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ANTIBIOTICS; ADVERSE EFFECTS

Oral erythromycin and the risk of sudden death from cardiac causes

Ray WA, Murray KT *et al.* *N Engl J Med* 2004; **351**: 1089-1096

Certain concurrent medications increase plasma erythromycin concentration, sometimes causing tachycardia, ventricular arrhythmias and death.

Erythromycin is used in dentistry as one alternative to penicillin, and sometimes for specific indications such as sinusitis. It is metabolized by cytochrome P-450 3A (CYP3A) isozymes, and therefore CYP3A inhibitors (such as calcium-channel blockers, azole antifungals and some antidepressants) potentiate it, increasing the risk of cardiac effects. This study involved a cohort of subjects aged 15-84 yrs (mean 45), with no evidence of life-threatening non-cardiac illness, followed for 1-6 yrs. There were 1,249,943 person-years of follow-up, and 1,476 sudden deaths from cardiac causes.

In patients using erythromycin, the incidence-rate ratio for sudden death was 2.01 times greater than in other subjects (95% CIs: 1.08, 3.75). There was no effect for amoxicillin or the former use of erythromycin. There was a greater effect for the simultaneous use of erythromycin and a CYP3A inhibitor (5.35; 1.72, 16.64) than for those using neither, but current use of amoxicillin and former use of erythromycin gave non-significant ratios. The authors conclude that erythromycin should not be prescribed for patients using CYP3A inhibitors.

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CARIOLOGY; PREVENTIVE DENTISTRY

Relationship between area deprivation and the anticaries benefit of an oral health programme providing free fluoride toothpaste to young children

Ellwood RP, Davies GM *et al.* *Community Dent Oral Epidemiol* 2004; **32**: 159-165

A low-fluoride dentifrice gave measurable benefit only in the most deprived groups, but a high-fluoride dentifrice improved health in less deprived groups as well.

In 9 health districts in the north-west of England, 3,731 children (50% had dropped out) completed a randomized clinical trial from age 1 to 5 years, with two groups receiving dentifrices containing 1,450 or 440 ppm fluoride sent to them by post, and a comparison group who were given no dentifrice. For 3,467 children, electoral wards were identified, so that the Townsend deprivation score (which ranged from -6.42 to 10.97) was known.

On conclusion of the trial, in the least deprived quartile, dmft for the 1,450 ppm dentifrice group was 1.4, for the 440 ppm group, 2.2, and for the comparison group, 1.9; respective scores in the most deprived quartile were 2.7, 2.9 and 3.2. The effect of the high fluoride dentifrice was not related to deprivation. The authors conclude that targeting the most deprived children by

the methods of this study would not reduce deprivation-related health inequalities.

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DENTAL PATHOLOGY; EPIDEMIOLOGY

A meta-analysis of the prevalence of dental agenesis of permanent teeth

Polder BJ, Van't Hof MA *et al.* *Community Dent Oral Epidemiol* 2004; **32**: 217-226

Dental agenesis appears more prevalent in Europe and Australia than in North American Caucasians, and higher in females than males.

The prevalence of dental agenesis is of importance in planning health care delivery and has financial implications. Available data are frequently from small study samples, and vary considerably. This study identified 125 relevant papers which were reviewed. After exclusions where data was lacking, and inclusion of further referenced studies, data from 33 populations were found to be sufficient for meta-analysis.

In a total of 48,274 subjects in 10 studies, the commonest age-netic teeth were 2nd premolars in both jaws and maxillary lateral incisors (prevalence 1.5-3.1%). In 11,422 subjects in 24 studies, a similar hierarchy was observed. Less commonly agenesis was observed for mandibular incisors, first premolars, canines and 2nd molars (0.1-0.3%), and it was rare for all other teeth (0.01-0.04%). In Europe, the prevalence of agenesis was 4.6% in males and 6.3% in females; respective figures for Australia were 5.5% and 7.6%, and for North American Caucasians, 3.2% and 4.6%.

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PERIODONTOLOGY

Impact of oral health on the life quality of periodontal patients

Needleman I, McGrath C *et al.* *J Clin Periodontol* 2004; **31**: 454-457

Perceived quality of life (QoL) was related to periodontal health.

There is considerable interest in patient-centred outcomes of dental treatment. In a London private specialist periodontal practice over a 6 month period, 205 patients completed the UK oral-health-related QoL questionnaire (16 items relating to symptoms and physical, psychological and social aspects of QoL), were asked whether they had experienced signs or symptoms of periodontal disease over the past year, and were given a full periodontal examination.

The signs and symptoms were: swollen (experienced by 16%), sore (27%) or receding (29%) gums, loose (20%) or drifting (10%) teeth, bad breath (16%) or toothache (22%). For each of these there was a significantly reduced QoL score ($P < 0.01$) for subjects who had experienced it over the past year. There was a moderate correlation between QoL and the number of teeth with pockets of 5+ mm ($r_s = -0.42$, $P < 0.01$). In 77 new patients the mean QoL score was 47.7 and in 128 maintenance patients it was 55.7.

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