

9. Summary

1. The use of scaling and root planing (SRP) leads to clinical improvement and serve maintenance of tooth by chronic periodontitis.
2. The permanent improvement of the oral hygiene and the avoidance of relapse a only possible through regular and shorter therapy of maintenance.
3. The results of this study showed that commercially available microbiological tests are practical for dental practice according to diagnosis and treatment of periodontal diseases.
4. The microbiological test can also be recommended for the maintenance therapy of subgingival pathogens.
5. The influence of the IL-1-Polymorphisms on the result of non-surgically periodontal therapy treating the chronic periodontitis could not be recognized.
6. The prevalence of genotype positive subjects (Cluster of IL-1 A and IL-1 B) in this study (42,5 %) is higher than in other studies: Kornman (1997): 36,4 % of subjects with chronic periodontitis were genotype-positive, Cullinan (2001): 38,9 % and Persson (2003): 35,7 %. The result of Papapanou (2001): 42,9 % is similar.
7. Polymorphisms in IL-1A and B do not appear to influence the composition of subgingival plaque and periodontal pathogens.
8. Smoking influenced the composition of periodontal pathogens in subgingival plaque.
9. Smokers had more *Tannerella forsythensis* and *Treponema denticola* compared to non-smokers.