

## **Abstract**

### **On antimicrobial approaches to arrest and control chronic periodontitis Maj-Karin Hellström**

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The main objectives were to study the effect of frequently repeated supragingival plaque removal on the subgingival microbiota and periodontal pocket reduction and to analyze the adjunctive effect of different antimicrobial agents on the treatment of periodontal disease. Subjects with gingivitis or chronic periodontitis were included.

The patients in Study I underwent professional supragingival removal of plaque and calculus 2-3 times/week for 30 weeks. At sites with suprabony and infrabony pockets and furcation sites, repeated supragingival plaque removal reduced the total number of microorganisms, as well as the percentage of sites with *P. gingivalis*.

In Study II, six months of unsupervised use of a dentifrice containing 0.3% magnolia extract produced significantly less gingival inflammation than a corresponding control dentifrice. Furthermore, at sites with similar amounts of plaque, fewer signs of gingival inflammation were observed in the magnolia group than the control group.

In Study III, the effect of topically applied PVP iodine used as an adjunct both during basic SRP and at re-treatment during long term-maintenance was studied. PVP iodine, applied topically during subgingival instrumentation, may improve the outcome of SRP therapy.

In Study IV, the short- and long-term effects of the systemic administration of tetracycline in conjunction with SRP were studied. One year after active therapy, the probing attachment level in the test group was almost 3 times higher than in the control group. Re-examinations after 3, 5 and 13 years of SPT disclosed that this short-term benefit was not maintained in the longer perspective.

In Study V, the effects of topically applied minocycline in combination with surgery on PPD reduction were analyzed. Local minocycline as an adjunct to surgery produced a statistically significantly larger reduction in probing depth (0.3mm) compared with surgery alone.

**Key words:** Plaque control, microorganisms, magnolia, dentifrice, gingivitis, PVP iodine, maintenance, tetracycline, minocycline

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