



MAXILLARY ARCH REHABILITATION IN CLEFT PALATE RETREATMENT: A CASE REPORT



Apurwa Shukla*, Ghadeer Thalji, Lyndon Cooper

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Introduction:

32-year female patient referred from her general dentist to graduate clinic with a chief complaint of the loose maxillary denture. Due to lack of retention, she is unable to eat, chew, speak, and function, which is affecting her quality of life.





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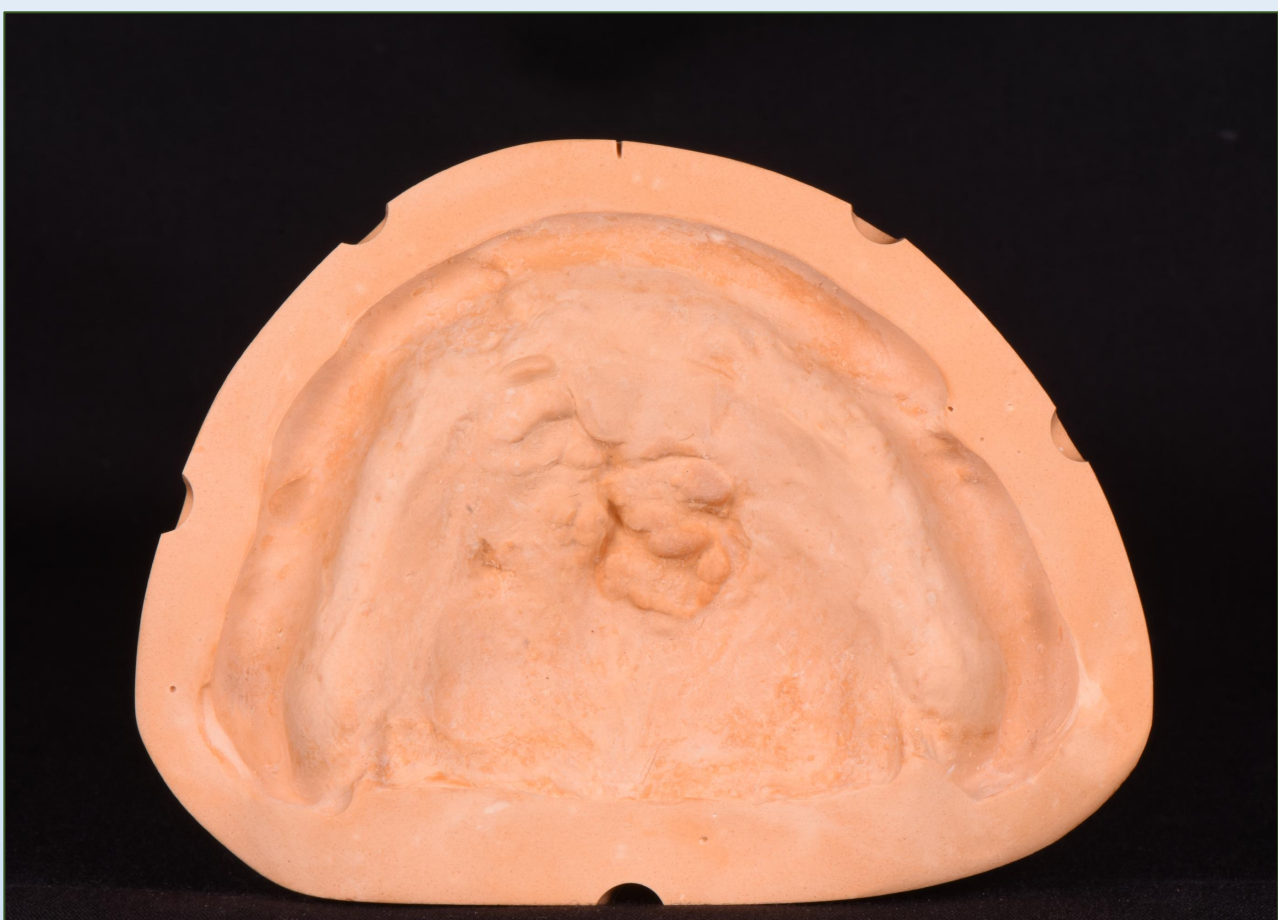
Materials and Methods:

• Patient's oral status:

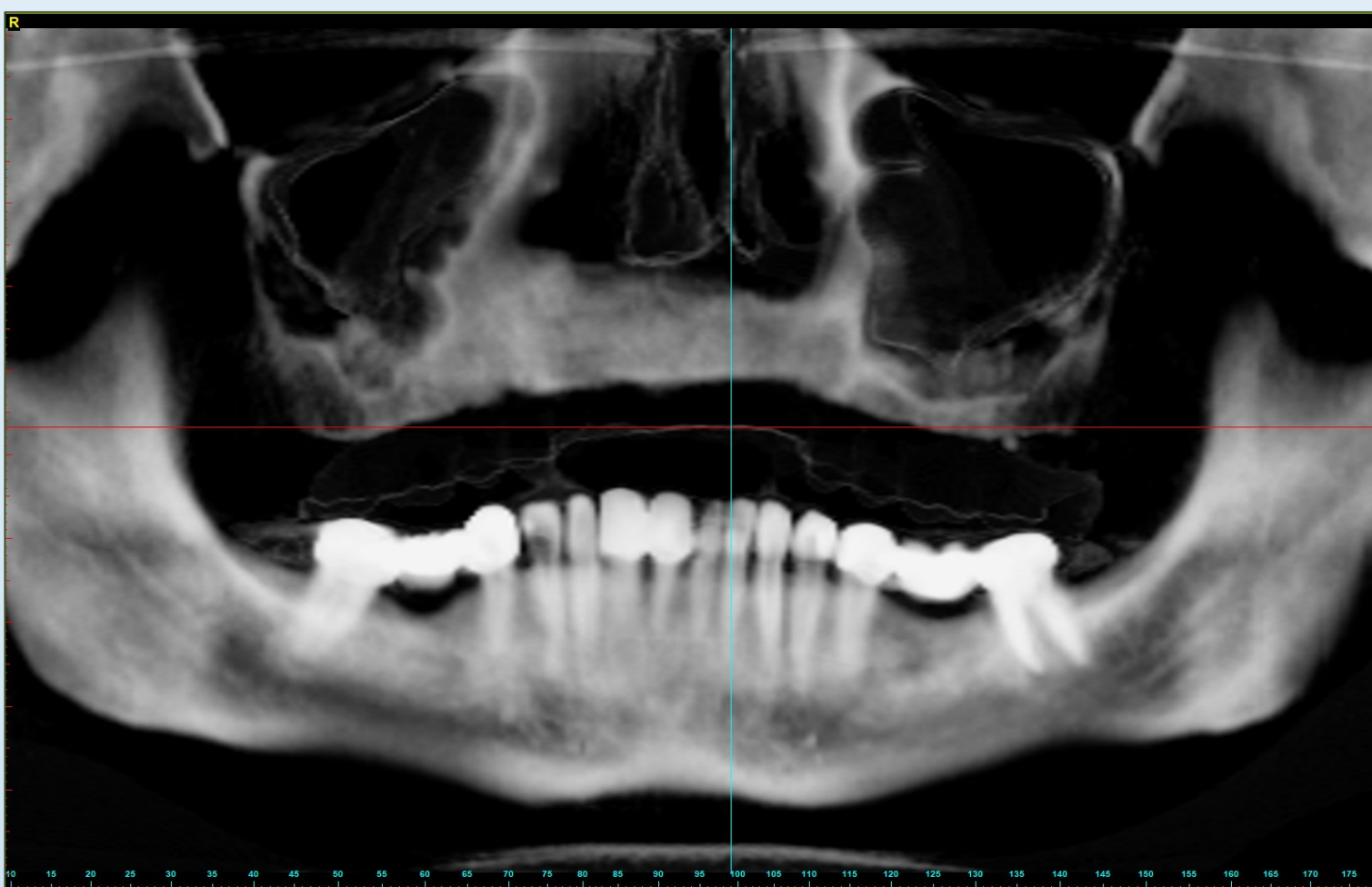
A comprehensive evaluation, including the extra-oral exam, revealed a repaired cleft lip and nasal tip deviated to the right. Intraorally, a 5mm oronasal communication was closed on the anterior palatal midline. CBCT revealed a repaired large cleft palate between 7, 8 with inadequate maxillary bone extending posteriorly. Presently patient wears a removable complete denture.

• Treatment plan summary:

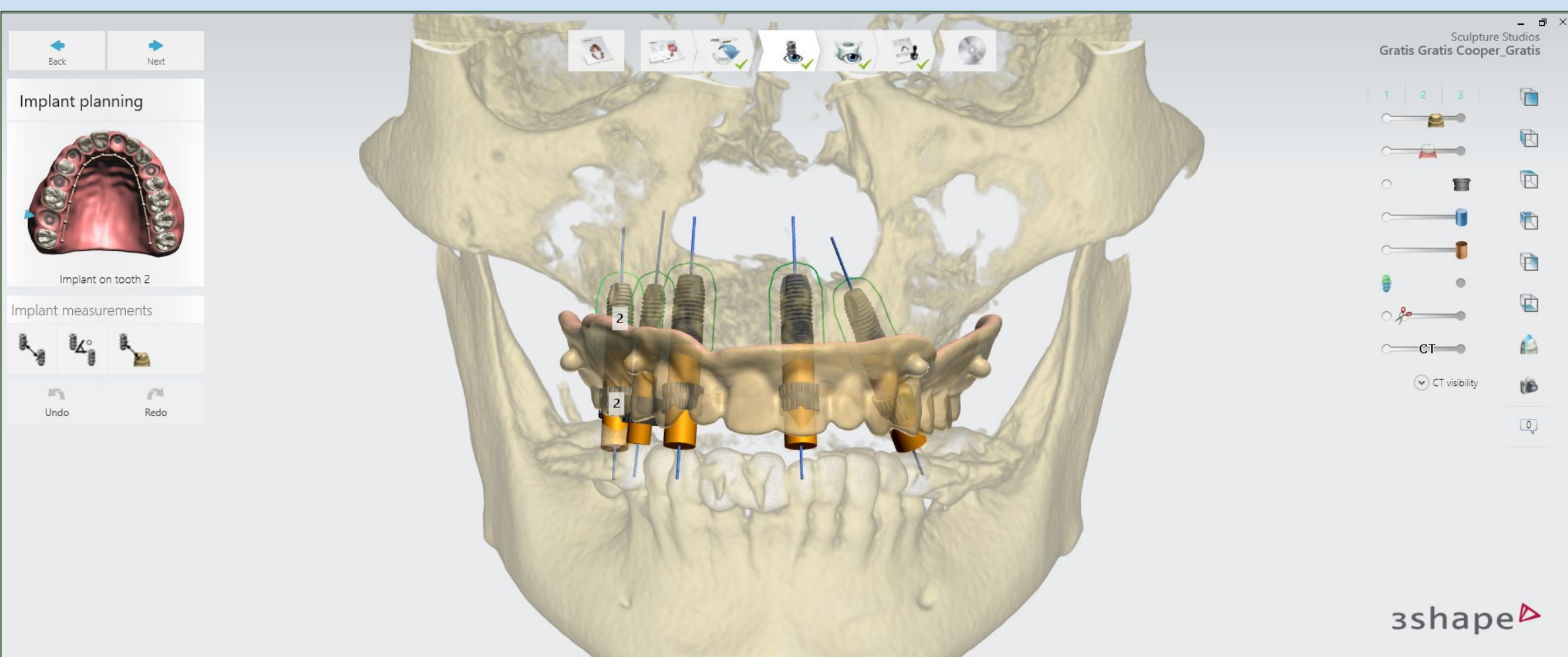
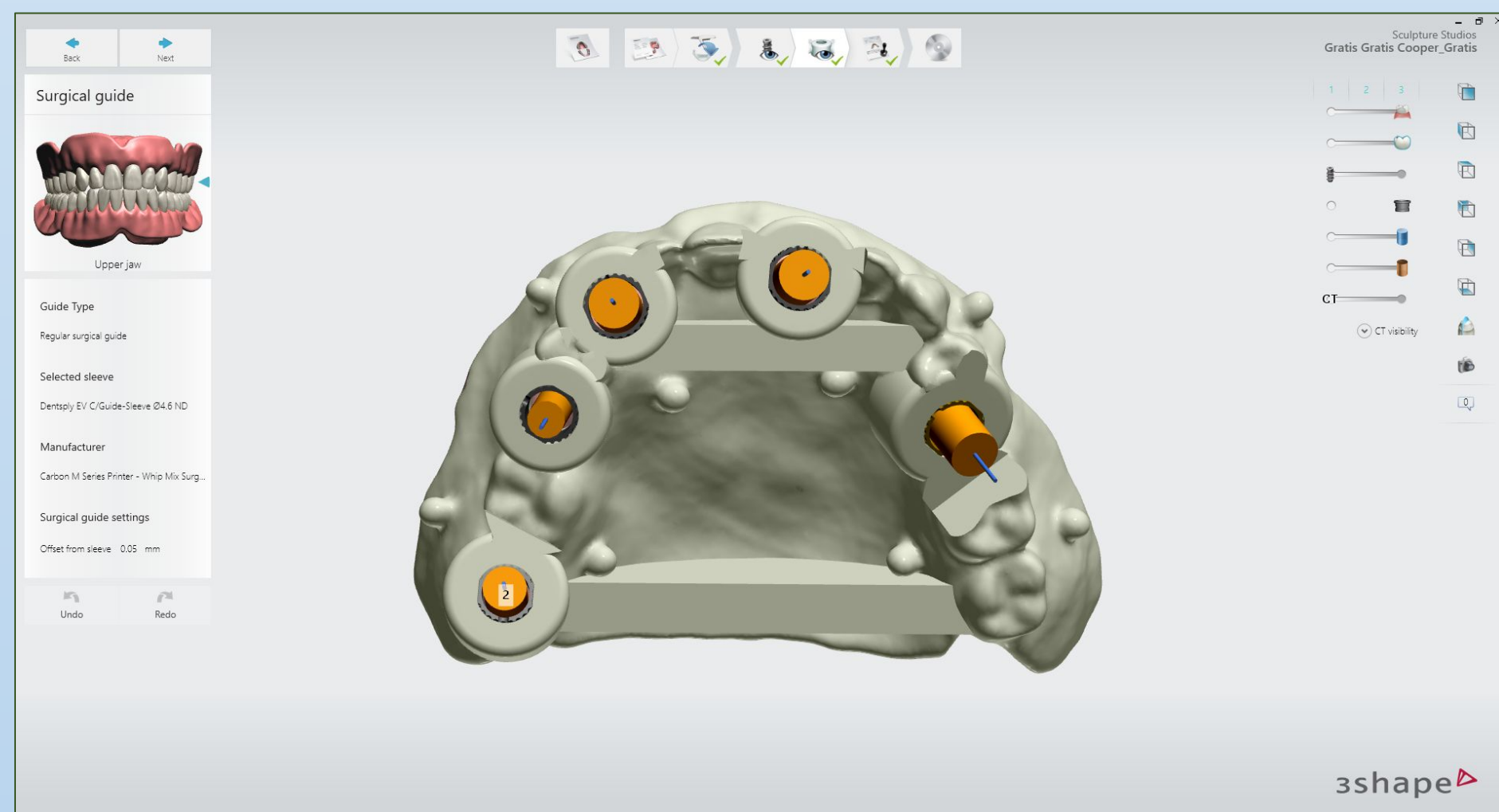
To overcome the anatomic restrictions, a maxillary fixed prosthesis was proposed for the patient. Using CAD/CAM approach, implants were planned and immediate loading for the prosthesis was considered if primary stability was achieved. A Co-Cr milled metal framework substructure with acrylic teeth was planned as a definitive prosthesis.



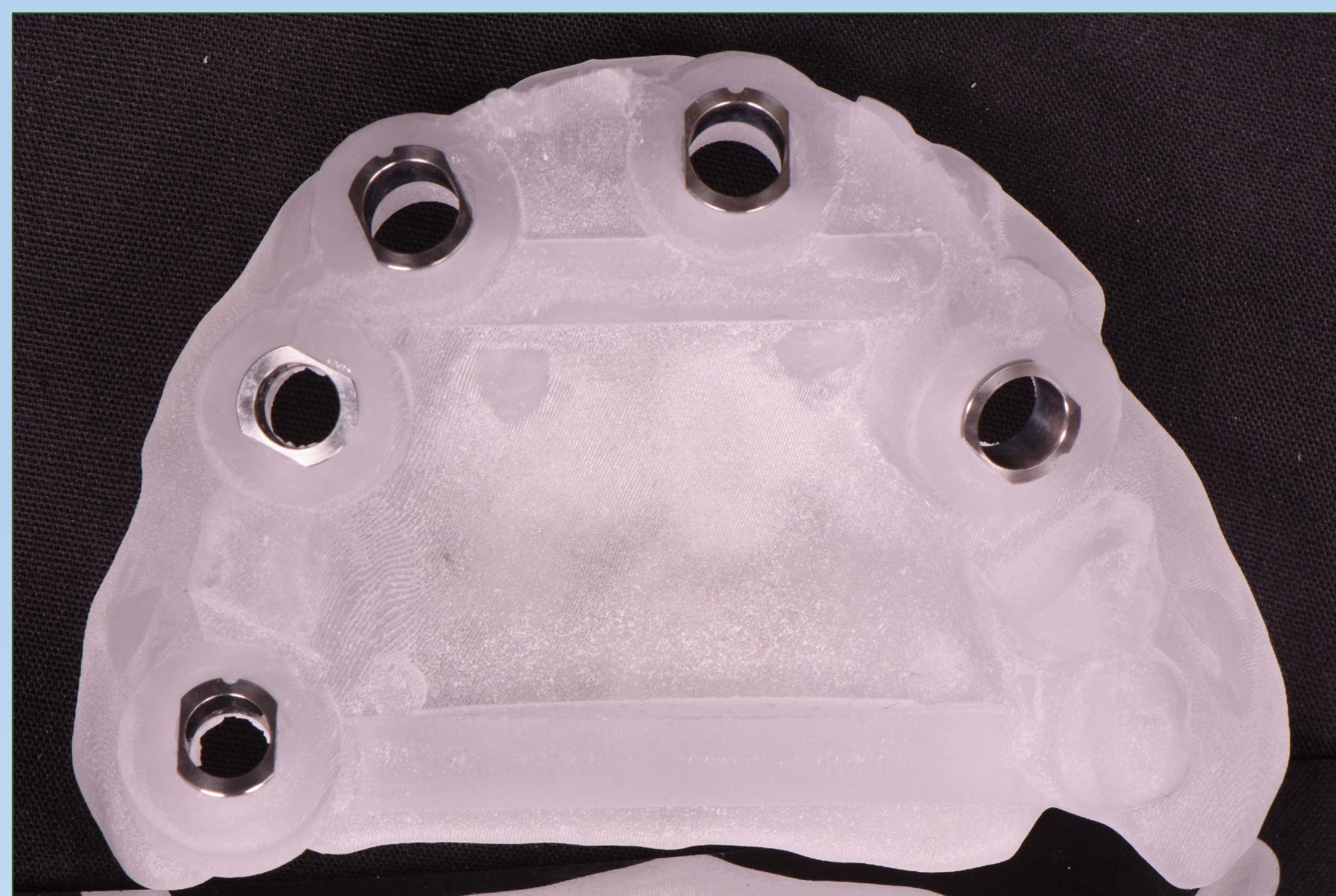
Pretreatment Maxillary cast



Pretreatment Panoramic



Digital Planning For Fully Guided Surgery



Surgical Guide- Mucosa supported



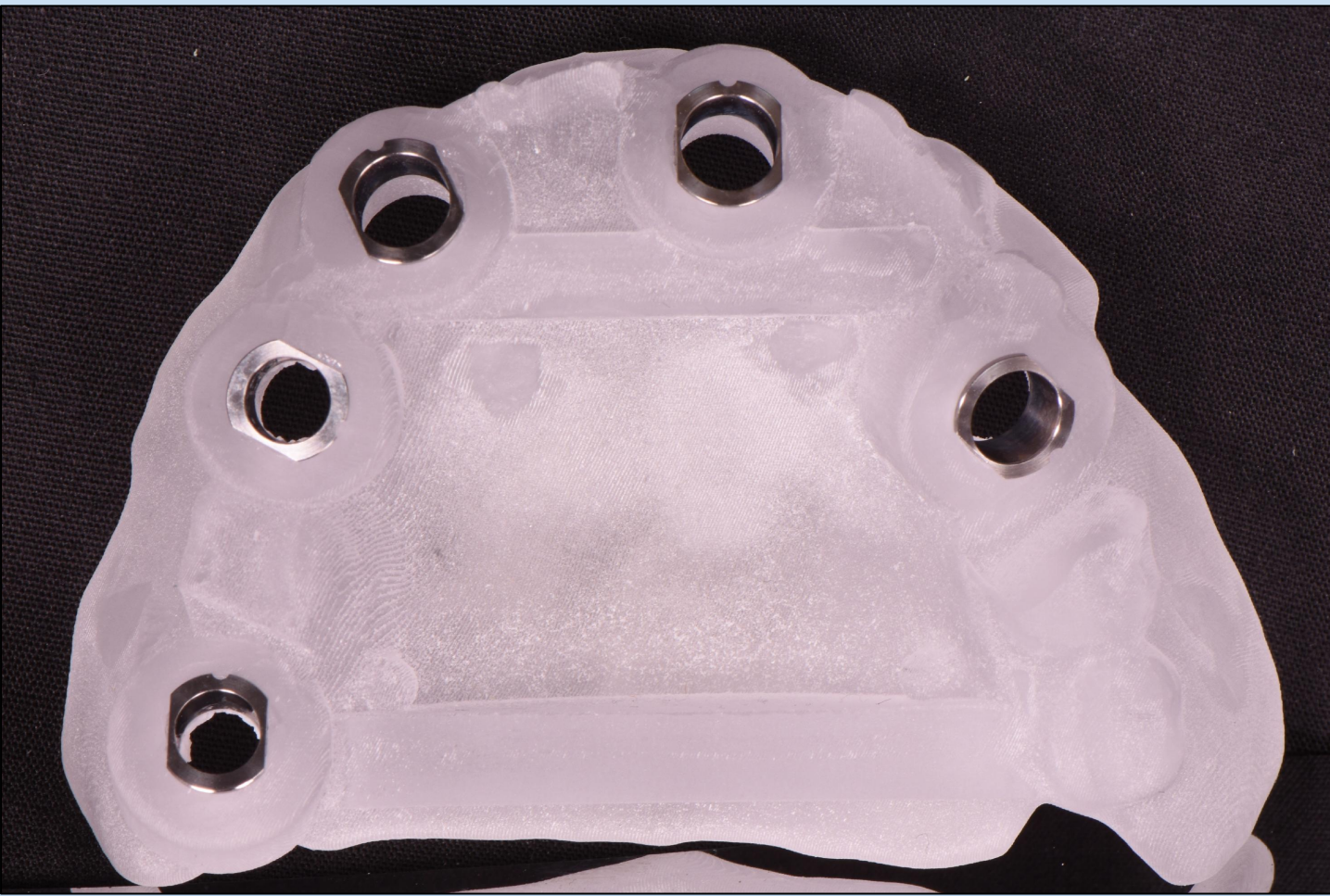
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- Details of the therapy, including pertinent photographs

The patient demonstrated inability to adapt to a complete denture. Anatomic restrictions, including pneumatized sinuses, existing hydroxyapatite graft materials, and reduced restorative dimension, were identified and managed in the digital planning environment. The use of guided surgery simplified challenging implant placement, and the associated CAD/CAM immediate prosthesis was used to guide final prosthesis design. The restricted restorative dimension was managed by the use of a Co-Cr material and metal occlusal design in the second molar position. A CAD/CAM full-arch fabricated PMMA was bonded on the metal framework. This consideration was done to provide a stronger prosthesis to minimize chipping of denture teeth seen with this type of prosthesis. The maxillary anterior prosthesis/alveolar ridge contact was easily managed to reduce air escape and improve phonetics.



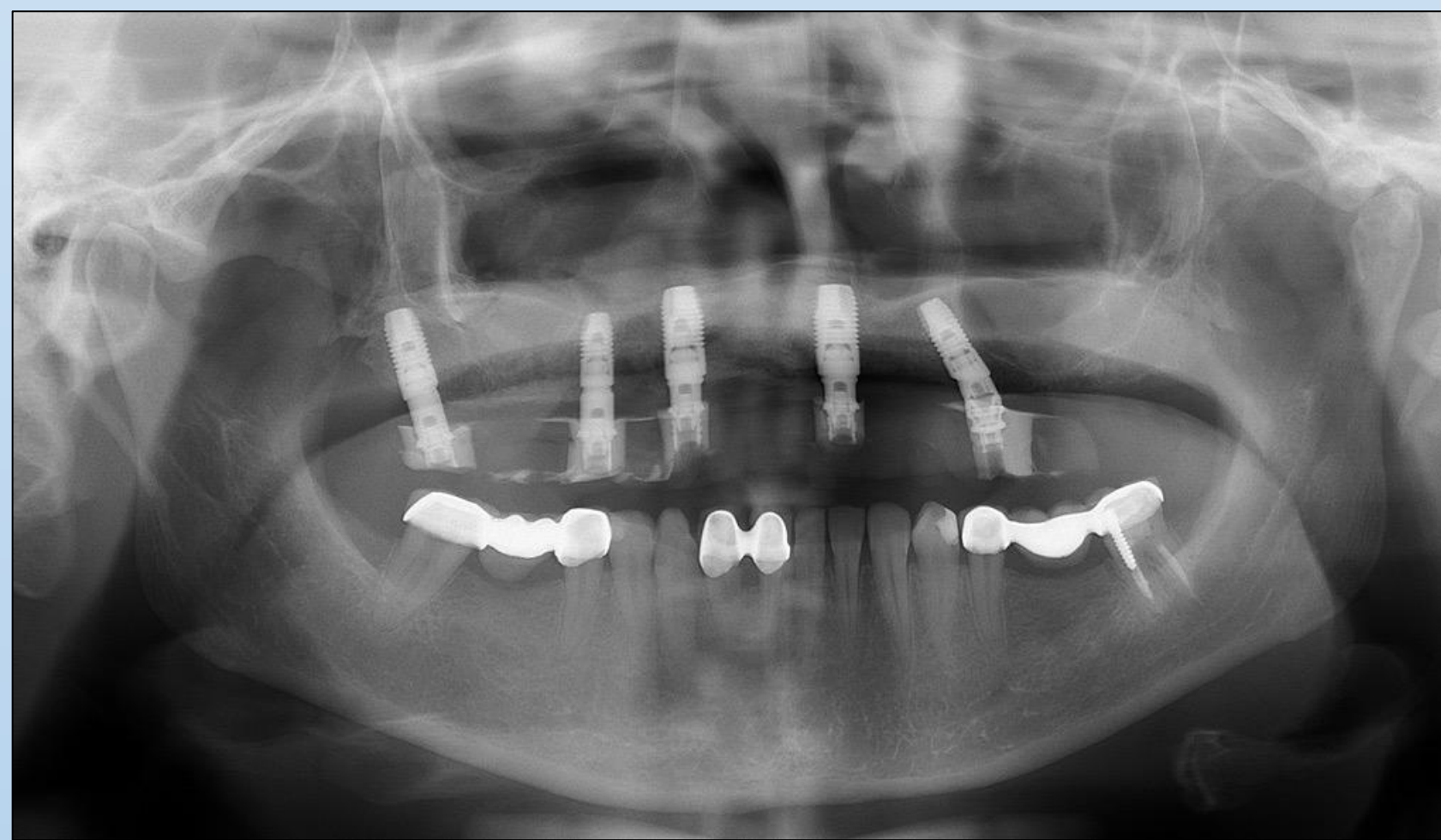
Surgical Guide- Mucosa supported



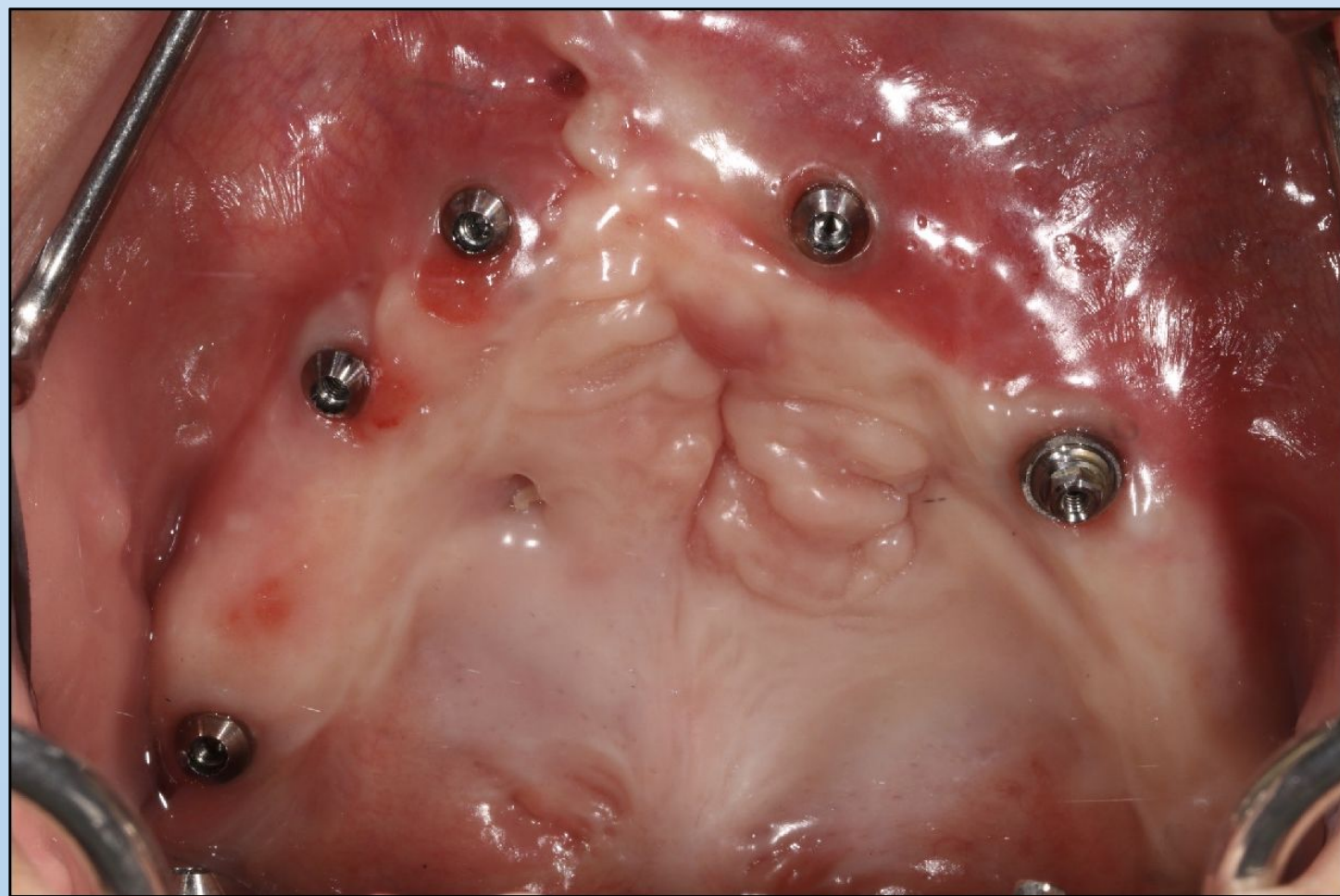
Milled Denture For Immediate Loading



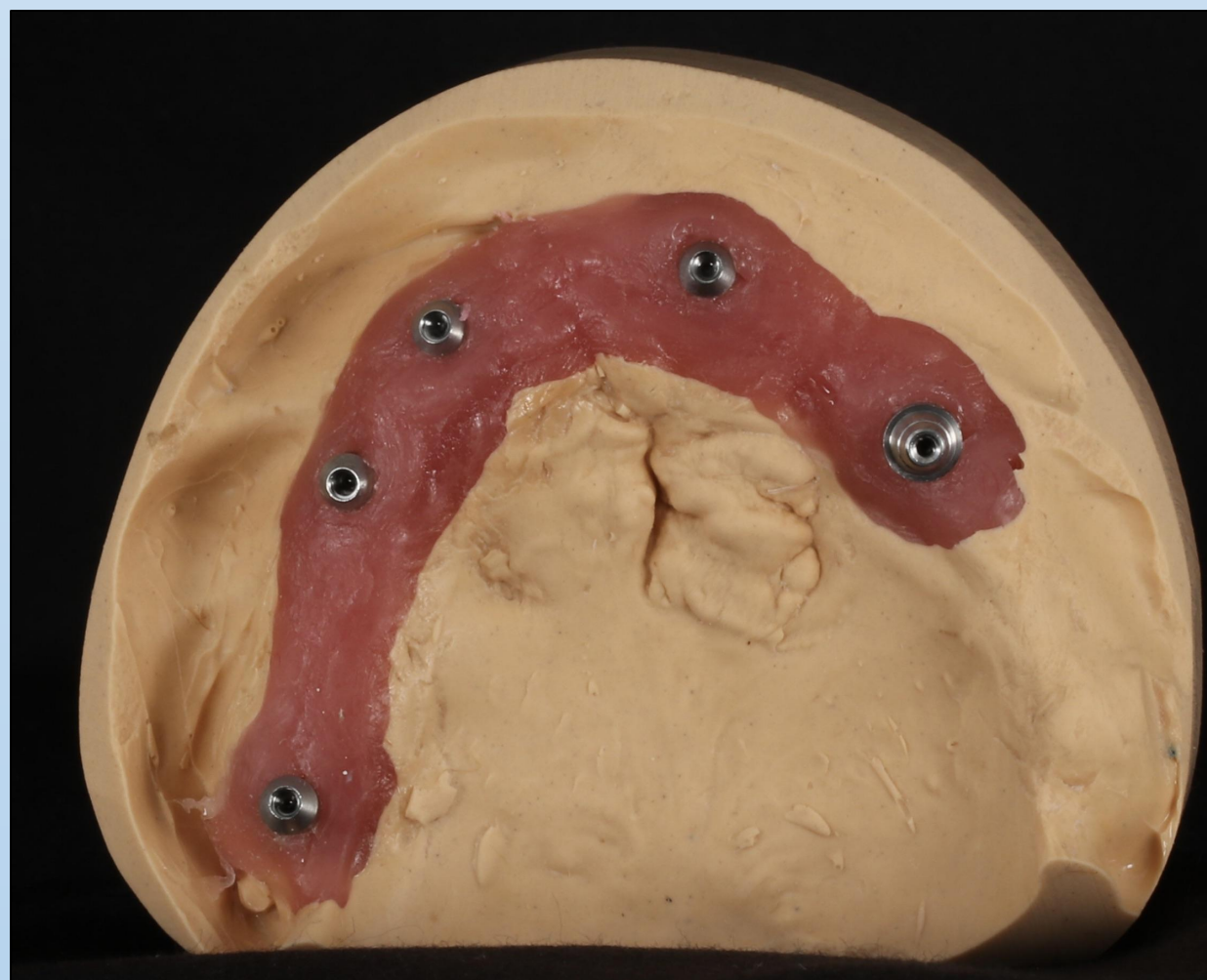
Immediate Conversion



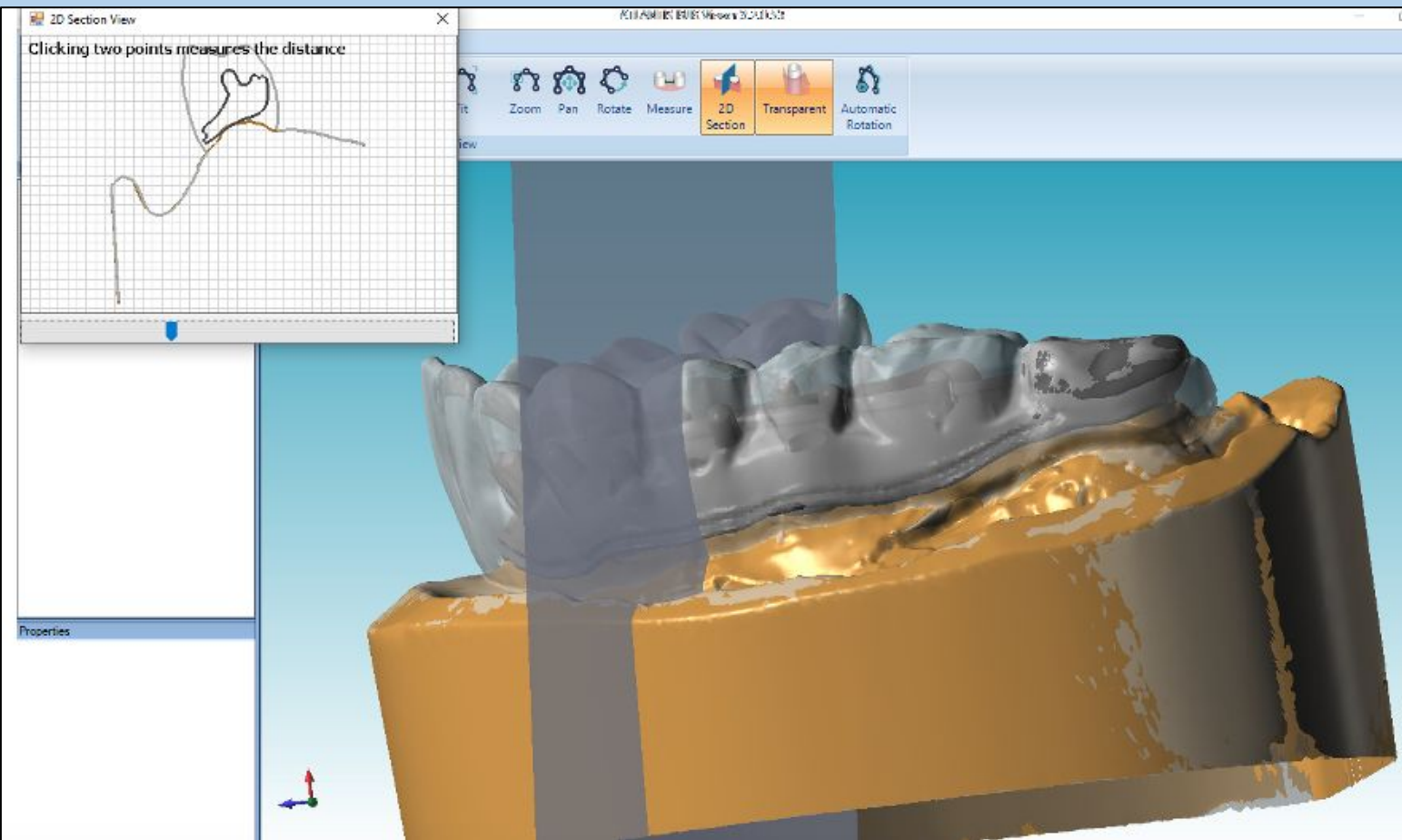
Panoramic Xray – Post Loading



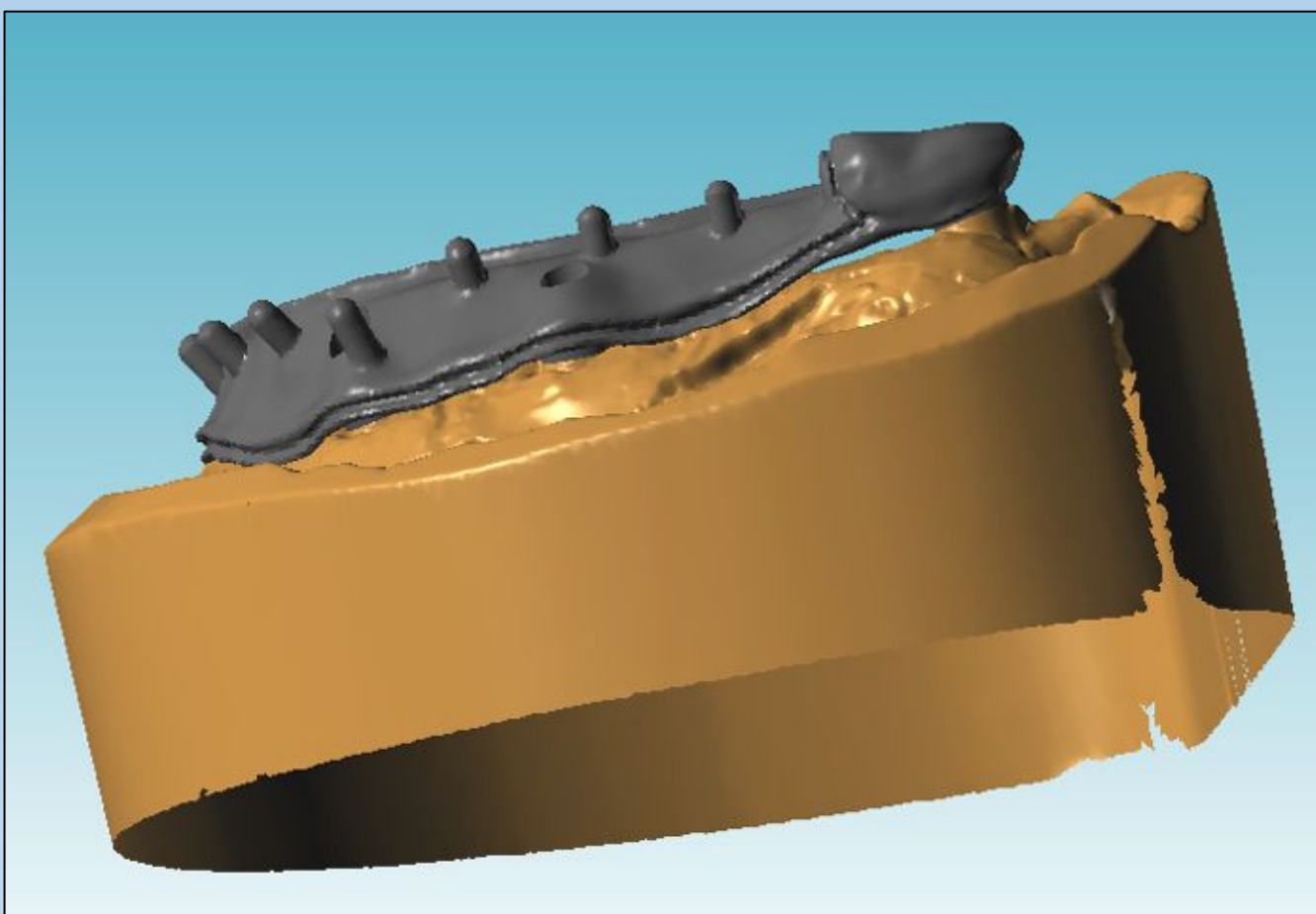
Occlusal View –Post Implant Placement



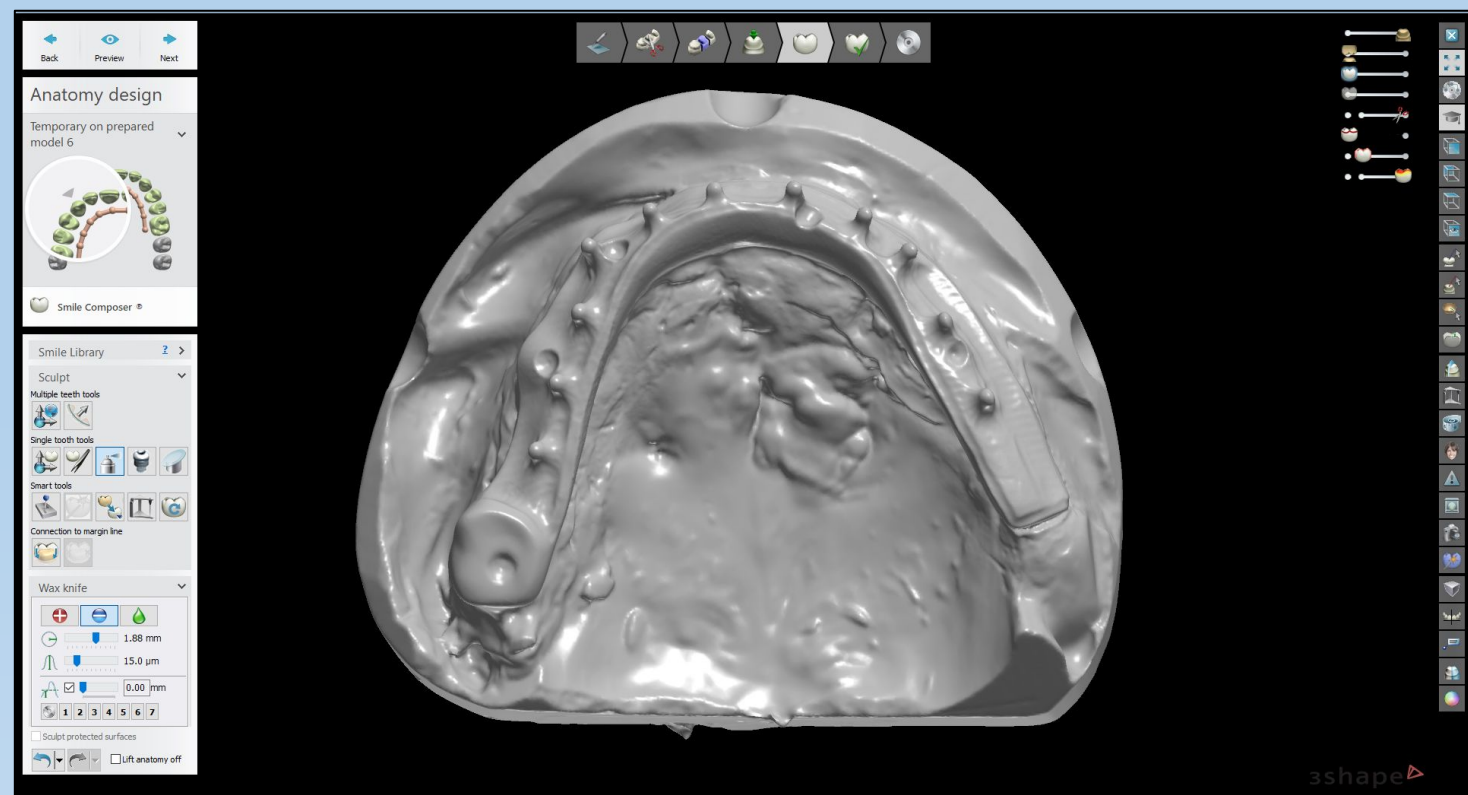
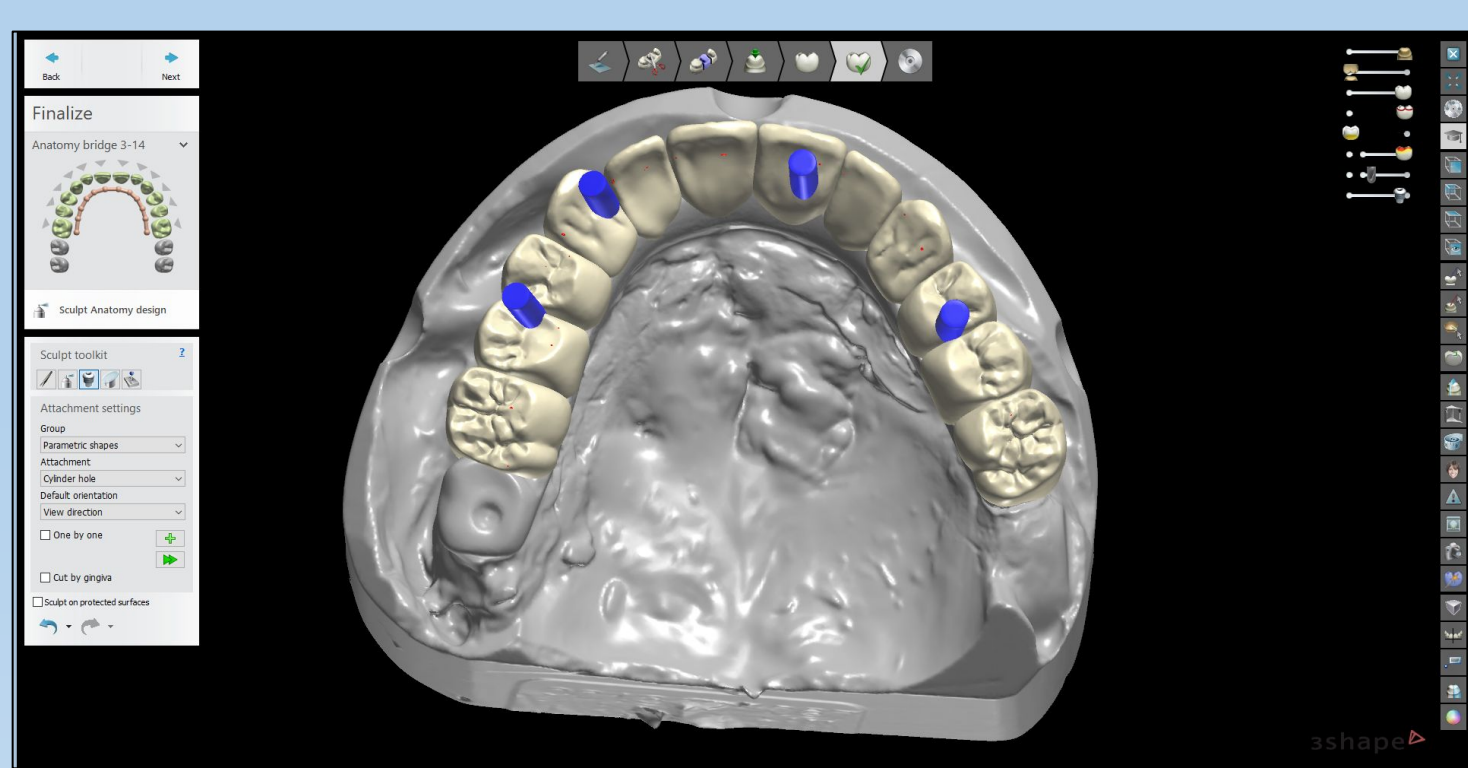
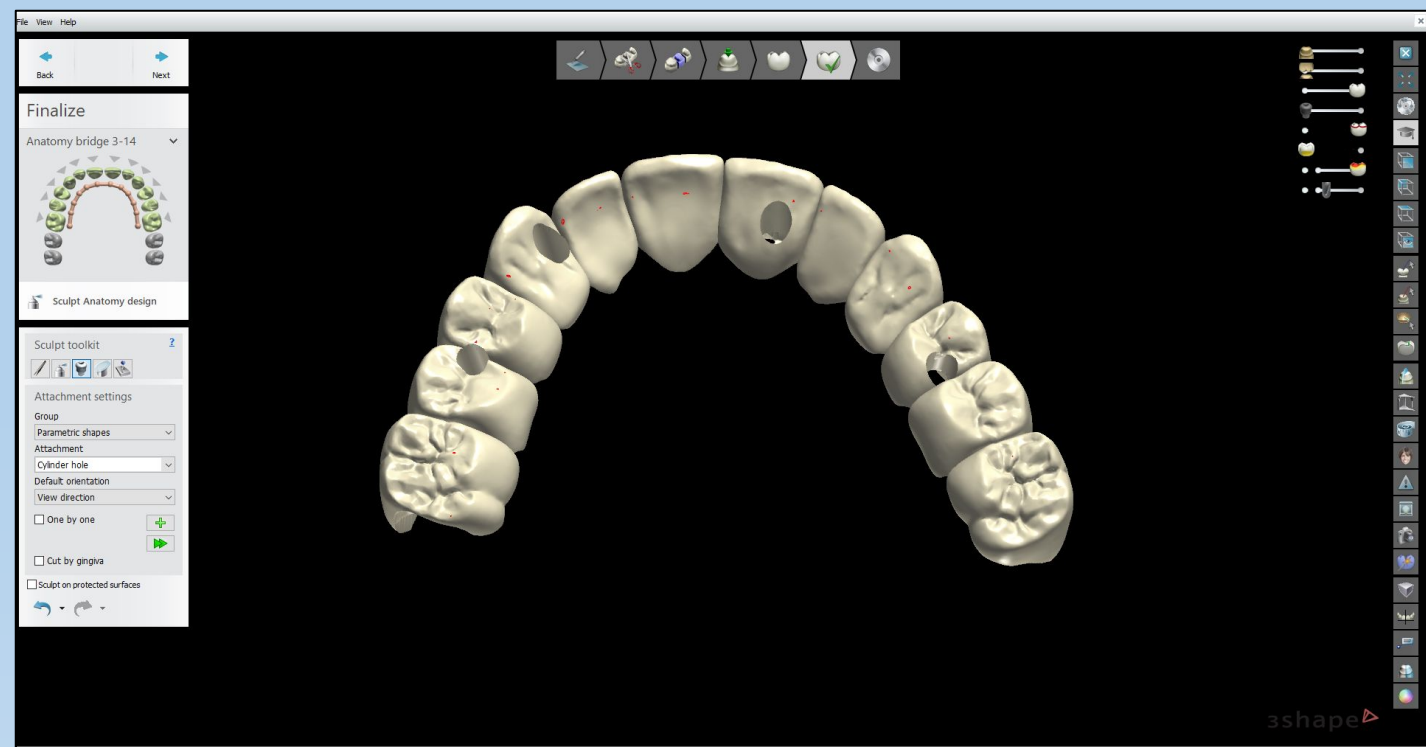
Mater Cast



Digital Bar Designing Using Teeth Set Up As A Guide



Milled Co-Cr Framework Try-in



3- Shape Software For Designing PMMA Full Arch Teeth.



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Results:

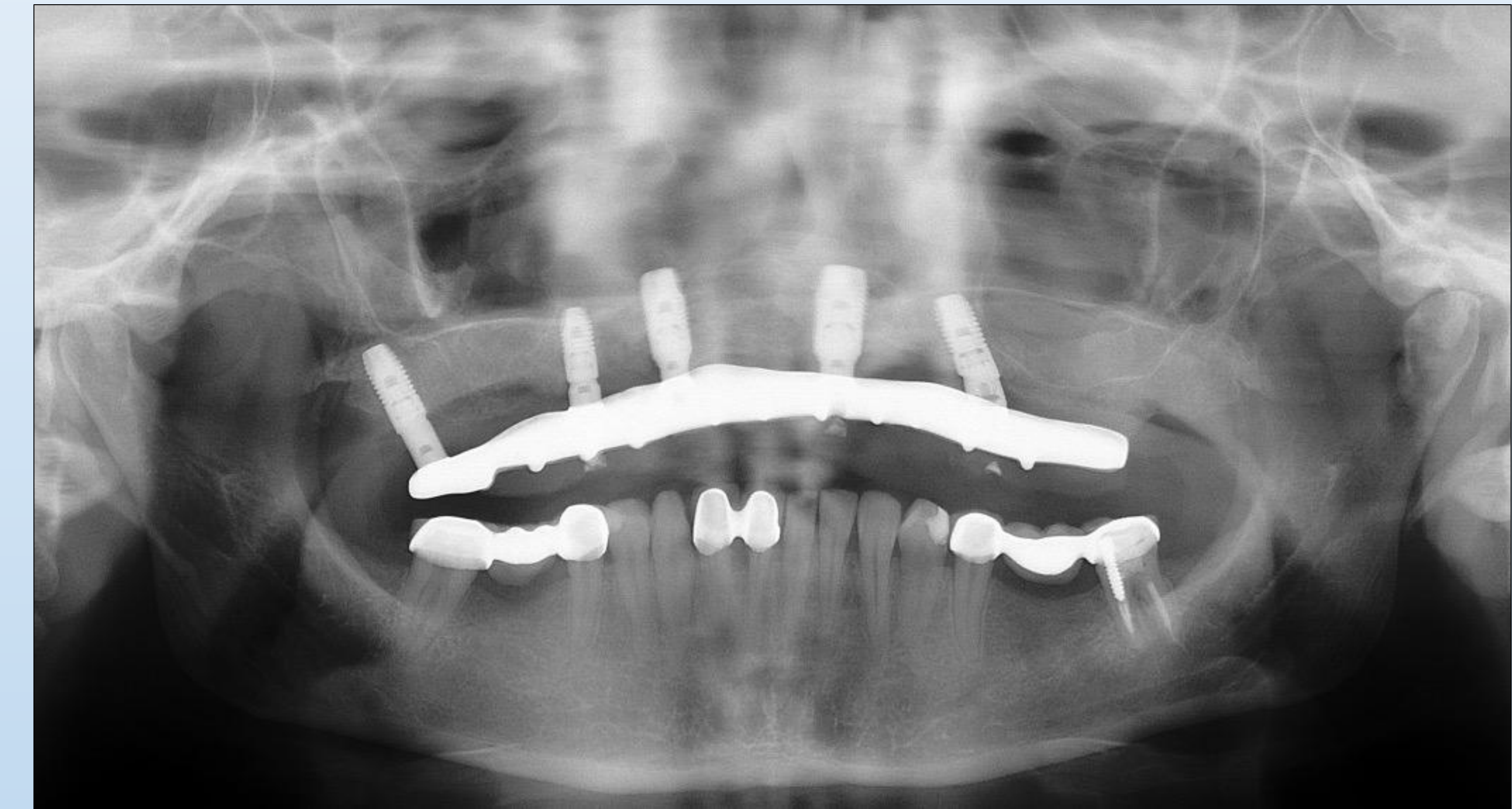
- The patient was re-called for one year follow up showed functional and esthetic satisfaction.



Post Treatment –Frontal View



Post Treatment –Lateral View



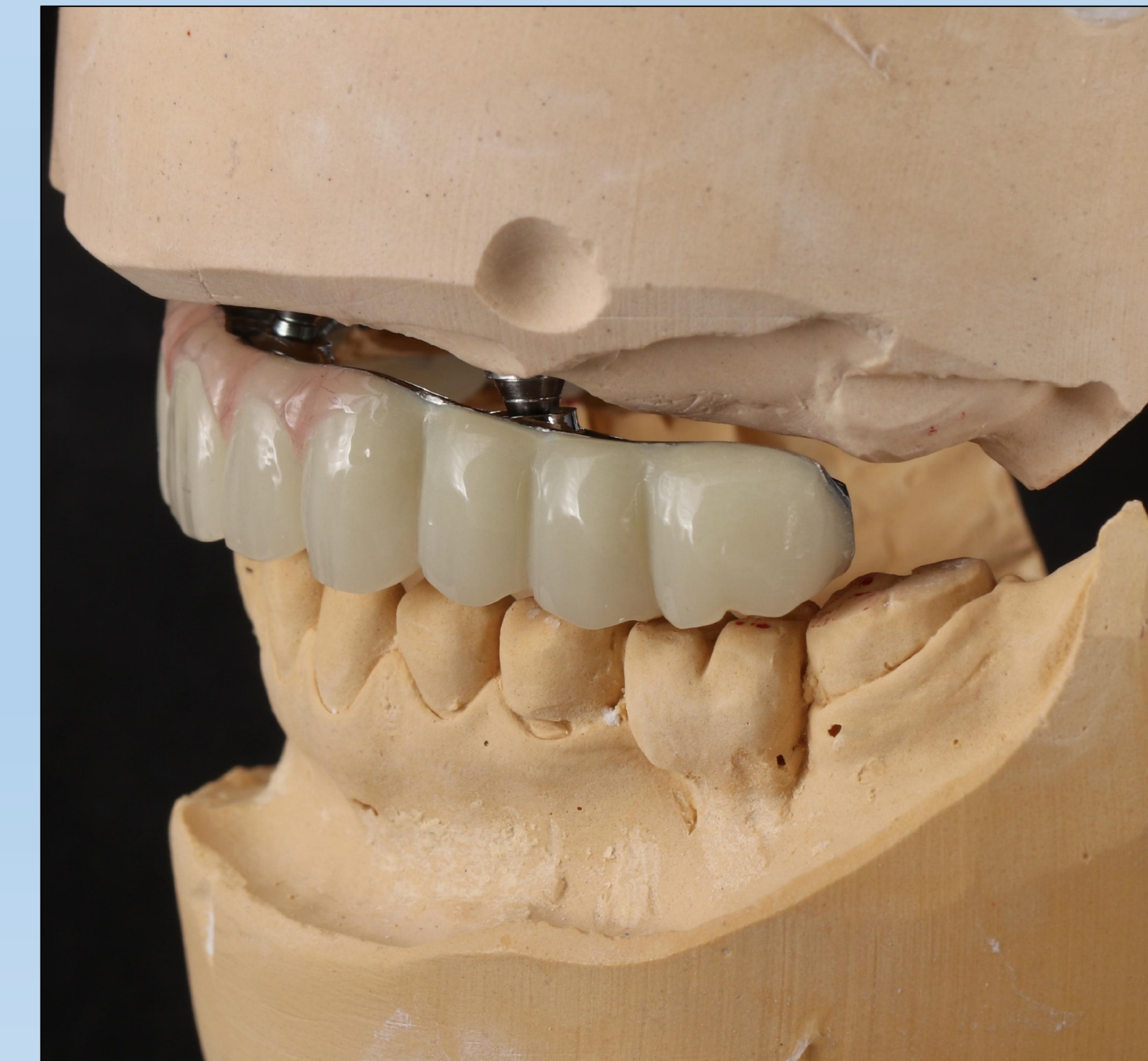
Post Treatment –Panoramic



Right Lateral View Of Final Prosthesis



Frontal View Of Final Prosthesis



Left Lateral View Of Final Prosthesis



Occlusal View Of Monolithic Milled Acrylic Teeth Bonded To The Framework.



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Conclusion:

- This case exemplifies some limitations that are encountered in the treatment of maxillary edentulism using dental implants. Working in the digital environment, using alternatively tilted implants, and selecting appropriate materials provided solutions to the presented challenge.



Pre - Treatment



Post - Treatment

References:

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