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.

ABSTRACTS

PERIRADICULAR SURGERY

Prognostic factors in apical surgery with root-end filling: a meta-analysis

von Arx T, Peñarrocha M *et al.* *J Endod* 2010; **36**: 957–973

Not unexpectedly, periradicular surgery was associated with better outcomes if there were no pre-operative signs and symptoms and there was a satisfactory root filling.

Literature searches were carried out using PubMed and Cochrane databases only, and a hand search of some selected journals. Thirty-eight papers met inclusion criteria. Mantel-Haenszel odds ratios were calculated for when there were two variables and also for when there were more than two variables, although the authors did not make corrections for multiple testing. Periradicular surgery was associated with significantly better outcomes when there was 1) no 'preoperative pain or signs', 2) satisfactory obturation of the root canal and 3) no periapical radiolucency, or at least one ≤ 5 mm in size. Use of an endoscope (not operating microscope) resulted in borderline significantly more favourable results. When considering root-end filling materials, 'two randomized controlled trials showed no significant differences between MTA and IRM'.

DOI: 10.1038/sj.bdj.2010.844

FIBRE POSTS

Can fiber posts increase root stresses and reduce fracture?

Santos AFV, Meira JBC *et al.* *J Dent Res* 2010; **89**: 587–591

Using the finite element method (FEM – a numerical method of analysis), '...glass fiber posts present more favorable fracture patterns'.

Despite anecdote suggesting a lower incidence of root fracture with glass fibre posts, *in vitro* studies have not shown consistently lower stress values in roots restored with these posts. Using a simulated model, a 'finite element mesh was generated with linear isoparametric tetrahedral elements' for pre-fabricated metallic cast post models and glass fibre post models. When 'perfectly bonded', glass fibre posts result in lower stresses at the post/cement interface compared with metallic posts. In conclusion therefore, using FEM, the investigators found that glass fibre posts result in 'more favorable fracture patterns'.

DOI: 10.1038/sj.bdj.2010.845

ENDOSCOPY

Procedures of endodontic periradicular surgery

Yura S, Ooi K *et al.* *Quintessence Int* 2010; **41**: 537–541

Use of an endoscope to improve vision when carrying out periradicular surgery.

For several years now, endoscopes have been used when performing periradicular surgery. It is suggested that the use of an endoscope allows better sight of the surgical field. The authors of this paper have previously described the application of this instrument when carrying out a variety of different dento-alveolar procedures involving the maxillary sinus. In this paper, they describe the use of an ultrathin intranasal endoscope in order to enable 1) the removal of a piece of gutta percha point that had been displaced from the root canal into the maxillary sinus mucosa and, 2) the carrying out of apical surgery, in another patient. The grammar in this paper will distract the reader but should not detract them from considering the possible advantages of using an endoscope when performing periradicular surgery.

DOI: 10.1038/sj.bdj.2010.846

FRACTURED ENDODONTIC INSTRUMENTS

Impact of a retained instrument on treatment outcome: a systematic review and meta-analysis

Panitvisai P, Parunnit P *et al.* *J Endod* 2010; **36**: 775–780

As there was no 'difference in healing between the fractured instrument group versus control group', the removal of fractured endodontic instruments 'should not be routinely attempted'.

Using a robust search strategy as recommended by the Cochrane Collaboration, only two case-control studies met the authors' inclusion criteria. In this paper, the investigators used risk difference. This is the difference in outcome for those patients with retained fractured instruments compared with those when such an occurrence had not happened. There was no 'statistically significant difference in healing between the fractured instrument group versus control group.' The authors calculated that 'the highest possible impact of a fractured instrument on prognosis is only 6% difference.' When data from patients with a fractured instrument, were analysed from studies interrogated but not included in this systematic review, 80.7% of lesions healed when a periapical lesion was present compared with 92.4% when no such lesion was observed ($p < 0.02$).

DOI: 10.1038/sj.bdj.2010.847