

PC-II-8. Influence of the sonic power toothbrush on reduction of gingival inflammation and on the amount of interleukin-6, *Prevotella intermedia* and *Actinobacillus actinomycetemcomitans* in periodontal pocket

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Background

The purpose of this study was to evaluate the influence of Sonicare in reduction of gingival inflammation, interleukin-6 (IL-6) and periodontopathogens in the periodontal pocket of chronic periodontitis patients compared with the manual toothbrush group in 12 week follow-up period.

Materials and methods

82 subjects with chronic incipient to moderate periodontitis were instructed with either manual(n=30) or Sonicare(n=52) toothbrush. PI, GI and BOP at baseline, 1, 4, 12 week of anterior and posterior sites were compared. Three teeth with deepest pocket depth were selected to measure PI, GI, BOP, PPD and clinical attachment level at baseline, 1, 4, 12 week. Laboratory parameters like cytokine IL-6 concentration in GCF and threshold cycle values of *Prevotella intermedia* and *Actinobacillus actinomycetemcomitans* were also evaluated.

Results

Both groups demonstrated significant reductions ($p<0.05$) in the PI, GI and BOP during 12-week but, Sonicare showed more statistical significance ($p<0.05$). In posterior region, BOP of the Sonicare group showed a statistically significant ($p<0.05$) reduction during 12-week. At 3 selected teeth, PPD and CAL showed significant reductions ($p<0.05$) than baseline in both groups. In the percent change of PPD and CAL, Sonicare appeared to be slight higher but there were no significant differences. IL-6 concentrations of GCF in both groups showed significant reductions ($p<0.05$) during 12-week but there were no significant differences between the

groups. In detection of *Prevotella intermedia* and *Actinobacillus actinomycetemcomitans*, there was no significant reduction of amount at either manual or Sonicare group.

Conclusion

The Sonicare had a significant influence in the reduction of plaque removal, gingival inflammation than the manual group and the interleukin-6 of the Sonicare group tended to reduce more in the periodontal pocket of chronic incipient to moderate periodontitis.