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Oral pathology

Radiographic follow-up of impacted third molars from age 20 to 32 years

Ventä I, Turtola L et al.
Int J Oral Maxillofac Surg 2001; 30: 54-57

Over the 12 years, the state of impaction changed in nearly half the teeth.

There is only a little information on subsequent variation in position of impacted teeth which are not removed. In this study, 81 students were followed from a mean age of 20.7 to 32.6 yrs. At the start, 168 unerupted or partially erupted third molars were present in 67 students, decreasing to 35 teeth in 20 subjects, with incomplete data for one, leaving 13 upper and 21 lower teeth. There were initially only 3 teeth missing in these subjects, and none were removed during follow-up.

A change in inclination of more than 5° occurred in 3/4 of lower and 1/4 of upper teeth. The 3 maxillary teeth inclined more mesially; all mandibular teeth which moved were initially mesially inclined, but some moved more mesially, and others distally. State of impaction (in soft tissue, partially in bone or completely in bone) also changed for 15 teeth. Almost all teeth maintained the same relative position to the next tooth. Changes occurred without significant symptoms: minor symptoms were mentioned by 1/4 of subjects during the 12 yr period.

Trauma

Healing of 208 intraalveolar root fractures in patients aged 7-17 years

Cvek M, Andreasen JO et al.
Dent Traumatol 2001; 17: 53-62

Repositioning fragments had a beneficial effect but splinting did not appear to do so.

This large retrospective study involved 183 subjects aged 7-17 yrs treated in a Stockholm clinic from 1959-1973. Root fractures involved 200 maxillary and 8 mandibular incisors, and 168 teeth were splinted. Hard tissue fusion occurred in 69 teeth up to 6 yrs after injury, in 74 teeth periodontal ligament alone joined the fragments, and in 17 both hard and soft tissues were found. In 48 teeth, no healing occurred following pulpal necrosis.

Hard tissue repair occurred more frequently in teeth with less developed roots and there was a trend for this to occur sooner also. No healing was a less frequent outcome in these teeth. Dislocation adversely affected healing and hard tissue fusion. There was no relation of position or type of fracture, or of treatment delay, to the healing process, but post-trauma pulp vitality was directly related to satisfactory healing.

Optimal positioning of fragments had a beneficial effect on healing independently of other factors, but splinting was inversely related to frequency of hard tissue fusion. Healing was also less frequent in teeth with initially displaced fragments which were then splinted, than in unsplinted teeth.

Endodontics; microbiology

Viable bacteria in root dentinal tubules of teeth with apical periodontitis

Peters LB, Wesselink PR et al.
J Endodon 2001; 27: 76-81

In more than half of the teeth, cultivable bacteria were found deep inside dentine near the apex.

In Scottish and Dutch patients who preferred extraction to root filling, 25 teeth with periapical radiolucency and no marginal periodontitis were removed. Four teeth were used as controls: these were removed for orthodontic reasons from patients without restorations or pulpal disease. Within 1 hr the ligament of each root was aseptically removed and the surface was thoroughly disinfected, following which the residue was removed with sterile curettes and the surface swabbed to check for sterility (5 were discarded). Sterile burs were used to remove up to 3 layers of dentine from the middle of the root (2 layers in 1 tooth only). In 8 teeth, decalcified sections were examined for bacteria.

Controls showed negative root dentine cultures in all cases. In 17 experimental teeth, bacteria were found in the layer nearest the pulp, and in 13 teeth, in the layer nearest the periodontium. Respective median percentages of anaerobes were 82-100% and 58-100% in these layers. A variety of Gram -ve bacteria were cultured, including *Prevotella*, *Porphyromonas*, *Bacteroides*, *Fusobacterium* and *Veillonella*. Gram +ve organisms included *Peptostreptococcus*, *Eubacterium* and *Actinomyces*. The authors consider that root dentine is usually infected from a necrotic pulp, which may be of importance in recalcitrant apical periodontitis.

Trauma; maxillofacial surgery

Facial gunshot wounds: a 4-year experience

Hollier L, Grantcharova EP et al.
J Oral Maxillofac Surg 2001; 59: 277-282

The nature of the injuries indicated that surgical intervention was needed in most cases.

Facial gunshot wounds are frequent in the USA, and this paper covers 84 patients for whom full medical documentation was available, out of 121 seen from 1994-1998 in a Texan hospital. Most patients were male (4/5) and 9 died shortly after admission. Nearly half were hispanic and a quarter were black. The most frequently injured structures were eye (31%), brain (18%), great vessels of the neck (14%) and tongue (13%). One-third of patients had multiple gunshot wounds.

Resulting early complications were predominantly visual disturbances (12%), wound dehiscence (5%) and generalized sepsis (2%). Residual problems at a later stage included cranial nerve palsy (19%), blindness (17%) and hemiparesis (12%). The need for early surgical intervention is controversial, and the authors consider this was essential in 3/4 of their series. A following discussion by a surgeon at another hospital describes a similar need for surgery in management of both soft tissue and skeletal gunshot injuries.