Insights into the latest therapy options for periodontitis

As part of this year’s Europerio in Vienna, Heraeus held two symposia on the latest developments in the treatment of periodontitis.

The question investigated by the first symposium, co-chaired by Dr. Peter Eickholz, Professor Peter Eickholz, from the University of Freiburg, Germany, looked at supportive periodontal therapy in daily practice, underlining the importance of SPT in long-term therapy success. In her conclusion, Professor Petra Ratka-Krüger from the University of Freiburg, Germany, continued with the results of clinical studies, which he used to present scientific evidence for the additional benefits of 14% SRD gel. In combination with SRP in the case of previously untreated periodontitis, this has been proven to lead to improved alveloar gain as well as greater pocket reduction that is clinically more relevant than achieved by SRP alone (Eickholz et al., 2002). A comparison of sub-gingival, topical ad-ministration of antibiotics and me-chanical debridement has shown comparable clinical efficiency (Eickholz et al., 2005).

The primary benefits in the case of any residual deep pockets during SPT (Tonetti et al., 2012) had already been discussed in Professor Lang’s presentation. In his conclusion, Professor Eickholz emphasized a further feature of doxycycline: not only does it have an antibacterial effect, it is also anti-inflammatory. Clinical studies have also shown that once-off application of a 14% SRD gel in patients with periodontal disease reduces the presence of certain periodontal pathogenic bacteria in the sub-gingival plaque.

The greatest challenge here is the removal of biofilm, a procedure that is considerably more difficult in the case of implant surfaces than in the case of natural dentition. Currently there is no standard, evidenced-based approach to therapy; local antibiotics may provide an answer for the future, however, as the first must be borne out by a study. Nevertheless, Professor Lang summarizes as follows: “Nothing excuses the patient from cleaning his teeth every day.”

Dr Waled S.W. Shalaby, Chief Scientific Officer at Polymed Inc., USA, continued in the same vein as Professor Lang, and presented the latest biomaterials for oral and periodontal applications. He proposed scientific evidence for the additional benefits of 14% SRD gel. In combination with SRP in the case of previously untreated periodontitis, this has been proven to lead to improved alveloar gain as well as greater pocket reduction that is clinically more relevant than achieved by SRP alone (Eickholz et al., 2002). A comparison of sub-gingival, topical ad-ministration of antibiotics and me-chanical debridement has shown comparable clinical efficiency (Eickholz et al., 2005).

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Left: Strong participation at the first session of the Heraeus Symposia on Friday: — Right: Prof. Niklaus P. Lang

As a recent study completed by the ERGOPorio group (Tonetti et al., 2012) investigated the therapeutic effect of once-off, topical, adjunctive administration of a slow-release doxycycline gel (SRD) in patients with persistent/recurrent periodontitis during supportive periodontal therapy (SPT). Follow- ing supra-gingival debridement and sub-gingival treatment using ultrasonic/electric instrumentation, the SRD was applied in all the resid- ual pockets of 4 mm in the test group.

The result of this study supports the concept of additional local antibiotic administration, particularly SRD. In the treatment of persistent/recurrent periodontitis during SPT, this has been shown to have a positive therapeutic ef- fect on inflammatory response as well as in the case of deep pockets (≥ 5 mm). Local antibiotics also seem to be the most effective ap- proach for treating peri-implantitis due to the high concentration of active ingredients. The micro- biological flora is far more part- icularly comparable with periodontitis, although implant lesions may also be affected by staphylococcus aureus (typical pyogenic organ- isms). The discharge of pus when probing a pocket is a clinical indi- cation of infection in the diagnosis of peri-implantitis.

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According to Dr. Shalaby, “The development of Ligosan Slow Re- lease for non-surgical therapy of periodontitis is a good example of functional technological innova- tion”. Its main feature is its biodegradable carrier substance comprised of hydrophilic and hydro- phobic parts, which ensure that the initially fluid consistency en- ables penetration into the deep areas of the periodontal pocket that are difficult to reach. Liquid environments increase the viscos- ity, creating a gel consistency that ensures that the carrier substance remains at the active site.

This effect results in slow, con- tinued release of active ingredi- ent in sufficient concentrations over a period of at least 12 days. Thanks to the bioreversible na- ture of the product, the patient does not require a further appointment and also benefits from relatively long-term therapeutic effect.

Following Dr Shalaby’s detailed look at the advantages of the in- novative slow release gel formula, Professor Peter Eickholz, from the University of Frankfurt/Main, Germany, continued with the question of the effect he expect- ed following adjunctive adminis- tration of the new doxycycline gel. He began by listing the indications for local antibiotic therapy and continued with the results of clini- cal studies, which he used to pres-