

10

Treatment of a large periapical lesion with wide bone defect using apicoectomy combined with GBR, Bone graft.

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Introduction

Apicoectomy and retrograde filling is performed when the conventional root canal treatment is impossible. The aim of this procedure is to separate the contaminated internal environment of the root canal from the external one, thus allowing the lesion to be healed. In surgical endodontics, regeneration of a apical bony defect is one of the important factors for successful surgery. If the periapical lesions are extending cortical bone, the root therapy of the original teeth is insufficient to achieve complete healing of lesion.

Now, membrane barrier and bone graft is widely used in periapical surgery. If membranes are placed over bony defects and closely adapted to the surrounding bone surface, it can create the environment that prevents invasion of competing nonosteogenic cells from the overlying soft tissues. So, the objective of GBR in surgical endodontics is to enhance the quality and quantity of bone regeneration in the periapical region and to accelerate bone growth in circumscribed bone cavities after apicoectomy.

Following are describing the cases using bioresorbable membrane and bone graft.

• CASE I .

A 27 year-old male was referred for evaluation of his maxillary right lateral incisor. He had received endodontic treatment in local dental clinic for one month. Visiting our dental clinic in CNUHD, he had experienced numerous episodes of pain and mucosal swelling.

Present illness: PFM bridge on #12-22

P/R(-) on #22

Temporary filling stated on #22

Radiographic diagnosis: Infected radicular cyst on #22 with thickened cystic wall
Root formation of #22 is incomplete (root canal is wide)

Treatment & prognosis: 01. 1.15 first visit.

01. 1.17 canal dressing with saline solution, NaOCl

01. 1.22 cyst enucleation, apicoectomy and retrograde filling with Super-EBA , Membrane barrier (Bio-Mesh), Bio-coral is used in bony defect.

01. 1.29 stitch out. post-endo resin filling was done.

01. 5. 4 recall check.

• CASE II .

An 11-year old male had a buccal swelling and pus discharge of his maxillary left central incisor. He had experienced a trumatic injury in sport accident about 2 years ago. He had received endodontic treatment in local dental clinic for one month. In the oral examination, #21 had uncomplicated crown fracture, and the tooth mobility was great, degree II . The responses of EPT on #21, 22 were all negative. Radiographic finding was a large wide radiolucency extended to the apex of #21, 22.

Present illness: #21 uncomplicated crown fracture. EPT(-), P/R(+) ZOE filling stated.

#22 P/R(-), EPT(-)

##22, 23 buccal surface localized gingival swelling

Radiographic diagnosis: Infected radicular cyst on #21

(Root canal of #21 is wide)

Treatment & prognosis: 01. 3.14. first visit

Access open, pulp extirpation on #21, 22

from 3.16 to 3.30 several canal dressing was done.

01. 4. 3 canal filling with AH26.

01. 4.18 cyst enucleation, #21 canal obturation with IRM .

Apicoectomy & retrograde filling with IRM

Membrane barrier(Bio-Mesh), Bio-coral is used

in bony defect.

01. 4.25 stitch out.