

CONTROLLED RELEASE DOXYCYCLINE GEL APPLICATION IN PERIIMPLANTITIS NON SURGICAL THERAPY: 3 MONTHS RESULTS OF A PERSPECTIVE COHORT STUDY

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Introduction:

Treatment of peri-implantitis, infectious disease characterized by mucosal inflammation and radiographic bone loss, is based on biofilm removal to stop its progression. Mechanical cleaning of the Implant surface is difficult to achieve in a blind approach and corrective surgery is often necessary. Addition of a controlled release antibiotic on implant surface could improve non-surgical therapy.

Aims:

To evaluate the potentiality of a chemical-mechanical approach in managing peri-implant inflammation parameters.

Methods:

3 months perspective, cohort study 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 tetracyclines.

Parameters, assessed at the most compromised implant site: PPD, BoP, REC (distance from the most cervical point of the prosthetic appliance).

Procedure: full mouth supra/sub gingival removal of soft and hard deposits by mean of hand instruments, ultrasonic and airflow devices. At experimental implant sites, a doxycycline gel was applied. Individual oral hygiene instructions were given.

Results:

26 patients (12 male, 14 female, average age 65, 6 smokers) were enrolled providing 49 implants. At baseline the mean FMPS and FMBS were 45% and 41% respectively with 82% of the patients showing FMPS > 25% and 70% FMBS > 25%. Mean PPD was 6,7 mm, BoP 100% and REC=0,6 mm.

At 3 months, FMPS and FMBS were 19,6% and 22,1%; PPD = 4,8mm (-1,9 mm), REC =1,4 (+0,8 mm); 61% of the implants showed no bleeding that might result in a decreased need for surgery.

Conclusions:

This approach resulted in reduction of PPD and inflammation but increase of REC. Lack of a control group precludes a full understanding of the role of the antibiotic but the evident reduction in the number of bleeding sites is encouraging and needs further investigations.