

**EFFICACY OF LOCALLY DELIVERED DOXYCYCLINE AGAINST
PORPHYROMONAS GINGIVALIS IN PATIENTS WITH CHRONIC
LOCALIZED PERIODONTITIS ANALYZED BY A RAPID PCR
METHOD: A CLINICO - MICROBIOLOGICAL STUDY**



By

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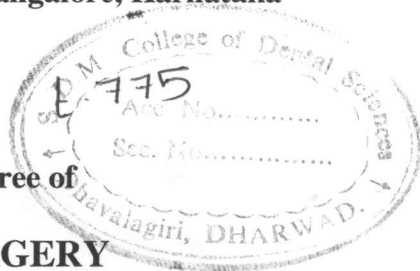
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ABSTRACT

Aim: It was to compare the efficacy of locally delivered doxycycline microspheres in patients with chronic localized periodontitis.

Materials and methods: The invitro preparation of the microspheres was done and the release pattern was obtained using the U-V spectrophotometer. In vivo part of the study included 20 sites with PPD 4-6mm, the sites were divided into two groups: In Group A: Scaling and root planing with one application of doxycycline microspheres at baseline was done. In Group B: Scaling and root planing with application of doxycycline microspheres at baseline, 1 month and 3 months were done. Clinical readings included the PI, GI, PPD, and RAL. Rapid PCR method was used for the detection of *P.gingivalis* at baseline, 1 month, 3 months and 6 months.

Results: In control group statistical significant reduction in PPD was found only from baseline to 1 month, 3 months and 6 months interval. In test group a statistical significant reduction was found from baseline to 1 month, 3 months and 6 months and from 1 month to 3 months & 6 months also. Between control and test groups a statistically significant reduction was found from baseline to 3 months & at the end of 6 months.

In control group a statistical significant gain in attachment level (RAL) was found from baseline to 1 month & 3 months interval. In test group a statistical significant gain in attachment level was found from baseline to 1 month, 3 months and 6 months interval.

P.gingivalis cell count in test group was statistically significantly reduced at all the intervals except from 1 month to 3 months. In control group cell count was reduced only from baseline to 1 month & 3 months.

Conclusion: Local drug delivery of doxycycline significantly improved the treatment outcomes in periodontal pocket therapy. Local drug delivery of doxycycline significantly reduced the *Porphyromonas gingivalis* in periodontal pocket.

Key words: Doxycycline microsphere, *P.gingivalis*, PCR, scaling and root planing, periodontal disease.