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Guest Editorial

Should quit smoking interventions be the first part of initial periodontal therapy?

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Focused Perspective on Preshaw et al., J Clin Periodontol 2005; 32: 869–879

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The paper by Preshaw et al. (2005) is a timely addition to the literature on the effects of smoking on periodontal disease and response to treatment. There have been a large number of studies demonstrating that smokers respond less well than non-smokers to non-surgical, surgical, regenerative and periodontal plastic surgery treatment procedures (reviewed by Tonetti 1998). However, this paper is the first attempt at an interventional study using well established quit smoking strategies (including Nicotine Replacement Therapy, Bupropion and counselling) in a group of 49 subjects undergoing a course of non-surgical periodontal treatment. The subjects had expressed a desire to quit smoking, an important prerequisite. This type of study is difficult to perform, requiring patient compliance with a quit smoking programme and with the periodontal treatment. The paper describes a relatively high drop out rate, with 15 subjects withdrawn, 11 non-quitting subjects and 11 continuous quitters (22.4% of original cohort) at 12 months. Smoking status was assessed by self-report, CO readings and validated by salivary cotinine assay as reviewed previously in this Journal by Scott et al. (2001). The results indicated that those subjects who managed to quit smoking had a more favourable treatment outcome. This was shown despite the low number of subjects completing this ambitious study that examined the resultant changes from two parallel treatment interventions. It would be of great interest to determine what changes in periodontal status would have occurred with just the quit smoking intervention as there is limited data regarding this response (Nair et al. 2003).

Readers of this Journal will be very conversant with treatment outcomes expected following non-surgical periodontal treatment. However, it is pertinent to compare the results of the Preshaw study with others in the literature specifically addressing the success of quit smoking programmes. Large randomized controlled trials have been carried out comparing various interventions. For example, Tonnesen et al. (1999) reported on a multi-centre European randomized controlled trial involving 3575 smokers (who were motivated to quit) from 36 clinics comparing high and low dose nicotine patches and placebo patches. Success was defined as continued self-reported abstinence and CO levels <10 ppm at all visits at weeks 2, 4, 8, 12, 22, 26 and 52. After 52 weeks, there was a significantly higher success rate in the high nicotine patch group (15.4–15.9%) compared with the low dose patch group (11.7–13.7%) and the placebo group (9.9%). An interesting indicator from the Tonnesen study was that subjects who managed to abstain in the first week of the programme had a long-term success rate of 25% compared with only 3% in subjects who continued to smoke in the first week. In a subsequent double blind randomized controlled trial involving 707 smokers, Tonnesen et al. (2003) reported 12 month success rates of 21% with bupropion medication which is very similar to the Preshaw study, which used bupropion in some but an unspecified number of subjects. Could patients with periodontitis who are undergoing periodontal treatment be more motivated and successful at quitting smoking? In this respect it is interesting to consider subjects who are suffering from a chronic disease associated with smoking, chronic obstructive pulmonary disease (COPD). Tashkin et al. (2001) compared buproprion SR and a placebo in a double-blind randomized controlled trial in 404 smoker subjects who suffered from mild to moderate COPD. Continuous smoking abstinence rates between week 4 and the end of the study (week 26) were higher in subjects receiving bupropion (16%) compared with placebo (9%). Interestingly, they did not repeat pulmonary function tests during the study as it was felt that the relatively small size of the population was not judged to be adequate to support such measurements of changes in lung function.

These studies confirm the need for large double-blind randomized controlled clinical trials to demonstrate effectiveness of smoking cessation strategies in our patients, let alone the difficulties of combining periodontal treatment regimes. Fortunately, Preshaw et al. were able to show some benefits of smoking cessation in combination with periodontal treatment and this could lead the way to larger multicenter trials in periodontology.

References

Nair, P., Sutherland, G., Palmer, R., Wilson, R. & Scott, D. (2003) Gingival bleeding on probing increases after quitting smoking. *Journal of Clinical Periodontology* **30**, 435–437.

Preshaw, P. M., Heasman, L., Stacey, F., Steen, N., McCracken, G. I. & Heasman, P. A.

(2005) The effect of quitting smoking on chronic periodontitis. *Journal of Clinical Periodontology* **32**, 869–879.

Scott, D. A., Palmer, R. M. & Stapleton, J. A. (2001) Validation of smoking status in clinical research into inflammatory periodontal disease: a review. *Journal of Clinical Periodontology* **28**, 715–722.

Tashkin, D. P., Kanner, R., Bailey, W., Buist, S., Anderson, P., Nides, M. A., Gonzales, D., Dozier, G., Patel, M. K. & Jamerson, B. D. (2001) Smoking cessation in patients with chronic obstructive pulmonary disease: a double-blind, placebo-controlled, randomised trial. *Lancet* **357**, 1571–1575.

Tonetti, M. S. (1998) Cigarette smoking and periodontal diseases: etiology and management of disease. *Annals of Periodontology* **3**, 88–101.

Tonnesen, P., Paoletti, P., Gustavsson, G., Russell, M. A., Saracci, R., Gulsvik, A., Rijcken, B. & Sawe, U. (1999) Higher dosage nicotine patches increase one-year smoking cessation rates: results from the European CEASE trial. *European Respiratory Journal* **13**, 238–246.

Tonnesen, P., Tonstad, S., Hjalmarson, A., Lebargy, F., van Spiegel, P. I., Hider, A., Sweet, R. & Townsend, J. (2003) A mulicentre, randomized, double-blind, placebo-controlled, 1-year study of bupropion SR for smoking cessation. *Journal of Internal Medicine* **254**, 184–192.

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