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.

EROSION/SENSITIVITY

Is dental erosion really a problem?

Schlueter N, Jaeggi T *et al. Adv Dent Res* 2012; **24**: 68–71

Stannous (tin) fluoride containing products 'result in a significantly slower progression of erosion' and reduced tooth sensitivity.

The authors argue that the prevalence of dental erosion is increasing, yet it is problematic comparing studies as different indices have been used. It is also stated that those with erosion experience 'torture'. Nevertheless, a recent study (*Prim Dent Care* 2011; **18**: 31–35) found that tooth surface loss had 'little impact on oral health-related quality of life...'. It is conceded, however, that not all those with exposed dentine and not all those with an increased consumption of an acidic diet have increased hypersensitivity. Calcium carbonate/arginine-containing (Colgate® Sensitive Pro-Relief™) and potassium-containing agents (Sensodyne® ProNamel™) reduce tooth sensitivity but would appear to have negligible effect on tooth erosion. Stannous fluoride containing toothpastes (some Crest Pro-Health and Oral-B Pro-Expert products) may be of benefit for those with dental erosion, but can be associated with tooth staining.

DOI: 10.1038/sj.bdj.2013.75

THE 'OPTIMUM' [SR]

Strontium and caries: a long and complicated relationship

Lippert F, Hara AT. *Caries Res* 2013; **47**: 34–49

Generally, studies have shown that strontium (Sr) has cariostatic effects, particularly in the presence of fluoride.

There is merit if an element could be found that acts synergistically with fluoride thereby avoiding fluorosis. In this systematic review, animal studies, when taken in the round, have shown that Sr exhibits cariostatic properties. However, no clear conclusions can be made from epidemiological studies because such did not take into account confounding factors. Interestingly, when considering 'optimum' Sr, it has been proposed that Sr stabilises whitlockite (WH). As a consequence, this component of dental enamel is less susceptible to acid attack. Yet when Sr 'is in excess, the WH phase would be extended at the expense of the less soluble enamel-HAP phase, therefore rendering the enamel more susceptible to caries...'. Because of equivocal results, the oral care industry has seldom included Sr in toothpastes and mouthrinses.

DOI: 10.1038/sj.bdj.2013.76

EROSION

Clinical study monitoring the pH on tooth surfaces in patients with and without erosion

Lussi A, von Salis-Marincek M *et al. Caries Res* 2012; **46**: 507–512

After drinking orange juice, there was a significantly greater decrease in the pH at tooth surfaces in those with erosion.

In this elegant study, tooth surface pH changes on 45 and 21 in each of 39 subjects with tooth erosion and 17 control subjects were measured using a micro-pH electrode at 1) baseline 2) after drinking orange juice, and 3) then followed by water. Those with erosion 'showed significantly greater decreases in pH...and the pH stayed lower for a longer period of time'. Drinking of water increased the tooth surface pH to baseline levels, regardless as to whether or not the subjects had erosion or were controls. There were no differences in the flow rate nor buffering capacity of the saliva between these groups. Those with erosion showed significantly faster recovery of pH on 45 than 21, presumably because of the close proximity to the parotid duct.

DOI: 10.1038/sj.bdj.2013.77

DIGITAL IMPRESSIONS

Accuracy of digital and conventional impression techniques and workflow

Seelbach P, Brueckel C *et al. Clin Oral Invest* 2012;

DOI: 10.1007/s00784-012-0864-4

Crowns constructed after using either digital or conventional impressions methods have comparable accuracy.

When this *in vitro* study was carried out, the Lava C.O.S. (3M ESPE) digital system was 'a closed system'. The investigators therefore could not interrogate the data and obtain directly the dimensions of the experimental crown preparation. Instead, they compared the accuracy of fit of ten of each of three types of branded ceramic crowns constructed after 'digital impressioning' with the fit of those crowns made after conventional impression techniques. Crowns made after digital scanning using 1) Lava C.O.S. (2.0.1_p1), 2) CEREC AC (Sirona – 3.80), and 3) iTero (Straumann: distribution by this company is now discontinued – 4.0.5.31) were of comparable accuracy to those constructed after using conventional impressions methods. The two-step putty wash impression was significantly less accurate than the single-step putty technique and digital impressions.

DOI: 10.1038/sj.bdj.2013.78