

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.

ANTIBIOTIC FAILURE – PRIMARY MEDICAL CARE

Antibiotic treatment failure in four common infections in UK primary care 1991–2012: longitudinal analysis

Currie CJ, Berni E *et al.* *BMJ* 2014; **349**: g5493

'Given the lack of new antibiotic classes on the horizon, increases in failure rates are troubling.'

Can the dentist learn anything from this study, carried out in a primary medical care setting, which looked at antibiotic failure? The key findings were: one in ten antibiotic courses of treatment failed and this number is increasing. Nevertheless, this increase in failure (12% over 20 years) was not as large as anticipated. The investigators interrogated records (11 million monotherapies) from over 14 million patients registered at 700 general medical practices across the UK, drawn from the Clinical Practice Research Datalink (CPRD) for 1991–2012. These patients had received antibiotics for common infections such as respiratory, skin and soft tissue infections and acute otitis media. It was judged that the antibiotic course had failed when it was considered necessary to prescribe a different one within 30 days of the first antibiotic, or referral to specialist services. A distinction between the management of infections in dentistry and medicine, is that the former should be focused on surgical management.

DOI: 10.1038/sj.bdj.2014.1080

RHINOSINUSITIS

Rhinosinusitis in oral medicine and dentistry

Ferguson M. *Aust Dent J* 2014; **59**: 289–295

More recent studies have reported that rhinosinusitis has a dental origin in 25%, and in one study 40% of patients.

And it has been reported that 11% of patients with rhinosinusitis (preferred term to sinusitis), complain of toothache. In those with rhinosinusitis, there may be intra-oral mucosal tenderness, intra-oral oedema and intra-oral erythema over the maxillary sinus region. Of note, pain associated with postural change, considered pathognomonic of rhinosinusitis, may also occur with a dentoalveolar abscess. The authors state that the use of a diagnostic intraoral local anaesthetic agent will not relieve the symptoms in those with rhinosinusitis, but will for those with periradicular disease. Intraoral transillumination of the maxillary sinus in a darkened room may reveal fluid in those with rhinosinusitis (www.youtube.com/watch?v=Z-CYWdc73IQ0). Information obtained from a panoramic radiograph may be suboptimal as a consequence of the focal trough associated with this radiograph. Surprisingly, a longitudinal study found that rhinosinusitis was not observed in those patients whose sinus had been perforation with an implant. The veracity of the commonly cited association between halitosis and rhinosinusitis is questioned.

DOI: 10.1038/sj.bdj.2014.1081

ENDODONTIC RETREATMENT

Efficacy of different solvents in removing gutta-percha from curved root canals: a micro-computed tomography study

Sağlam BC, Koçak MM *et al.* *Aust Endod J* 2014; **40**: 76–80

Use of a solvent reduced the time to remove the root filling material when carrying out a retreatment.

The aim of this study was to examine two characteristics associated with the use of two solvents, to assist the removal of gutta percha when carrying out endodontic retreatment. Thirty-six extracted molar teeth with curved roots, were prepared with ProTaper Universal Rotary (Dentsply) and obturated with cold lateral compaction of gutta percha and AH26®. Examination of micro-CT images were used to assess residual root filling materials after the use of 1) chloroform, 2) *ENDOSOLV R*, septodont (contains formamide that is moderately irritating to skin and mucosa, and 2-phenylethanol), and 3) no solvent (negative control), together with the use of ProTaper Universal – Retreatment Files and a Self Adjustment File, ReDent Nova. Irrespective of solvent, the 'amount of residual filling material in all groups was similar'. However, the time required to reach the working length was significantly less when employing these solvents (*ENDOSOLV R* = 5.2 minutes, chloroform = 4.8 minutes, negative control = 8.1 minutes, $p = 0001$).

DOI: 10.1038/sj.bdj.2014.1082

DEBRIDING CONTAMINATED TITANIUM

The effects of mechanical instruments on contaminated titanium dental implant surfaces: a systematic review

Louropoulou A, Slot DE *et al.* *Clin Oral Impl Res* 2014; **25**: 1149–1160

Non-metal curettes and rubber cups were of no use.

It is a balance; on one hand it has been reported that 'Non-metal instruments and rubber cups were found to cause minimal or no damage to smooth implant surfaces', yet can these be used to debride contaminated titanium implant surfaces, particularly when trying to salvage an implant with peri-implantitis? In this systematic review, 14 studies met inclusion criteria. Most were *in vitro* studies employing titanium strips, discs and cylinders. Of the three *in situ* studies, two employed an animal model. Statistical analysis of the data was not possible because of study heterogeneity. It would appear that the use of ultrasonics, metal curettes, rotating titanium brushes and air abrasion all disrupt the biofilm (usually a monoculture). No methods were shown to remove consistently calcified deposits. The use of non-metal curettes, even when used in combination with chlorhexidine, and rubber cups were ineffective. It was shown that the use of ultrasonic scalers with metal tips caused damage to titanium surfaces.

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