

## USE OF BIOMEMBRANE IN THE TREATMENT OF CLASS III FURCATION DEFECT

El-Shennawy M.M.

### Introduction

The ultimate goal of periodontal therapy is the regeneration of the periodontium at the site of previous periodontal breakdown by the formation of new tissues or parts consisting of fibroplasia, endothelial proliferation, deposition of interstitial ground substance, collagen, epithelization and the maturation of connective tissue<sup>(1)</sup>.

The evidence available to date indicates that most frequent mode of wound healing following surgical therapy is the development of a longitudinal junction epithelium and connective tissue adhesion<sup>(2)</sup>. It was suggested that a major reason for such healing is the capacity of gingival epithelial cells and fibroblasts to migrate and colonize the treated root surface faster than periodontal ligament cells<sup>(3)</sup>. It has also been suggested that repopulation of exposed root surfaces by periodontal ligament cells is a prerequisite for regeneration of the periodontal attachment apparatus<sup>(4)</sup>. Nyman et al<sup>(5)</sup> added that if cells from the gingival

epithelium and connective tissue can be delayed from entering the wound and periodontal ligament cells guided into the defect, greater regeneration can occur.

Recent studies in experimental animals and humans have demonstrated that it is possible to favour the regeneration of a new connective tissue attachment to denuded root surfaces by a surgical procedure which is based on the principle of guided tissue regeneration (GTR)<sup>(6)</sup>. Pontoriero<sup>(7)</sup> et al pointed out that, especially in furcation treatment, Gore-tex teflon membrane was of clinical significance as an occlusive membrane for guided regeneration. This Gore-tex periodontal material (GTPM) is manufactured entirely from polytetrafluoroethylene, specifically designed by Gore to facilitate the biological principles of guided tissue regeneration<sup>(8,9)</sup>.

The indications for guided tissue regeneration using Core-Tex. may be used in defects which are abundant in periodontal ligament cells and likely to provide space for periodontal ligament cell migration and less likely to cause gingival recession (as in class II. furcation and two or three wall vertical bone defects)<sup>(10,11)</sup>. Clinical trial was designed to

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\* Associate Professor of Oral Medicine and Periodontology Faculty of Dentistry , Mansoura University .