

# Successful Implant Treatment After Vertical Bone Augmentation Using Ti-reinforced PTFE Membrane With Enucleation Of Nasopalatine Nerve

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## Introduction

Managing site development and implant treatment in esthetic area can be challenging. Scientific literature has extensively shown that implants placed in the anterior maxilla demonstrate long-term survival and success rates comparable to those observed in other areas of the dentition. (Buser *et al.* 1997) Various treatment approaches using implants can be utilized to restore missing maxillary incisors. This report aims to present esthetically challenging case requiring meticulous process with periodontal management and hard tissue augmentation for ideal implant restoration.

## Case presentation

### <Patient background>

A 57 year-old-male presented for the treatment of periodontal disease prior to implant therapy. The patient is classified as ASA II due to history of hypertension. There is no other significant medical or social history. Patient received extractions of #7,8,9,10,15 without ridge preservation, followed by interim maxillary partial denture, before referral. Periodontal diagnosis was generalized periodontitis Stage IV, Grade C. (Fig.1)

Fig.1: Intraoral presentation at initial visit



### <Treatment flow #1>

Periodontal surgeries were performed first. (Fig.2)

Fig.2: Periodontal surgeries

UR: Osseous surgery

UL: Osseous surgery



LR: Osseous surgery

LL: GTR + DFDBA



### <Treatment flow #2>

Surgical re-evaluation 6 months after the surgeries revealed periodontal stability achieved. CBCT suggested the need of vertical and horizontal augmentation in maxillary anterior area with enucleation of nasopalatine nerve (E-NP) in case #7/8 implants are needed. (Fig.3)

GBR was performed with E-NP, DFDBA with Ti-reinforced PTFE membrane tacked with pins, and resorbable collagen membrane. DFDBA was packed into NP canal and onto labial side of the ridge. Horizontal mattress and single interrupted sutures achieved primary closure. (Fig.4) 6 months after the GBR, CBCT was rescanned. GBR was successful with complete closure at the time of re-evaluation. (Fig.5) Adequate bone augmentation was observed radiographically. (Fig.3)

Fig.3: CBCT at pre-GBR (Top), at 6-month post-op (Bottom) ↑

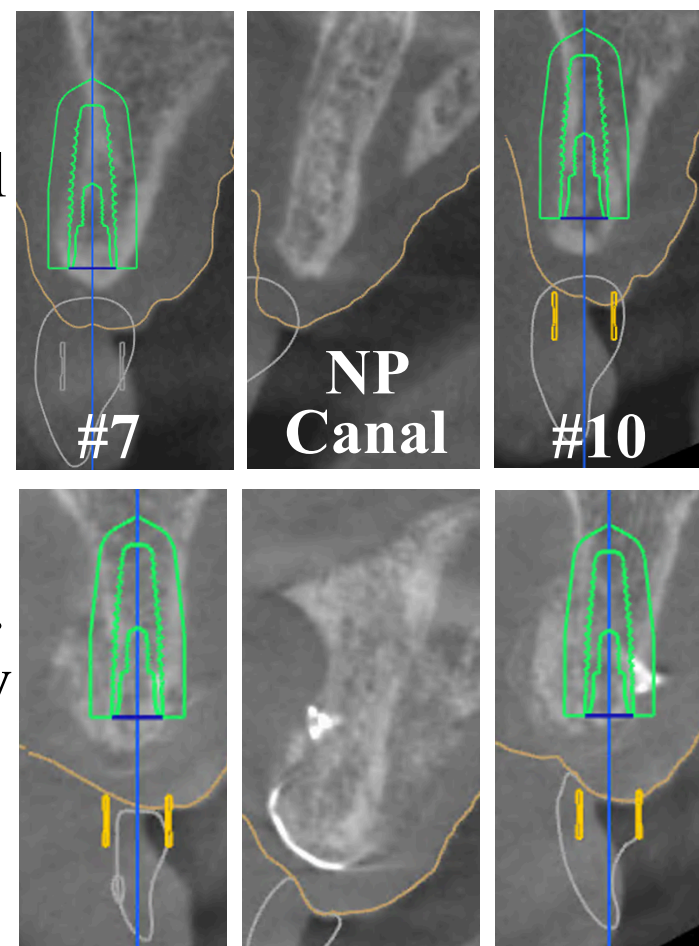


Fig.4: GBR with E-NP

Fig.5: comparison of pre/post-GBR

## Summary

Although we have not placed the implants yet unfortunately, GBR was successful after the periodontal management. E-NP with bone graft was also achieved without any complication.