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Welcome.

This could be called the 'random' issue. Some readers might think every Dental Review is a bit random, but item 4 considers randomised clinical trials and item 8 is a surgical study where the authors admit their patients were not truly randomised. Happy random reading!

Best wishes,

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Accidental swallowing of the head of a dental mirror: Report of a rare case

Authors: Oncel M et al

Summary: While percussion testing the mandibular third molar of a 26-year-old man the patient swallowed the head of the dental mirror. A chest radiograph located it in the middle third of the oesophagus, and it was removed by rigid oesophagoscopy.

Comment: Patients are recorded as swallowing the whole spectrum of dental instruments and also dentures and toothbrushes. Aspiration is much less frequent than ingestion, but about a third of ingested items require hospitalisation. This is the first report of someone swallowing a mirror head at the dentist's – the recommended way to percuss teeth is with the mirror handle. Careful inspection of items with soldered joints as featured on some mirrors is important, as repeated sterilisation may result in weakness.

Reference: Journal of Dental Sciences 2012;7:199-202

http://www.e-jds.com/article/PIIS1991790212000505/abstract

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Green tea: a promising natural product in oral health

Authors: Narotzki B et al

Summary: Tea is the world's most popular beverage after water. Green tea has a unique composition, important components being polyphenols and antioxidants. There are reports that tea consumption may decrease caries and also provide beneficial antiviral properties. Green tea powder is able to remove the sulphurs involved in halitosis and reduce inflammatory damage caused by cigarette smoking. It also seems to protect certain organs from chemical carcinogens.

Comment: The major beverage in the Far East for thousands of years is now becoming the topic for dental research. Its popularity dropped as black tea became the beverage of choice. The potential benefits of green tea seem a fertile area for future investigations.

Reference: Archives of Oral Biology 2012;57:429-435

http://www.aobjournal.com/article/S0003-9969(11)00397-9/abstract

Bilateral maxillary duplication: case report and literature review

Authors: Borzabadi-Farahani A et al

Summary: Extra maxillary jaws are very rare (only one publication of a bilateral case in the English literature). This report is of a 7-year old girl who complained of upper jaw discomfort and presented with bony exostoses from her maxillary tuberosities. Jaw movements were restricted in protrusive and lateral excursions. Histology reports revealed normal bone and teeth at different stages of development.

Comment: Multiple supernumerary teeth are seen in several developmental conditions and syndromes. Duplication of other facial structures can also occur. Duplication of the maxilla when it occurs is often associated with cleft palate and multiple uvulae. This patient seems unique as she had no other anomalies.

Reference: Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology 2012;113:e29-e32

http://www.ooojournal.net/article/S1079-2104(11)00417-3/abstract

What's in a title? An assessment of whether *randomized controlled trial* in the title means that it is one

Authors: Koletsi D et al

Summary: The highest quality evidence comes from randomised clinical trials (RCTs). Randomisation reduces selection bias by randomly assigning interventions and creating similar treatment groups that are in all respects similar except for the intervention, and in which any observed differences between treatment groups are expected to be due to chance. Six orthodontic journals were searched from 1979 to July 2011 for clinical trials that indicated from the title that they were randomised. Authors of the trials were not contacted. One hundred and twelve studies were investigated. Some 30% were RCTs, 46% were unclear and the remainder, about one quarter, were not RCTs.

Comment: The years since publication and involvement of a statistician were strong predictors for correctly classifying studies as RCTs. Multicentre trials and an increasing number of authors also led to more correct descriptions of studies. Are things similar outside orthodontics? In prosthodontics, one report says proper randomisation was under 30%. Perhaps dental specialities are confused regarding the meaning of RCTs? Reviewers and editors need to be on the alert.

Reference: American Journal of Orthodontics and Dentofacial Orthopedics 2012;141:679-685

http://tinyurl.com/9dt95bt

International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth

Authors: Andersson L et al

Summary: There are slow but significant changes in our management of avulsion and its treatment outcomes. This new set of recommendations suggests treatment options have not changed much, but differ in the cut-off point when the avulsed tooth has little chance of periodontal/cemental healing, and when periodontal ligament should be removed. There are few clinical trials to cite, and animal and *in vitro* studies play a key role in our understanding.

Comment: The UK survey of children's dental health (1993) revealed a prevalence of 1.2% of 15-year-old children with missing anterior teeth as a result of trauma. The changes in the new recommendations are really down to practicality. Research has shown that soaking the root of an immature avulsed tooth in antibiotics before replanting increases the chance of revascularization – but who has, for example, a minocycline capsule handy in the surgery to open, mix and apply? So this is something that might be considered. Similarly, a fluoride soak is suggested for a tooth with a closed apex which has been out of the mouth for an extended period, but not seen any more as an absolute recommendation.

Reference: Dental Traumatology 2012;28:88-96

http://tinyurl.com/9j8b3xn

Response of pulp sensibility test is strongly influenced by periodontal attachment loss and gingival recession

Authors: Rutsatz C et al

Summary: This study investigated how gingival recession and periodontal attachment loss might influence the results of pulp sensibility tests. Mandibular incisors of 45 adults were isolated with cotton wool rolls and tested with a cold spray (-50C). The response was scored from 0 to 10, 0 being no response to two 15-second applications. Attachment loss and recession were measured at 6 sites with a probe. The authors report that the more severe the periodontal condition, the lower the intensity of pain there was in response to the cold stimulus.

Comment: There is very little data regarding the role of periodontal disease on pulp degeneration. I would very much like to see this work repeated; on maxillary incisors, isolated from their neighbours with a dental dam and using an electric pulp tester. Investigating their vascular health with a laser Doppler flowmeter or by pulse oximetry would also be fascinating. But this is a tough area to research. Just finding patients with adjacent teeth with no periodontal problems to act as controls would be difficult.

Reference: Journal of Endodontics 2012;38:580-583

http://www.jendodon.com/article/S0099-2399(12)00103-3/abstract

Oral lesions associated with injected hydroxyapatite cosmetic filler

Authors: Daley T et al

Summary: Cosmetic fillers are usually considered safe, with most adverse reactions happening very soon after injection and lasting hours or a few days. This study investigated 'Radiesse', a filler made of 25-45 µm microspheres of hydroxyapatite in a water-based gel of methylcellulose and glycerin. Eight patients attended with granulomas. Specimens were stained with haematoxylin and eosin and examined under the microscope. Other biopsy material was subjected to energy dispersive X-ray microanalysis. In the stained sections there were intense granulomatous reactions with histiocytes and foreign body giant cells together with the microspheres. The elemental analysis confirmed hydroxyapatite.

Comment: Most of the patients were reluctant to reveal that they had had dermal filler injections. As a result, histopathologists could not rely on any clues as to the nature of the foreign material they were looking at. It seems that as the ageing Baby Boom generation increases, practitioners and patients are becoming comfortable with some pathology, provided there is a good cosmetic result.

Reference: Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology 2012;114:107-111

http://www.oooojournal.net/article/S2212-4403(12)00290-8/abstract

Small and large titanium plates are equally effective for treating mandible fractures

Authors: Bouloux GF et al

Summary: Consecutive subjects (127) with fractured mandibles were enrolled in a study and received small or large plates for fixation. Fracture union, seen as indistinct radiographic fracture lines, was recorded. Fifty-three patients were followed-up for at least 6 weeks, and no difference was found in the rate of fracture union between the groups.

Comment: The large plates and bicortical screws act in a load-bearing manner. The small plates, introduced in 1973, have monocortical screws and work in a load-sharing manner. Of the subjects lost in the study, 13 decided to have intermaxillary fixation on the day of surgery. The authors are very honest in their list of shortcomings of the study. The patients were not truly randomised – they were treated according to the day of their surgery. One surgeon placed all the small plates and a group of attending surgeons applied all the large plates.

Reference: Journal of Oral and Maxillofacial Surgery 2012;70:1613-1621

http://www.joms.org/article/S0278-2391(12)00274-1/abstract

Occluding effect of Nd:YAG laser and different dentin desensitizing agents on human dentinal tubules *in vitro*: a scanning electron microscopy investigation

Authors: Al-Saud LM, Al-Nahedh HN

Summary: A Sunlase™ 800 laser and four commercial desensitisers for professional application were applied to the dentine of 64 extracted human molars. The teeth were halved and indented, one part being used for treatment and the other as control. Dentinal tubules were opened with EDTA. After treatments the dentine surfaces were examined using a scanning electron microscope. Lased samples featured reduction or complete obliteration of the lumens of the tubules. All the desensitising agents occluded the tubules but the precipitates formed, their coverage and the degrees of tubule occlusion differed.

Comment: This lengthy paper will be worth a read by anyone interested in dentinal tubules and their imaging. The illustrations are fascinating. All the treatments occluded tubules, and so might be expected to work for patients. How long for is the burning question, so clinical studies are needed.

Reference: Operative Dentistry 2012;37:340-355

http://www.jopdentonline.org/doi/abs/10.2341/10-188-L

Clinical performance of all-ceramic inlay and onlay restorations in posterior teeth

Authors: Beier US et al

Summary: Some 547 posterior teeth in 120 patients were restored with onlays and single-, two- and three-surface ceramic inlays between 1987 and 2009. All the work was by two dentists. Almost 2% of the teeth were non-vital and 33% of the patients diagnosed with bruxism. The non-vital teeth had a significantly higher risk of failure; this was not the case with the bruxism patients.

Comment: The paper features a very comprehensive discussion of concepts of inlays and onlays. Interestingly, gold restorations were not involved in the study, but both the main text and the abstract state that ceramic inlays are inferior to gold ones. So I will continue to enjoy my 1978 student clinic gold inlay, for as long as its ancient glass ionomer cement will keep going.

Reference: International Journal of Prosthodontics 2012;25:395-402

http://tinyurl.com/9ouqyye

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