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.

SODIUM TRIMETAPHOSPHATE – CARIES

Effectiveness of a toothpaste with low fluoride content combined with trimetaphosphate on dental biofilm and enamel demineralization *in situ*

Takeshita EM, Danelon M *et al. Caries Res* 2015; **49:** 394–400

The efficacy of a toothpaste containing 1,100 ppm F, but not the risk.

The use of 1,100 ppm F toothpastes, 'has led to an increase of dental fluorosis prevalence in some areas'. Yet it is stated that a <1,000 ppm F toothpaste has not the caries-protective effect of one with 1,100 ppm F. Could the addition of 1% trimetaphosphate (TMP) to a low fluoride-containing toothpaste enhance its caries-protective effect? In this crossover double-blind study, ten subjects wore dental appliances containing enamel bovine blocks. These were exposed to the following toothpaste regimens: placebo toothpaste, one containing 500 ppm F, another containing 500 ppm F plus 1% trimetaphosphaste, and a toothpaste containing 1,100 ppm F. The slurries of the different toothpastes were dripped on the appliances, twice a day for 14 days. The subjects were exposed to a cariogenic challenge. Caries-protective effects were shown by measuring enamel mineral loss and biofilm composition (not discussed in this abstract). 'The addition of 1% TMP to a low-fluoride toothpaste reduces enamel demineralisation *in situ* similar to a 1,100 ppm F toothpaste.'

DOI: 10.1038/sj.bdj.2016.174

IMPLANTS – DIABETES

Limited evidence suggests no difference in implant failure rates among people with or without diabetes

Cheng LL. *J Am Dent Assoc* 2015 **146:** 549–551

But the included studies had a high risk of bias.

This commentary is one of several the author has published in this journal, on dental topics that have been appraised using an evidence-based approach. In this CRITICAL SUMMARY, it is stated that: 1) diabetes does not influence implant failure (relative risk = 1.07; 95% confidence interval 0.80-1.44) although, 2) those with diabetes had greater marginal bone loss associated with the implant. The marginal bone loss of 0.2 mm may be statistically different, but may not be clinically significant. This CLINICAL SUMMARY is based on the findings, of a systematic review and meta analysis (*J Dent Res* 2014; **93:** 859–867) that analysed seven retrospective studies and seven controlled clinical trials (12,736 dental implants placed in 4,247 patients). In the accompanying COMMENTARY, it was stated that only two of the 14 studies assessed patients' glycaemic control using the 'gold standard' (HbA1c). Additionally, there was study heterogeneity; some patients were smokers, others taking bisphosphonates, different implant systems, different follow-up periods and a range of patient ages.

DOI: 10.1038/sj.bdj.2016.176

SODIUM TRIMETAPHOSPHATE – EROSION

In vitro effect of low-fluoride toothpastes containing sodium trimetaphosphate on enamel erosion

Cruz NV, Pessan JP *et al. Arch Oral Biol* 2015; **60:** 1231–1236

Enamel wear was 2-fold lower when it was exposed to a low fluoride toothpaste supplemented with sodium trimetaphosphate.

Fluoride, particularly at high concentrations, and interestingly xylitol and fluoride acting synergistically 'decrease(s) the progression' of erosion. The investigators in this *in vitro* study found that a low fluoride toothpaste (250 ppm F) containing 0.25, 0.5 or 1.0% sodium trimetaphosphate 'is able to significantly increase the anti-erosive potential'. These formulations of a low fluoride toothpaste with sodium trimetaphosphate had similar effects to the positive control which was a commercial toothpaste that claims to prevent erosion (Sensodyne® Pronamel® 1,425 ppm F as NaF, 5% KNO_3). In this study, the surface hardness and surface wear of bovine enamel blocks (n = 144) were measured at either 2 or 5 days following erosive challenge. This comprised immersion of the enamel blocks in a soft drink (Sprite Zero™, pH 2.8) for 5 minutes, four times a day. Between these erosive challenges, the blocks were submerged in artificial saliva for 1 hour. Toothpaste formulations were applied in the form of a slurry.

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IMPLANTS – RIVAROXABAN

Dental implant surgery in patients in treatment with the anticoagulant oral rivaroxaban

Gómez-Moreno G, Aguilar-Salvatierra A *et al. Clin Oral Impl Res* 2015, doi: 10.1111/clr.12653

It would appear for patients taking rivaroxoban, dental implant surgery 'can be performed safely…without the need to modify or interrupt anticoagulant medication.'

Rivaroxaban (Xarelto®, Bayer HealthCare) is an anticoagulant that inhibits directly activated factor X. This drug helps to prevent stroke and systemic embolism in those with atrial fibrillation who also have also other risk factors such as hypertension and diabetes. The cost-effectiveness of this drug, however, has been questioned. The authors of this analytic observational study conclude that implant surgery, employing adjunctive haemostatic measures, can be carried out for patients taking rivaroxaban without altering their anticoagulant regimen. Outcomes following implant placement were recorded for 18 patients who had received rivaroxaban for over 6 months before implant surgery and a control group of 39 healthy subjects. Following surgery, all patients were given gauze impregnated with 5% tranexamic acid and asked to bite on the gauze for 30–60 mins. When reporting the outcome of patients on rivaroxaban, only one suffered with moderate bleeding the day after surgery. Two control patients experienced moderate bleeding following surgery. For all patients, bleeding was stemmed by the use of gauzes impregnated with tranexamic acid.

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