

REPRINT FROM THE MEDICAL JOURNAL OF
CAIRO UNIVERSITY, Vol. 64 No. 1, MARCH 1996

**Longitudinal Evaluation of Tricalcium Phosphate
Ceramic Combined with Tetracycline HCl Root
Conditioning in the Treatment of Periodontal
Osseous Defects**

HODA M. EL GUINDY, Ph.D.; MONA Y. ABDEL RAZZAK, Ph.D. and
MAHER M. EL TOUNSY, Ph.D.

*The Oral Medicine, Periodontology, Oral Diagnosis & Radiology Departments,
Faculty of Dentistry, Tanta University.*



FACULTY OF MEDICINE
Tel. & Fax. (202) 3655768

CAIRO PRESS OFFICE

38, Abu Bakr El-Sadik St.,
Ahmed Essmat, Ain Shams

Longitudinal Evaluation of Tricalcium Phosphate Ceramic Combined with Tetracycline HCl Root Conditioning in the Treatment of Periodontal Osseous Defects

HODA M. EL GUINDY, Ph.D.; MONA Y. ABDEL RAZZAK, Ph.D. and MAHER M. EL TOUNSY, Ph.D.

The Oral Medicine, Periodontology, Oral Diagnosis & Radiology Departments, Faculty of Dentistry, Tanta University.

Abstract

The objective of the present study was to carry out a long-term, controlled, clinical study into the use of tetracycline HCl as root surface demineralizing agent combined with tricalcium phosphate implant material in the treatment of periodontal bone defects. 10 patients with adult periodontitis were selected. They completed a course of treatment involving scaling and root planing and they maintained an excellent standard of oral hygiene. Each patient had at least 2 periodontal osseous defects of pocket depth and/or attachment loss ≥ 6 mm and of nearly similar radiological appearance to be used as test and control sites. Clinical examination to record gingival recession, probing depths and attachment levels was done. A conservative inverse bevel incision and flap reflection was done. After debridement of the cementum and the osseous defects, the root surface in the test sites were burnished for 3 minutes with cotton pellets saturated with a solution of tetracycline HCl, pH 2, 100 mg/ml and then, the roots were irrigated with sterile saline for 1 minute. The test sites were treated by the implantation of TCP. The control defects received the same treatment but without root conditioning or implant placement. The flaps were then sutured and the periodontal dressings were placed over the surgical area for 2 weeks. The patients were followed up with scaling and plaque control maintenance visits for the first 3 months after surgery at 2-4 week intervals and there after at 3-monthly intervals. During the study further measurements were performed at six months and at 1,2 and 3 years. For both the test and control surgical procedures at the follow-up assessment after treatment compared with the baseline measurements, there were decrease in the probing pocket depths (PD) and gain in the attachment level (AL). At the third year assessment, the mean reduction in PD and the mean gain in AL for the test procedures was significantly greater than the mean value for the control procedure. At successive follow-up assessments, the change in gingival recession (GR) tended to increase progressively being greatest at the three year assessment with no statistically significant difference between test and control procedures at any of the time intervals. In conclusion, during the latter part of the three years study, it was found a greater degree of reduction in PD and an increase in AL. The use of TCP ceramic with TTC as a root demineralizing agent is beneficial in the treatment of periodontal defects in humans.

Key Words: *Tricalcium phosphate - Ceramics - Tetracycline - Root conditioning - Periodontal defects.*