dimensional reconstruction of the scans by two calibrated examiners.

Results

Overall, periodontal parameters were not different between the test and the control teeth. Clear signs of buccal cervical resorption were detected on 27 of 29 orthodontically moved teeth and on one control tooth. Ten subjects had perfect oral hygiene and no gingivitis, whereas six subjects showed a moderate level of plaque and gingivitis (>20% occurrences of PI or GI with >0). No relationship could be demonstrated between resorption and periodontal parameters.

Conclusions

Nearly all orthodontically moved teeth showed signs of cervical resorption. Periodontal parameters were unrelated to this important side effect of orthodontic treatment.

Journal of Clinical Periodontology 2008; 35 (6): 501-506.

Answers to quiz (from page 168)

1. Biopsy confirmed well differentiated squamous carcinoma.
2. The histology shows islands of well differentiated squamous carcinoma pushing downwards into the underlying connective tissue (see arrow).
3. Second confirmatory biopsy because of unusual presentation, CT, MRI and PET scans, haematological investigations and discussion in a multidisciplinary forum.
4. Surgical resection with a 1cm margin or more, with/without post-operative radiotherapy. Soft/hard tissue and prosthetic reconstruction.

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