



Replacing Two Maxillary Central Incisors in Healed Atrophic Ridge with Dental Implants, Expectation Vs Limitation.

Mashhour, Rajaa¹, BDS, MPH; Elgaddari, Fathi², BDS, DMD



Introduction

- Implant dentistry keeps changing and evolving during the last years. There are constant innovation and advancement in terms of new materials, designs, techniques, and technologies. All these changes pursue an ideal outcome.
- Replacing missing two adjacent teeth with two dental implants present many challenges to the dentist, especially in the esthetic zone. First, dealing with flat or reverse osseous crest/flat gingival architecture due to the lost of interproximal bone height and supracrestal attachment apparatus. Second, recreating the soft tissue architecture to its original dimension. Achieving these goals will be extremely difficult task to the dental team. Realistic expectations should be set in advance with the patient prior to the treatment. Thus, the aim of this case report is to highlight the surgical challenges of replacing the two maxillary central incisors with two dental implants in the healed deficient site.



Low Smile



Initial Presentation Frontal View



Initial Presentation Occlusal View

¹ PGY3 resident

² Clinical Assistant Professor

Periodontology & Oral Implantology Department Maurice H. Kornberg School of Dentistry, Temple University



Replacing Two Maxillary Central Incisors in Healed Atrophic Ridge with Dental Implants, Expectation Vs Limitation.

Mashhour, Rajaa¹, BDS, MPH; Elgaddari, Fathi¹, BDS, DMD

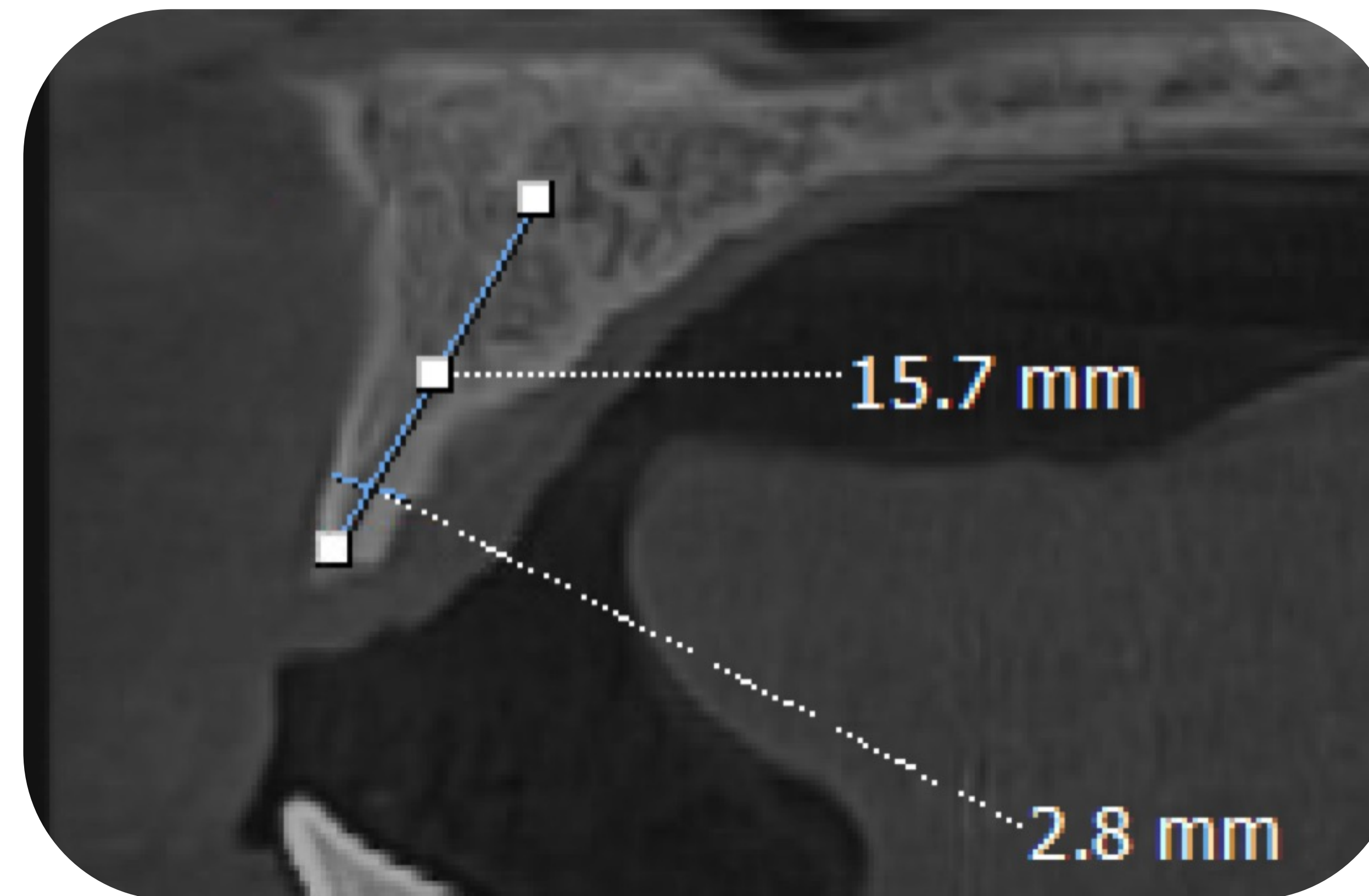


Method

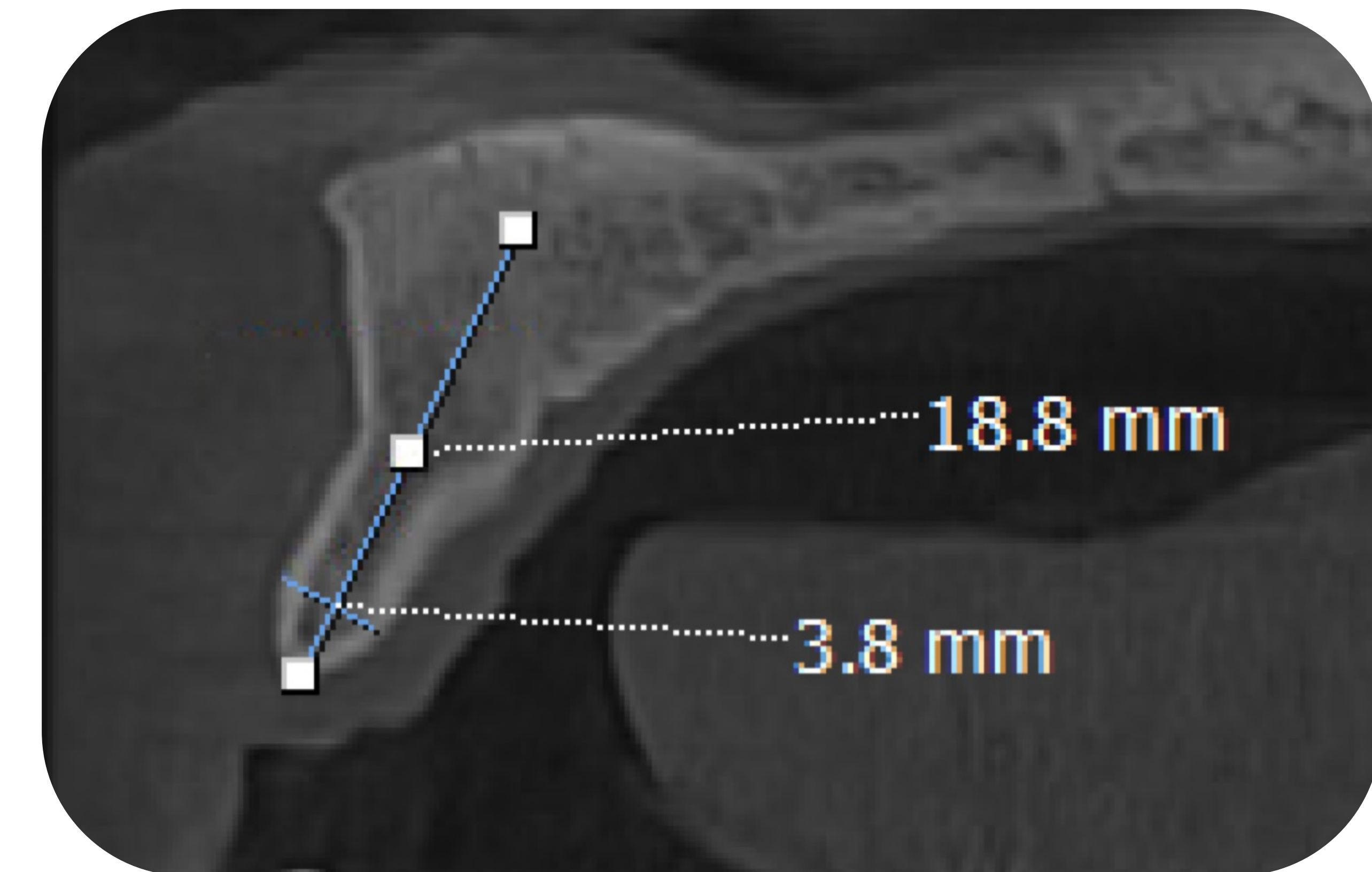
- A 25-year-old male presented at the department of periodontology and oral implantology to replace his missing maxillary anterior teeth. Clinical and radiographic examination revealed horizontal and vertical alveolar ridge deficiencies in the maxillary anterior area.
- Different treatment options were presented to the patient. The final teeth shape and the expected periimplant soft tissue height and architecture were explained to the patient. Intra oral mockup and digital pictures were utilized to educate the patient about the challenges to achieve ideal outcome.
- After setting the patient expectation, decision was made to perform simultaneous implant placement with guided bone regeneration.
- After uneventful healing time and provisionalization phase, the final implant-supported crowns were successfully delivered.



CBCT axial view



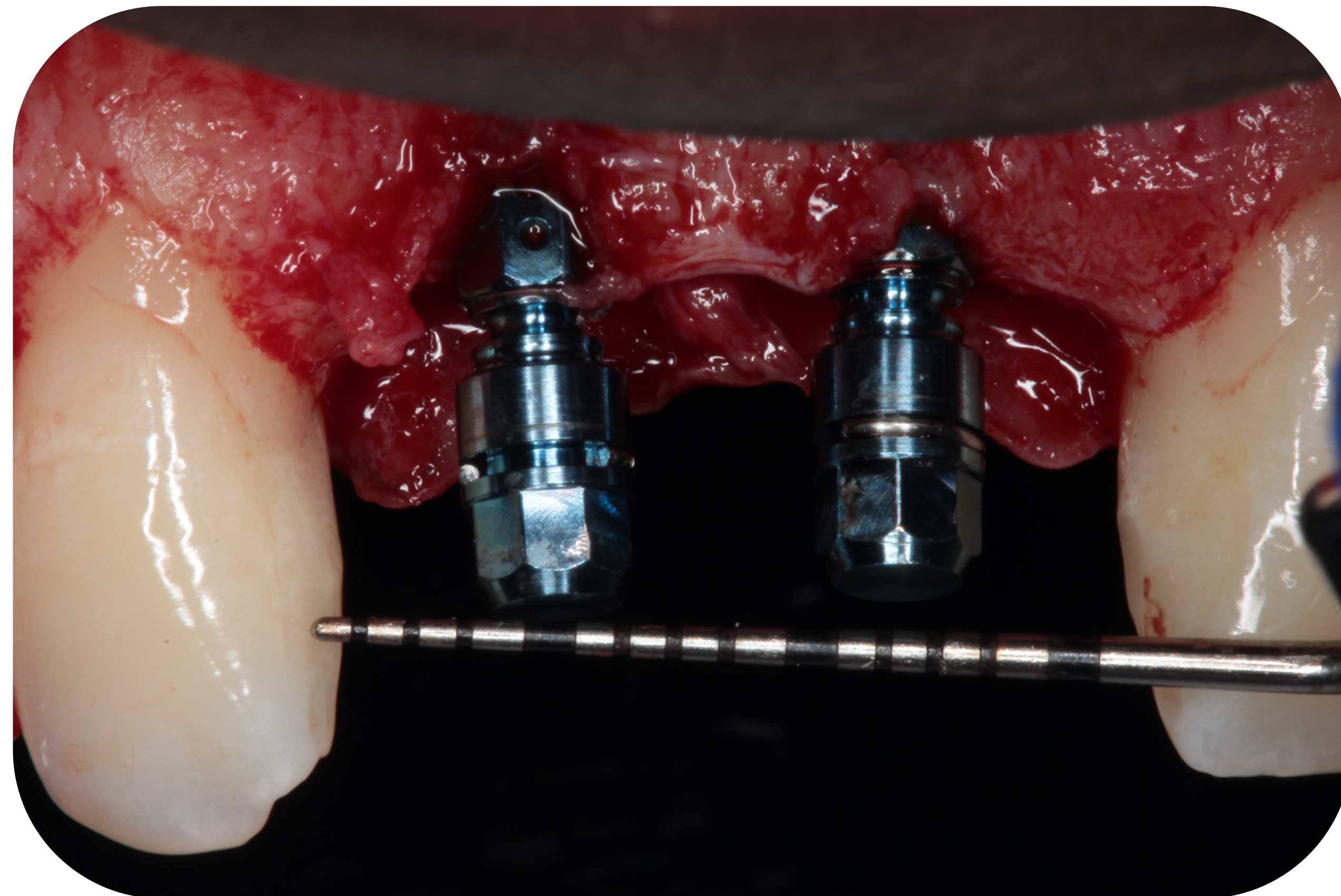
CBCT cross-section view of #8.



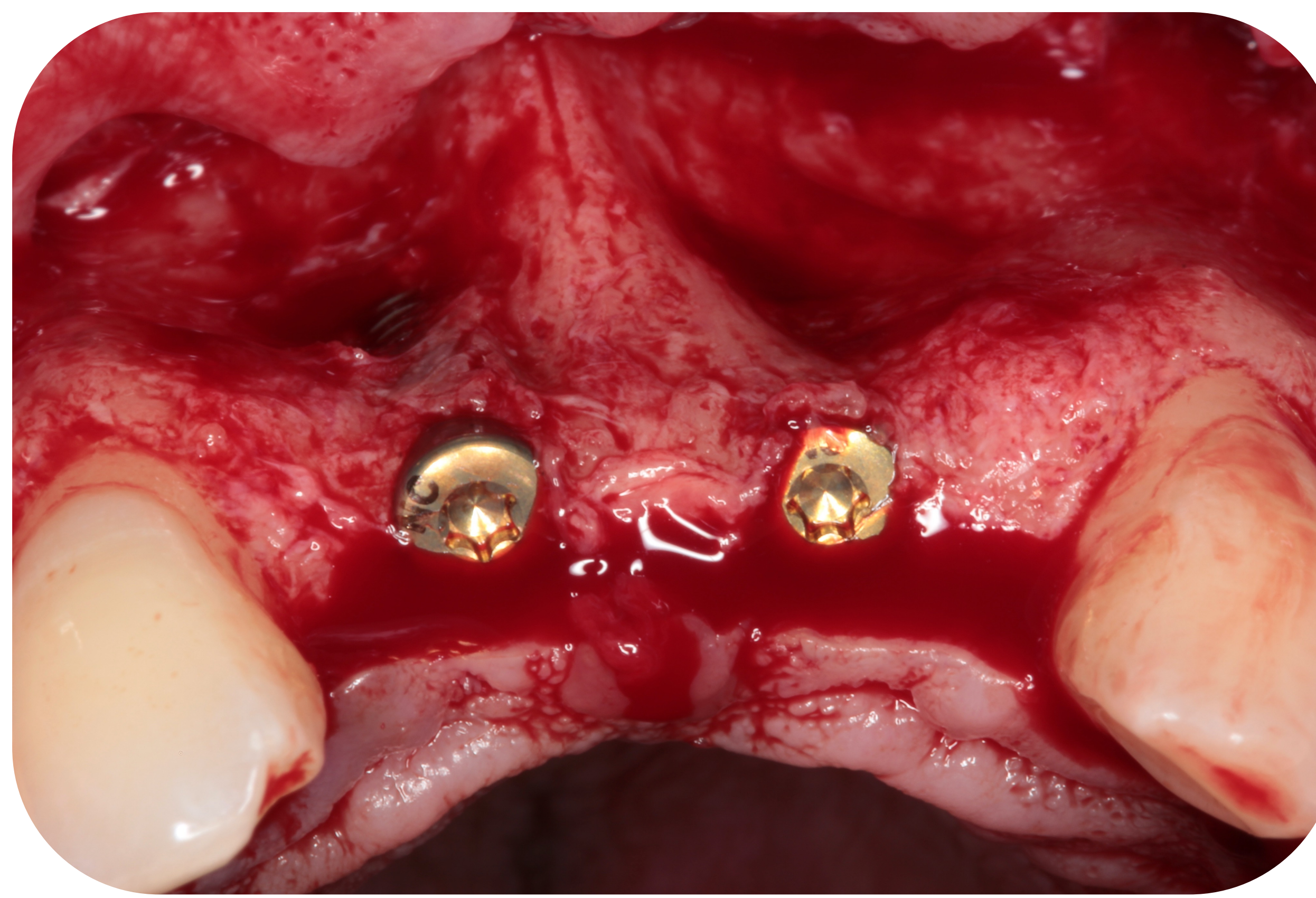
CBCT cross-section view of #9

Replacing Two Maxillary Central Incisors in Healed Atrophic Ridge with Dental Implants, Expectation Vs Limitation.

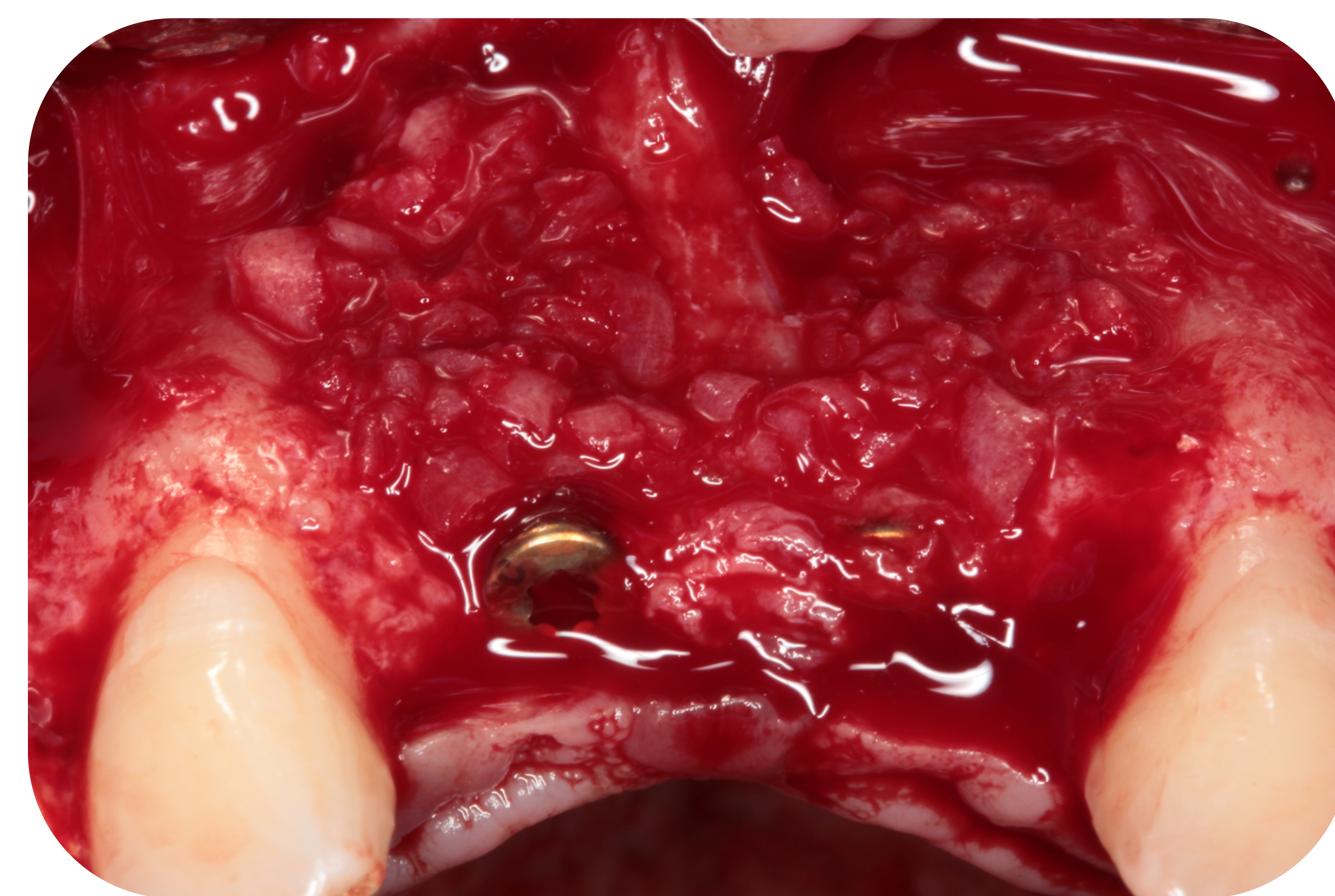
Mashhour, Rajaa¹, BDS, MPH; Elgaddari, Fathi¹, BDS, DMD



Implants Placement Frontal View



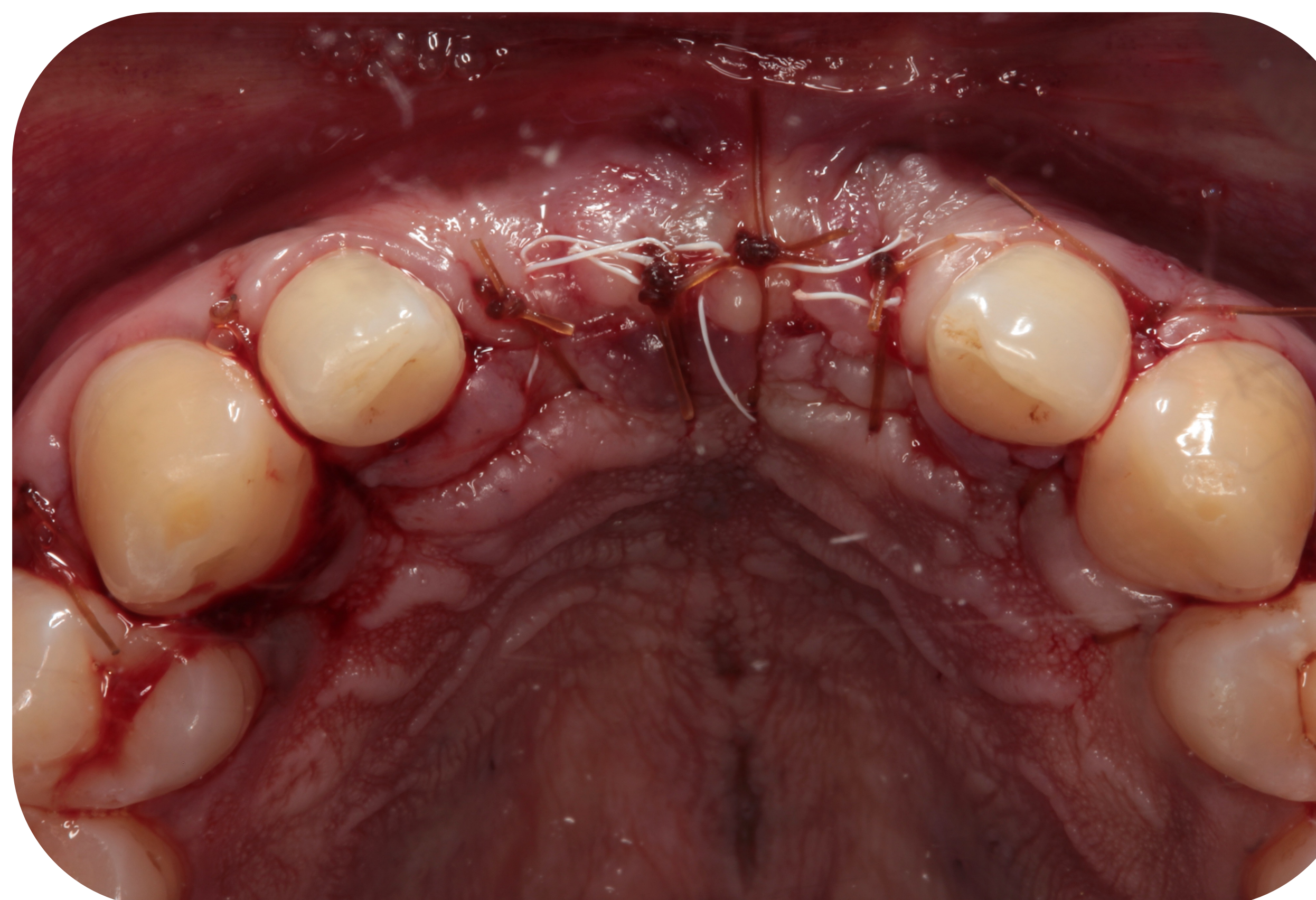
Fenestration On Facial Plate At #8 After Implants Placement



Autogenous Bone Graft On #8 & #9



Mixture Of Autogenous And Allograft Bone Graft



Primary Closure



Post-operative Healing

Replacing Two Maxillary Central Incisors in Healed Atrophic Ridge with Dental Implants, Expectation Vs Limitation.

Mashhour, Rajaa¹, BDS, MPH; Elgaddari, Fathi¹, BDS, DMD

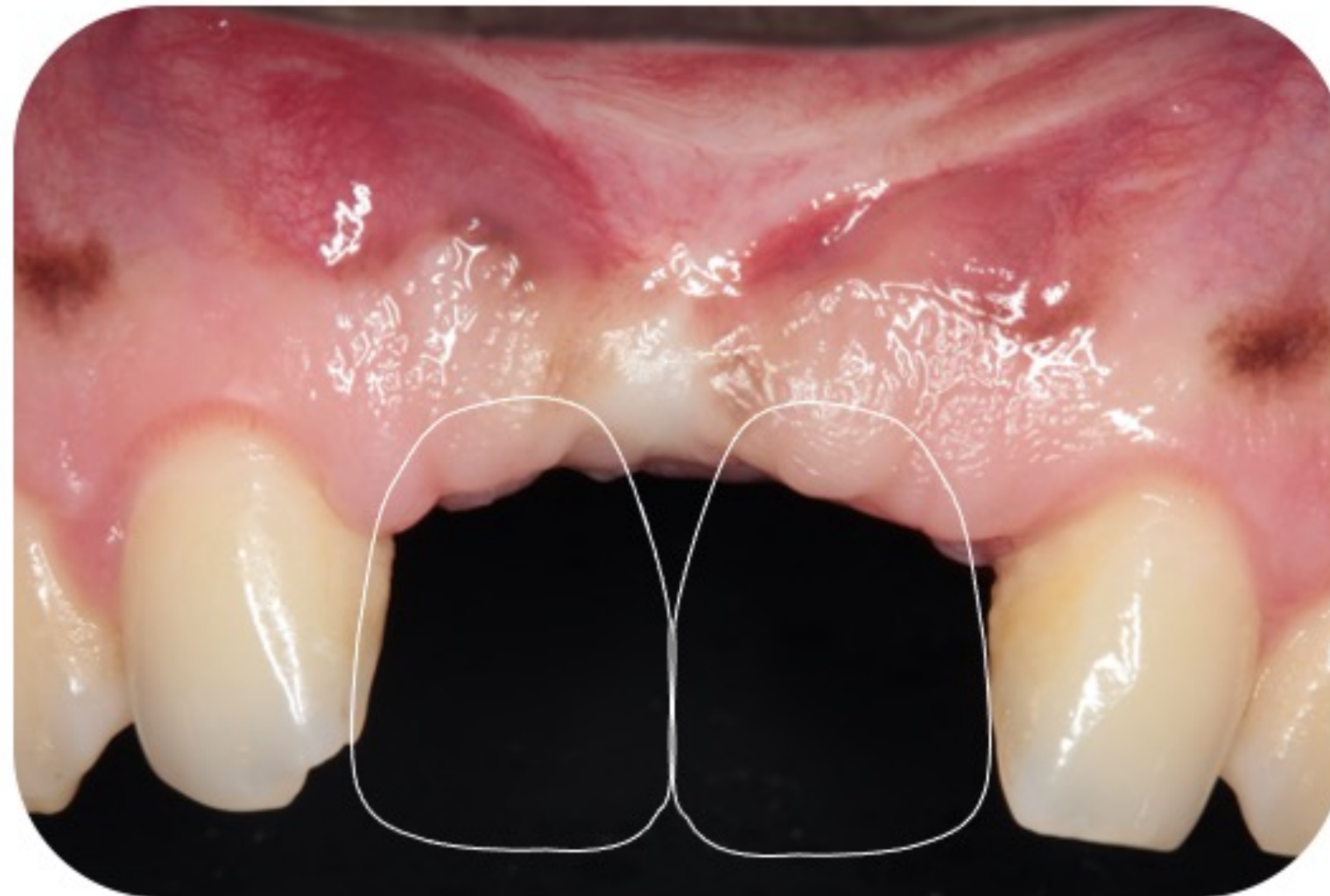


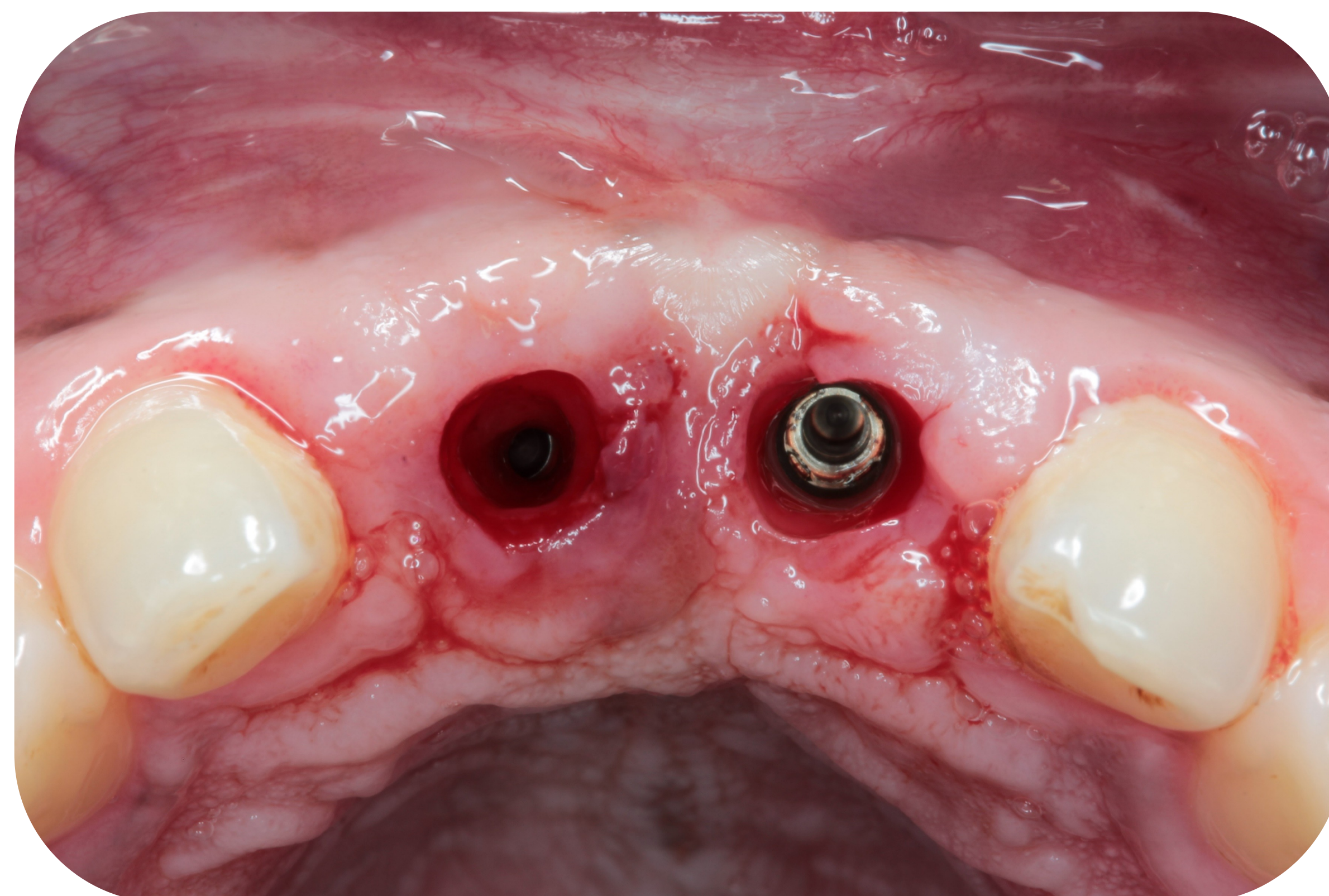
Diagram depicts the shape of the teeth



18-week post-operative occlusal view



Healing abutments placement



HA were removed to place the provisional crowns.
Buccal contour was corrected to large extent



Provisional crowns frontal view.
Black triangle due to missing papilla



Final crowns frontal view
Contact area increased to compensate the missing papilla



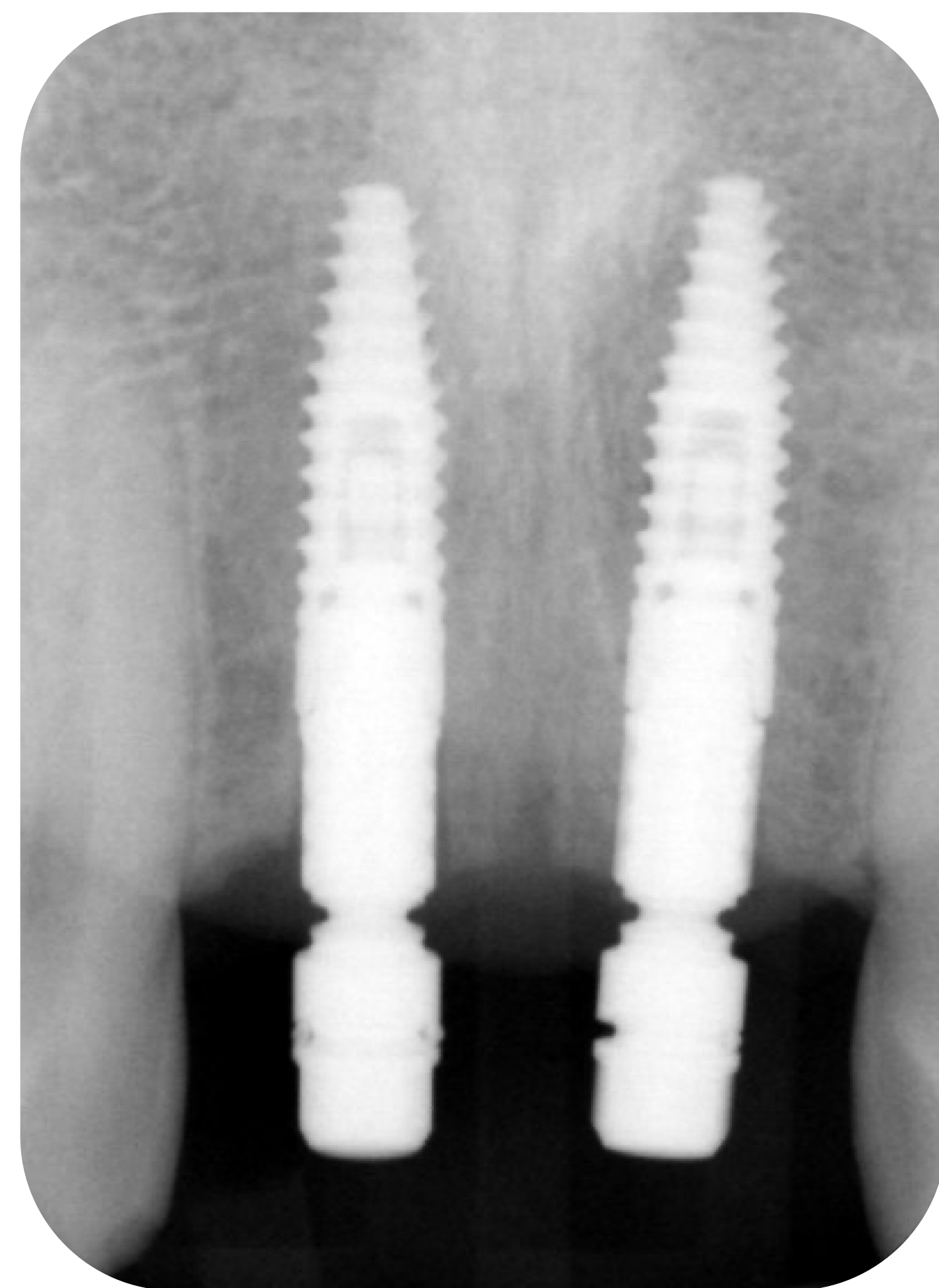
Replacing Two Maxillary Central Incisors in Healed Atrophic Ridge with Dental Implants, Expectation Vs Limitation.

Mashhour, Rajaa¹, BDS, MPH; Elgaddari, Fathi¹, BDS, DMD

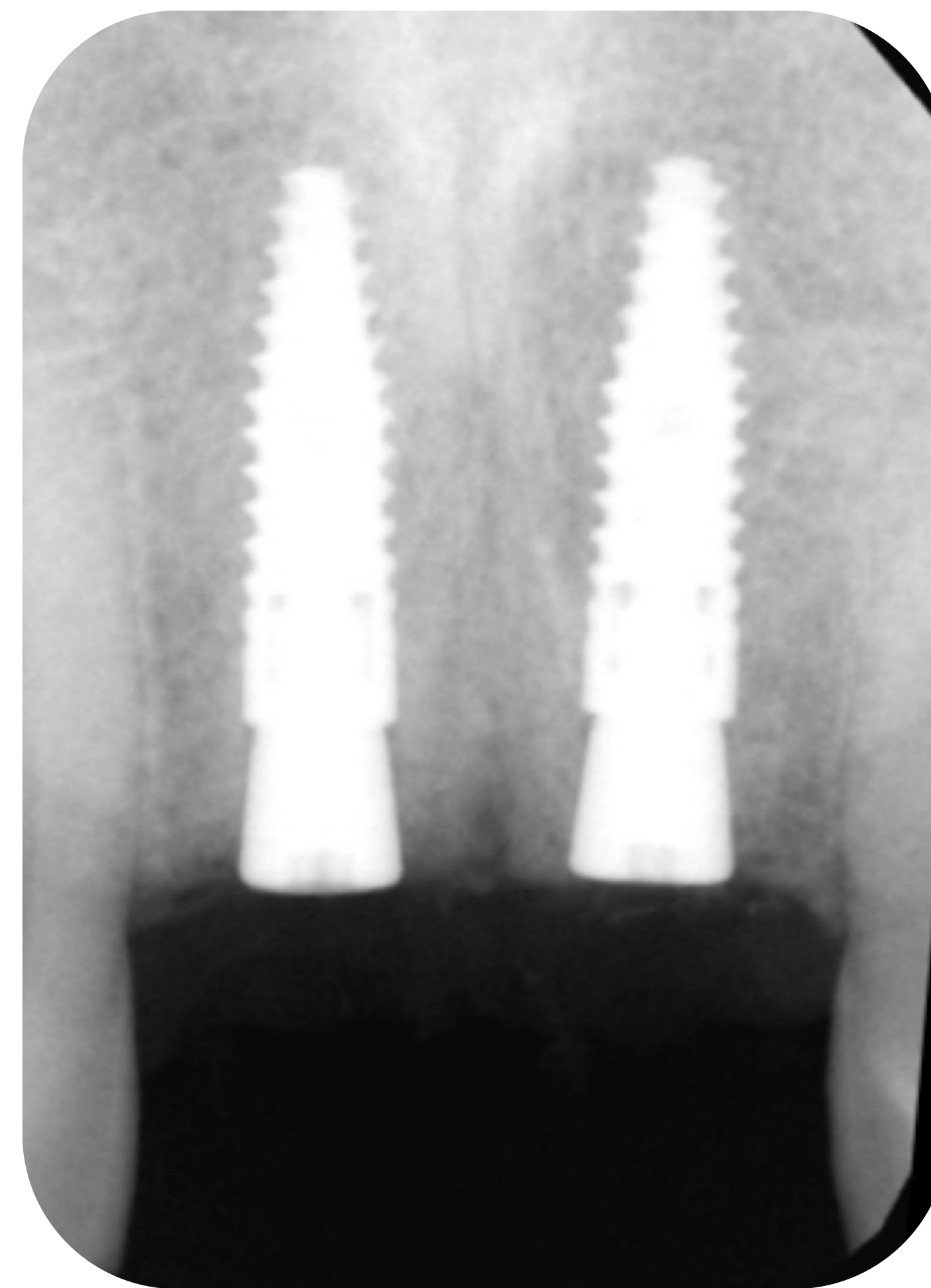


Results

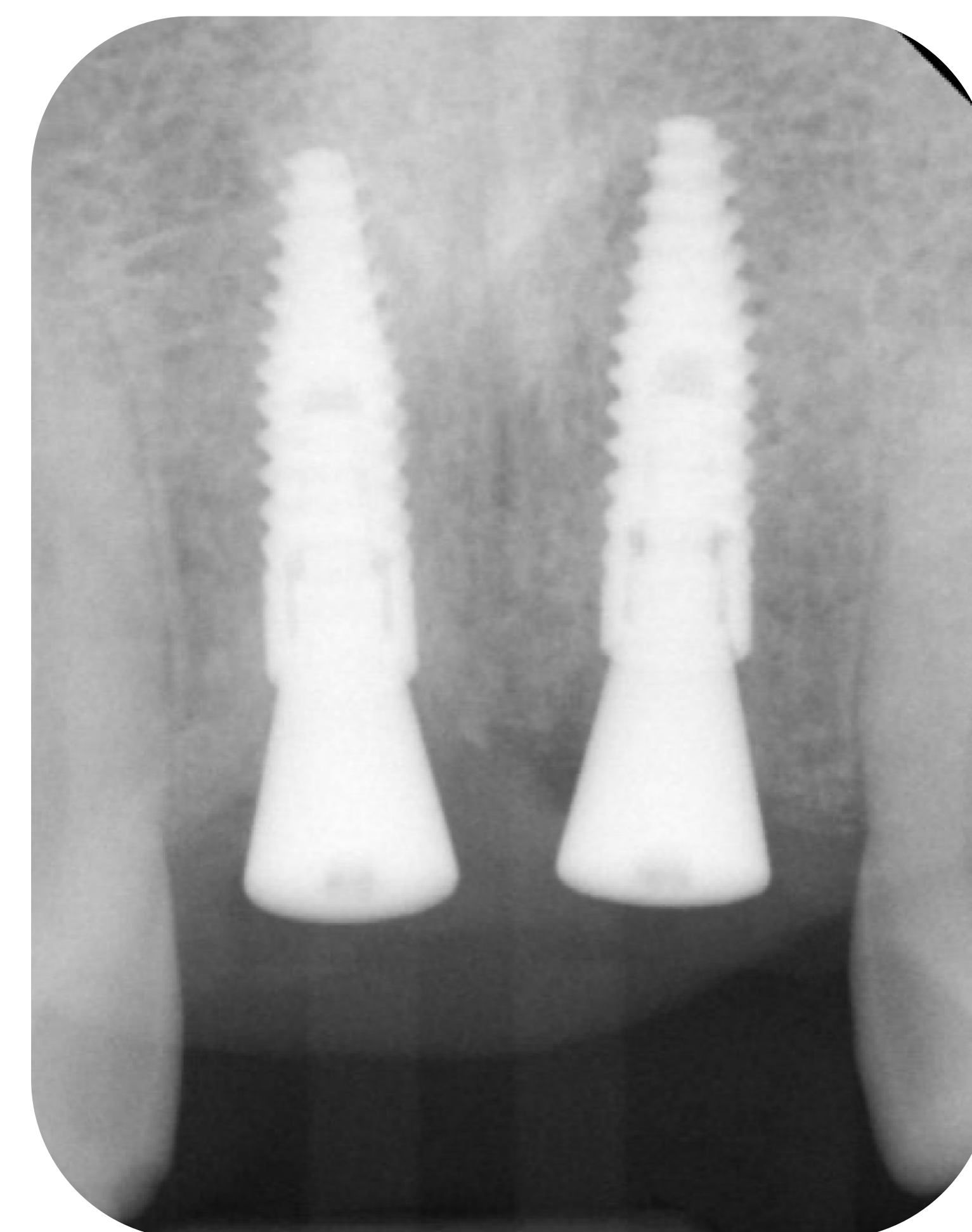
Both implants were successfully Osseointegrated; however, the midline papilla height was severely deficient/absent.



Immediately After Implant Placement



Short HA During Healing



Longer HA After Uncovery Surgery



Provisional Crowns



Final Crown 1 Year Follow Up

Conclusions

- This case shed the light on the challenges that dentists encounter to replace missing maxillary central incisors in healed deficient ridge. Recreating normal papilla height between two implants in healed atrophic ridge is unattainable. However, with proper pre-operative evaluation, visual communication with the patient, satisfactory outcome can be achieved following the surgical principles and understanding the biology of the periodontium and the periimplant hard and soft tissue wound healing.

References

