

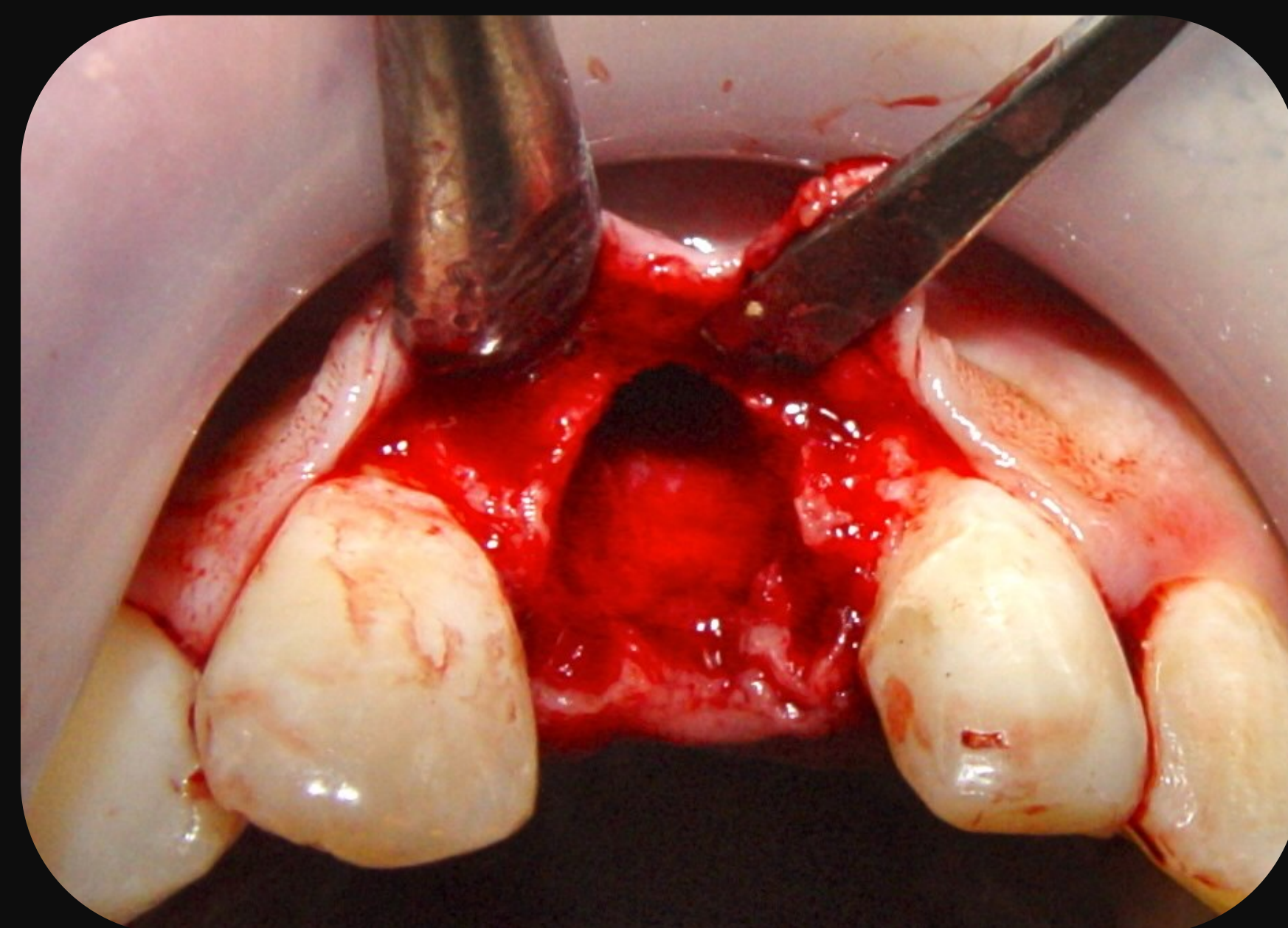
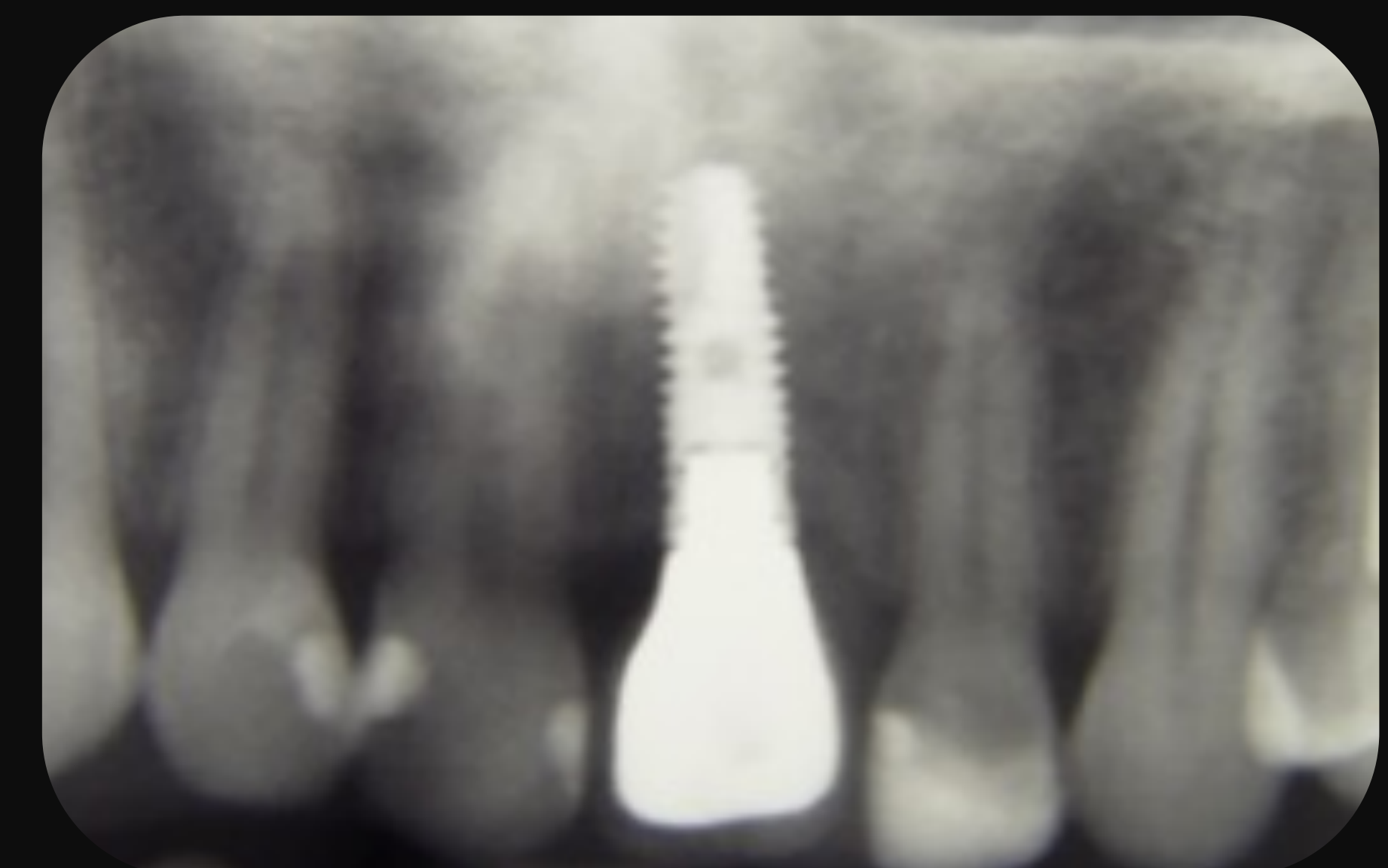
Immediate Dentoalveolar Restoration Techniques in Esthetic zone (Five years Follow up)

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INTRODUCTION

Immediately placement of implant in esthetic areas with hard and soft tissue deficiency can be challenging for reconstruction of dentoalveolar defects. Also, reestablishment of esthetic and function can determine success of treatment. These cases can also be successfully treated using immediate dentoalveolar restoration (IDR). This technique can cause time saving and reducing costs also promising and effective way of reconstruction in esthetic areas. Here, we present surgical management of cases with buccal bone and soft tissue deficiency in anterior area, creating optimal prosthetic running room with provisional prosthesis and finally replace missing tooth with an implant-based fixed prosthesis.



**SIMULTANEOUS AUGMENTATION OF DEFECTIVE BUCCAL BONE PLATE AND IMMEDIATE IMPLANT PLACEMENT IN ESTHETIC ZONE
(MODIFIED AUTOGENOUS BONE BLOCK GRAFT)**

METHODS

Six patients with hopeless teeth were examined clinically and radiographically for implant placement. All cases underwent atraumatic extraction and immediate implant placement in the palatal position to achieve primary stability. A guide hole was created to facilitate implant insertion in the prosthetic-driven position. Bone graft material was placed for reconstruction of the ridge defect. In cases with soft tissue deficiency free connective tissue graft was also used for contour augmentation. An appropriate size of healing abutment was selected for guiding the soft tissue and creating the optimal shape of the future prosthetic running room. After surgery provisional restoration, where it was needed was placed. later, the cases were completed with a implant-based fixed prosthesis.



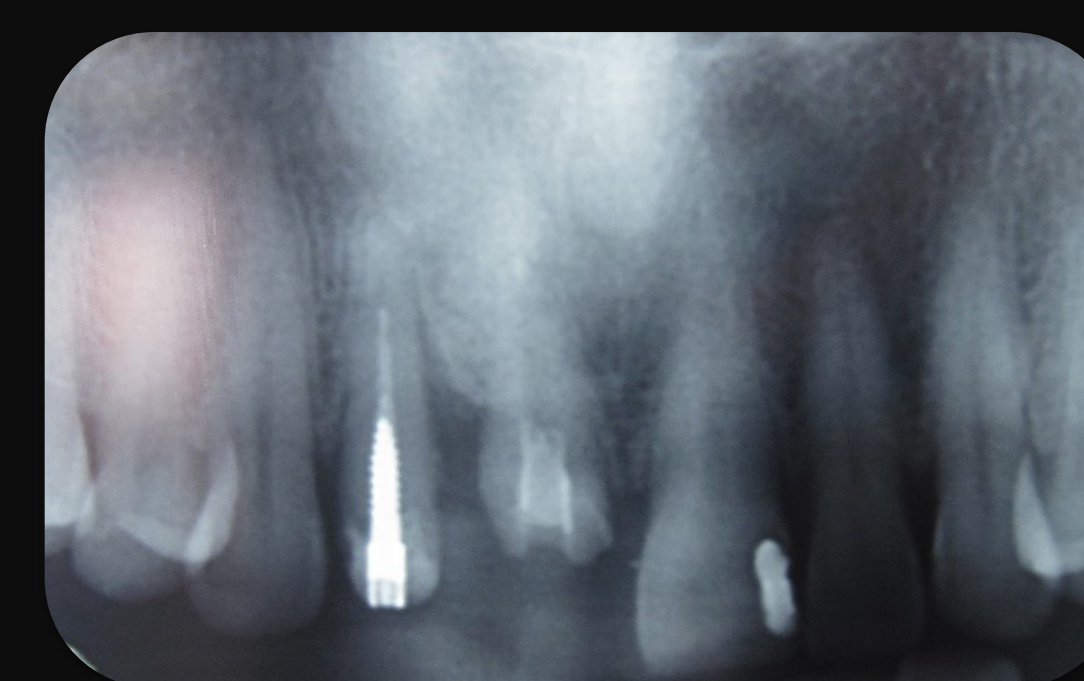
Case 1 -Pre-treatment view



Pre-treatment view



Removal of crowns



Pre-treatment radiography



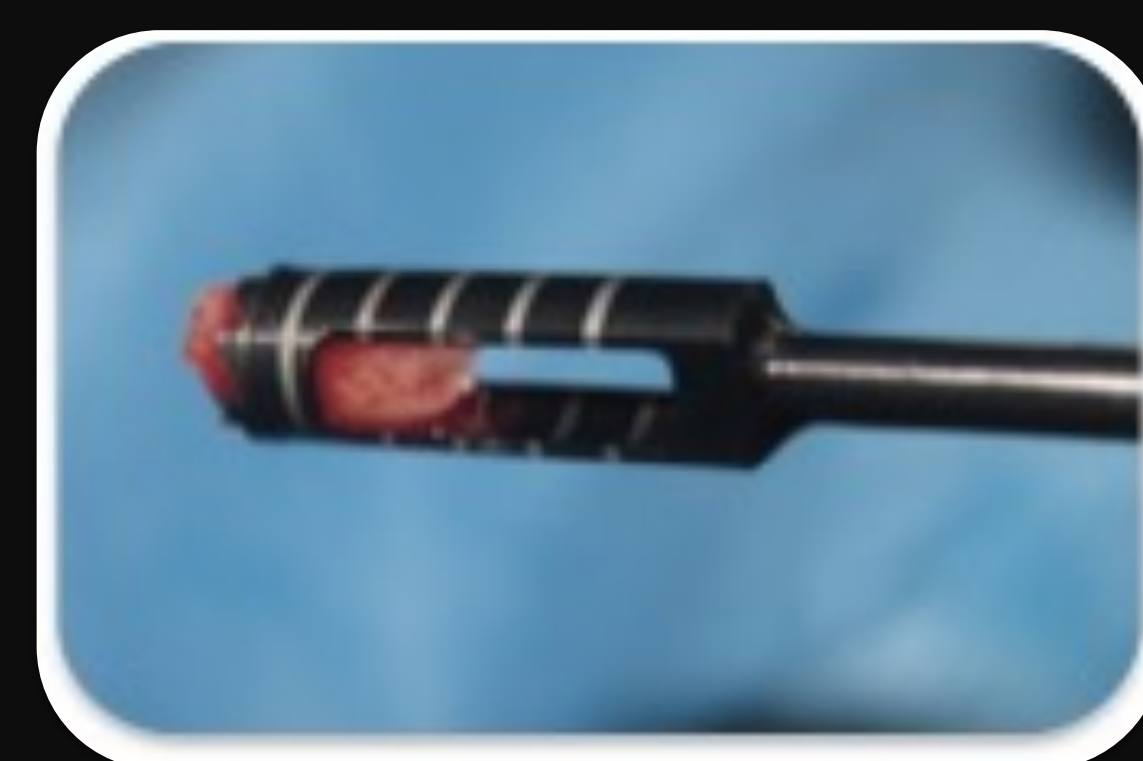
Immediate implantation



Residual bone defect



Residual bone defect



Filling the defect with autogenous bone graft



Suturing the flap



Temporary prosthesis



Reshaping the prosthesis

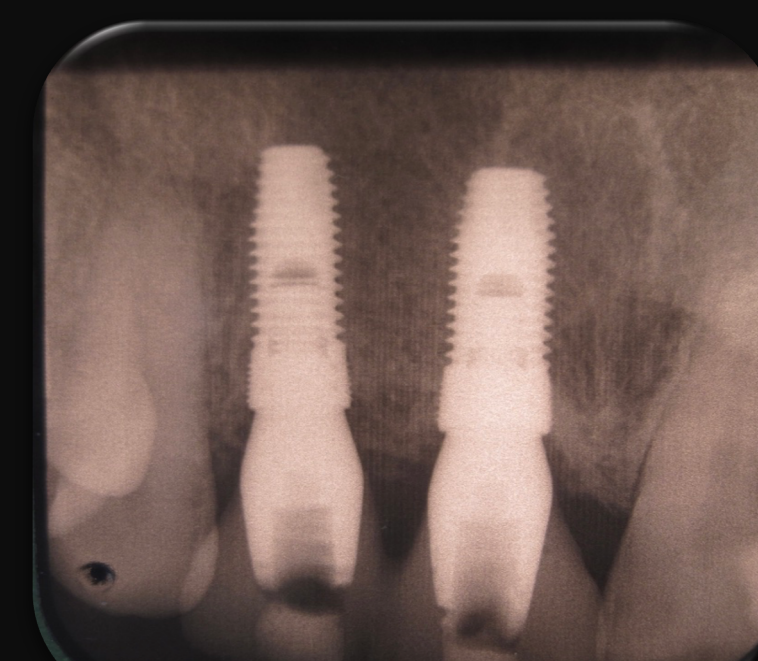
Immediate Dentoalveolar Restoration Techniques in Esthetic zone (Five years Follow up)



Running room formation



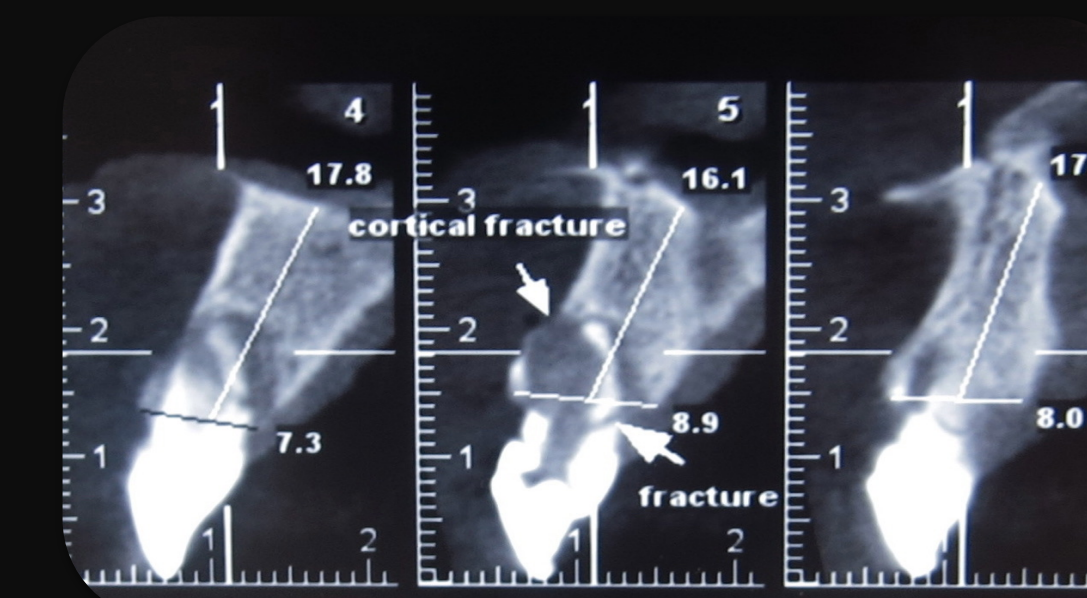
Final prosthesis



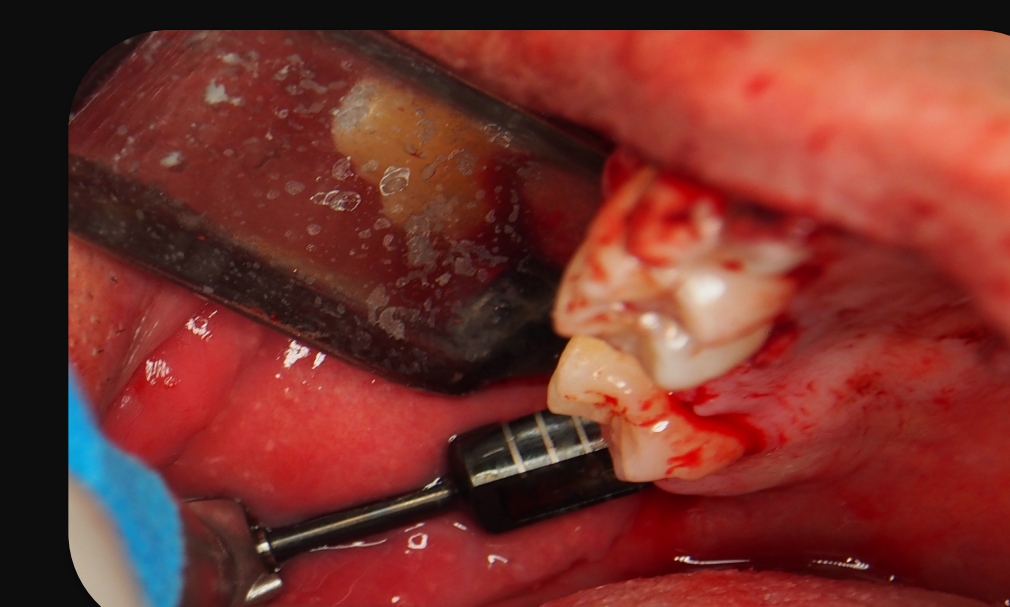
Final radiographic



Case 2 –buccal bone defect



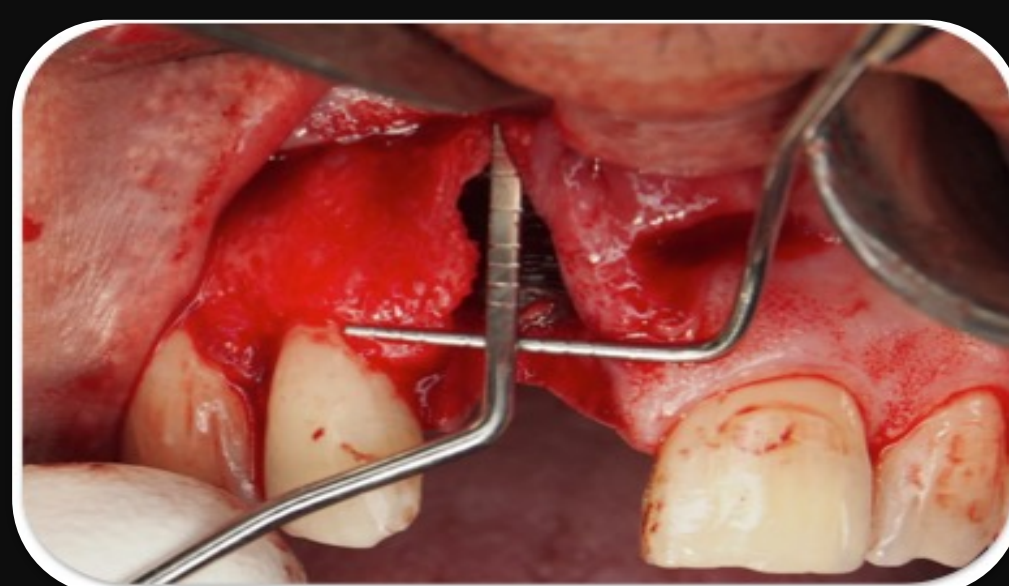
Pre-treatment radiography



Autogenous bone harvesting from maxillary tuberosity



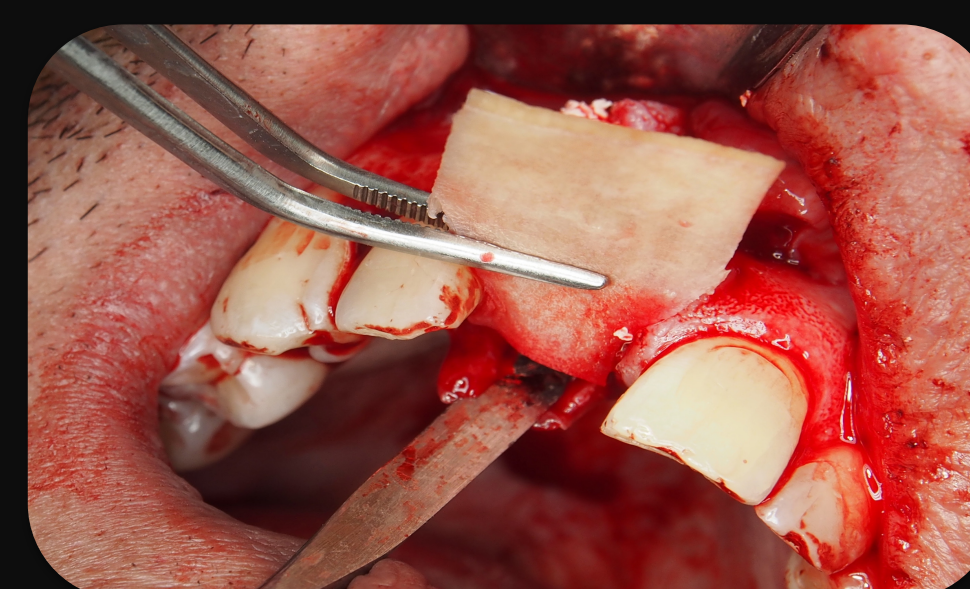
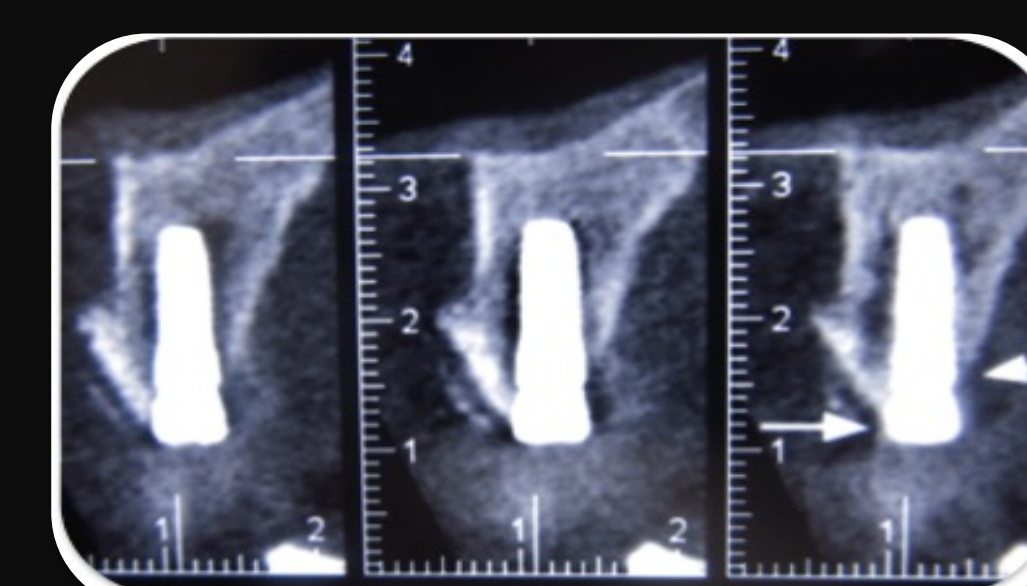
Milling harvested bone



Filling the buccal bone dehiscence with bone graft material



Covering with membrane



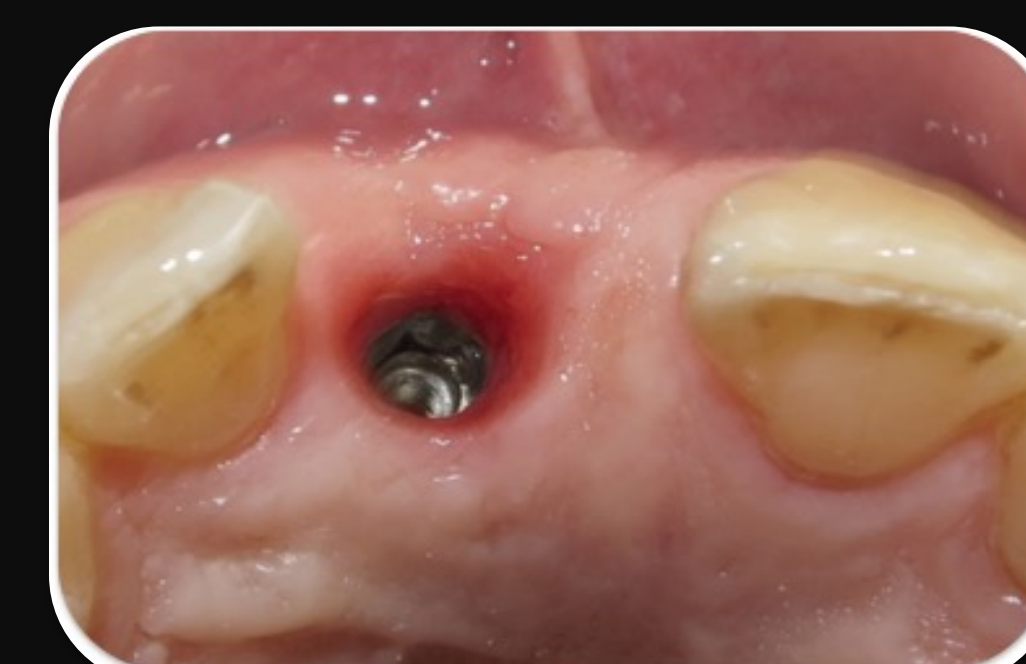
Radiographic view after implant insertion and grafting



Temporary prosthesis



Healing abutment placement



Running room formation



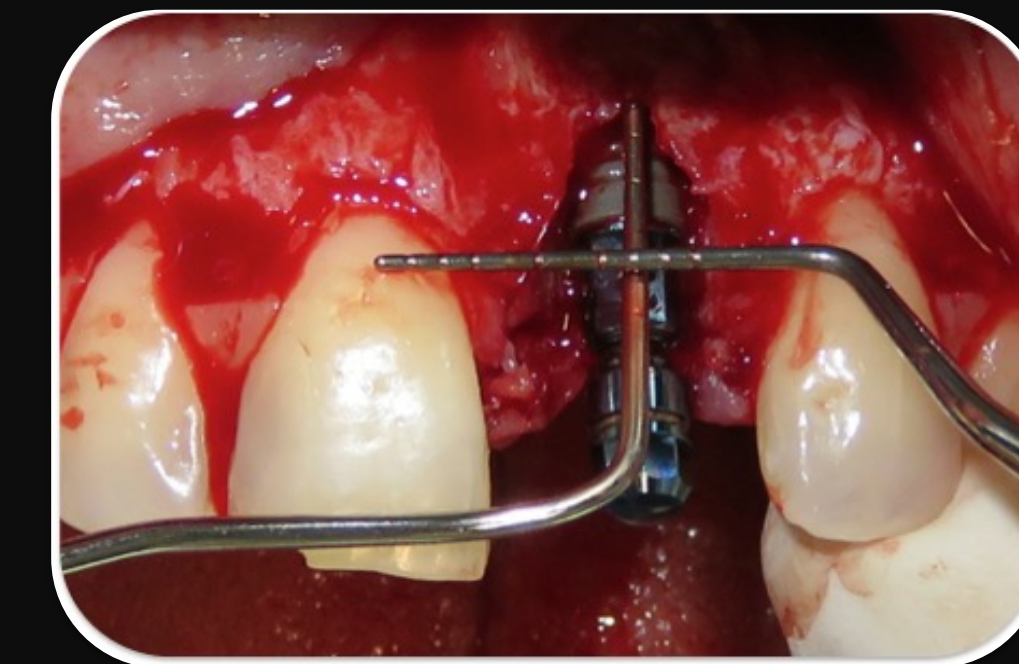
Final prosthesis



Case 3 -pre-treatment view



Pre-treatment radiography



Immediate implant placement



Filling the dehiscence with graft material



Radiographic view



Healing abutment placement



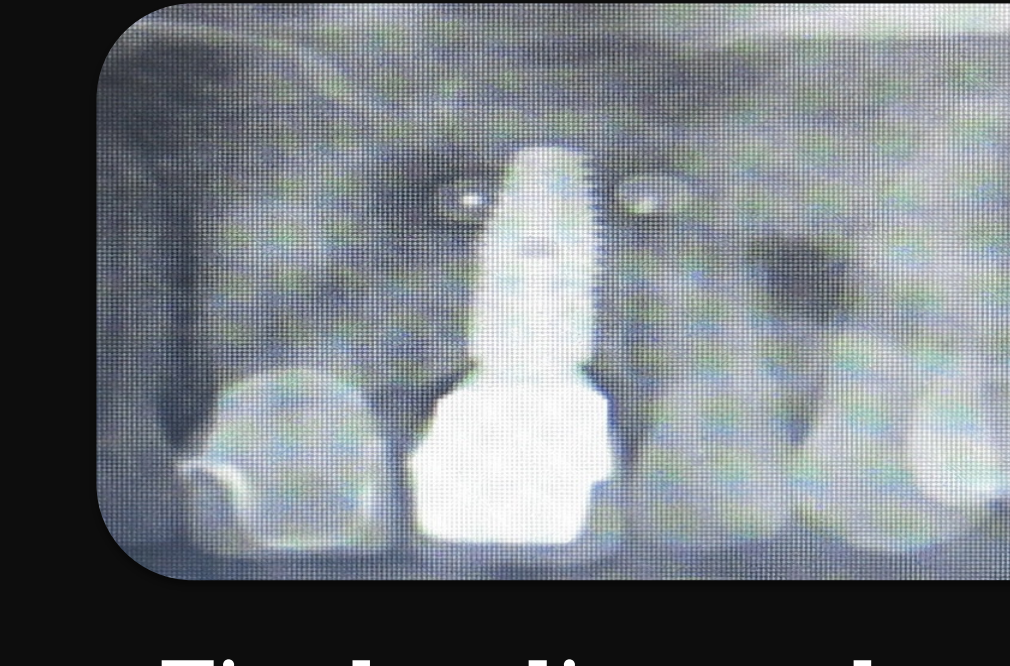
Temporary prosthesis



Running room formation



Final prosthesis

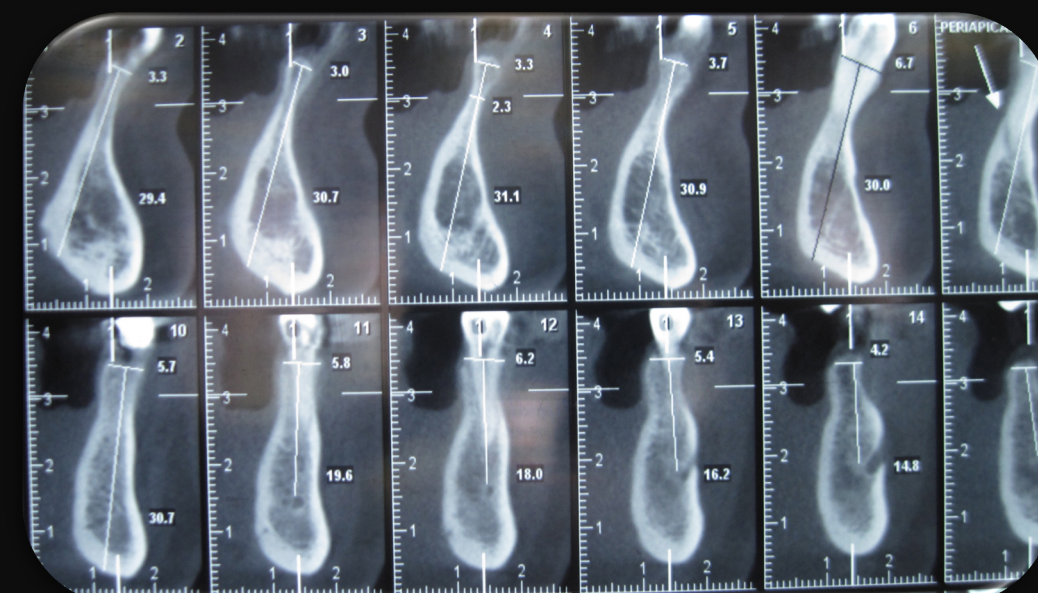


Final radiography

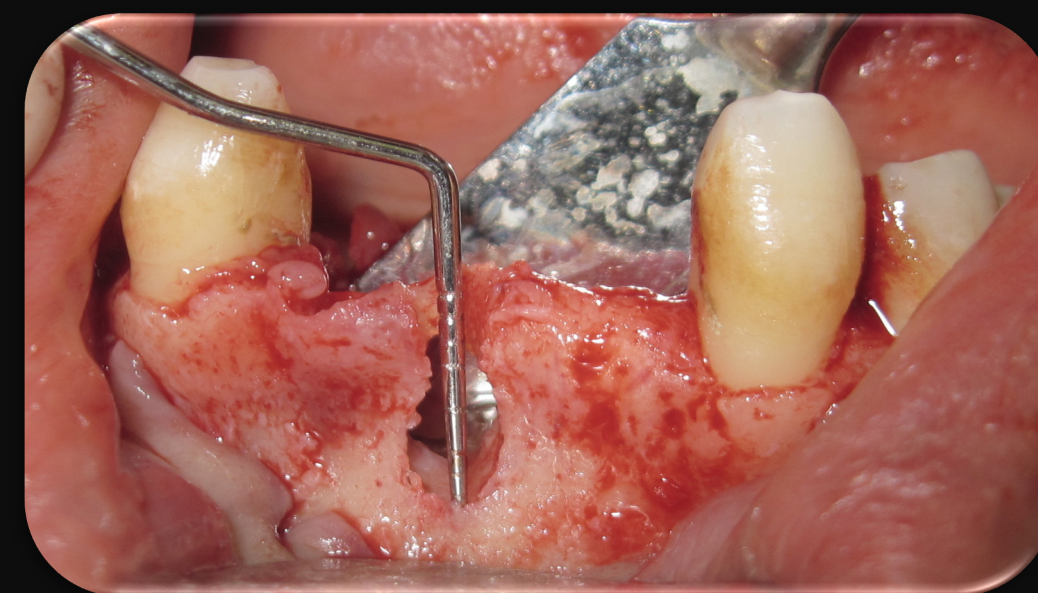
Immediate Dentoalveolar Restoration Techniques in Esthetic zone (Five years Follow up)



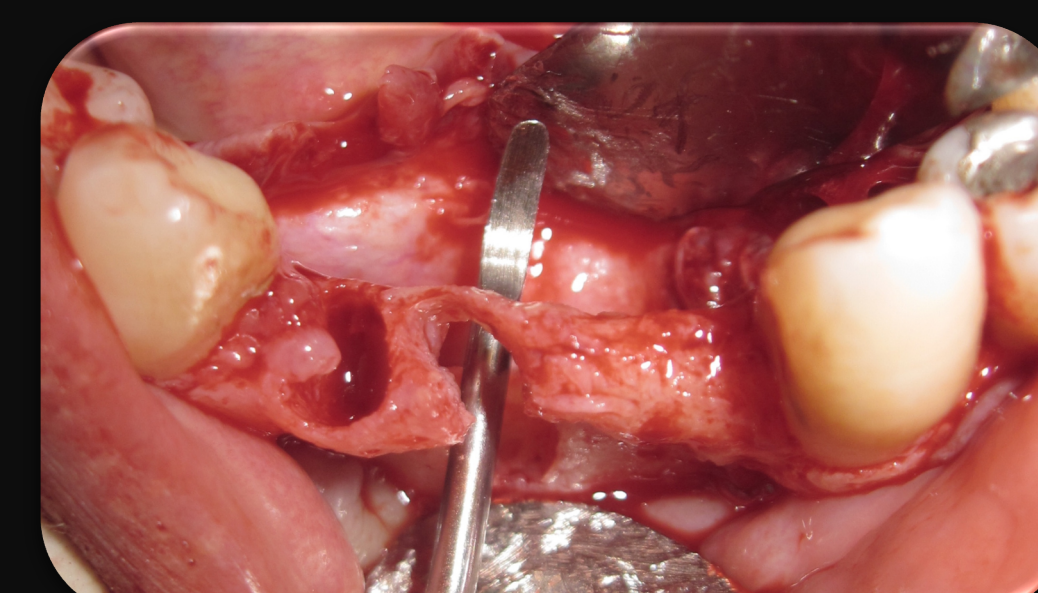
Case 4 pre-treatment view



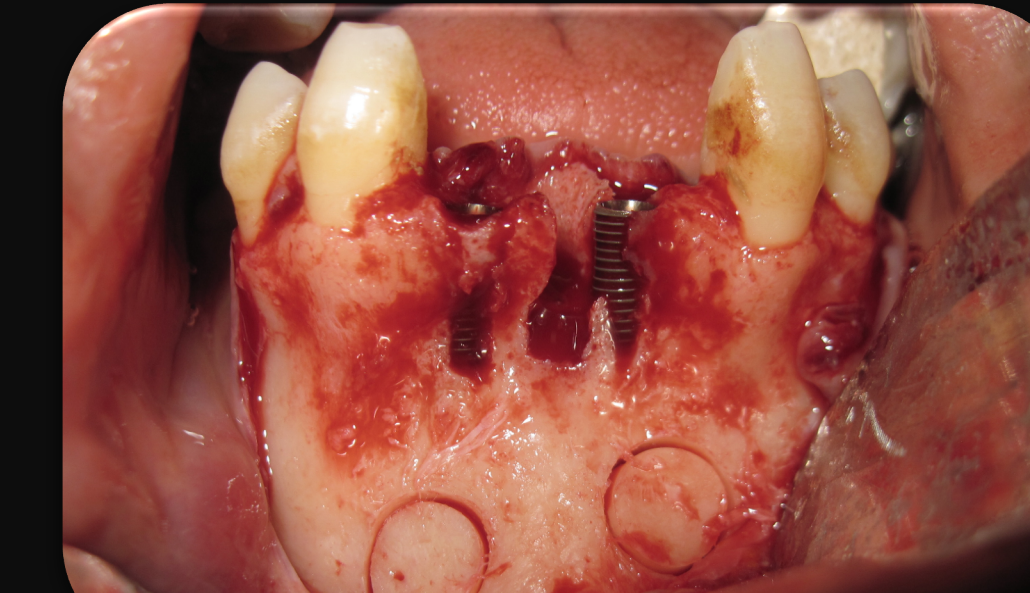
Pre-treatment radiography



Residual bone defect



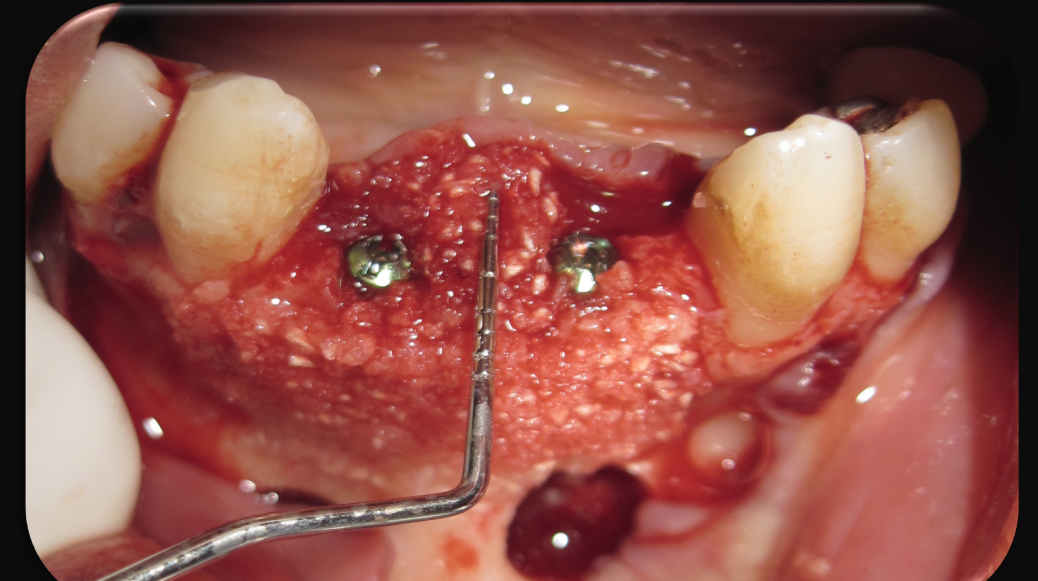
Immediate implant placement



Autogenous bone harvesting from maxillary tuberosity and milling



Filling the bone dehiscence with bone graft material



Covering with membrane



Soft tissue healing



Final prosthesis



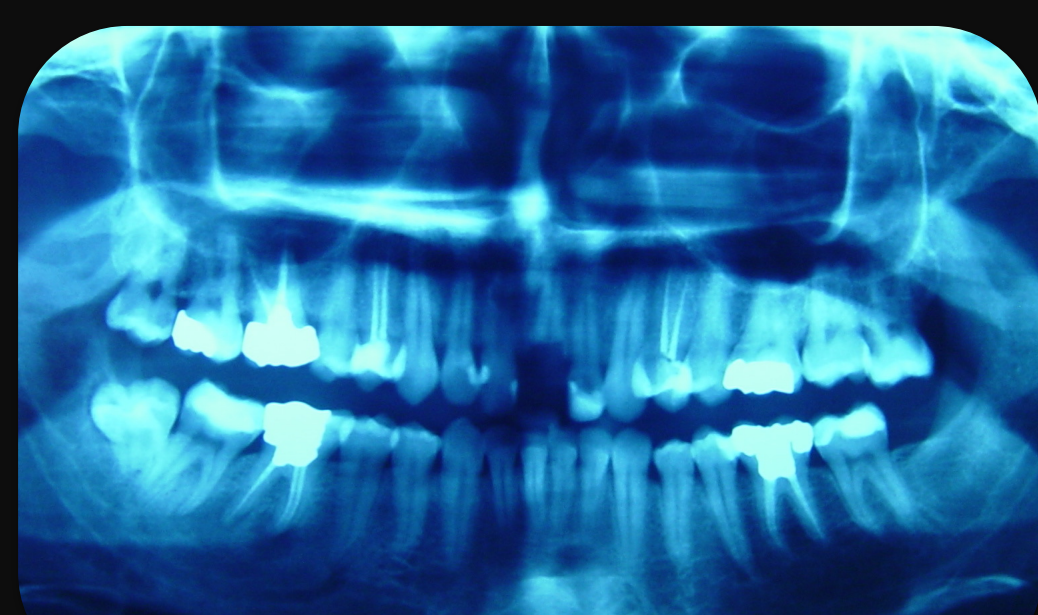
Final radiography



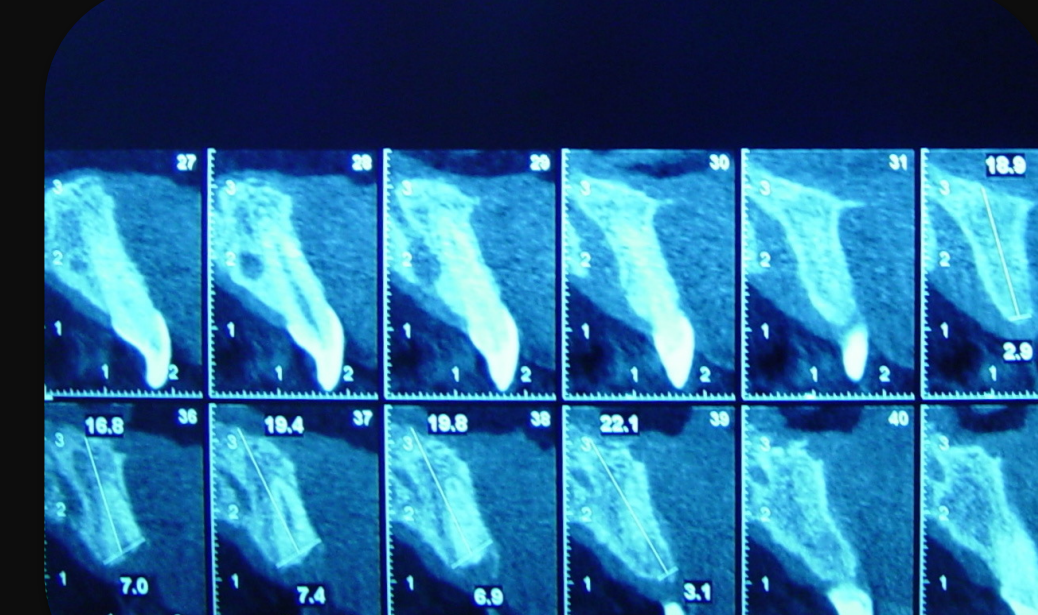
Case 5 -Hopeless maxillary left incisor



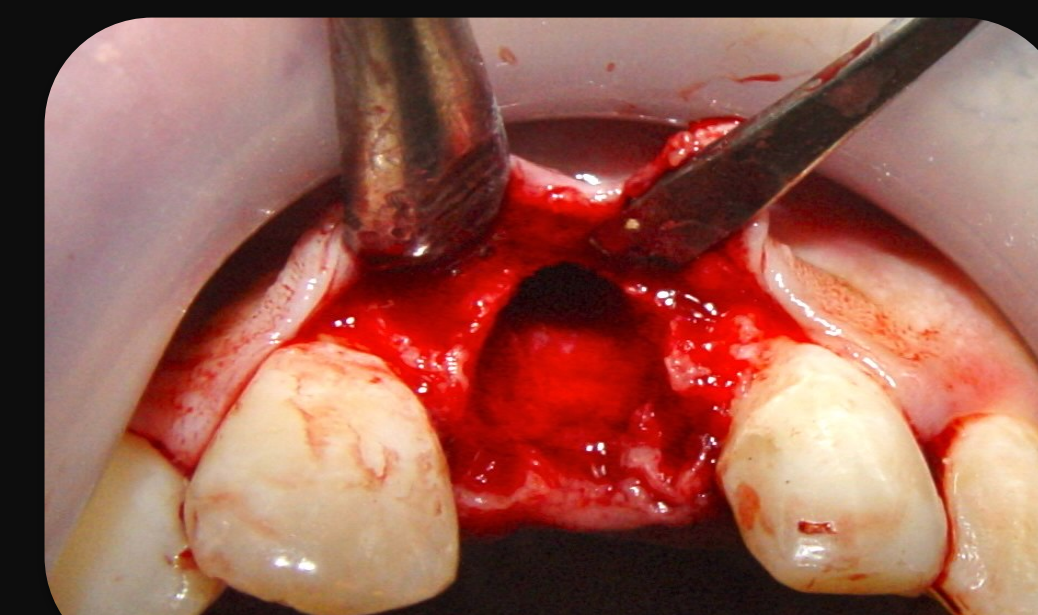
Smile line



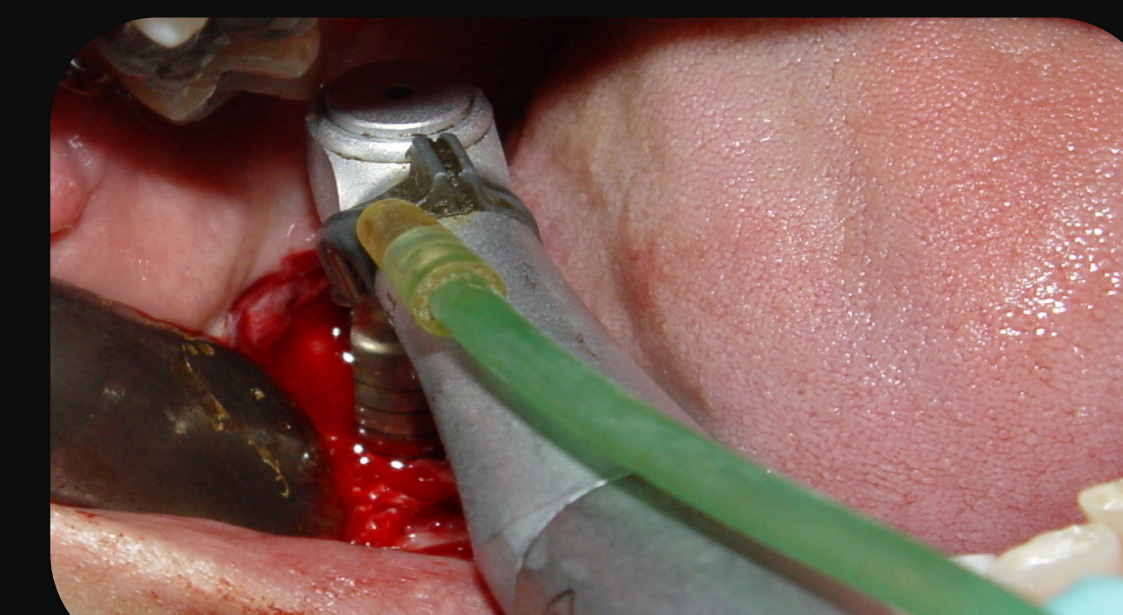
Panoramic X-Ray



CBCT



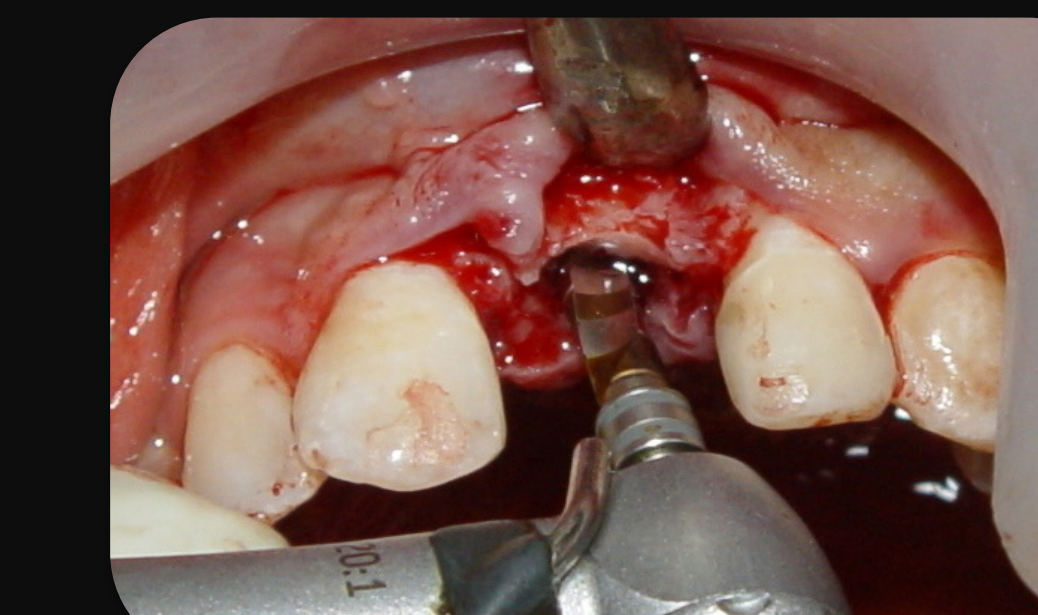
Mucoperiosteal flap without vertical incision



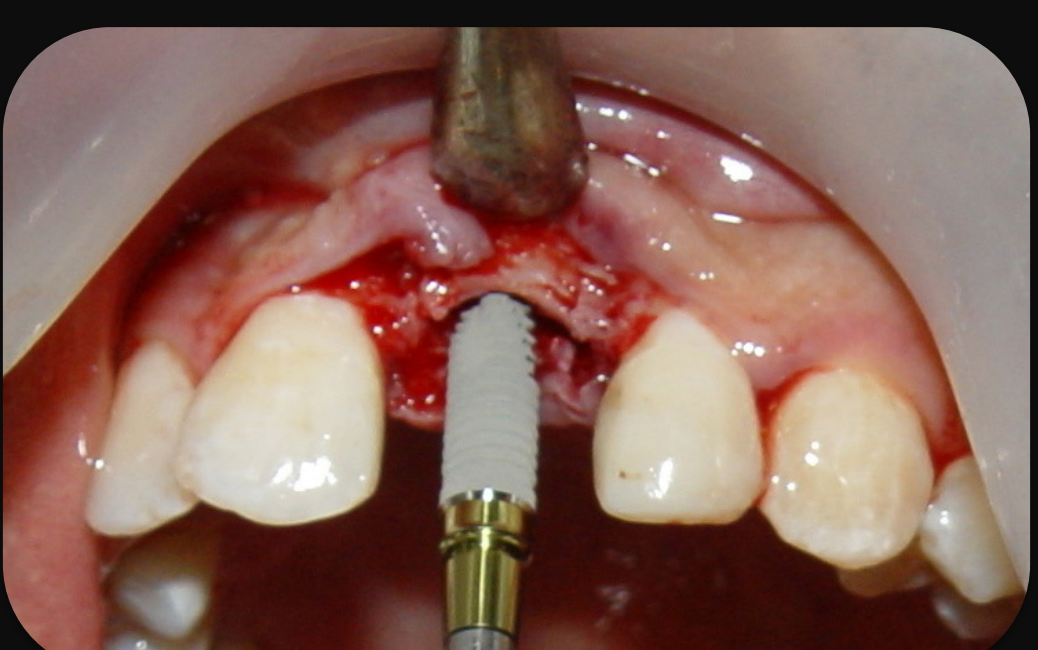
using a trephine bur



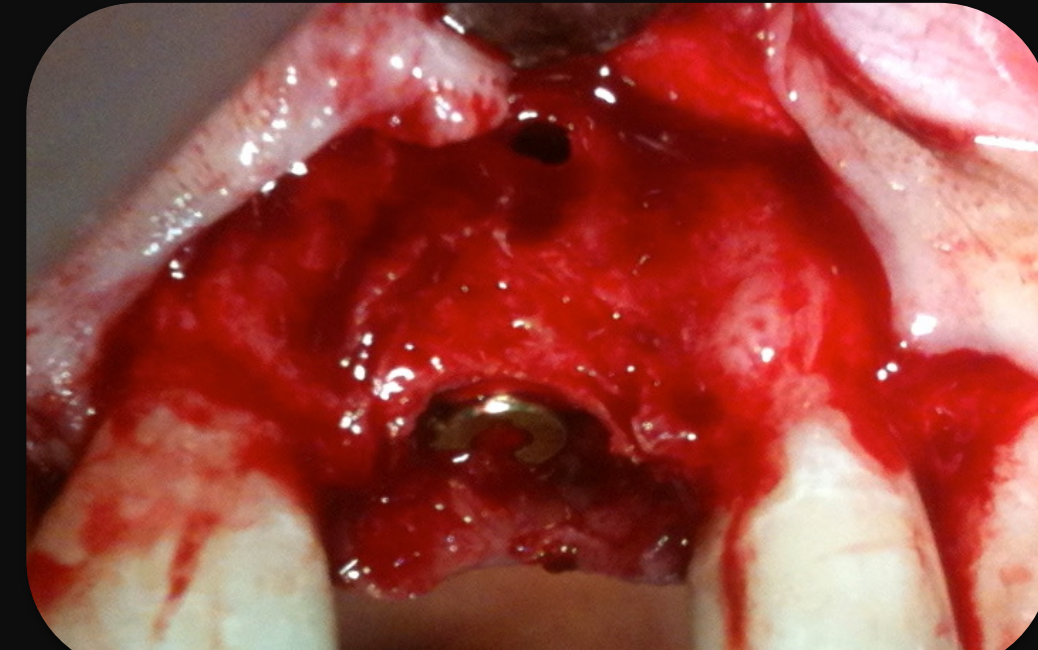
Semilunar wedge-shaped bone block



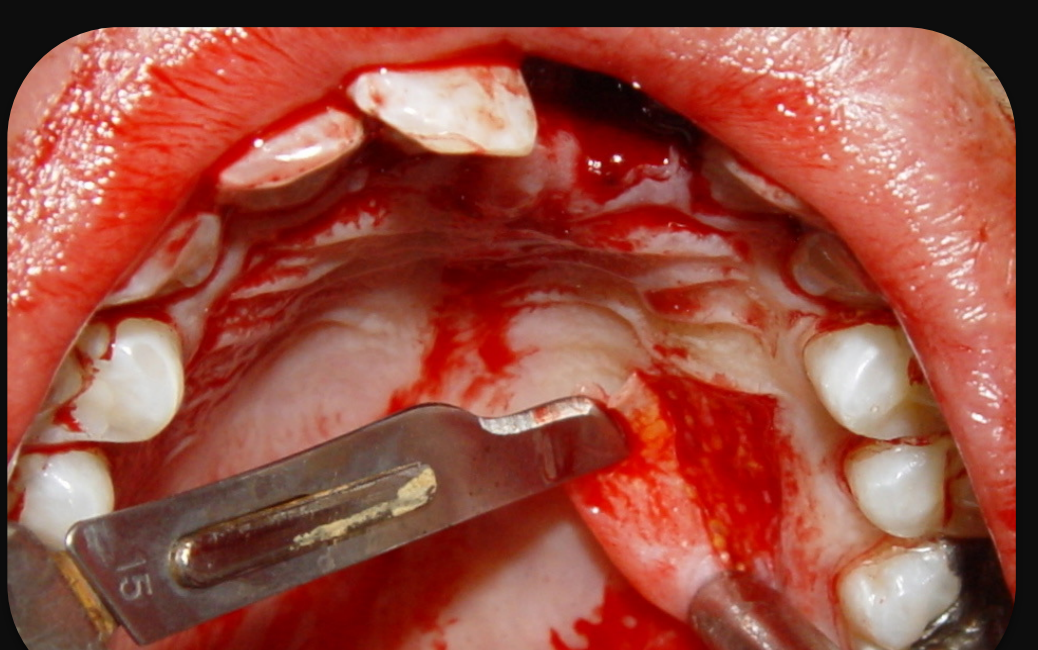
semilunar wedge-shaped bone block & prosthetic-driven position



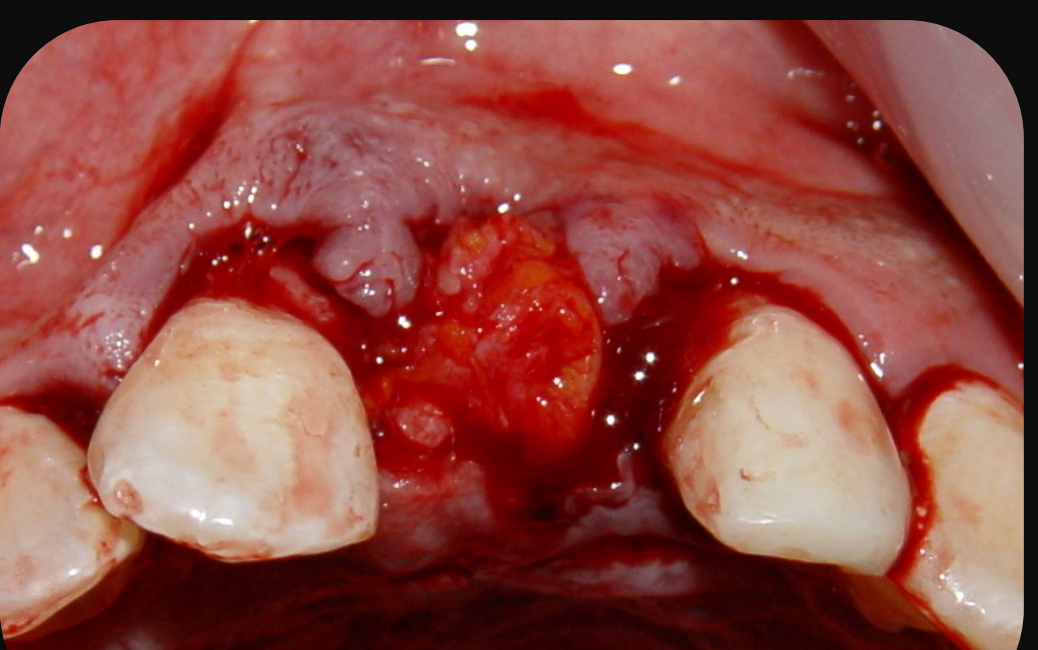
fixture was inserted



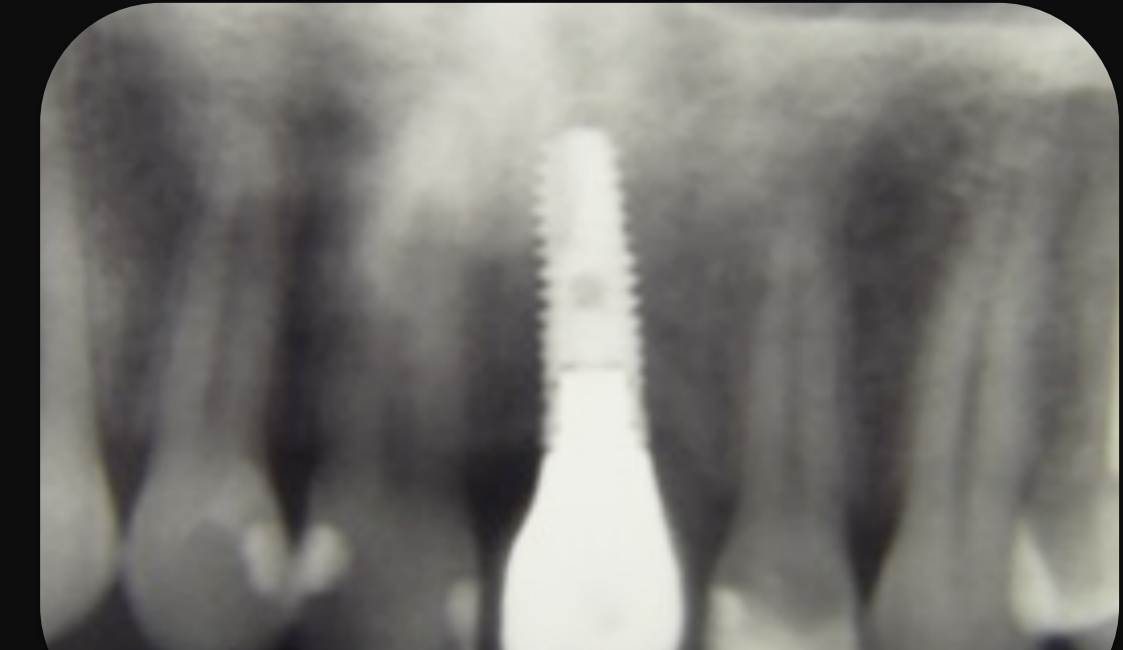
The block was pushed to the residual buccal bone plate



Free connective tissue graft was harvested



soft tissue augmentation



X-Ray



Simultaneous Augmentation of Defective Buccal Bone Plate and Immediate Implant Placement in Esthetic Zone



Immediate Dentoalveolar Restoration Techniques in Esthetic zone (Five years Follow up)



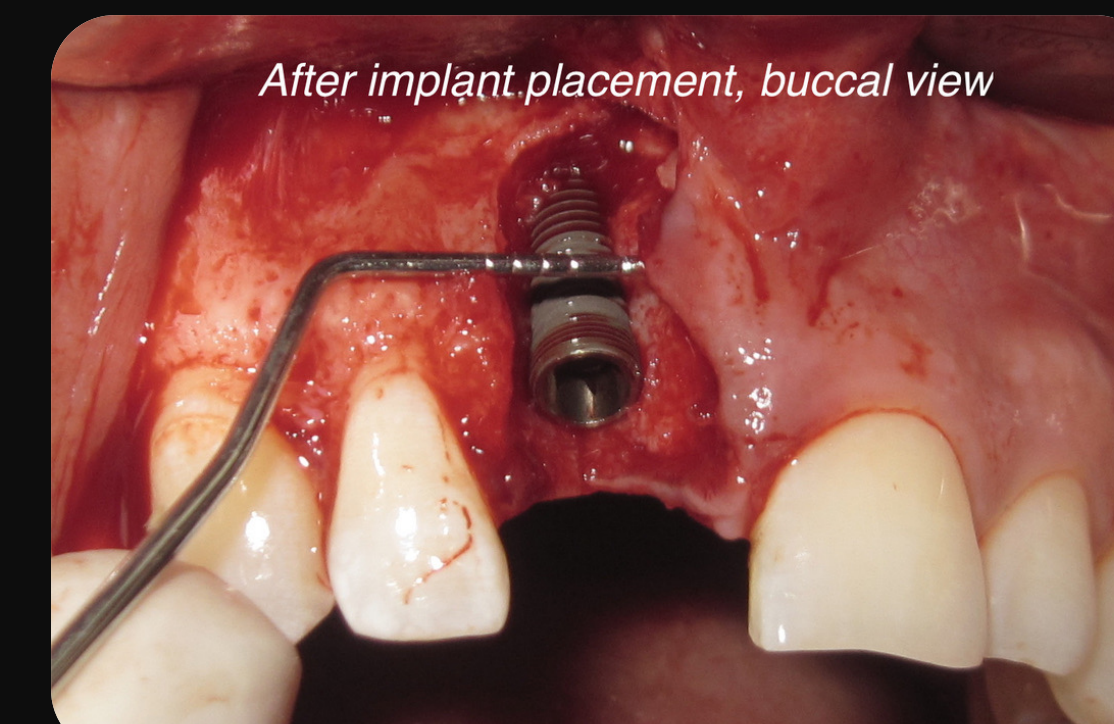
Case 6 : Hopeless Maxillary Right Central Incisor



CBCT Shows an Apparent Vertical Root Fracture and Lack Of Buccal Bone Wall



Clinical View Of Vertical Bone Loss



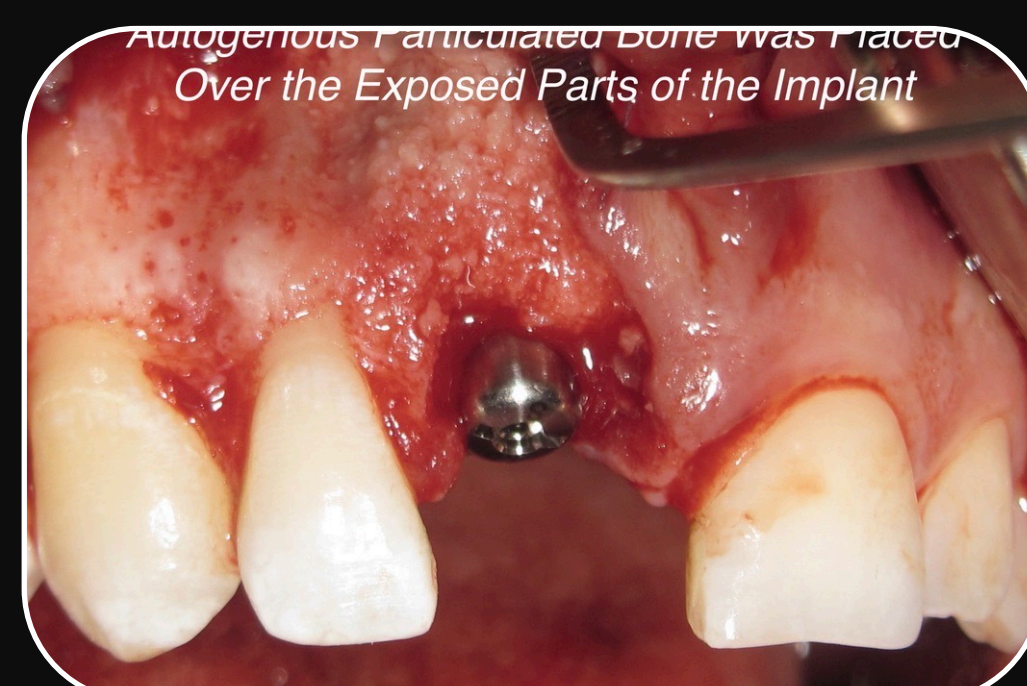
Implant Insertion Palatally



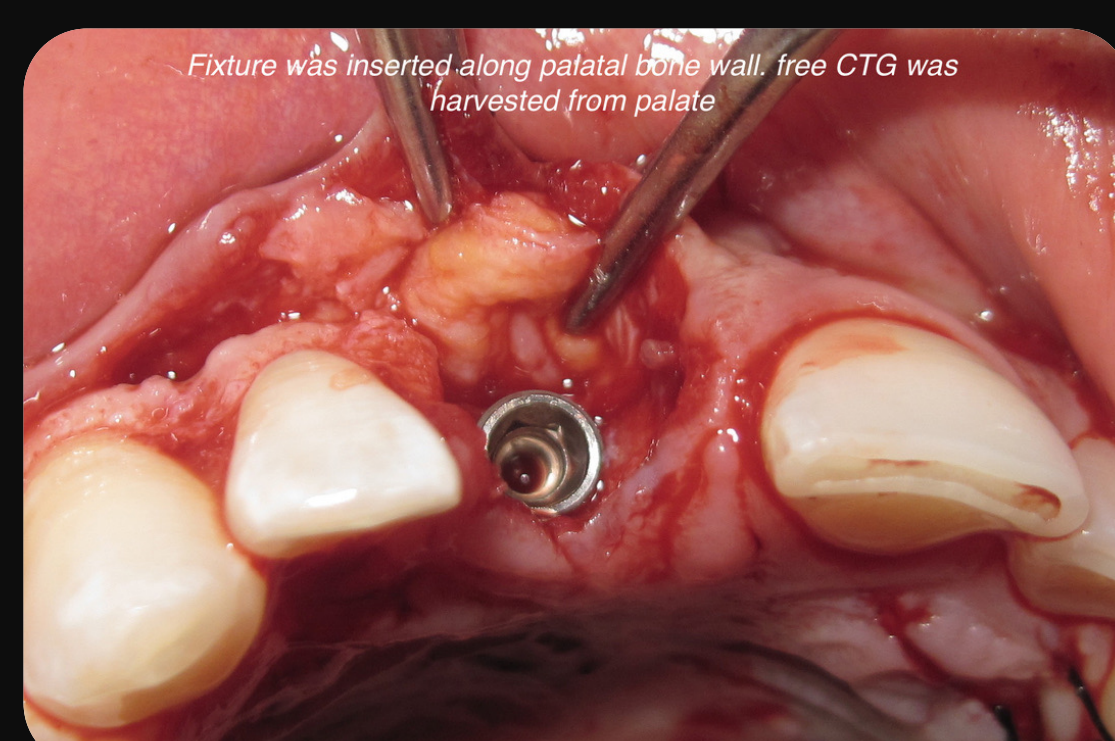
Milled Bone



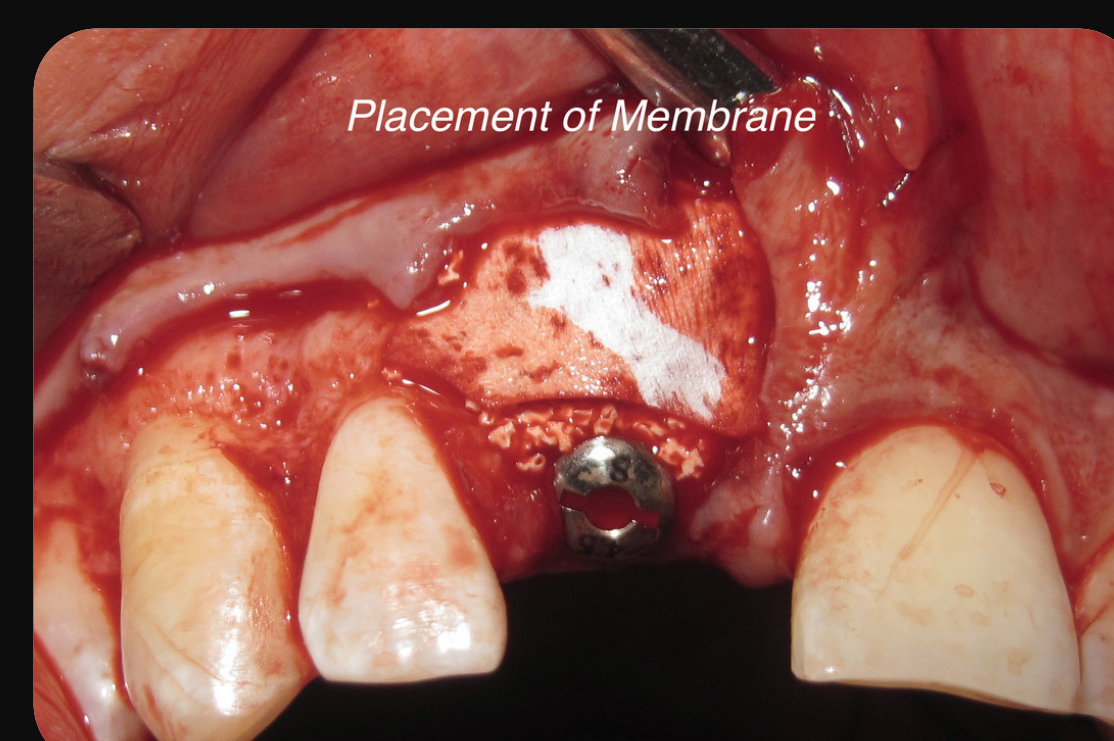
Connective Tissue Was Harvested From Palatal Site



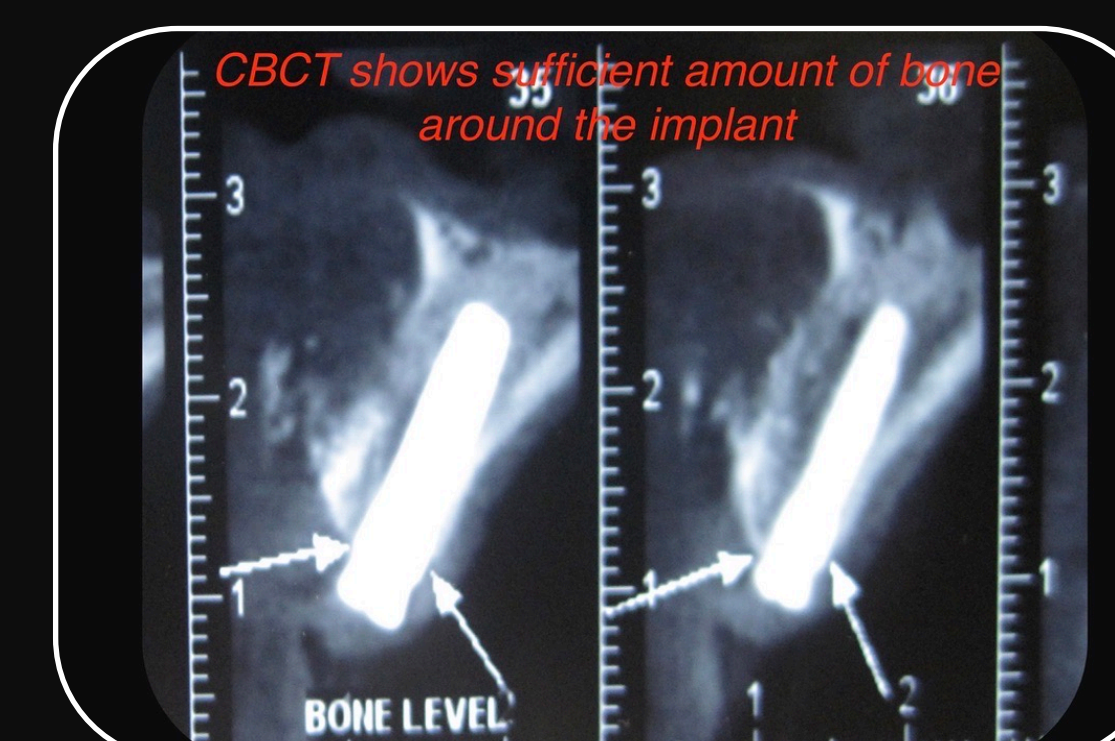
Autogenous Particulate Bone Was Placed Over the Exposed Parts of the Implant



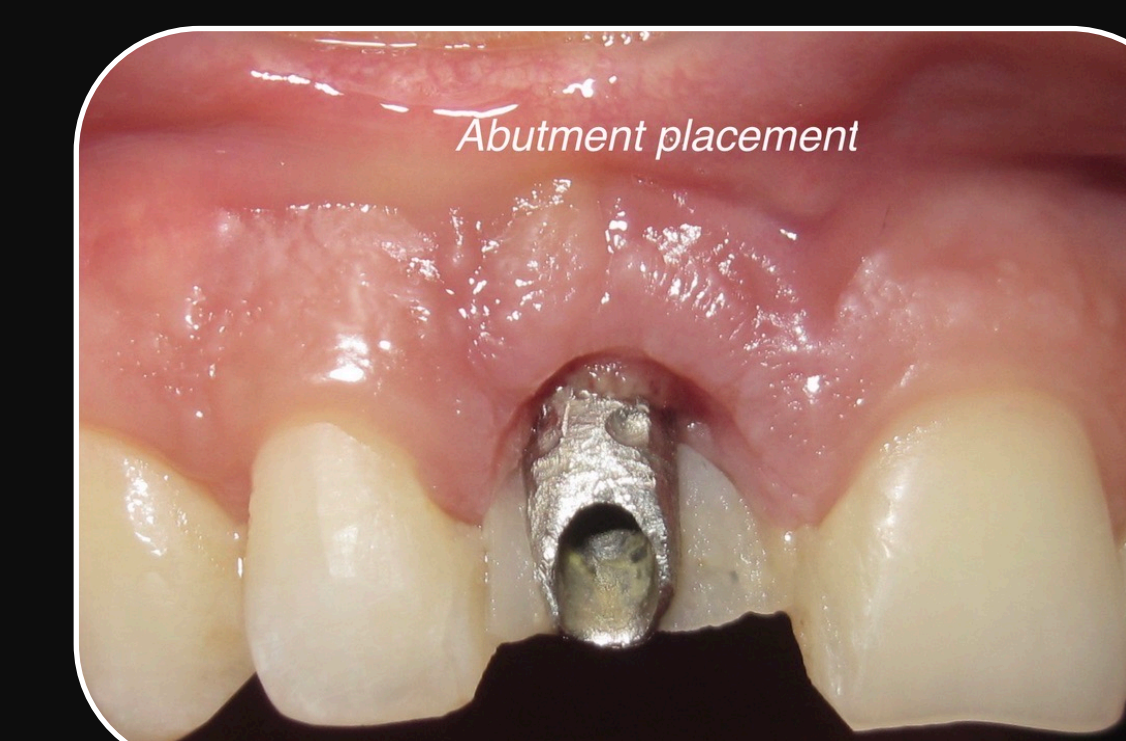
Connective Tissue Graft on Buccal



Xenograft Was Placed Over the Autogenous Bone and Placement of Membrane



CBCT Shows sufficient amount of bone around the implant



Soft tissue formation by abutment



Final clinical View. Note: The Maintenance of the Interproximal Papilla

RESULTS

Healing was satisfactory. Implants were successfully osseointegrated and improved gingival architecture and satisfactory esthetic results were achieved in all cases. In about 10 years follow up, implants were clinically stable and desirable soft tissue have been stable.

CONCLUSION

These approaches showed to be effective in restoration of dentoalveolar defect. And could provide a suitable soft and hard tissue architecture for immediately placed implants in esthetic areas. Immediate dentoalveolar restoration allowed extraction of hopeless tooth in the compromised alveolar socket as well as implant and provisional restoration placement in the same procedure and the hard and soft tissue reconstruction.

REFERENCES

- 1 Franceschi RL, Drechsel L, Schuldt Filho G. Application of Immediate Dentoalveolar Restoration in Alveolus Compromised with Loss of Immediate Implant in Esthetic Area. Case Rep Dent. 2018 Jun 21;2018:1672170. doi: 10.1155/2018/1672170. PMID: 30034886; PMCID: PMC6033297.
- 2 Chappuis, V, Araujo MG, Buser D. Clinical relevance of dimensional bone and soft tissue alterations post-extraction in esthetic sites. Periodontol 2000. 2017; 73: 73-83.
- 3 da Rosa JC. Immediate Dentoalveolar Restoration in Compromised Sockets: Technique and Bone Biology. InPeriodontology and Dental Implantology 2018 Nov 5. IntechOpen.