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.

BONDING FIBRE POSTS

Various irrigation protocols for final rinse to improve bond strengths of fiber posts inside the root canal

Bitter K, Hambarayan A *et al.* *Eur J Oral Sci* 2013; **121**: 349–354

Multicore®Flow/AdheSE®DC (ivoclar vivadent) was superior to Core.X Flow/XP Bond® (DENTSPLY Ltd) and SmartCem® (DENTSPLY Ltd), irrespective of irrigating the post space immediately before cementation with EDTA and/or NaOCl.

Following post space preparation, an operating microscope reveals that the dentinal walls are 'covered with a heavy smear layer containing rough debris and remnants of sealer and gutta-percha'. Yet when placing a resin composite restoration, in order to maximise optimal bonding, every effort is made to ensure that the enamel and dentine are free of debris and moisture. This study used 150 extracted maxillary central incisor teeth. It found that regardless of whether or not the post space was irrigated with different combinations and concentrations of EDTA and/or NaOCl, the 'push out bond strengths' of fibre posts luted with Multicore®Flow/AdheSE®DC were superior to those luted with the other test materials. Chlorhexidine did not affect bond strengths. DOI: 10.1038/sj.bdj.2013.905

BLEACHING

Can green tea be used to reverse compromised bond strength after bleaching?

Berger SB, De Souza Carreira RP *et al.* *Eur J Oral Sci* 2013; **121**: 377–381

Green tea, following application for an impractical time of one hour, recovers bond strengths following the deleterious effects of bleaching. Bond strengths of resin composite to acid-etched enamel are compromised when this is carried out at the same time as tooth bleaching. In this study, resin composite was bonded to each of 42 extracted third molar teeth following tooth bleaching with 10% carbamide peroxide. Different treatment regimens were tested including both a positive (sodium ascorbate gel) and negative control, and green tea. The green tea and sodium ascorbate were used to treat the enamel surfaces for one hour after bleaching. Green tea was as effective as the positive control at recovering bond strengths. It is speculated that the catechins in green tea, are able to remove the residual oxygen contained in the enamel after bleaching. But does green tea exert a deleterious effect on the shade of bleached teeth? DOI: 10.1038/sj.bdj.2013.907

'STEM CELLS, SCAFFOLD AND GROWTH FACTORS'

An update on clinical regenerative endodontics

Diogenes A, Henry MA *et al.* *Endod Topics* 2013; **28**: 2–23

The old stalwart calcium hydroxide is not only non-toxic but promotes the proliferation of stem cells of the apical papilla (SCAP).

This paper not only combines science and the clinical discipline but links the new with the past. The seminal work of Nygaard-Østby is cited that describes the considerable potential of the apical tissues to regenerate, particularly after evoking bleeding in the periradicular region. Now at the centre of contemporary bioengineering are 'stem cells, scaffold and growth factors'. Mesenchymal stem cells have an 'impressive survival capacity' despite the presence of apical infection. Nevertheless, there is the continuing problem of root canal disinfection. Sodium hypochlorite adversely affects the survival of SCAP. In contrast, 17% EDTA induces a platelet-rich plasma scaffold. Antibiotic pastes are toxic but calcium hydroxide is not.

DOI: 10.1038/sj.bdj.2013.906

DICLOFENAC

Vascular and upper gastrointestinal effects of non-steroidal anti-inflammatory drugs: meta-analyses of individual participant data from randomised trials

Coxib and traditional NSAID Trialists' (CNT) Collaboration. *The Lancet*, 2013; **382**: 769–779. DOI: 10.1016/S0140-6736(13)60900-9

'Vascular risks of high-dose diclofenac, and possibly ibuprofen'.

Diclofenac moderates inflammatory or post-operative pain (Dental Prescribing App, SDCEP). This paper highlights the risks, albeit small, associated with diclofenac. This advice is grounded on one meta-analysis of 280 trials and one of 474 trials. The average trial duration was less than one year. Diclofenac causes 'around three additional major vascular events per 1,000 participants per year, with one such event causing death'. There are even concerns with the use of diclofenac for those patients with an increased risk of vascular disease. This study also confirms that diclofenac is associated with gastrointestinal events. All these risks were reported with doses of 150 mg daily, as recommended for dental pain. Of note 'Naproxen 500 mg twice a day did not seem to increase the risk of major vascular events'. DOI: 10.1038/sj.bdj.2013.908