

Healing response after non-surgical therapy on smokers with chronic periodontitis

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Limited studies have been performed on the effect of smoking on healing response after non-surgical therapy in Chinese subjects. Objectives: To compare the 6-months healing response after non-surgical mechanical periodontal therapy in male Chinese periodontitis smokers with that in non-smokers. Methods: A total 33 patients (mean 45.5±9.0 years) with moderate to severe periodontitis were recruited. 17 patients were smokers (> 10 cigarettes/day) and 16 were non-smokers. All patients received non-surgical periodontal therapy provided by a group of experienced dental hygienists. Clinical parameters were assessed at six sites around each tooth, excluding third molars, at baseline, 2-, 4- and 6-months. Probing pocket depth (PPD) and clinical attachment level (CAL) were measured using the Florida Probe®. Gingival crevicular fluid (GCF) was measured at 4 sites of each patient at baseline, 2-, 4- and 6-months. Differences between groups and between time-points within groups were tested by Mann-Whitney U test and Wilcoxon signed rank test respectively. Results: Both PI% and BOP% were significantly reduced in test (PI%: 77.5%-20.6%, p<0.0001; BOP%: 51.0%-21.9%, p<0.0001) and control groups (PI%: 84.8%-39.3%, p<0.0001; BOP%: 73.7%-46.1%, p<0.0001) during the course of this study. Although PPD was reduced in both smokers and non-smokers, the PPD reduction was significantly less in smokers (1.9±0.2 vs. 1.6±0.1, p=0.0001). The percentage of pockets > 5mm is significantly greater in smokers (2.3%±1.8vs 0.5%±0.9, p=0.004). Both groups showed significant CAL gain compared to baseline (p=0.0005) but there was no significant difference between groups. GCF volume was significantly reduced at 2-, 4- and 6-months compared to baseline (p<0.05) and the GCF volume reduction was significantly greater in non-smokers in 6-months (p<0.05). Conclusions: The present study indicates that the 6-months healing response after non-surgical periodontal therapy was generally less favorable in male Chinese smokers than non-smokers because smokers exhibit more pockets > 5mm and higher GCF volumes.

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