Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.

The abstracts on this page have been chosen and edited by John R. Radford.

WHITE POSTS

Influence of white and gray endodontic posts on color changes of tooth roots, composite cores and all-ceramic crowns

Sailer I, Thoma A *et al. Quintessence Int* 2010; **41**:135–144

In this *in vitro* study, 'grayish gingival shadowing cannot be reduced with white posts'.

Forty extracted maxillary incisor teeth were root treated. These teeth were allocated to one of four groups. One group was restored using zirconia white posts, another with glass fibre white posts, a third with titanium grey posts and the final group with carbon fibre grey posts. The white posts were luted with transparent resin and the grey posts with opaque resin. Cores were constructed with resin composite on ferrules and the teeth were restored with CEREC. In the root region, the white post systems did not result in a more acceptable shade than that with grey posts. Other results were reported in this study but these were difficult to reconcile with their key finding.

DOI: 10.1038/sj.bdj.2010.560

RHEUMATOID ARTHRITIS

Effect of *Porphyromonas gingivalis*-induced inflammation on development of rheumatoid arthritis

Bartold PM, Marino V *et al. J Clin Periodontol* 2010; **37**: 405–411

In a rat experimental model, arthritis developed more rapidly after the induction of an extra-synovial chronic inflammatory lesion by *Porphyromonas gingivalis*.

The 'two hit' theory, suggests that there is a primary chronic inflammation, such as periodontitis 'followed by an arthritogenic hit to induce rheumatoid arthritis'. This study received approval from the Animal Ethics Committees. In the rat experimental model, sponges impregnated with heat-killed *P. gingivalis* were placed in subcutaneous pouches below the right or the left shoulders. Adjuvant arthritis was then injected near the tail base. Appropriate controls were included in this study. Paw swelling, a surrogate marker for arthritis, developed more rapidly in animals with pre-existing extra-synovial chronic inflammatory lesion induced by *P. gingivalis*. Of importance, the authors cite others that report 'the association seems to be in favour of rheumatoid arthritis impacting on periodontitis (Relative Risk 4.1) rather than periodontitis impacting rheumatoid arthritis (Relative Risk 1.5)'.

DOI: 10.1038/sj.bdj.2010.561

FIBRE POSTS

Flexural strength of glass fibre-reinforced posts bonded to dual-cure composite resin cements

Davis P, Melo LSD *et al. Eur J Oral Sci* 2010; **118**: 197–201.

GC Fiber Post had a significantly higher flexural strength than the ever®StickPOST system.

The aim of this *in vitro* study was to compare the flexural strength of the ever®StickPOST system with that of the GC Fiber Post. The latter was used with and without pre-treatment using a silane-coupling agent. The ever®StickPOST system aims to 1) improve the adhesion between the post and resin composite luting cement and, 2) 'because of its precuring plastic state', adapt more closely with the dowel space. The experimental method for this laboratory-based study and the statistical analysis were valid. 'The flexural strength of the Stick Tech post (ever®StickPOST system) was significantly lower than the flexural strength of the GC post'. In addition, pre-treatment of the GC Fiber Post with a silane-coupling agent, as recommended by the manufacturer, did not increase the flexural strength.

DOI: 10.1038/sj.bdj.2010.562

GREEN TEA

Gels containing MMP inhibitors prevent dental erosion *in situ*

Kato MT, Leite AL *et al. J Dent Res* 2010; **89**: 468–472

'...a new perspective for protection against dental erosion'.

Matrix metalloproteinases (MMPs) can degrade the organic matrix in dentine. Can an MMP inhibitor prevent such a process? The aim of this study was to investigate whether the MMP inhibitors 1) epigallocatechin-3-gallate (EGCG), a green tea polyphenol, and 2) chlorhexidine (another MMP inhibitor), can prevent dentinal erosion. The experimental model comprised bovine dentine blocks embedded within palatal devices worn by ten volunteers. The MMP inhibitors were applied in a gel form for 1 minute before the erosive challenge. This consisted of removing the appliance from the mouth and immersing it in Coca-Cola® for 5 min, four times a day for 5 days. Dentinal erosion was measured using profilometry. The study included both negative and positive (1.23% NaF) controls. Dentinal erosion was significantly inhibited by EGCG and chlorhexidine. Interestingly, 1.23% NaF did not confer any benefit compared with the negative control.

DOI: 10.1038/sj.bdj.2010.563