

“Revolutionizing Maxillary Defects Reconstruction: The Synergy of Zygomatic Implants and Additive Manufacturing”

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OBJECTIVE

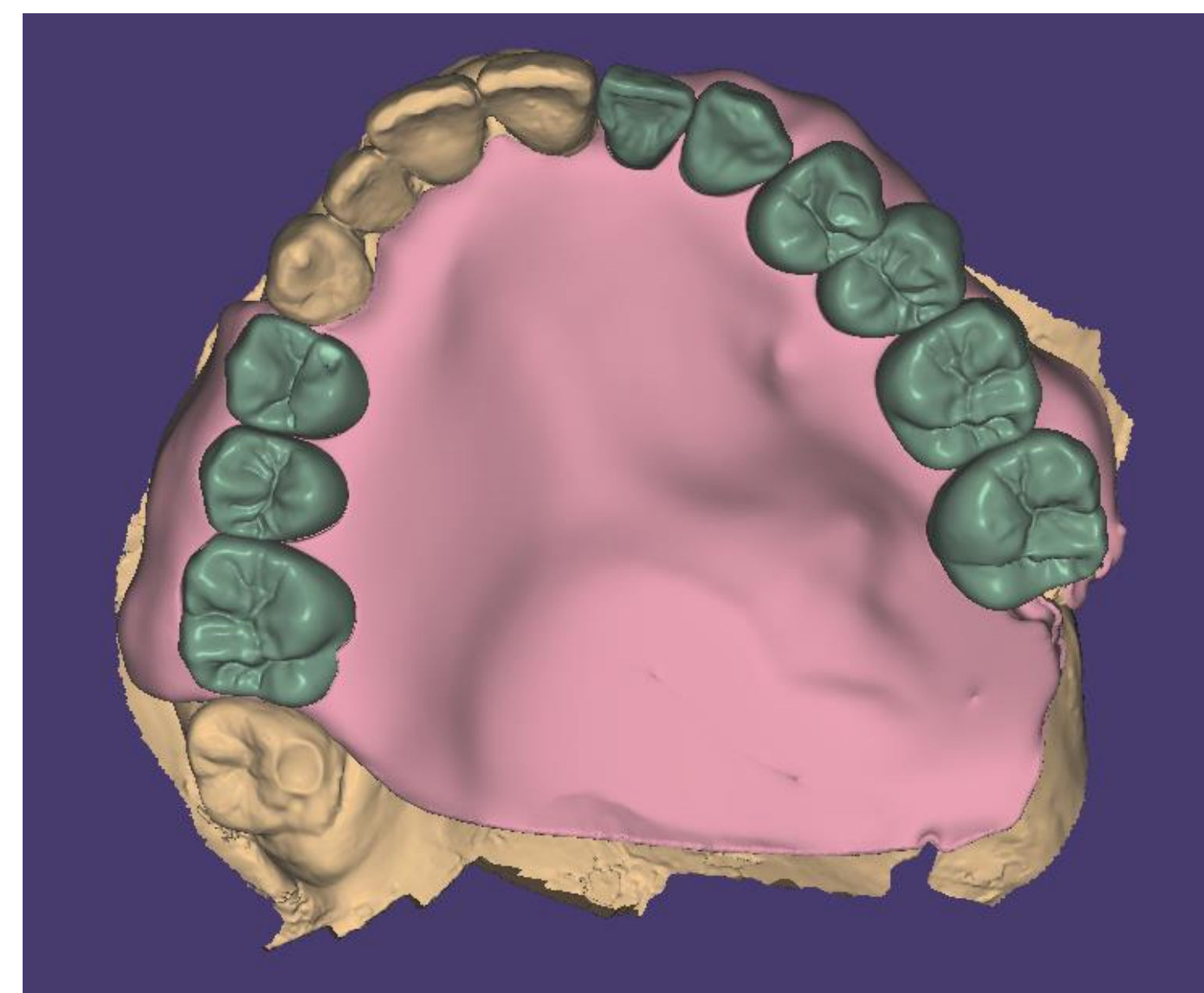
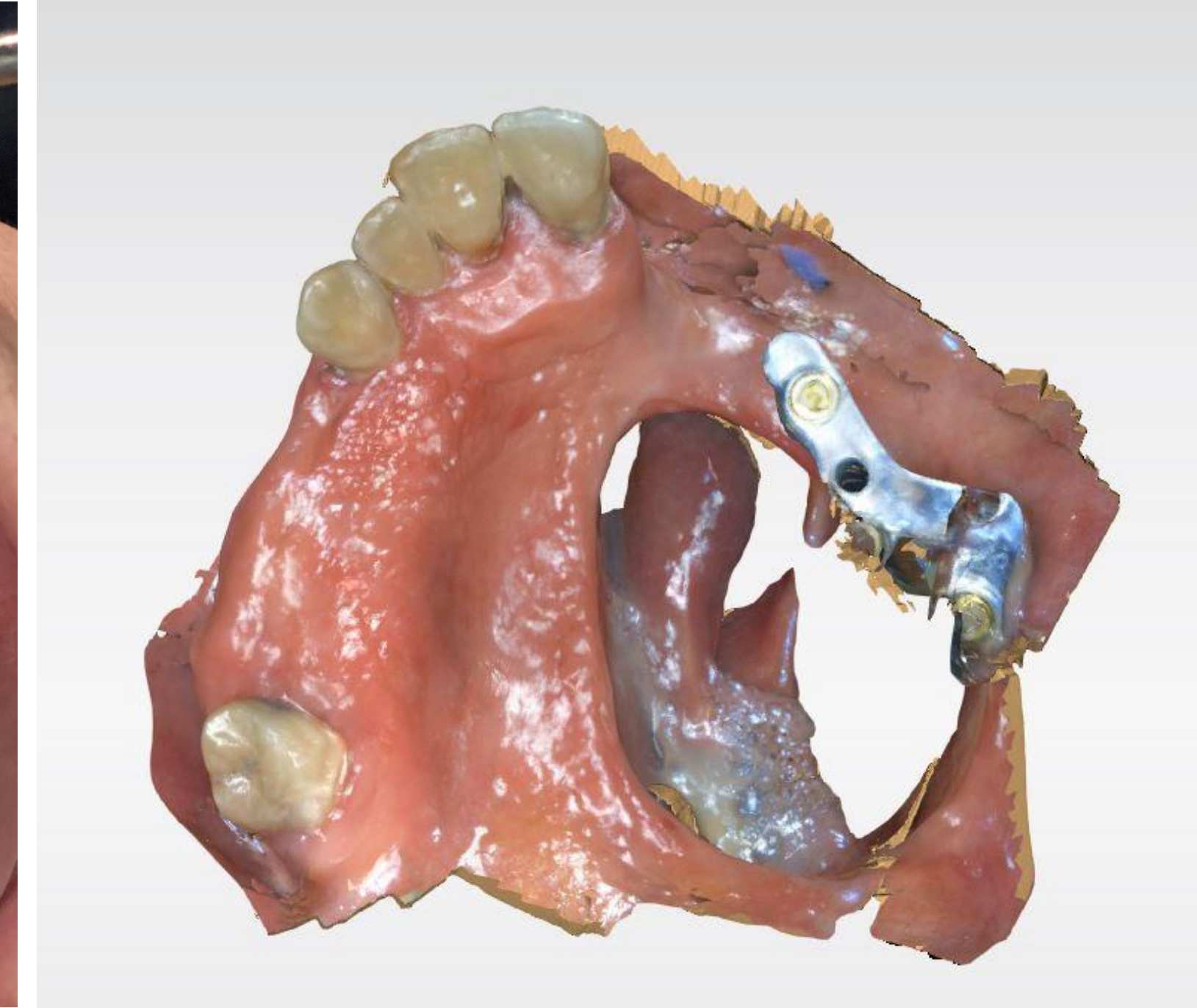
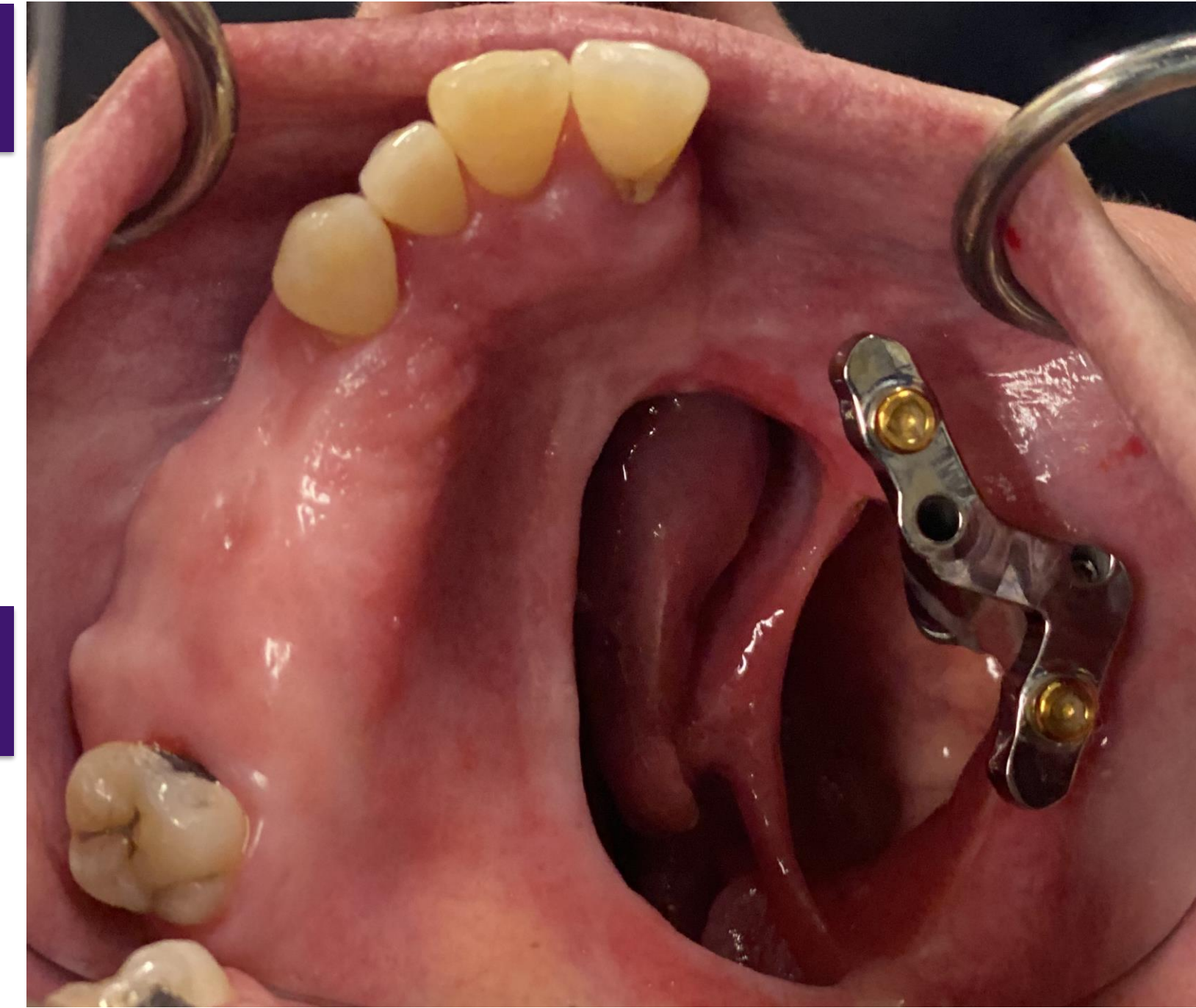
To present a fully digital workflow for reconstructing extensive maxillary defects using zygomatic implants combined with additive manufacturing technology.

CASE HISTORY:

A 44-year-old female patient was diagnosed with squamous cell carcinoma in the maxilla and subsequently underwent hemi-maxillectomy. Zygomatic implants were placed and splinted together with a titanium bar and locator abutments attached to them. An intraoral scanner (Primescan) was used to capture the details of the arch. An obturator was designed using Exocad software and 3D printed using Desktop Health Einstien Printer. The locators were then picked up chairside, ensuring a precise fit and improved retention.



Scan me!



OUTCOME/FOLLOW-UP:

The use of zygomatic implants provided a stable foundation despite the compromised bone structure, while the fully digital approach ensured a prosthesis with precise fit, function, and esthetics. At the three-month follow-up, the patient exhibited no complications, with stable implants and improved masticatory function. This case highlights the effectiveness of a fully digital workflow in delivering a convenient, precise, and patient-friendly solution for complex maxillary defects.



CONCLUSIONS

This case demonstrates the potential of integrating a fully digital workflow with zygomatic implants and additive manufacturing technology to overcome the challenges of complex maxillary defect reconstruction. The approach not only enhances the prosthesis accuracy but also significantly improves patient outcomes, providing an efficient and convenient solution where traditional methods fall short.