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.

ROOT SURFACE CARIES – PREVENTION

Prevention of root caries: a literature review of primary and secondary preventive agents

Gluzman R, Katz RV *et al.* *Spec Care Dentist* 2013; **33**: 133–140

Distinction between 'best choice' based on both efficaciousness and feasibility of application, and that grounded on efficaciousness only.

The 'best choice' in order to prevent primary root surface caries in vulnerable elderly, is annual professionally applied 38% silver diamine (diammine) fluoride solution. However, this is not licenced for use in the UK (see *Ann R Coll Surg Engl* 2013; **95**: 309–310 for use of agents that are off-label). When considering efficaciousness only, the use daily either singly or in combination of 1) 1,110 ppm NaF and triclosan toothpaste and 2) an ACP (amorphous calcium phosphate) and 250 ppm NaF containing paste. For the prevention of secondary root surface caries, 'best choice' is 22,500 ppm sodium fluoride varnish (Colgate Duraphat Varnish 50 mg/ml Dental Suspension) applied professionally every three months. Two novel approaches are xylitol gum and the use of sealants.

DOI: 10.1038/sj.bdj.2013.1065

CARIES – TOBACCO

Tobacco and dental caries: a systematic review

Benedetti G, Campus G *et al.* *Acta Odontol Scand* 2013; **71**: 363–371

It was not possible to link tobacco smoking and caries, because the studies were of poor quality.

This is a rigorous, yet accessible systematic review. Of those five studies that met inclusion criteria, the quality of evidence in two articles was very low, and low in three others. All were cross-sectional studies. Furthermore, as they examined subgroups of a population, such as those from an Italian military academy and others living in a rural district in south-western Uganda, even if the evidence was robust, it would not have been 'possible to generalize to the total population'. Two other studies were included exploring indirect effects. In one, there was a significant association between tobacco smoking and increased counts of lactobacilli and saliva yeasts, but not mutans streptococci. In the other study, there was a significant difference in salivary secretion rate between male smokers and non-smokers.

DOI: 10.1038/sj.bdj.2013.1067

ROOT SURFACE CARIES – CORONAL CARIES

Antecedents and associations of root surface caries experience among 38-year-olds

Thomson WM, Broadbent JM *et al.* *Caries Res* 2013; **47**: 128–134

There was no link between coronal DMFS and root surface caries in 38-year-olds.

General health and psychosocial functioning has been followed in 1,037 children from the age of 5 years in the unique longitudinal Dunedin Multidisciplinary Health and Development Study. This cohort is now 38 years old, and remarkably there are still 916 subjects in the study. When considering oral health, root surface caries was diagnosed in 23% of the subjects. The key finding was at 'age 38 coronal DMFS and root surface caries DFS were only weakly correlated ($r = 0.32$)'. Nevertheless, 'trajectories of caries experience' (predicted life-long caries experience) was a risk factor for root surface caries experience in these subjects. The investigators concede it was not possible to attribute the reason for restoration of the root surface, to either root surface caries or tooth wear.

DOI: 10.1038/sj.bdj.2013.1066

ROOT SURFACE CARIES – RESTORATION

Restoration of root surface caries in vulnerable elderly patients: a review of the literature

Amer RS, Kolker JL *Spec Care Dentist* 2013; **33**: 141–149

Conventional glass-ionomer cements (GIC) 'appeared to prevent secondary (root surface) caries, even when the restorations were subsequently lost.'

There are three arms to this paper. The first is a literature review, which reports that there are no clinical trials of longer than two years duration investigating the outcome of root restorations carried out for vulnerable elderly. The review was therefore widened. Resin-modified GIC overcome the prolonged setting time of conventional GIC, and the bactericidal agent MDPB, incorporated into resin composites, may prevent secondary root surface caries. The third part of this paper summarises results from clinical trials. Following ART technique, conventional GIC restorations had comparable survival rates to resin modified GIC placed in cavities prepared with rotary instruments, as were the survival characteristics of the old stalwart, dental amalgam.

DOI: 10.1038/sj.bdj.2013.1068