

The Effect of **Antimicrobial Photodynamic Therapy** in the Treatment of Chronic Periodontitis: First Results of a Long-Term In Vivo Study

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_Periodontitis is characterised by the presence of inflammatory processes in the oral cavity, which can sometimes attack the whole periodontium. Inflammation itself of the periodontium manifest in increased probing depth or bleeding diathesis on light irritation of the gum. If left untreated, periodontitis can lead to bone resorption, which can be documented by x-ray, or even to the loss of the tooth. The primary cause of periodontitis is bacterial tooth deposits (microbial plaque).^{1,2} Marker bacteria, eg, *Actinobacillus actinomycetemcomitans* (A.a.), *Porphyromonas gingivalis* (P.g.) and *Prevotella intermedia* (P.i.) are among the highly pathogenic bacterial spectrum of these deposits.

Chronic periodontitis is an infectious disease, which involves the inflammation of the periodontium and leads to progressive attachment and bone loss. It is also characterised by the formation of periodontal

pockets and/or gingival recessions, and is the most commonly occurring form of periodontitis.³ Different methods of treating chronic periodontitis are used in practice and are being discussed in scientific publications. The aim of the particular method of treatment is to reduce bacteria and regenerate any lost periodontal tissue.

A conventional procedure is the mechanical removal of supra- and subgingival plaque using the corresponding hand instruments. In this procedure the plaque and concretum attached to the exposed tooth necks and root surfaces are first removed with a curette (scaling), and then the tooth surfaces are smoothed (root planing). Alternatively, the mechanical removal of plaque can also be carried out using ultrasound devices.

In the case of probing depths over 5 mm or bone pockets, and in the case of furcation involvement,

Fig. 1 CFU of *Treponema denticola* at different treatment times.

Fig. 2 ... of *Actinobacillus actinomycetemcomitans* ...

