

## Case Report

### Dome Device Technique in the treatment of Gingival Recession: A Case Report

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#### **Dome Device Technique in the treatment of Gingival Recession: A Case Report**

##### **Abstract:**

Resorbable “dome device” made of a slow, long-lasting resorbable suturing material to support the barrier creating and maintaining a secluded space to promote bone regeneration. Acellular dermal matrix or cross-linked resorbable collagen membrane, as barriers were utilized in reconstructing non-space-making defects. Patients were treated with these resorbable regenerative materials and the site remained completely covered.

**Keywords:** dome device, membrane, guided tissue regeneration

##### **Introduction**

Guided tissue regeneration (GTR) consists of placement of a barrier membrane between the surgical flap and the root surface to prevent the

gingival epithelial and connective tissues from contacting the root surface during healing (Gottlow et al. 1986,<sup>1</sup> Nyman et al. 1982<sup>2</sup>). Melcher in 1976 states that cells which repopulate the root surface after periodontal surgery determine the nature of attachment, epithelial cells will form long junctional epithelium, gingival connective tissue will lead to connective tissue adhesion or resorption of root, cells from bone tissue will lead to bone resorption or ankylosis, cells originate from periodontal ligament proliferate to cover previously denuded root surface, as periodontal ligament contains progenitor cells for osteoblasts, cementoblasts & fibroblasts. Regenerative cells can be derived from periodontal ligament, bone.

Barriers offer advantages as excision of epithelial, gingival connective tissue cells from periodontal defect, maintain space between defect & barrier allowing entry of regenerative cells from periodontal ligament & bone and it helps to stabilize clot which may enhance regeneration.

Guided bone regeneration (GBR) is defined as creating a space between the bone and the surrounding soft tissues using a barrier that allows new bone to migrate into the space and by preventing other tissue from doing so.<sup>3</sup> It was originally described by Nyman et al<sup>2</sup> and later by Gottlow et al.<sup>1</sup> Titanium-enforced Gore-Tex (ePTFE) is one of the first materials reported.<sup>4</sup>

The barrier used needs to have a satisfactory biocompatibility, ability to fit<sup>5</sup> to the surface and ability to block<sup>6</sup> out the soft tissue from the cavity that has been created, while still allowing bone cells and vessels to migrate and grow.<sup>7</sup>

### **Case description**

In September 2015, a 36 yrs old female reported to the Department of Periodontics at Dasmesh Institute of Research and Dental Sciences, Faridkot. Her chief complaint was sensitivity to cold since 1 month, bleeding gums in lower front teeth and recession of gums since 1 year. Patient's medical history was not relevant. Patient cleans his teeth with toothbrush and toothpaste twice a day after breakfast and after dinner in horizontal direction. No deleterious habits were present.

### **Intra-Oral Examination**

Gingiva was reddish pink in colour, consistency soft and edematous, stippling was absent with mild bleeding on probing. There was 3mm of recession with 3mm pocket depth and inadequate attached gingiva.

### **Investigations**

IOPA X-ray was taken. Hemogram and blood sugar was within normal limits. No abnormality with the urine examination was detected.

### **Diagnosis**

The case was diagnosed as chronic localized periodontitis along with Miller's class-II gingival recession with respect to 41.

### **Treatment Plan**

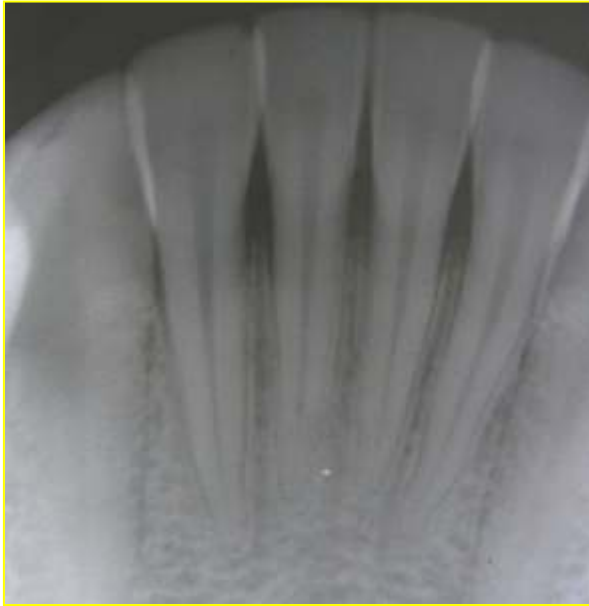
After Phase – I therapy Re-evaluation was done. In Phase – II therapy, flap was reflected and holes were made to pass the resorbable suture to act as barrier. Then membrane was placed and suturing done with 3-0 resorbable suture. After one week, suture removal was done. Patient was followed up for more than 30 months.



Before Phase 1 Therapy



After Phase 1 Therapy



**IOPA X ray**



**After flap reflection**



**Membrane placed and suturing done**



**One week after suturing**



**Pre operative**



**Post operative after 6 months**



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