

Epidemiological Aspects on Apical Periodontitis

Studies based on the Prospective Population Study of Women in Göteborg and the
Population Study on Oral Health in Jönköping, Sweden

AKADEMISK AVHANDLING

Som för avläggande av odontologie doktorsexamen vid Göteborgs Universitet kommer att
offentligen försvaras i Föreläsningssal 3, Odontologen, Medicinargatan 12 E, fredagen den
19 oktober 2007, kl 09.00 av

Fredrik Frisk

Leg tandläkare

Fakultetsopponent: Professor Harald Eriksen, Medicinska fakulteten, Universitetet i Tromsø,
Tromsø, Norge



GÖTEBORGS UNIVERSITET

Avhandlingen baseras på följande delarbeten:

- I. **Frisk F, Hakeberg M.** A 24-year follow-up of root filled teeth and periapical health amongst middle aged and elderly women in Göteborg, Sweden.
Int Endod J. 2005 Apr;38(4):246-54
- II. **Frisk F, Hugoson A, Hakeberg M.** Technical quality of root fillings and periapical status in root filled teeth. Submitted.
- III. **Frisk F, Hakeberg M.** Socio-economic risk indicators for apical periodontitis.
Acta Odontol Scand. 2006 Apr;64(2):123-8.
- IV. **Frisk F, Hakeberg M, Ahlqwist M, Bengtsson C.** Endodontic variables and coronary heart disease. Acta Odontol Scand. 2003 Oct;61(5):257-62.

Abstract

The objectives of this thesis were to describe endodontic status in Swedish populations, to study clinical and socio-economic risk factors for apical periodontitis (AP) and to explore a possible association between AP and coronary heart disease (CHD).

In papers I, III and IV the Prospective Study of Women in Göteborg (PSWG) was used. In paper I dentate women examined in 1968-69 (N=1220), 1980-81 (N=1023) and 1992-93 (N=867) were included for cross-sectional and longitudinal (N=586) analysis of endodontic status over 24 years in individuals aged 38-84 years. In papers III and IV a cross-sectional sample (N=844 and N=867, respectively) from 1992-93 was used for exploring associations between AP, socio-economic risk factors and CHD in multivariate logistic regression models. In paper II random samples of dentate individuals aged 20-70 years from the Population Study on Oral Health in Jönköping (PSJ) were used. The first examination in 1973 (N=498) was followed by new examinations in 1983 (N=530), 1993 (N=547) and 2003 (N=491). Full mouth radiographic examinations were restudied, yielding 3981 root filled teeth for the analysis. AP was recorded according to the Periapical Index (PAI) and the root filling quality was assessed with respect to length and seal. The association between root filling quality and AP was studied on the tooth-level as well as on the individual level.

The results from multivariate logistic regression analysis did not reveal a significant association between AP and CHD and socio-economic risk factors and AP, respectively. The ratio of root filled teeth increased with age longitudinally and cross-sectionally, but decreased over time for comparable age groups. The ratio of AP increased with age cross-sectionally, but decreased with age longitudinally and for comparable age groups over time. Inadequate root filling quality was predictive of AP with an odds ratio of 4.5. The root filling quality was improved over time without a concomitant decrease in ratio of root filled teeth with AP.

Keywords: Apical periodontitis, Coronary heart disease, Cross-sectional, Endodontics, Epidemiology, Health, Longitudinal, Root filling, Socio-economic status, Treatment quality, Women.

ISBN: 978-91-628-7280-9

ISSN: 0348-6672

Correspondence: Fredrik Frisk, Institute for Postgraduate Dental Education, Box 1030, 551 11 Jönköping, Sweden. E-mail: Fredrik.Frisk@lj.se