Abstract

Studies on periodontitis and analyses of individuals at risk for periodontal diseases
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Periodontal disease is an infectious disease initiated by microbial plaque, which accumulates on the tooth surface at the gingival margin and induces an inflammatory reaction. The function of the inflammatory process is to protect the host, however the process may also contribute to tissue destruction. Most individuals show gingival inflammation, but only a limited number suffer from periodontitis i.e. loss of attachment. Without treatment, periodontitis will result in tooth mobility and subsequent tooth mortality.

Independent of ethnicity, 10%-15% of an adult population will develop severe periodontitis.

The aim of this thesis has been to analyse individuals at risk for periodontal disease.

Four studies have been conducted in 2 different groups of individuals with:

- Recurrent periodontitis kept in a maintenance care program - studies I-III.
- Type 2 diabetes (T2D) - study IV.

In study I, the clinical effect of local periodontitis treatment with an antibiotic gel was investigated.

In study II, the microbiological effect of periodontitis treatment with the same antibiotic gel as in study I was investigated.

In study III, it was investigated whether the interleukin-1 (IL-1α and β) and interleukin-6 (IL-6) gene polymorphisms were associated with the susceptibility of chronic periodontitis.

In study IV, the prevalence of periodontitis in individuals with T2D was investigated, together with the prevalence of diabetic complications in relation to periodontal disease. We also studied whether there was a
difference in dental care habits and knowledge of oral health between T2D subjects with and without periodontal disease.

In conclusion, this thesis did not find any significant clinical and microbiological differences between subjects with recurrent periodontal disease treated with a locally delivered metronidazole gel compared to a placebo gel. Neither could we find an association between genetic variants in the IL-1α, IL-1β and IL-6 genes in individuals with or without periodontal disease.

The prevalence of severe periodontitis, according to radiographic criteria, was almost 20% in subjects with T2D. This was further confirmed by clinical parameters. T2D individuals with periodontal disease demonstrated a higher HbA1c level, a higher prevalence of cardiovascular complications and a higher proportion of smokers compared to periodontally healthy T2D subjects. Finally, T2D individuals seem to lack sufficient knowledge about oral health.