ABSTRACTS

Abstracts on this page have been chosen and edited by Dr Trevor Watts

TRAUMA

Healing of 400 intra-alveolar root fractures.1. Effect of pre-injury and injury factors such as sex, age, stage of root development, fracture type, location of fracture and severity of dislocation

Andreasen JO, Andreasen FM *et al. Dent Traumatol* 2004; 20: 192–202.

Age, root development and condition of coronal fragment had the greatest effects on healing.

Over a 36 year period, 400 root-fractured incisors in subjects aged 7–17 years (mean 11.5) were treated in a Stockholm dental hospital. This retrospective study was to investigate factors which might have affected outcome of treatment. Follow-up ranged from 1–13 yrs, and in this period, 30 teeth suffered further injury and were subsequently excluded.

Radiographs showed that 120 teeth healed with hard tissue fusion of fragments; interposition of periodontal ligament (PDL) and bone was found in 22, and PDL alone in 170; the remaining 88 teeth failed to heal, with pulpal necrosis and inflammation between fragments.

In this study, incomplete root development, and therefore younger age, was again shown to be favourably related to pulpal healing. Coronal fragment mobility, dislocation, and fragment separation also had adverse effects. The authors comment that the nerve supply to the pulp can function even where there is some stretching of the pulp, and the limit is usually about 1 mm of diastsis.

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TRAUMA

Healing of 400 intra-alveolar root fractures. 2. Effect of treatment factors such as treatment delay, repositioning, splinting type and period and antibiotics

Andreasen JO, Andreasen FM *et al. Dent Traumatol* 2004; 20: 203–211

A few days' delay in treatment did not influence healing, and antibiotic use is questionable.

The second part of this research study (which was described in the previous abstract) deals with the relationship between several further factors and healing of the root fractures. In respect of treatment delay, there was no difference between groups: <1 day led to hard tissue healing in 41 cases, periodontal ligament healing in 94 and pulpal necrosis in 46; respective figures for 1 day were 28,44 and 18 cases, for 2 days, 9, 13 and 9 cases, and for 3+ days, 12, 21 and 7 cases.

Optimal repositioning of fragments appeared to significantly optimise hard tissue healing and reduce pulpal necrosis, and there were some differences between different types of splinting, where this was employed. Splinting for more than four weeks did not influence the pattern of healing. There was a non-significant trend towards a negative effect of antibiotics on healing, which the authors suggest requires further study.

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ORAL SURGERY

Removal of partially erupted third molars using an Erbium (Er):YAG laser: a randomised controlled clinical trial

Abu-Serriah M, Critchlow H *et al. Br J Oral Maxillofac Surg* 2004; 42: 203–208.

There were no statistically significant differences between laser and bur forms of treatment.

A randomised trial was performed to compare the use of a laser (n=22) to cut bone and, if necessary, tooth, with the use of conventional burs (n=20), when removing partially erupted lower third molars in subject groups of respective mean ages 29 and 28 yrs. Subjects were followed up for one week.

No differences were found between technical difficulty of the procedures, patient perception of the pleasantness of procedures, patient assessment of postoperative swelling (P=0.07) or pain experience with the procedures. Objective measurement of post-operative swelling suggested a trend towards less swelling with the laser whereas the subjective trend was the opposite.

The authors comment that the laser may be an alternative to using a bur in anxious patients, but its routine use is time consuming.

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PROSTHODONTICS, GERIATRIC DENTISTY

A five-year follow-up study on the prosthetic rehabilitation of the elderly in Helsinki, Finland

Nevalainen MJ, Närhis TO *et al. J Oral Rehabil* 2004; 31: 647–652.

Fixed, rather than removable, prostheses may be preferable in the elderly.

In 1989, 651 randomly selected subjects, aged 76–86 years and living in Helsinki, were given comprehensive medical examinations. In the next year, 51 subjects died, and the remainder were invited to have oral examinations, which were completed for 364 subjects. In 1995–6, 196 were available for follow-up, and 134 participated.

During follow-up, five patients had become edentulous from previously having 1–5 teeth; 25% had new fixed or removable prostheses, and 11% lost prostheses which were not replaced. Logistic regression analysis gave significant odds ratios as predictors of tooth loss for male gender (2.28, 95% CIs 1.31–3.96) and presence of a removable partial denture (RPD: 1.92, 1.19–3.31). Any kind of RPD was also associated with the increment in root caries. Type of dentition (natural teeth, RPD or complete denture) gave significant relationships with a number of caries-associated parameters.

The authors note the difficulties of studying an aged population with short life expectancy, and suggest that shortened dental arches or fixed prostheses are better for these patients.

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