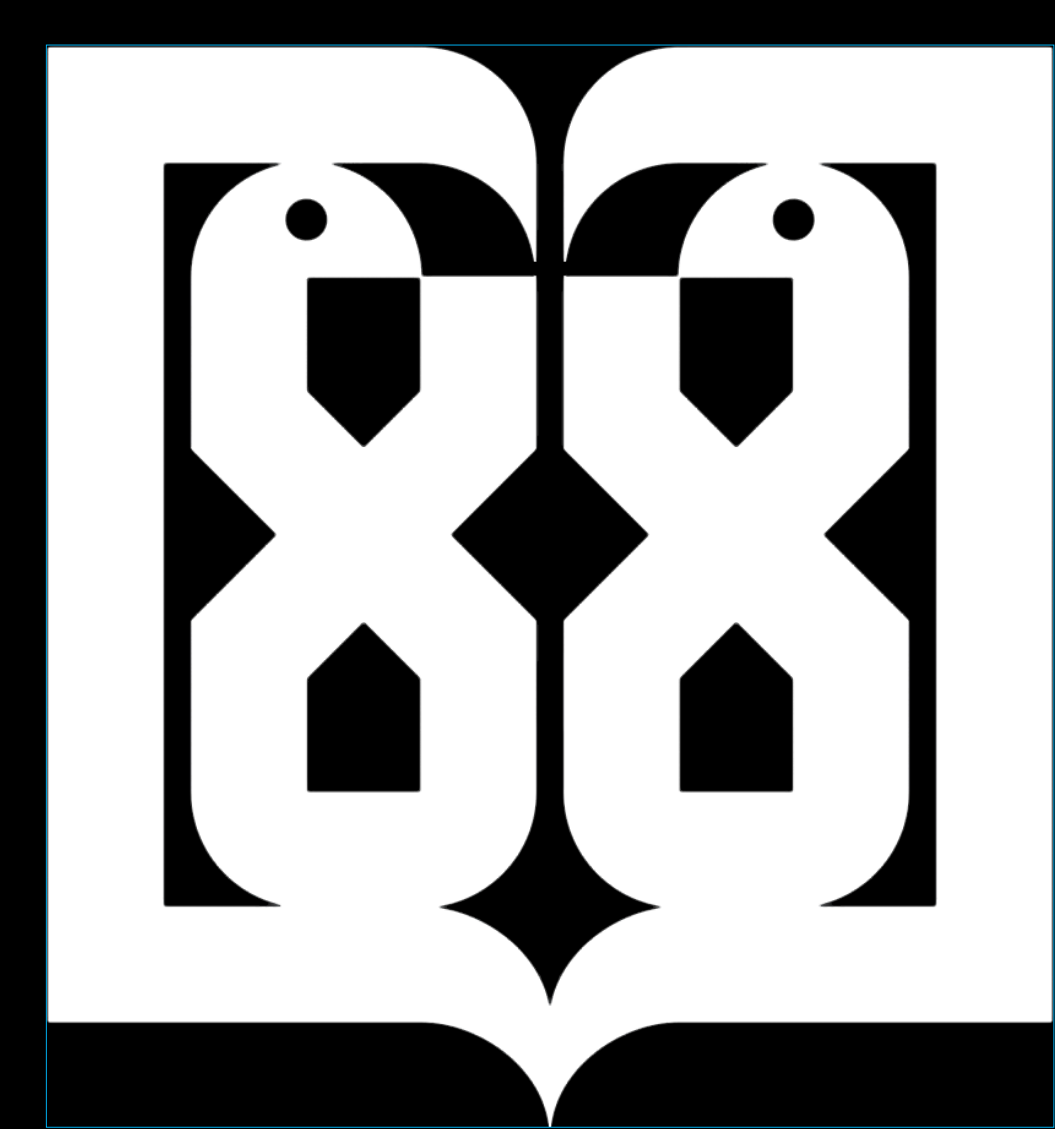


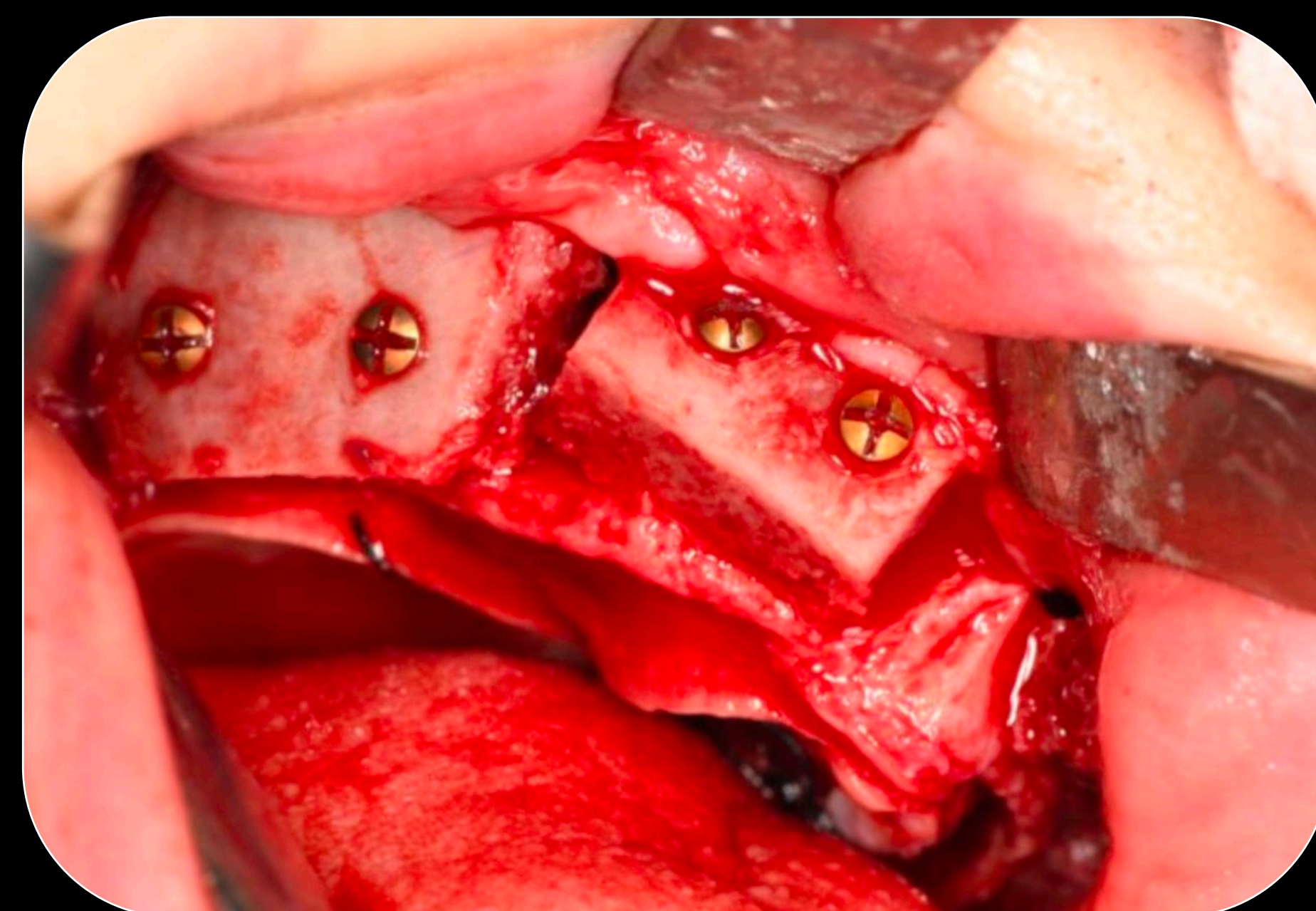
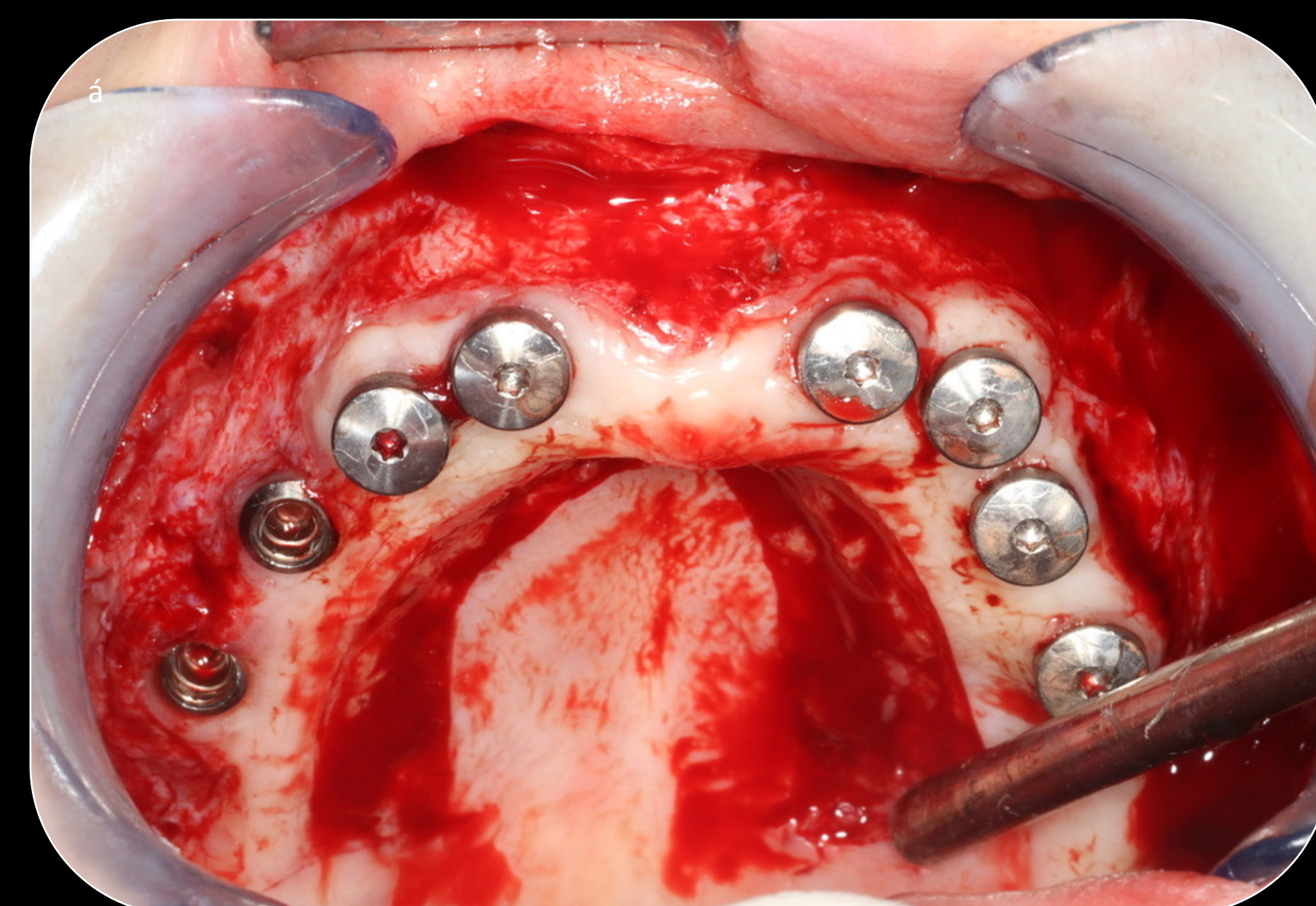


Stage Approach of Soft Tissue Management and Buccal Vestibular Deepening Around Dental Implants in a Patient with History of Iliac Graft and Amelogenesis Imperfecta

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INTRODUCTION

Effective management of soft tissue around dental implants is crucial for achieving satisfactory aesthetic and functional outcomes, particularly in patients with complex medical histories. This case presents the challenges of managing iliac grafting and amelogenesis imperfecta during dental rehabilitation, characterized by compromised tissue quality and volume, as well as difficulties in restoring adequate buccal vestibular depth to ensure implant stability and aesthetic results. A staged soft tissue approach is vital for long- term success in dental implant therapy.

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A 19-year-old female patient who had undergone iliac grafting presented to the Implantology Department for the second-stage surgery following the insertion of eight screw-shaped titanium fixtures in the maxilla. The clinical examination revealed a lack of keratinized tissue around the implants and a very shallow vestibule. During the second-stage surgery, a split-thickness labial flap was elevated, and three free gingival grafts were harvested and sutured into the recipient site. To establish vestibular depth and promote scar tissue formation, a custom-made acrylic stent was secured onto the implants using modified fixture mount pieces, which incorporated a metal disk and slots to facilitate proper tightening with a screwdriver.

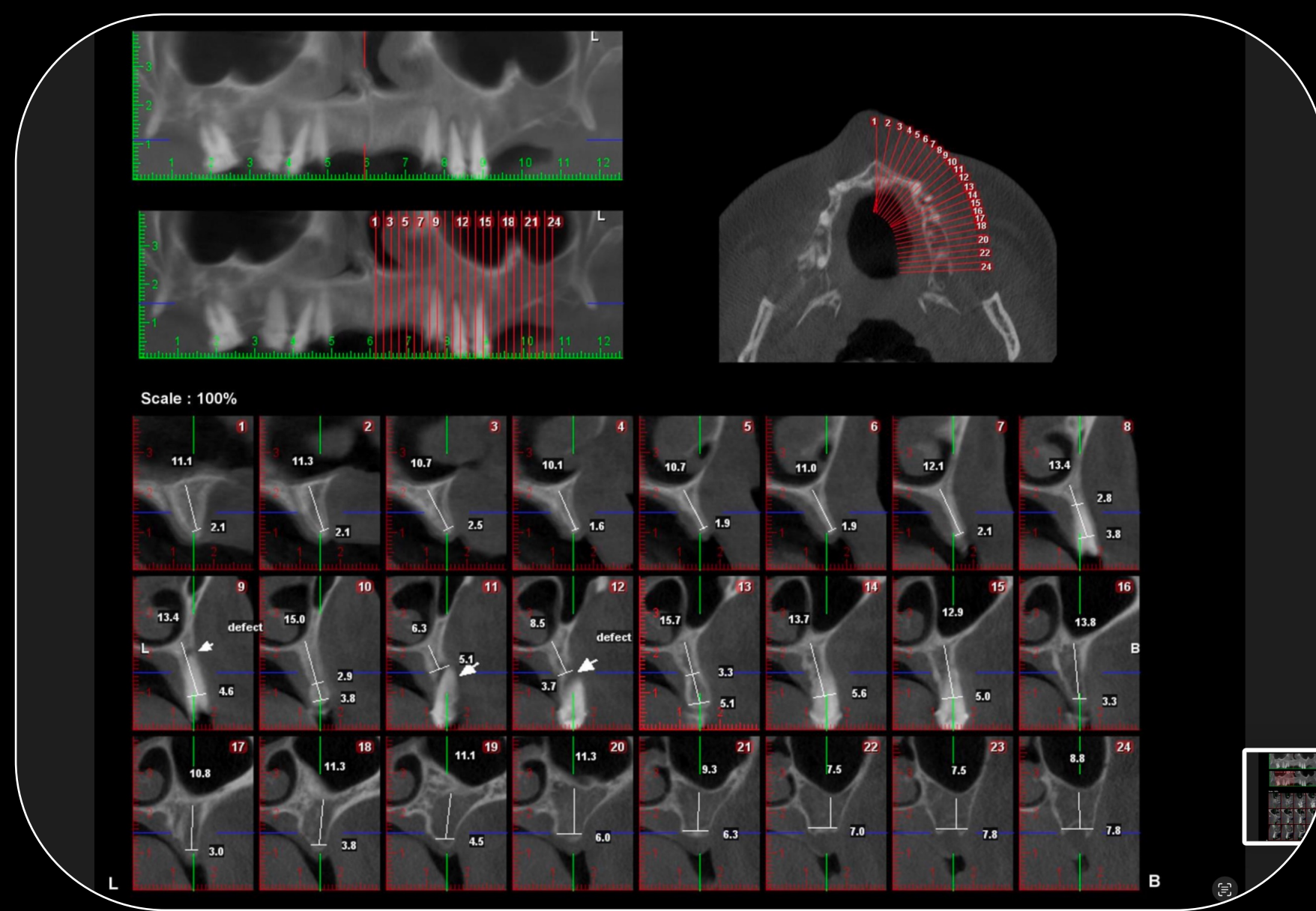
METHODS



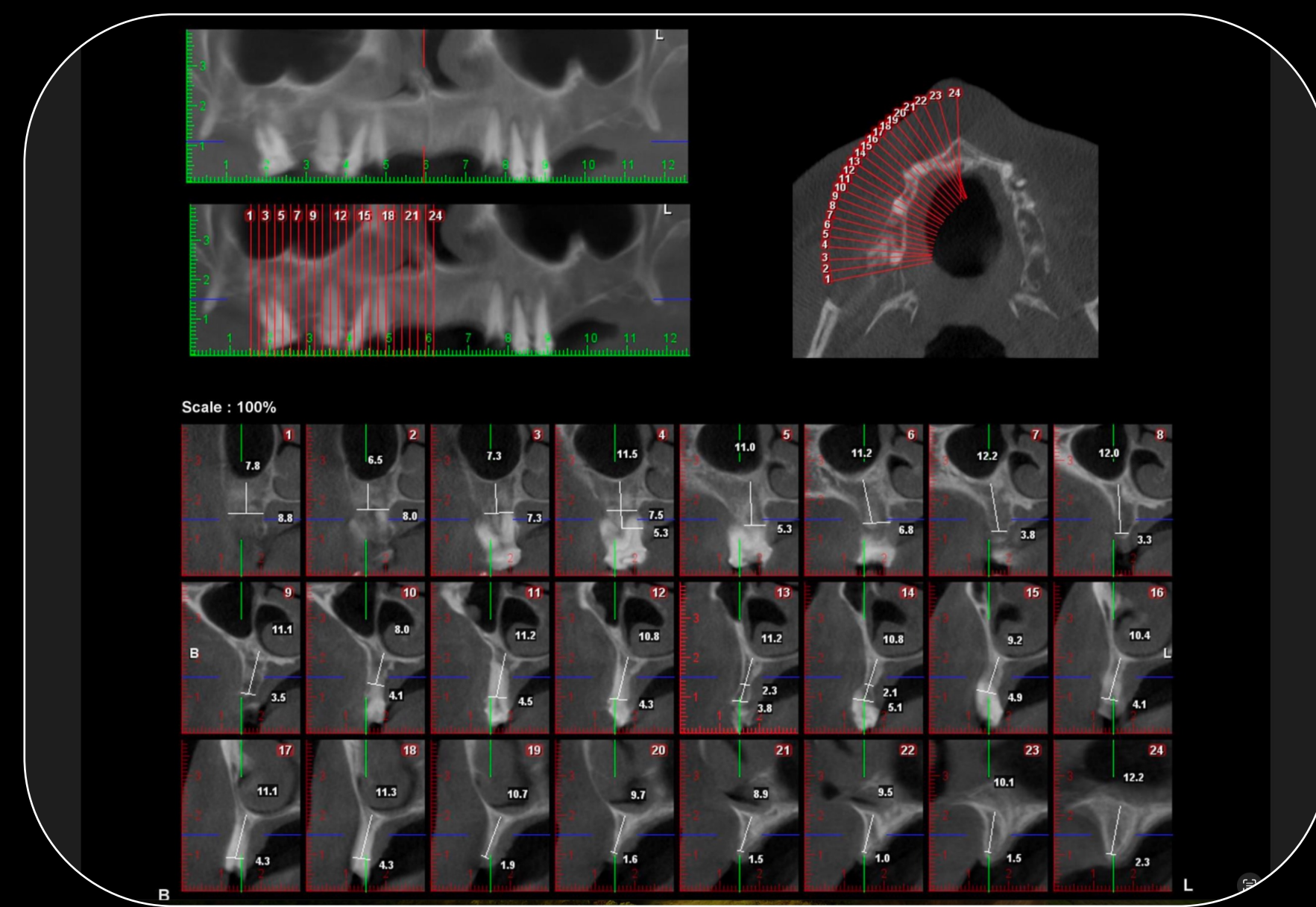
Patient with history of amelogenesis imperfecta



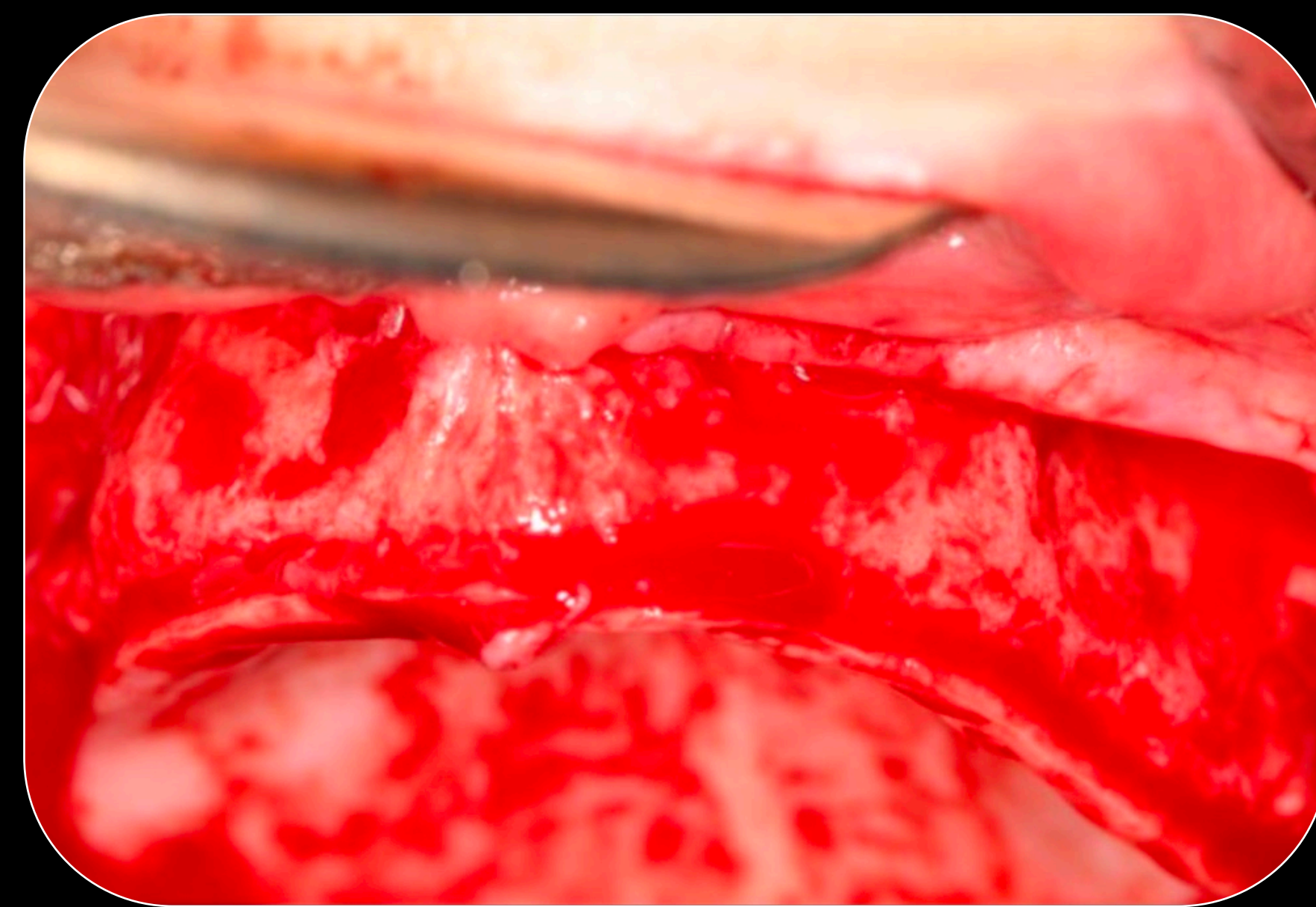
Panoramic view before extraction of teeth



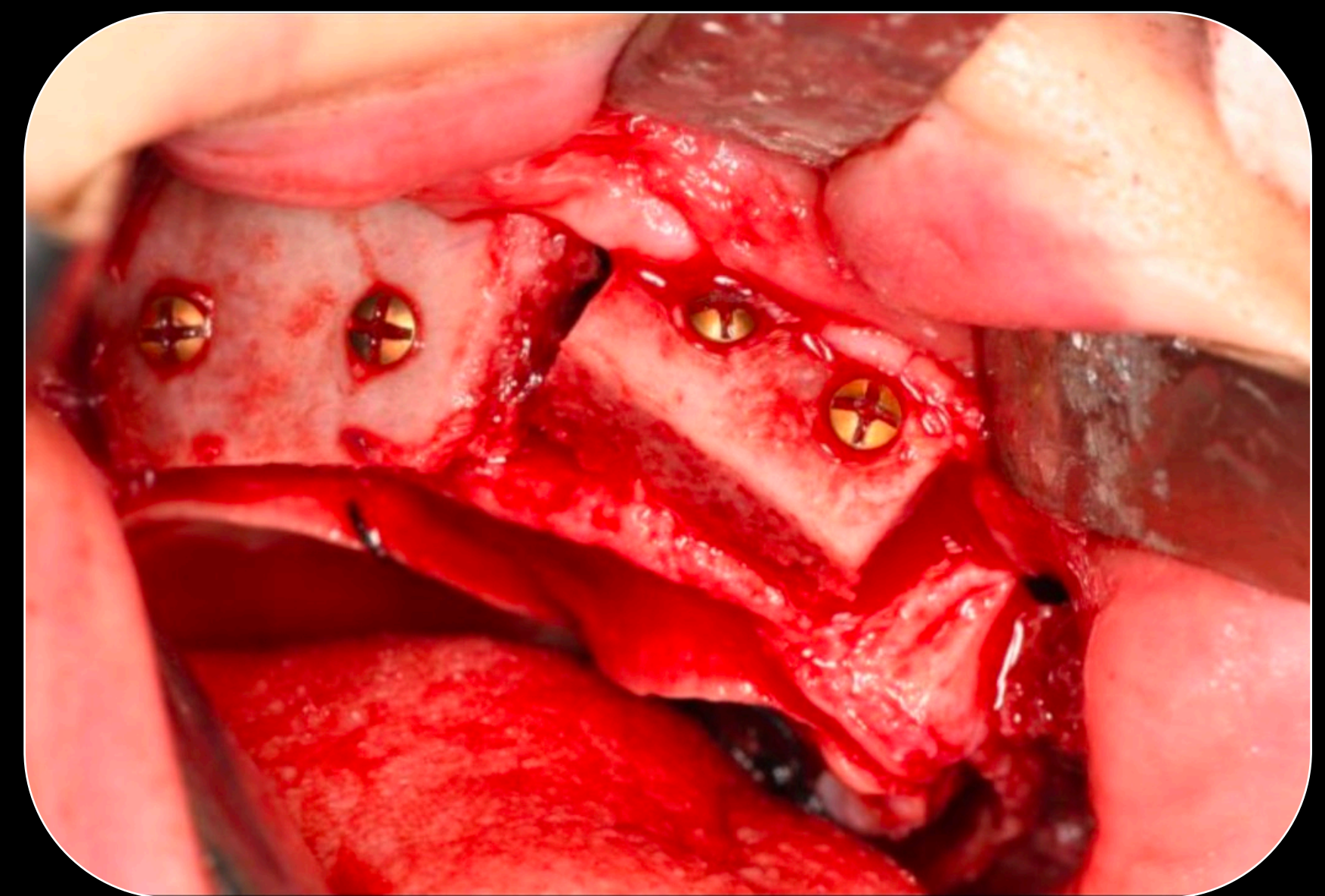
CBCT view of left side of maxilla



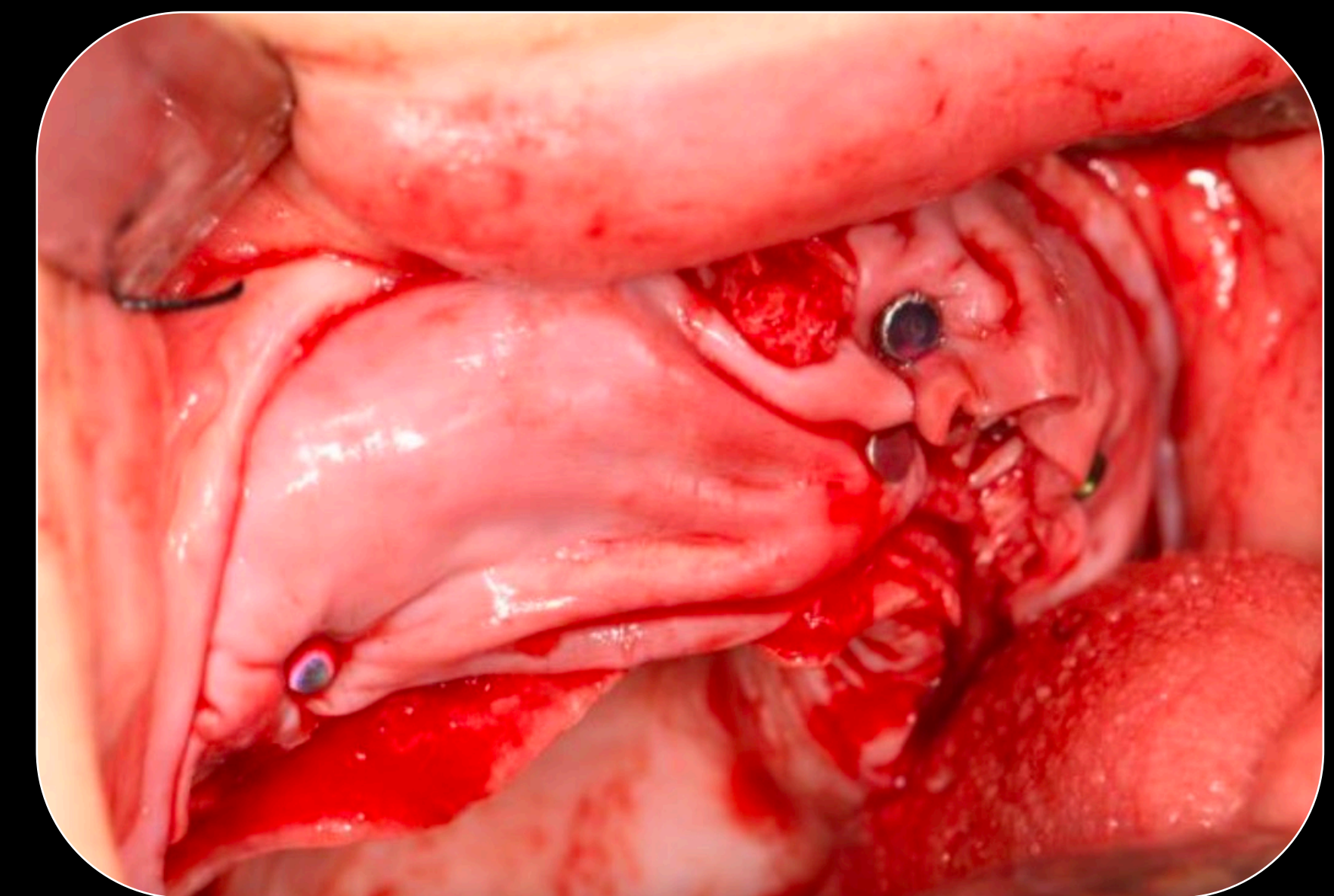
CBCT view of Right side of maxilla



Atrophic ridge after flap elevation



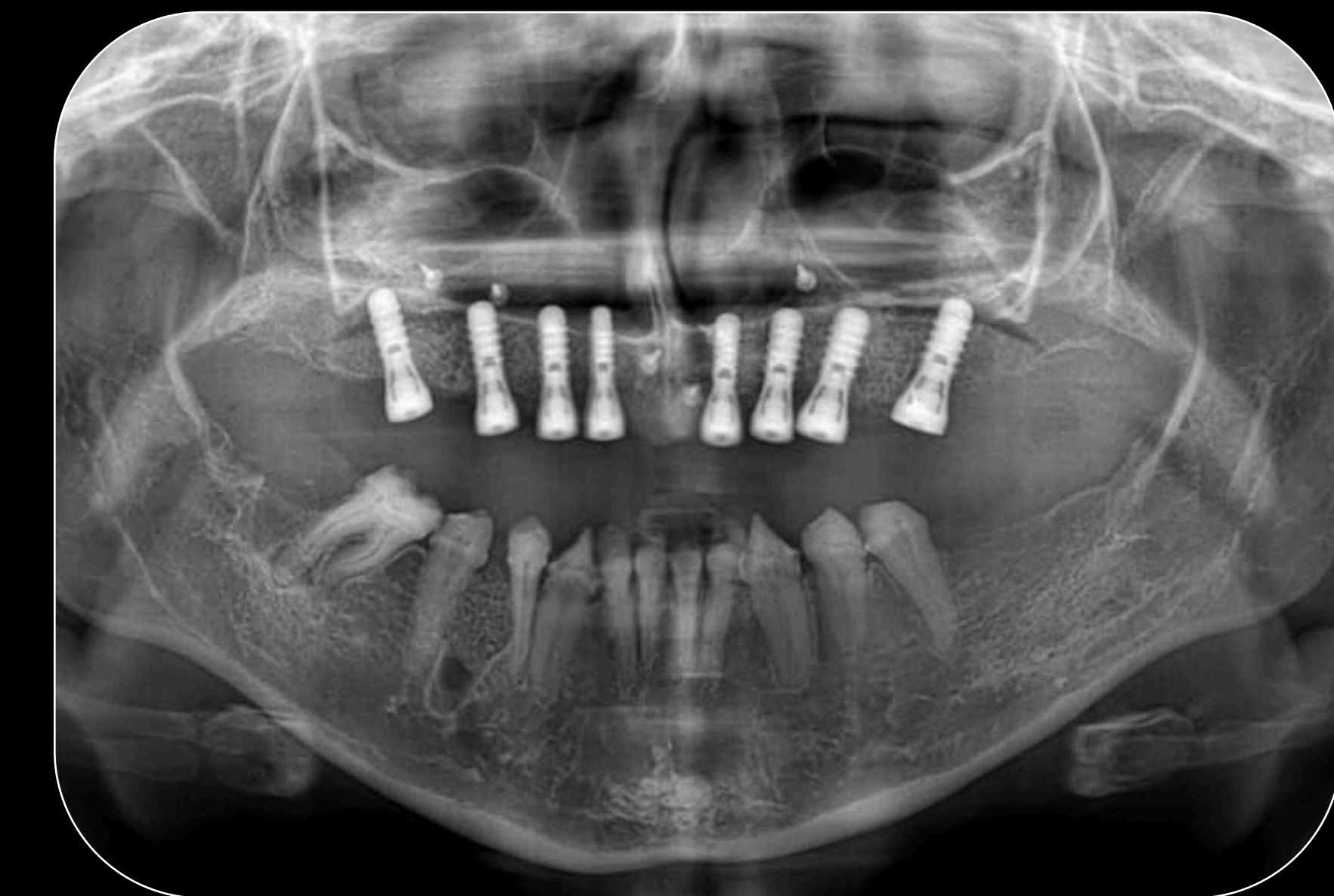
clinical view after healing



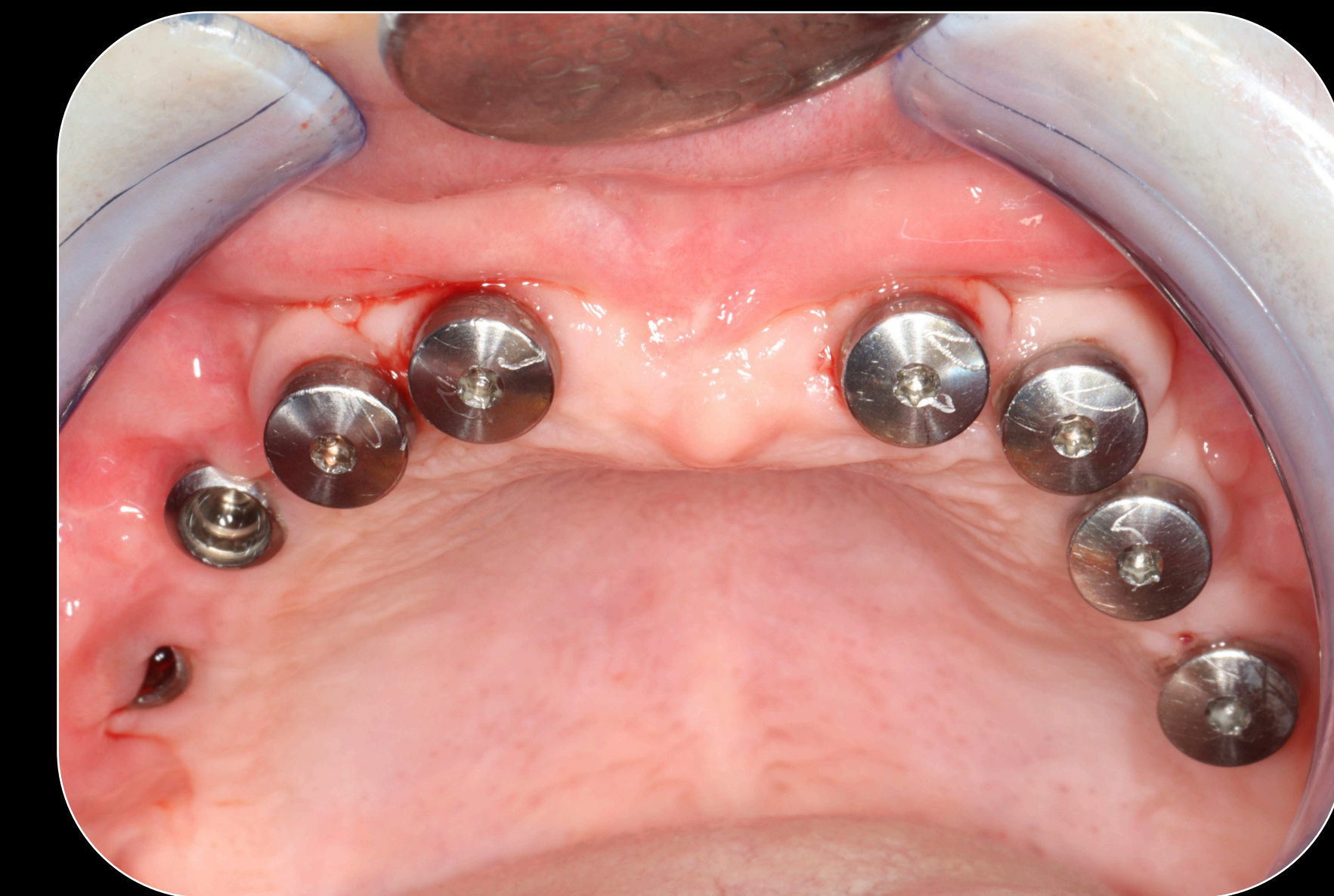
Panoramic view



Occlusal view of Implant healing abutments



Iliac graft fixation with screws



Additional GBR and fixation of barrier Membrane with tack



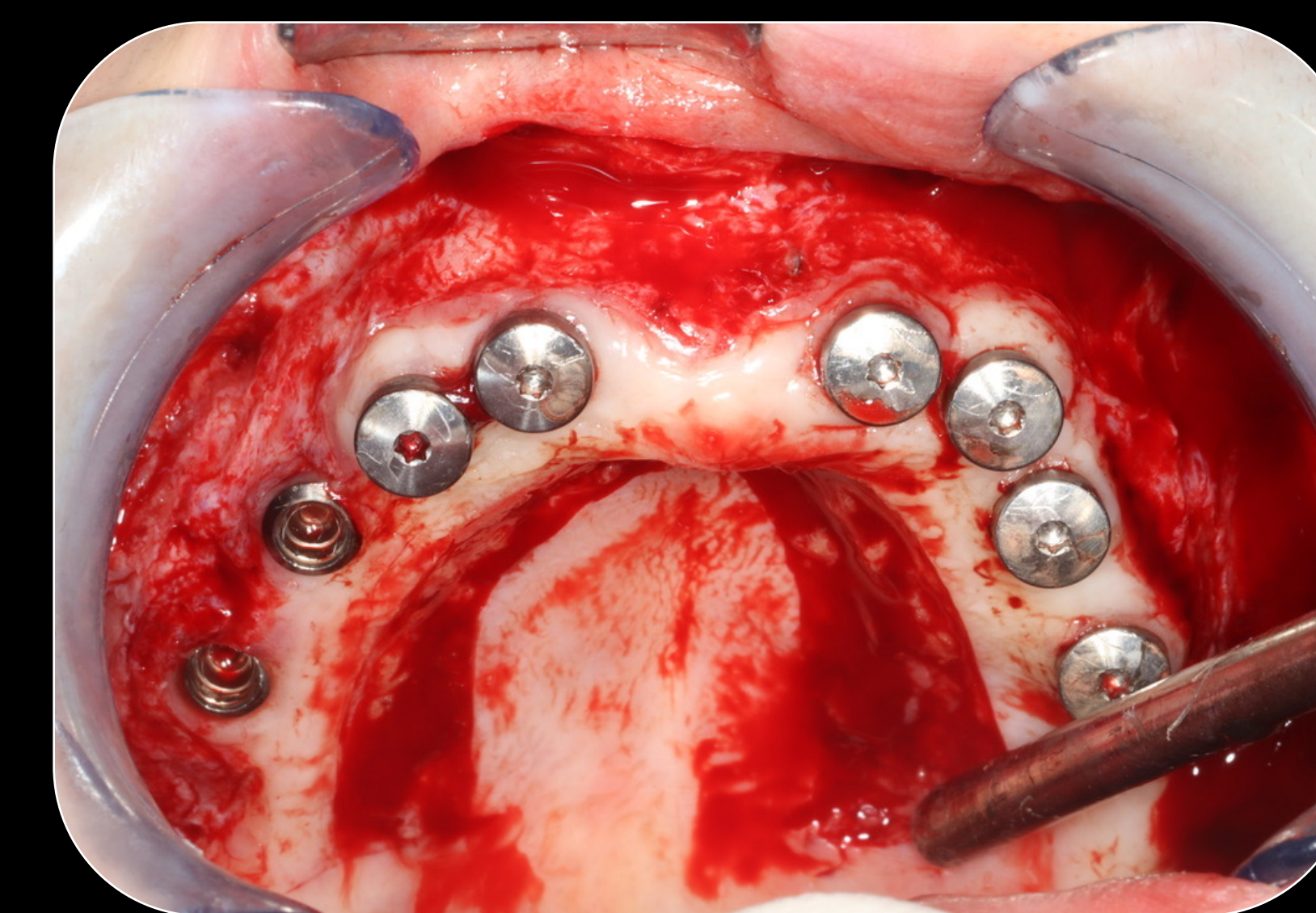
harvesting of Free graft from the palate



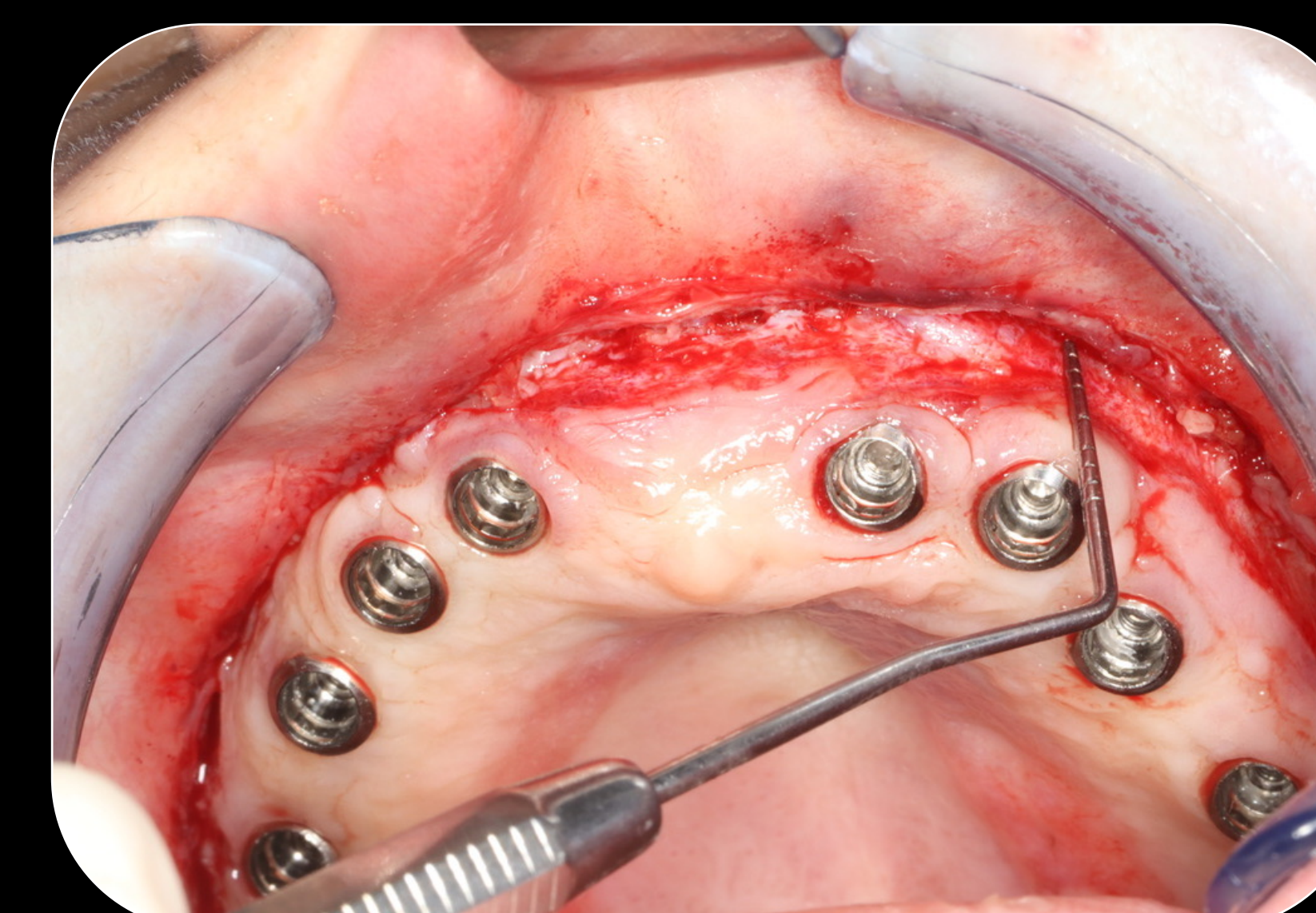
Clear acrylic Stent was made with fixture mount pieces



Widened vestibular depth and attached gingiva, occlusal view



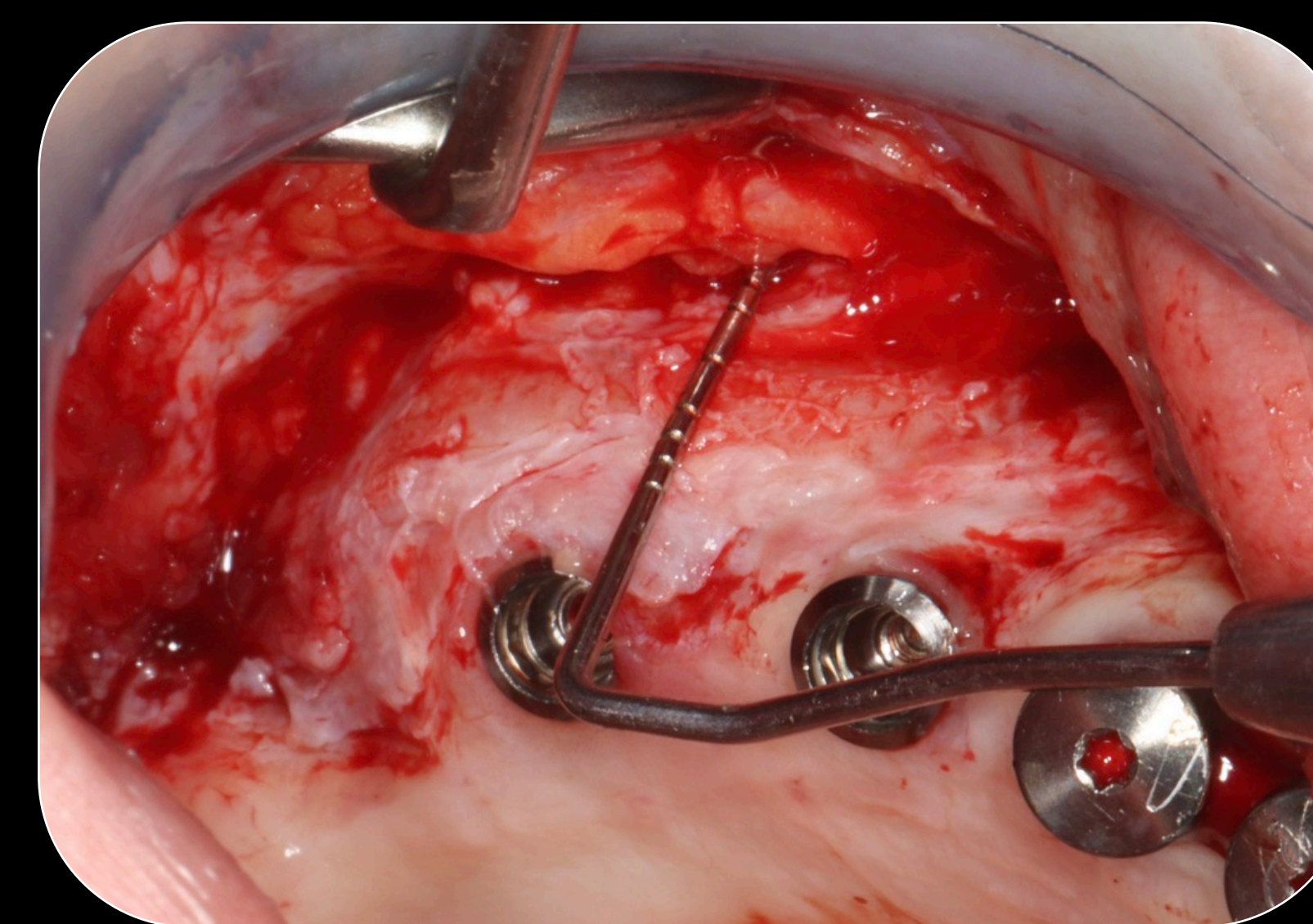
Preparing of Recipient site for free gingival graft



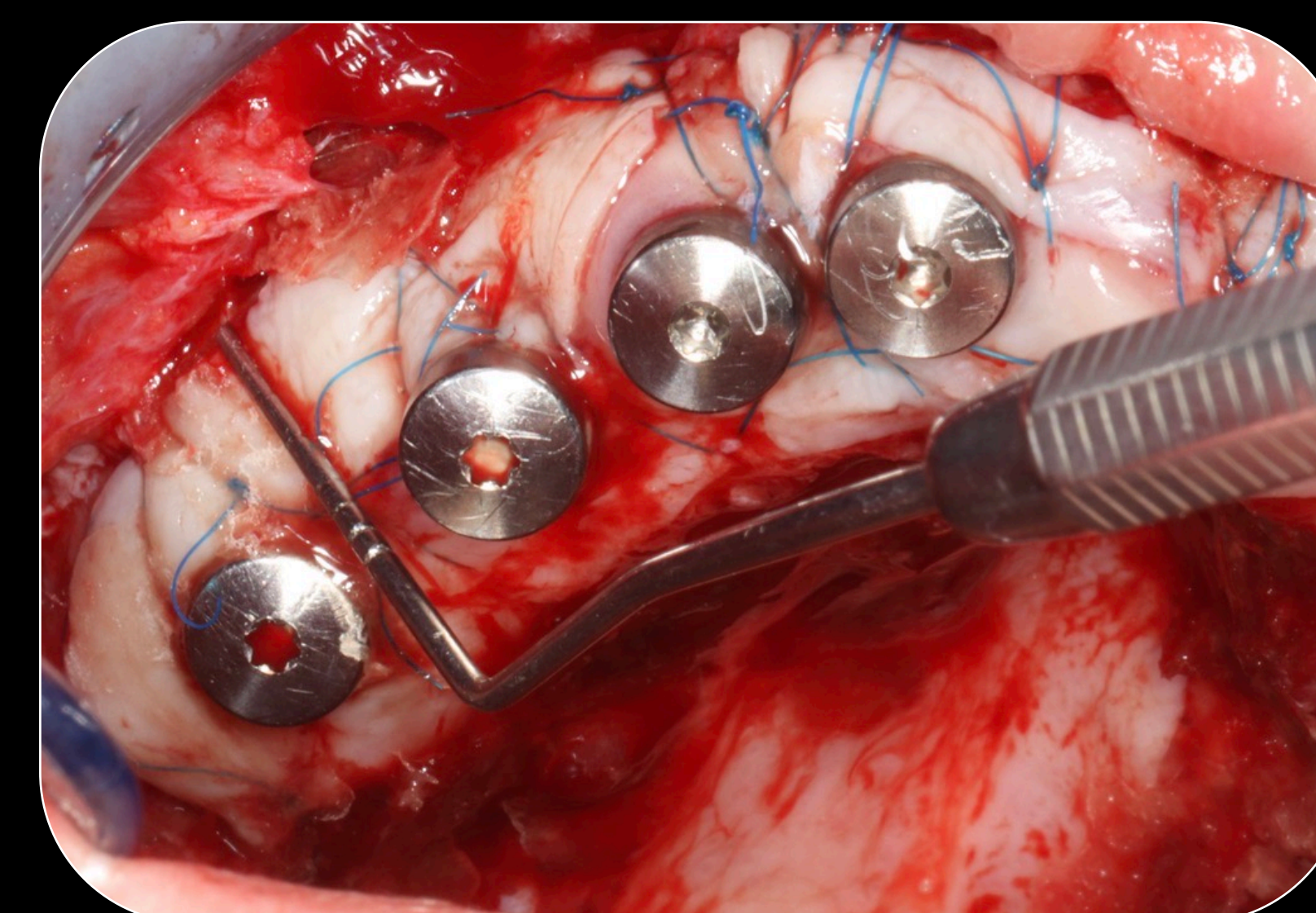
Showing widened zone of attached gingiva and vestibular depth after suture removal



Temporary prosthesis



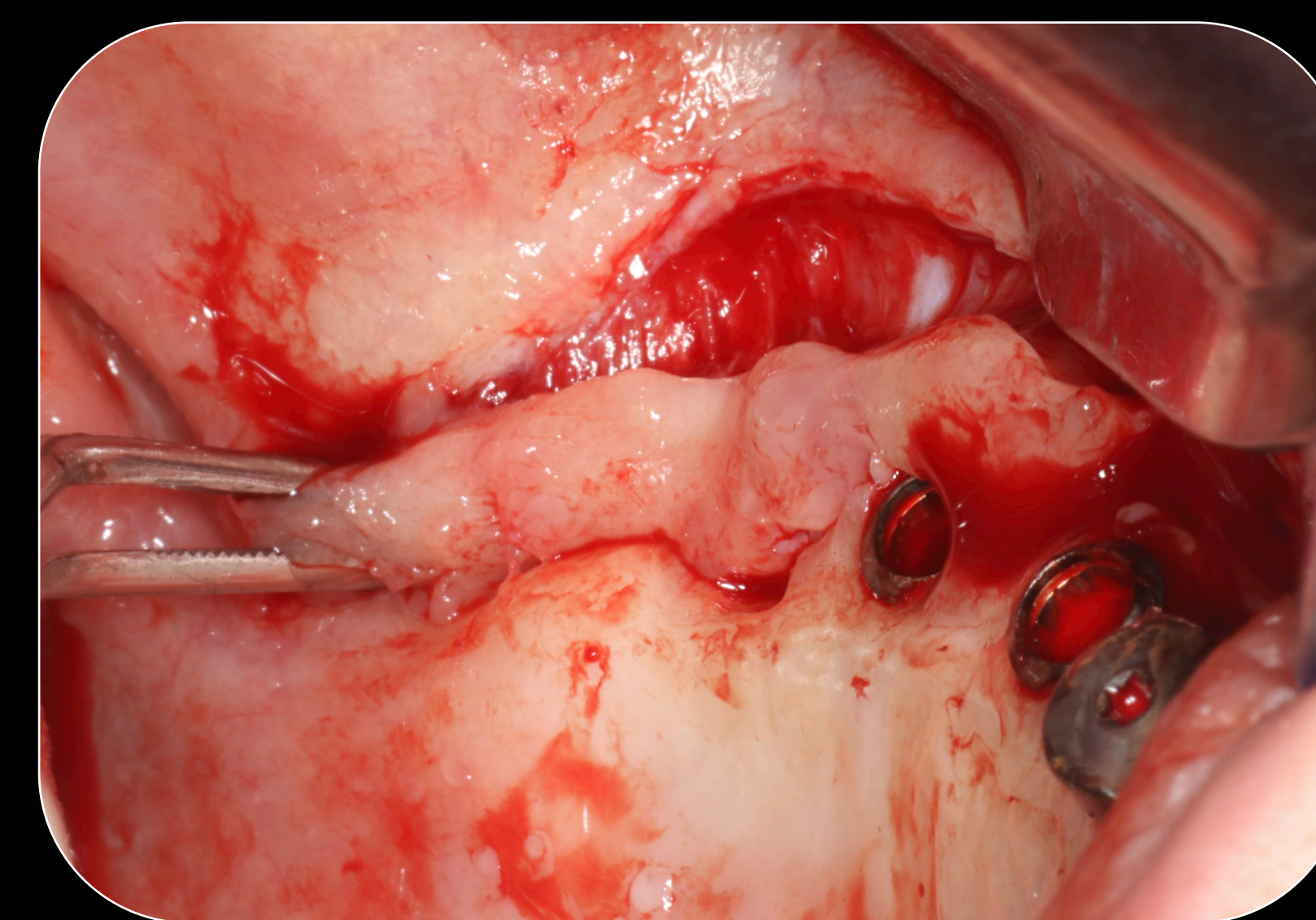
Vestibular depth after mucosal tissue Removal



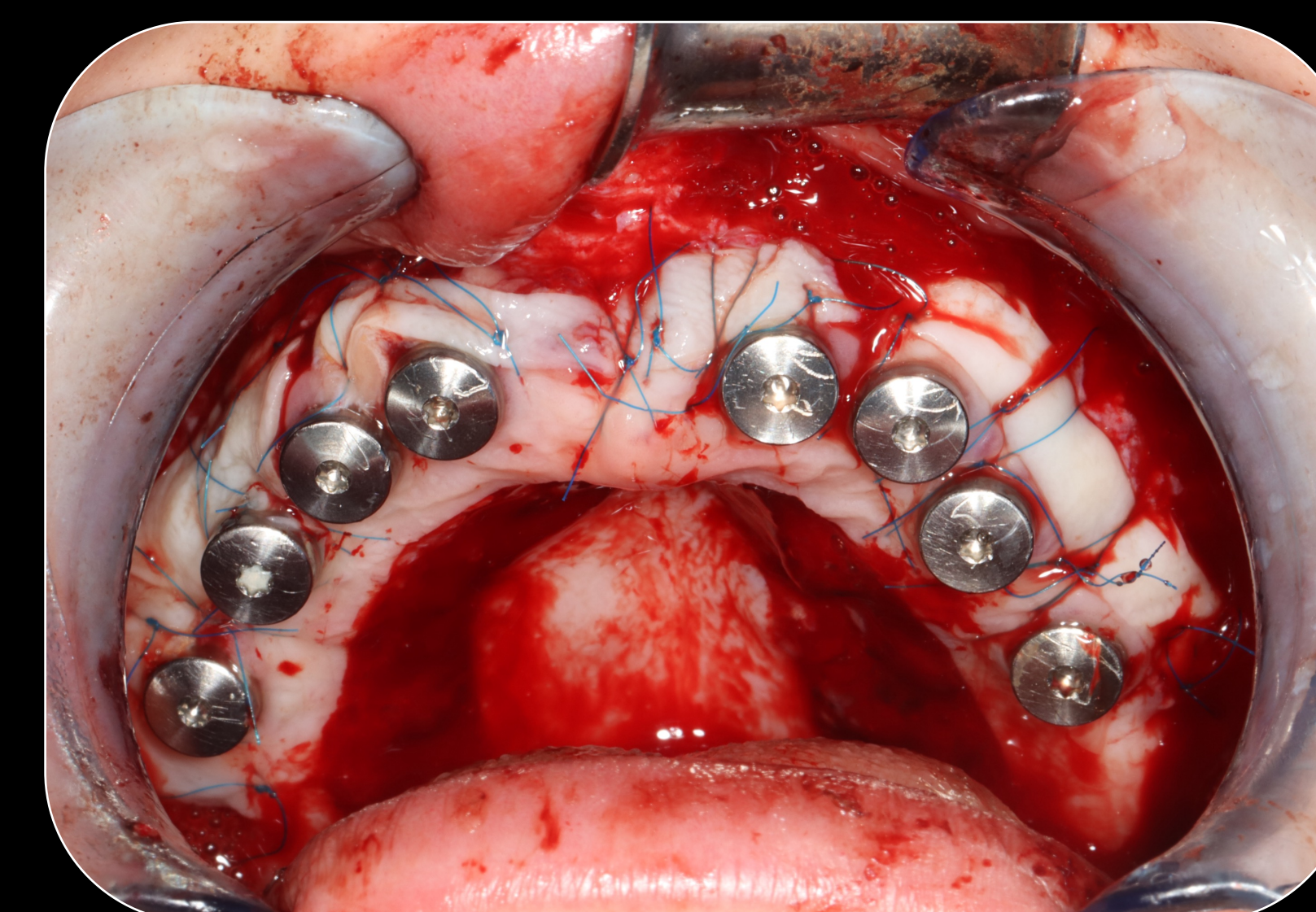
Post-op vestibular deepening



Intaglio surface of stent showing vestibular depth



Removal of tissue, wedging technique, Right side



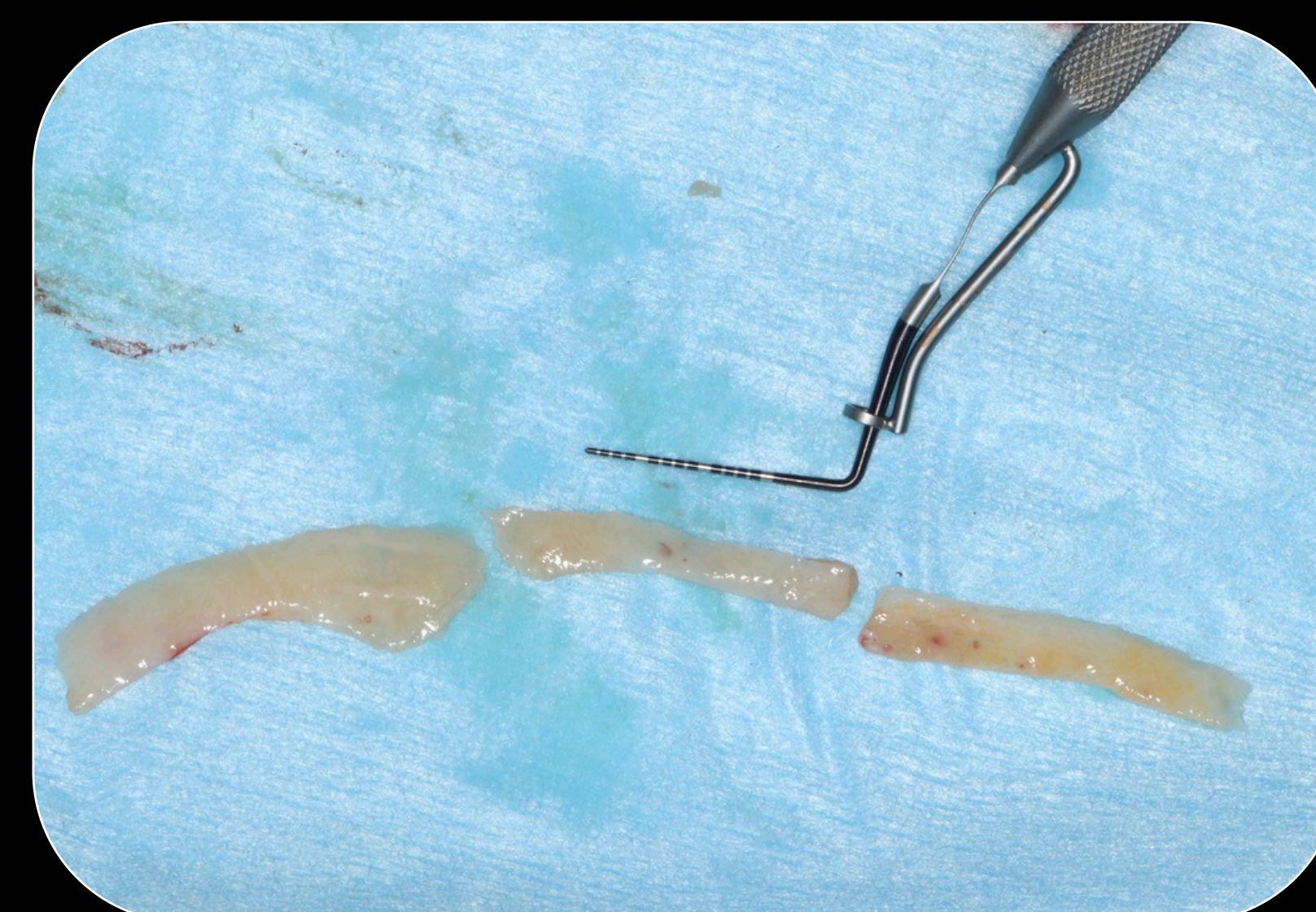
Grafts transferred to the recipient site and sutured



Try-in Modified stent on the primary cast



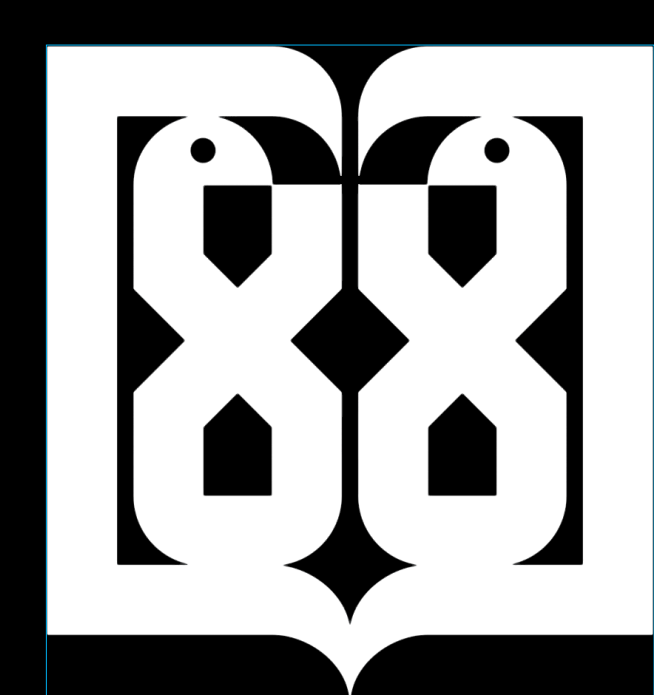
Rolling test, showing mucosal tissue around implants



harvesting of Free graft from the palate



Stent was placed and border molding was performed to correct the stent



RESULTS

This approach successfully increased the area of attached gingiva, extended the vestibule, and avoided muscle reinsertion. Healing was satisfactory, with the implants demonstrating clinical stability and healthy surrounding soft tissues.

CONCLUSION

This technique not only enhanced the volume and contour of the soft tissues but also ensured adequate vestibular depth. The favorable results, which improved both aesthetics and function, highlight the importance of customized treatment strategies in challenging cases. This approach can serve as a valuable technique for clinicians managing similar patients, ultimately contributing to higher success rates in dental implant therapy.

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