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### ABSTRACT

A deficient maxillary edentulous ridge volume can be augmented for implant placement to support a fixed complete prosthesis. Various techniques have been used to correct defective bone. These augmentation techniques include inlay grafts, onlay grafts, bone splitting osteotomy, distraction osteogenesis and other techniques. Successful reconstruction depends on multiple biological factors, as well as patient compliance. This is a case series of 5 patients with successful restoration of an atrophic maxilla with an implant supported fixed complete prosthesis.

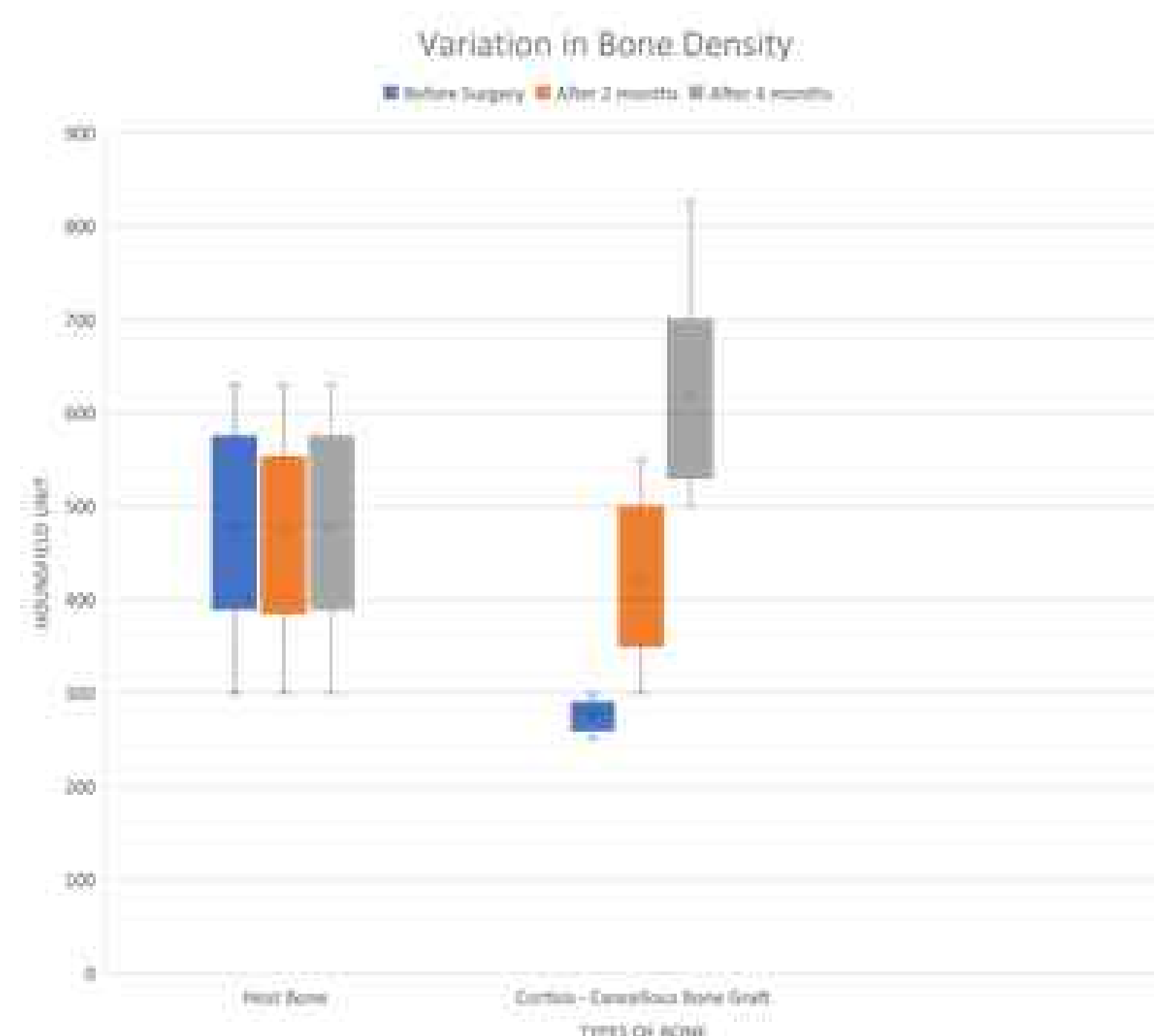
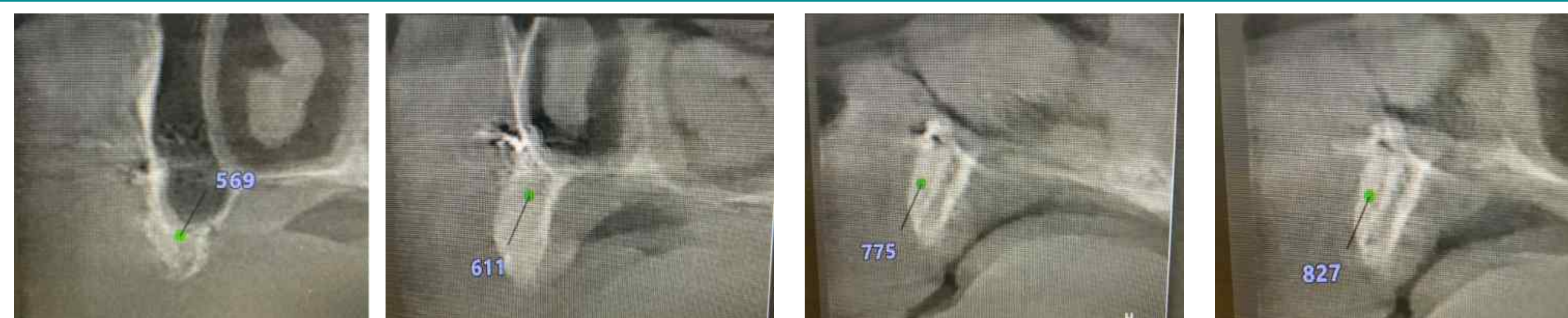
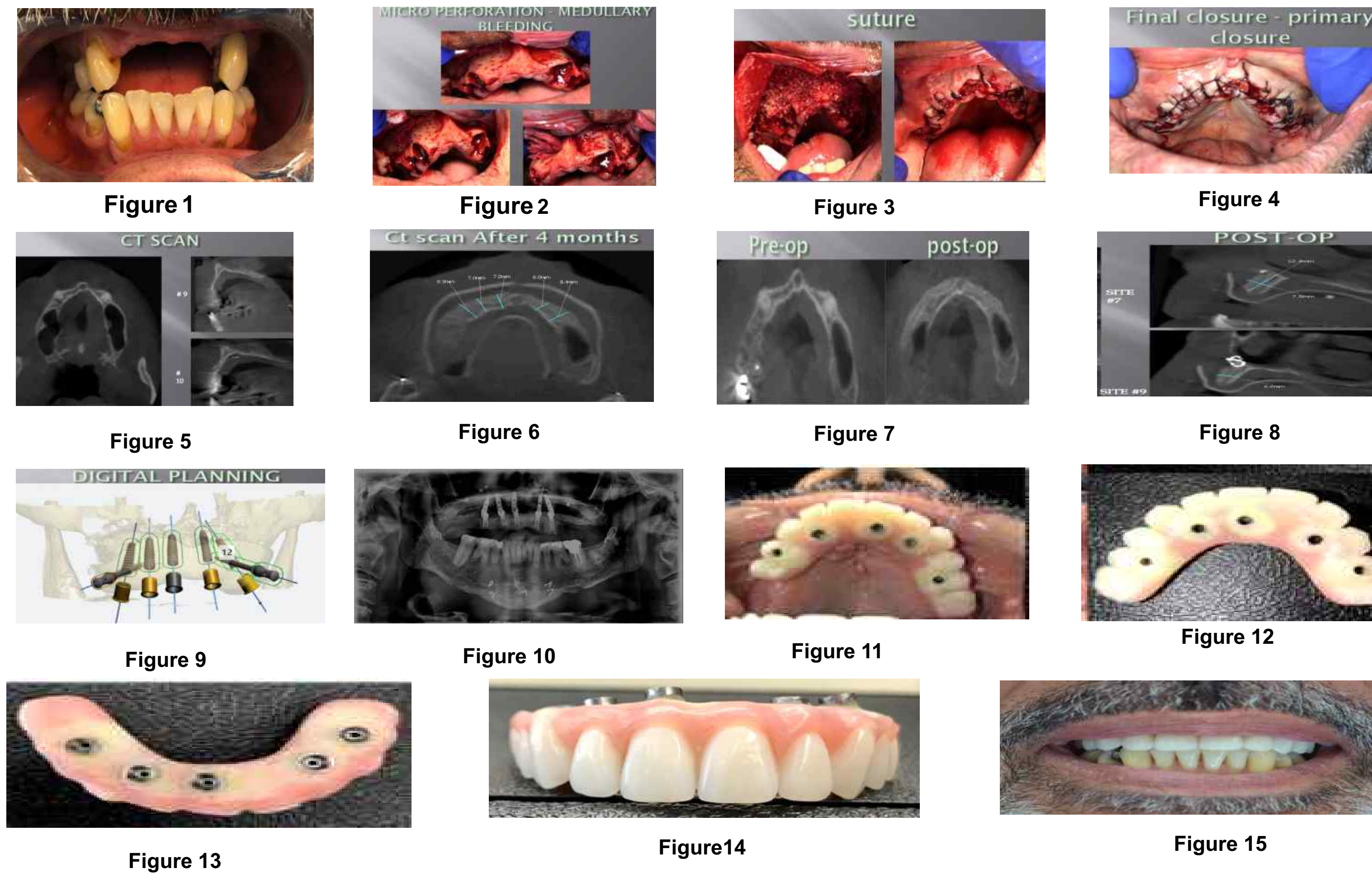
### INTRODUCTION

A dental patient can present with a variety of diseases and disorders. It is incumbent on the clinician to gather information about the presenting patient's oral and systemic conditions to ensure appropriate treatment with a successful outcome. Many patients with a history of multiple extractions who wear partial or complete dentures may have severely atrophic alveolar ridges. These patients may seek dental treatment to obtain improved mastication and a better quality of life. Bone augmentation of an atrophic maxilla can increase the available bone for endosseous implant-supported fixed dentures. This case series describes the treatment of atrophic maxilla, followed by restoring with implant supported fixed complete prosthesis.

### CASE SERIES

In this case series, 5 patients with age group 50 to 55 years old male were selected with severe atrophic maxillary arch, having chief complaint "I want to chew food and I do not want to wear dentures." These patients were worked up in the usual fashion for dental implants treatment, which included review of medical and dental history, diagnostic casts, clinical exam, CBCT. The maxillary teeth were found to be carious with poor periodontal prognosis, and partially edentulous with severe osseous atrophy (Fig. 1). The anterior maxillary bone in all 5 patients was found to be 1-2mm thick on CBCT (Fig. 2). Options were discussed with the patients and written informed consent was obtained. All the patients were prescribed Lodine 400mg, augmentin 875 mg for a week. Phase 1 included extraction, osseous reconstruction with resorbable collagen membrane, chair side complete denture delivery with no pressure.

### Case Series



This graph represents a change in bone density in Hounsfield unit over two and four months period. For Host-Bone and Cortico - Cancellous Bone Graft.

### CASE SERIES

Phase 2 after 4 months included placement of 5 implants in each patient supported with fixed complete prosthesis. Only one grafted site had early collagen membrane exposure which was successfully retreated with simultaneous implant placement and bone grafting. Total 25 implants were placed in 5 patients. Successful outcome was achieved with bone grafting and resorbable collagen membrane followed by implant supported fixed prosthesis.

### DISCUSSION

These patients had very severe atrophy with 1 mm thick maxillary bone, which limited the available methods. There would be a significant risk for perforation of the cortices and fracture. We decided to perform guided bone regeneration (GBR) using a particulate cortico-cancellous bone graft using a BioExtend firm resorbable membrane secured with tenting tacks. The patients also wanted to wear a provisional denture. This was a challenge since while the denture is worn, the flange of the denture can cause pressure resorption of the graft or graft failure. The success of this procedure is dependent on two factors successfully performing the technique sensitive surgery, and patients maintenance and compliance.

### CONCLUSION

Preoperative information on the patients presenting condition ensured a successful treatment outcome with long-term uneventful function. Osseous augmentation for bone volume and quality was performed. Patients compliance with daily function and hygiene is important for clinical success. This patients were successfully treated with a maxillary implant- supported screw retained complete denture.

### REFERENCES

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