ABSTRACTS

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PERIODONTOLOGY; TOBACCO SMOKING

Effect of smoking on crevicular polymorphonuclear neutrophil function in periodontally healthy subjects

Güntsch A, Erler M *et al. J Periodont Res* 2006; **41**: 184–188

Tobacco has a dose-related adverse effect on the first mechanism protecting the periodontium against micro-organisms.

Failure of neutrophil defence is implicated in some types of periodontal disease. In this study, 15 non-smokers (NS) were compared with 3 groups of 15 subjects who smoked respectively <5 (light smokers: LS), 5–15 (moderate: MS) and >15 (heavy: HS) cigarettes/day. All subjects were German dental students aged 19–31 yrs.

Counts of crevicular washings of neutrophils did not differ significantly between groups, but viability was significantly lower in all smoking groups. The ability of neutrophils to phagocytose opsonised *Candida albicans* was significantly less in all smoking groups than in NS (74%), with significant differences between LS (58%), MS (52%) and HS (41%) subjects.

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ORAL MEDICINE; ORAL PATHOLOGY

Long-term treatment outcome of oral premalignant lesions

Holmstrup P, Vedtofte P *et al. Oral Oncol* 2006; **42**: 461–474

Non-homogenous leucoplakia was more likely to become malignant.

Malignant transformation has been reported in 0.13%–17.5% of leucoplakias. There is diversity in treatment of leucoplakia, and it is still unclear what factors affect malignant development of the lesion. The present study retrospectively examined 188 homogenous and 66 non-homogenous leucoplakias and 15 erythroplakias seen in a Danish clinic over a 20 yr period.

In cases with candidal infection, antimycotic treatment was given. In 94 cases, lesions were surgically removed, and the area covered with a mucosal flap or free graft, or a skin graft. Following surgical treatment, 11 carcinomata developed after a mean 7.5 yrs. In 175 cases not surgically treated, 7 developed tumours after a mean 6.6 years. In the 2 respective groups, 20% and 15% of non-homogenous leucoplakias developed malignancy, as opposed to 3% and 2% of homogenous cases.

Logistic regression gave ORs for malignancy of 7 for non-homogenous lesions, and 5.4 for sizes >200mm². No other factors were significant for malignant transformation. The authors note that the study showed no benefit of surgical intervention.

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ENDODONTICS

The influence of different factors on the survival of root canal fillings: a 10-year retrospective study

Stoll R, Betke K *et al. J Endodon* 2005; **31**: 783–790

Survival was improved by several factors.

Previous studies have suggested that success of root canal treatment (RCT) is better where there is no initial apical radiolucency and worse if retreatment is involved. This study included 914 RCTs from a clinic in a German dental school over a 2 yr period. The mean follow-up was 34 months (range 0–124). Over 400 were followed for up to 6 months, while data were available for about 50 at the full 10 yrs.

Survival analysis identified 105 losses, and mean survival time was 104 months, with a cumulative survival probability (CSP) of 0.74 at the time of the last loss at 106 months. CSP was 0.81 for 419 previously vital and 0.68 for 495 nonvital teeth ($P < 0.001$), 0.79 for 508 previously pain-free and 0.67 for 406 painful teeth ($P < 0.01$), better for those with no previous apical periodontitis ($P < 0.001$) and also for those filled to within 2 mm of the apex ($P < 0.001$). There was no significant effect of retreatment or experience on outcome.

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ENDODONTICS

The impact of instrument fracture on outcome of endodontic treatment

Spili P, Parashos P *et al. J Endodon* 2005; **31**: 845–850

Fractured instruments did not significantly affect specialist endodontic treatment.

Previous studies suggest that a pre-operative apical lesion is the main factor affecting outcome of root canal treatment (RCT) for teeth with retained instrument fragments. The best evidence attainable on this subject is at the case-control level, of which this study is claimed to be the second. Over a 13.5 yr period in 2 practices with 7 endodontists, 277 out of a total of 8460 treated teeth were identified with persistent retained fragments in them, and 146 (cases) had 1+yr follow-up. These were matched to 146 controls (controls) receiving normal RCT.

Success rates at 1 yr were 92% for cases, 95% for controls (NS). Presence of a fractured instrument did not significantly affect outcome, whether or not there was a previous apical lesion. Logistic regression analysis showed that a previous apical lesion was the only factor to affect overall outcome significantly. There was no difference in respect of rotary and hand files. The authors conclude that retained fragments do not adversely affect RCT by experienced operators.

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