

CONTROLLED RELEASE DOXYCYCLINE GEL IN NON SURGICAL THERAPY OF PERIIMPLANTITIS, 1 YEAR RESULT OF A PROSPECTIVE COHORT STUDY

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Results from non-surgical treatment of perimplantitis lesions, according to data present in literature, are highly variable; complete biofilm removal is difficult to achieve due to prosthetic and implant surface difficulties. The addition of a controlled release antibiotic on affected implant surfaces could improve non-surgical therapy outcomes and might reduce the need for subsequent corrective surgery.

The aim of this 1 year prospective cohort study was to evaluate the potentiality of a chemical-mechanical approach in managing peri-implant inflammation parameters on patients referring to authors' private practice with at least 1 implant site showing BoP + and bone loss > 2mm on x-rays. Participants should be cooperative adults, systemically healthy and without known hypersensitivity to tetracycline.

Full mouth supra/sub gingival debridement of soft and hard deposits by mean of hand instruments, ultrasonic and airflow device was performed. Individual oral hygiene instructions were given and at experimental implant sites, a doxycycline gel was applied. At baseline, three months and 1 year PPD, BoP, REC (distance from the most cervical point of the prosthetic appliance) were recorded. 26 patients providing 49 implants (12 male, 14 female, average age 65, 6 smokers) were enrolled.

Baseline PPD was 6,7 mm, BoP 100% and REC=0,6 mm. At 1 year PPD was 4,6 mm, REC 1,6, 71,4% of the implants showed no bleeding, and 68,6% achieved a PPD<5mm; this might result in a decreased need for surgery. 11 implants on 4 patients dropped out due to a lack of improvements and persistence of suppuration during therapy, they all underwent either surgery or extraction.

This approach obtained a PPD reduction, despite a REC increase, and the evident reduction in the number of sites bleeding or probing 5 mm or more is encouraging and may lead to fewer surgical needs. Further investigations are needed to fully understand of the role of the antibiotic, and the potentiality of the protocol.