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PERIODONTICS; TOOTH LOSS

The clinical course of chronic periodontitis. IV. Gingival inflammation as a risk factor in tooth mortality

Schätzle M, Loe H *et al.* *J Clin Periodontol* 2004; **31**: 1122–1127

The presence of gingivitis all round a tooth increased the risk of losing the tooth nearly 50-fold in a 26-year follow-up.

From 1969 to 1995, 565 Norwegian males initially aged 16–34 yrs were followed up with respect to their periodontal condition. At the last examination, 223 participated, and 487 patients initially with 13,285 teeth were seen in at least 2 subsequent surveys. There were 7 surveys in all. All subjects had regular dental care and personal oral hygiene.

Over the 26 yrs, 75 (15%) re-examined individuals lost 126 (0.95%) teeth. Most frequently lost teeth were molars (62%), then premolars (27%), incisors (10%) and canines (1.6%). Teeth with a mean gingival index (GI) maintained at 0–0.75 over the examination period were least likely to be lost. In comparison, those with GI 1–1.75 had a significant odds ratio of 8.5 for loss, and those with GI 2 or more, an odds ratio of 46.

The authors comment that clinically healthy gingiva predicts tooth longevity, and to maintain a functional dentition it is important to keep gingiva uninfamed. It is also apparent that these tooth survival rates are far higher than those for oral implants.

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IMPLANT DENTISTRY

Surrogate markers of health after titanium dental implant placement

Young CW, Lee JS *et al.* *J Oral Maxillofac Surg* 2004; **1413**–1417

The presence of titanium implants in the body had no significant effect on a wide range of health markers.

Titanium may be found in peri-implant tissues, regional lymph nodes, lungs, kidneys, livers, serum and hair after implant placement. Most is released during subsequent osteosynthesis, but persists for at least 5 yrs. There are also effects on cellular function and inflammation. To date, no study has examined systemic health markers in relation to titanium implants, so over a 16 month period, 32 healthy, non-smoking patients were screened before and after insertion of 1 to 3 uncoated titanium implants.

One patient dropped out, and 4 of 52 implants failed. Final restorations were placed by 19 weeks. Re-examination at 26 weeks showed no significant changes in most haematological, blood chemistry, electrolyte and urinalysis results. There were small but significant increases in mean haematocrit values and total protein, and a decrease in lactate dehydrogenase. The authors state that these were all due to individual outlying results, and that the individual changes were not sufficient to require further investigation.

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ORAL SURGERY

Metronidazole for the prevention of dry socket after removal of partially impacted mandibular third molar: a randomised controlled trial

Bergdahl M, Hedström L *Br J Oral Maxillofac Surg* 2004; **42**: 555–558

Metronidazole was ineffective in preventing dry socket.

Previous studies on metronidazole for prophylaxis of dry socket have given conflicting results. In this study, 120 patients requiring removal of lower partially impacted third molars were randomised to 1600 mg metronidazole or placebo 45 min before operation. One surgeon performed all operations under LA. There was one drop-out in the metronidazole group.

Groups were similar for mean age, duration of operation, amount of saline irrigation and amount of bone removal. One quarter of each group smoked. There were 10 dry sockets in the metronidazole group, and 13 in the controls. Logistic regression gave significant odds ratios for pericoronitis (3.3; CIs 1.26–8.66) and taking oral contraceptives (3.39; 1.2–9.54) in relation to dry socket. The authors suggest that organisms involved in dry socket may use biofilms as a defence against antimicrobial drugs.

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ORAL SURGERY

A randomised controlled clinical trial to compare the incidence of injury to the inferior alveolar nerve as a result of coronectomy and removal of mandibular third molars

Renton T, Hankins M *et al.* *Br J Oral Maxillofac Surg* 2005; **43**: 7–12

A coronectomy approach avoided nerve damage in all cases.

In 128 patients with radiographic evidence of proximity of the inferior alveolar nerve (IAN) to mandibular third molars, 102 teeth were randomised to traditional removal, and 94 to a coronectomy procedure removing the crown 3–4 mm below the CEJ. In the coronectomy group, the pulp was left in place and mucoperiosteal flaps replaced with one suture. In 36 coronectomies, roots were accidentally loosened, and then removed (failed coronectomy). Patients were followed for up to 2 yrs.

In the traditional removal group, 19% sustained IAN damage, and in the failed coronectomy group, 5%. In 2 patients, symptoms persisted more than 6 months. There was no lingual nerve neuropathy. In the 58 successful coronectomies, there were no IAN symptoms. Dry socket affected 10–12% of all groups, probably because they represented a population with greater than average operative difficulty and pericoronitis. Retained roots caused no problems, and in 5 cases apparently began to move from the nerve canal.

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