



Guided Bone Regeneration: A Partially Decalcified Approach

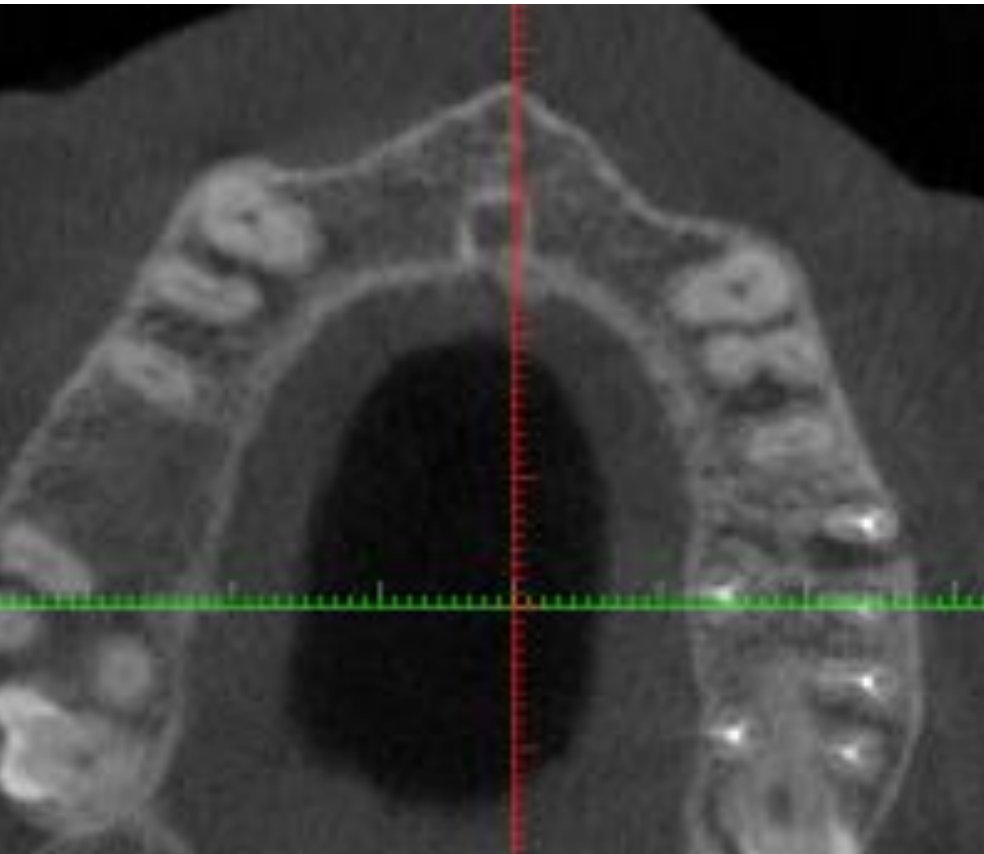
Tamar Rogoszinski DMD, Kiran Changa DDS, Louis Galiano DMD

Rutgers School of Dental Medicine, Newark NJ



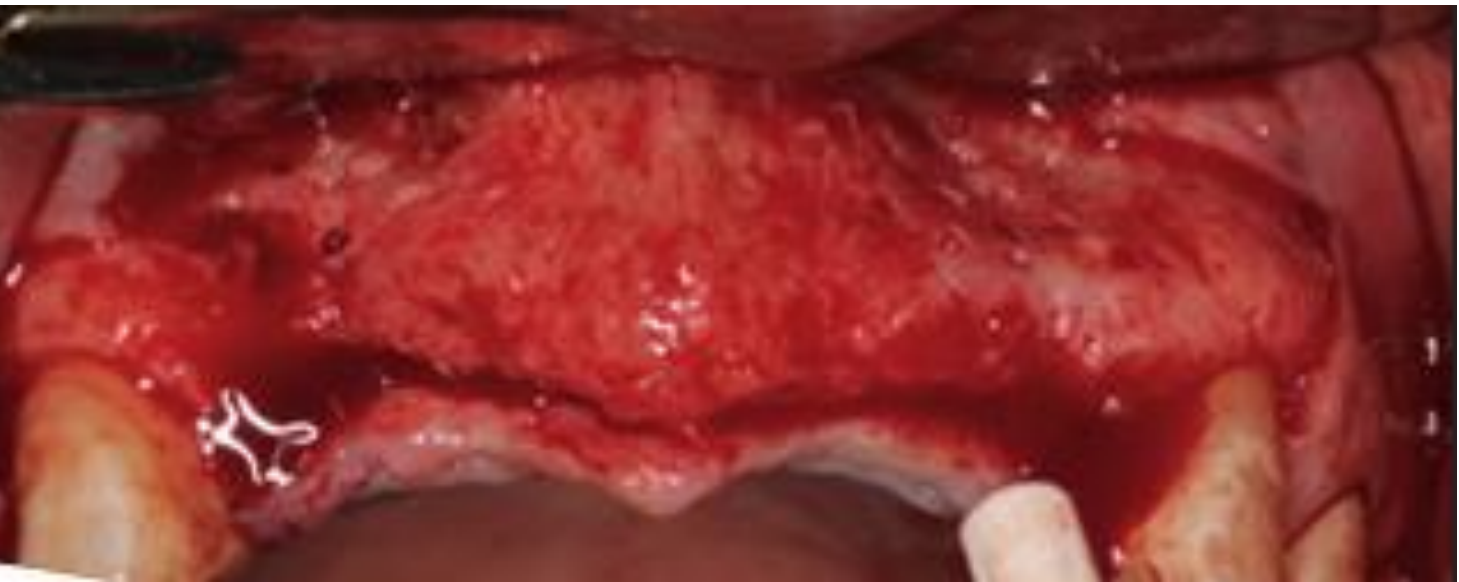
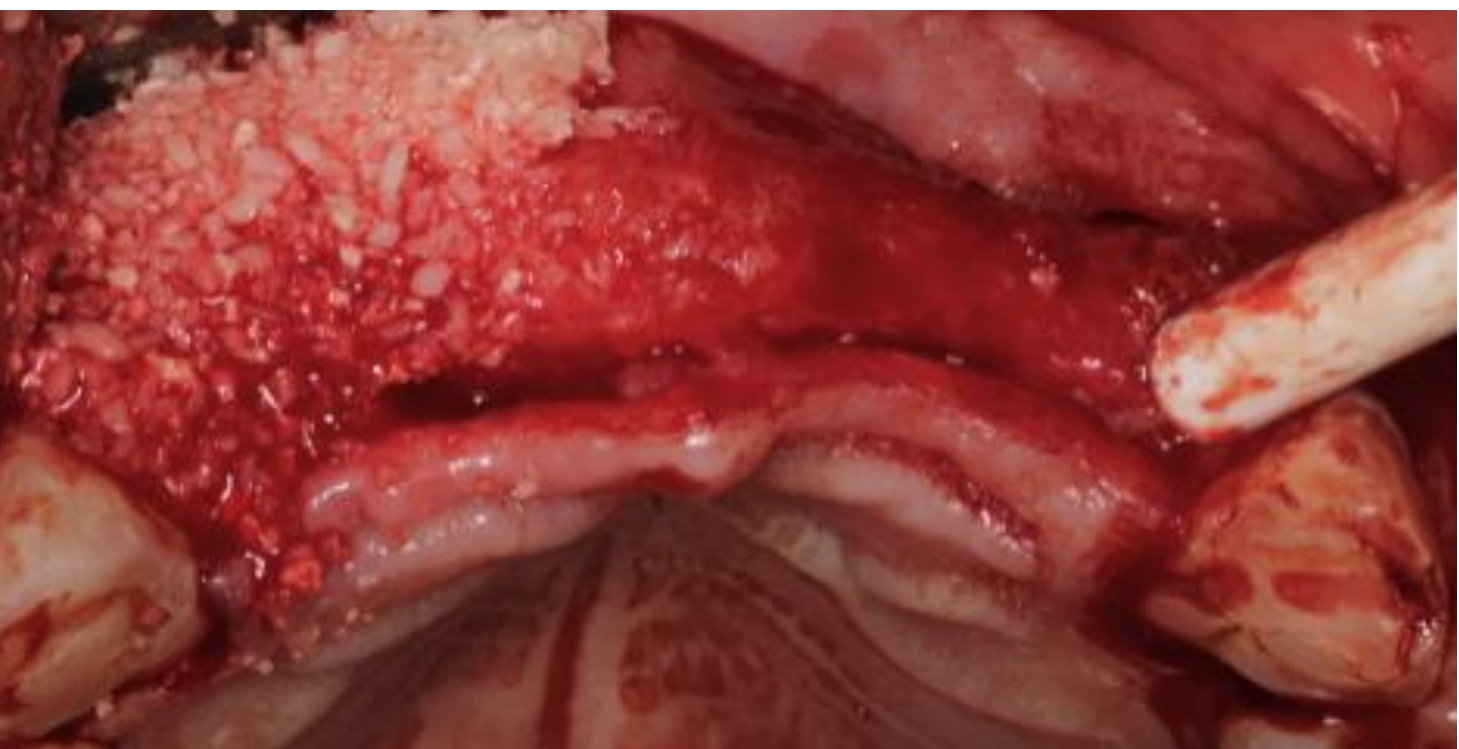
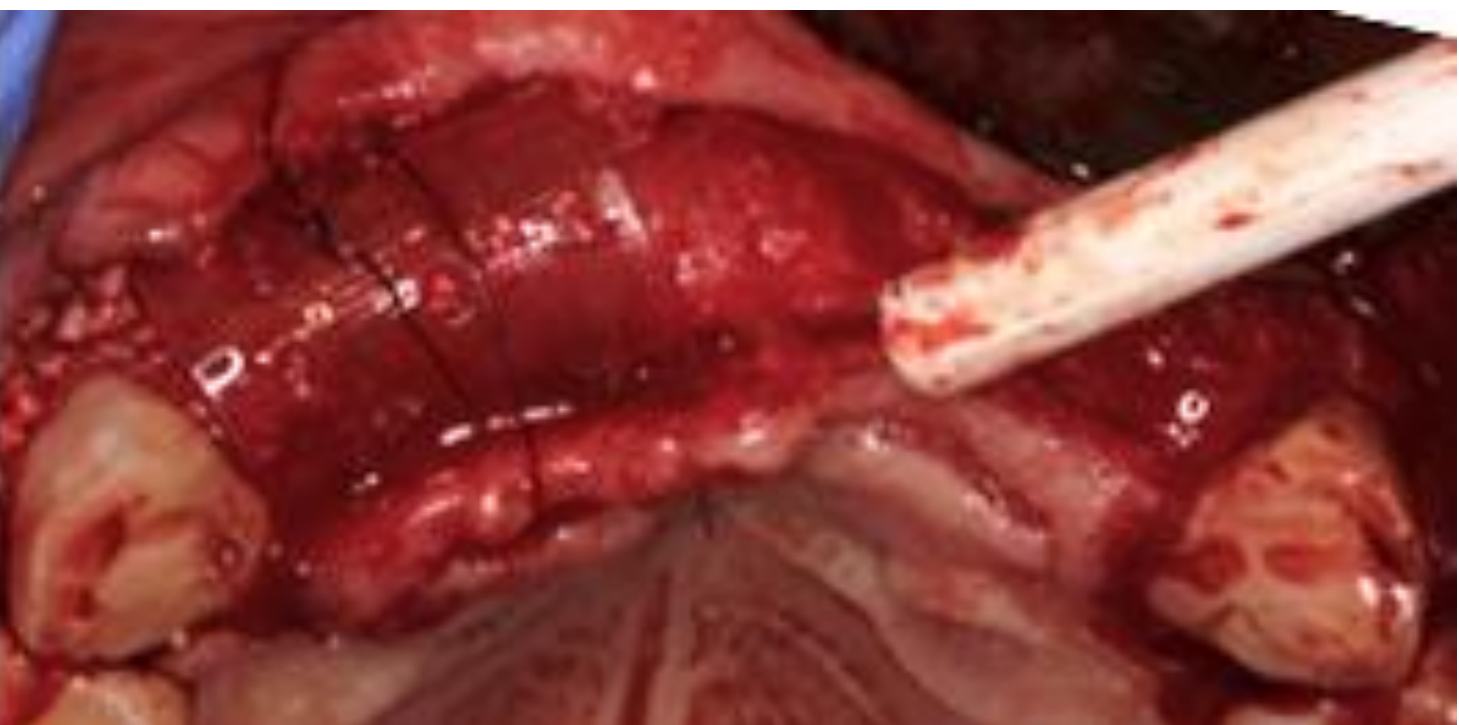
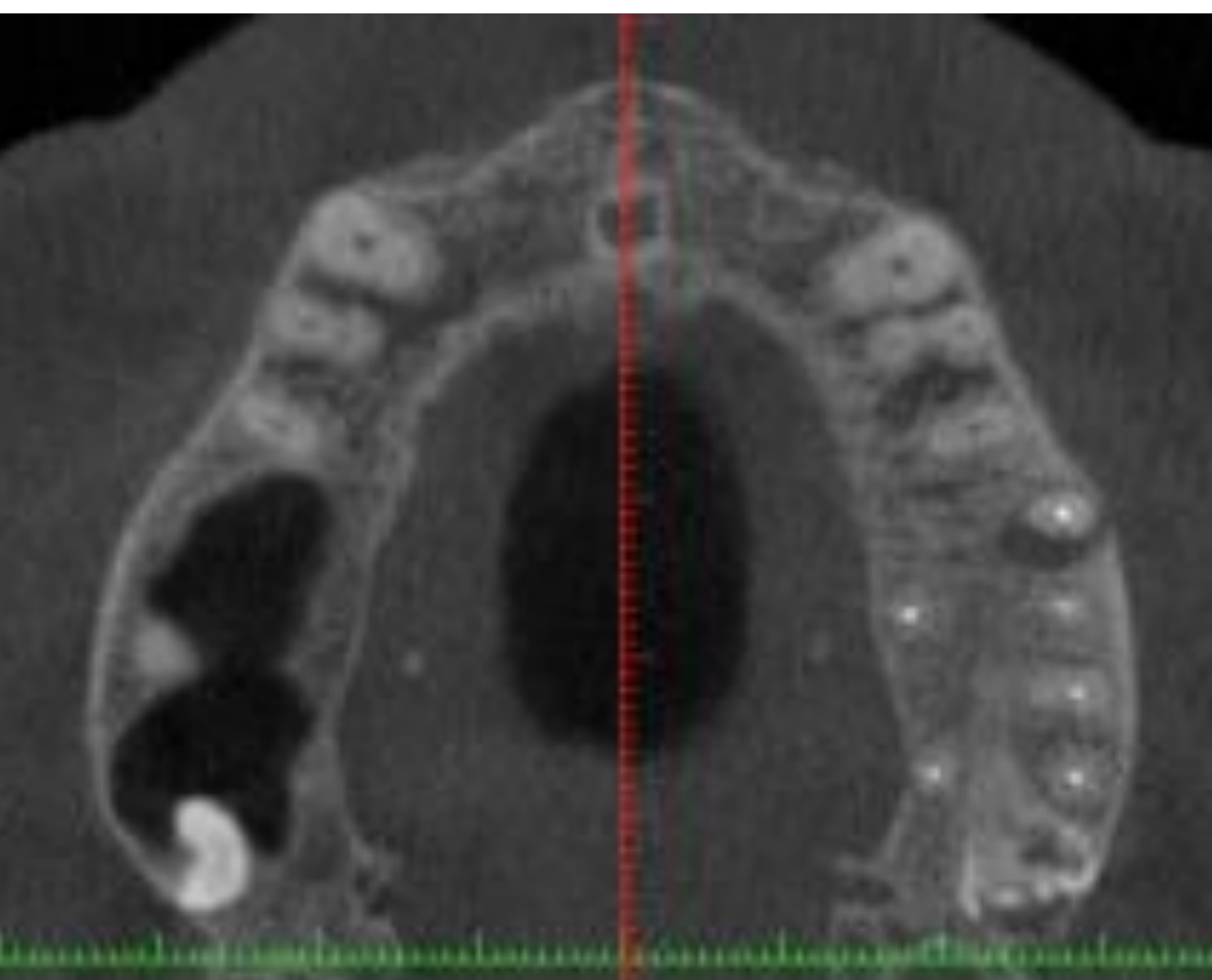
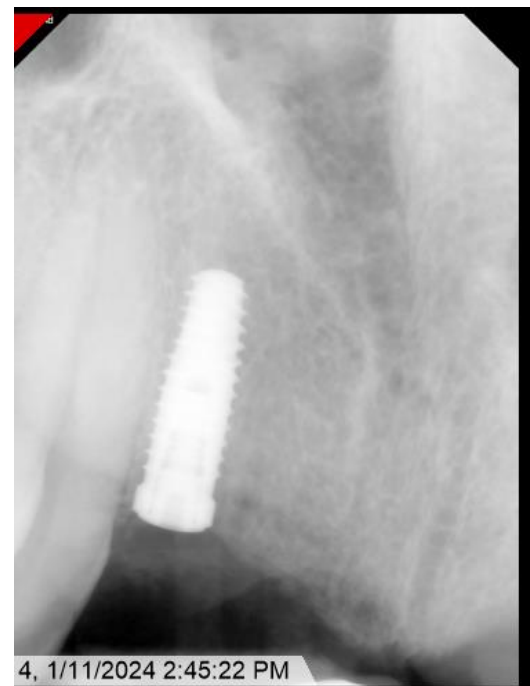
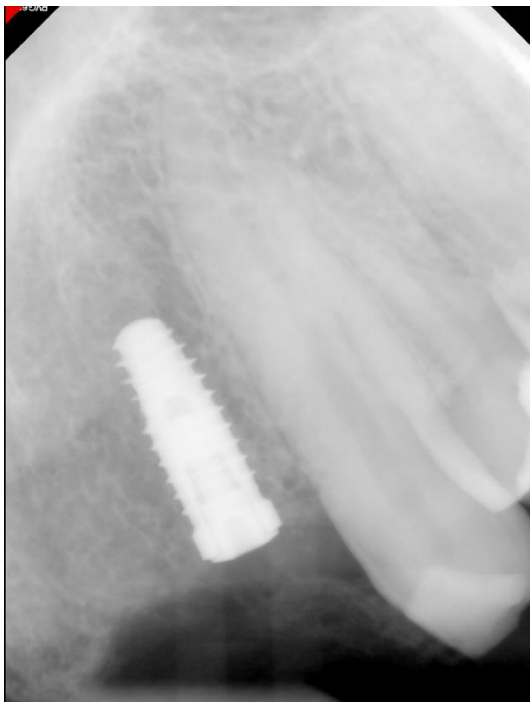
INTRODUCTION

Guided Bone Regeneration (GBR) is essential in implant dentistry when bone loss hinders implant placement. This case report discusses a 55-year-old male with a history of hypertension, diabetes, and hyperlipidemia seeking dental implants in the anterior maxilla. Radiographic evaluation revealed buccal bone insufficiency at sites #7 and #10, requiring GBR before implant placement. A partially decalcified allogenic bony plate of 1mm thickness was used to stabilize the graft, facilitating bone regeneration and successful implant placement.



METHODS

The treatment plan aimed to restore buccal bone at sites #7 and #10 for anterior implants. A full-thickness flap was elevated, followed by decortication. 2cc of mixed DFDBA/FDBA allograft were hydrated with rhPDGF-BB and placed. A 1mm partially decalcified bony plate was secured with 4-0 resorbable sutures, and the area closed with 5-0 resorbable sutures. The patient wore a provisional flipper during healing. Three months later, implants were placed at #7 (4/3 x 13mm) and #10 (4/3 x 11.5mm) with primary stability at 35Ncm. An additional 1.0cc of DFDBA allograft was applied to address a minor buccal deficiency and covered with a collagen membrane. Primary closure was achieved, and healing abutments were placed after three months of healing.



RESULTS

GBR procedure successfully regenerated buccal bone. After three months, sufficient bone volume supported implant placement, with both implants torqued to 35 Ncm, indicating excellent stability. The minor buccal deficiency was corrected during implant placement using additional graft material, improving bone contour and volume. The partially decalcified bony plate stabilized the graft effectively. Soft tissue healing was ideal, and no signs of peri-implant complications were noted at uncovering. The final restoration with a fixed anterior bridge was successful. The patient reported satisfaction with both function and aesthetics, and stable occlusion was maintained.

CONCLUSION

This case demonstrates that GBR using a partially decalcified bony plate is an effective method for addressing buccal bone deficiencies before implant placement. The regenerative techniques provided stable outcomes, ensuring both functional and aesthetic success for long-term implant stability.