EVALUATION OF BIOACTIVE GLASS GRANULES ALONE AND WITH TETRACYCLINE HYDROCHLORIDE IN THE TREATMENT OF HUMAN BONE DEFECTS - A CLINICAL STUDY

DR. ANIRUDH B. ACHARYA

Department of Periodontics
S.D.M. College of Dental Sciences
Dharwad

Dissertation Submitted to the Rajiv Gandhi University of Health Sciences in Partial Fulfillment of the Requirements for the Degree of Master of Dental Surgery, in the Speciality of Peridontics.

September, 1999

Teeth are supported primarily by the attachment of periodontal ligament on one side and alveolar bone on the other. During the destructive periods of periodontitis, the connective tissue attachment of the tooth to the bone is reduced and the alveolar bone is resorbed. It has long been an objective of periodontal treatment to reverse this process and to regenerate these missing tissues[55].

The ultimate goal of periodontal therapy is the restoration of lost supporting tissues including new bone formation and new connective tissue attachment to the tooth at the most coronal level. Conventional periodontal treatment does not achieve this aim and is limited to arresting the progress of disease. Several methods have demonstrated varying degrees of success in reaching this goal. At present the most consistent success in the regenerative treatment of osseous defects is obtained with periodontal flap surgery and bone grafting[57].

Periodontists have been searching for the ideal bone grafts; allografts, xenografts, and alloplastic graft materials have been used with varied success, over the years. Although autologous bone grafts are considered to be the gold standard, recent years of research have introduced a synthetic grafting material in the form of bioactive glass granules[45].

Many studies claim that bioactive glass granules stimulate a very good conductive bone in-growth, viz., bone growth over and along the surfaces of the granules starting from the existing bone-wall to the middle