



A Novel Technique of Placing Immediate Implants in Poor Bone Sockets: The Hanged Implant Concept

DR LAITH GLISSA, DDS

PR LATIFA BERREZOUGA, DDS, PHD

Introduction:

The primary stability of immediate implants is essential for successful osseointegration. However, sockets with minimal or no existing bone for anchoring the implant pose a significant challenge and may even contraindicate fixture placement. The technique presented here offers a novel approach to achieve primary stability in such cases.



Case 1: maxillar first molar

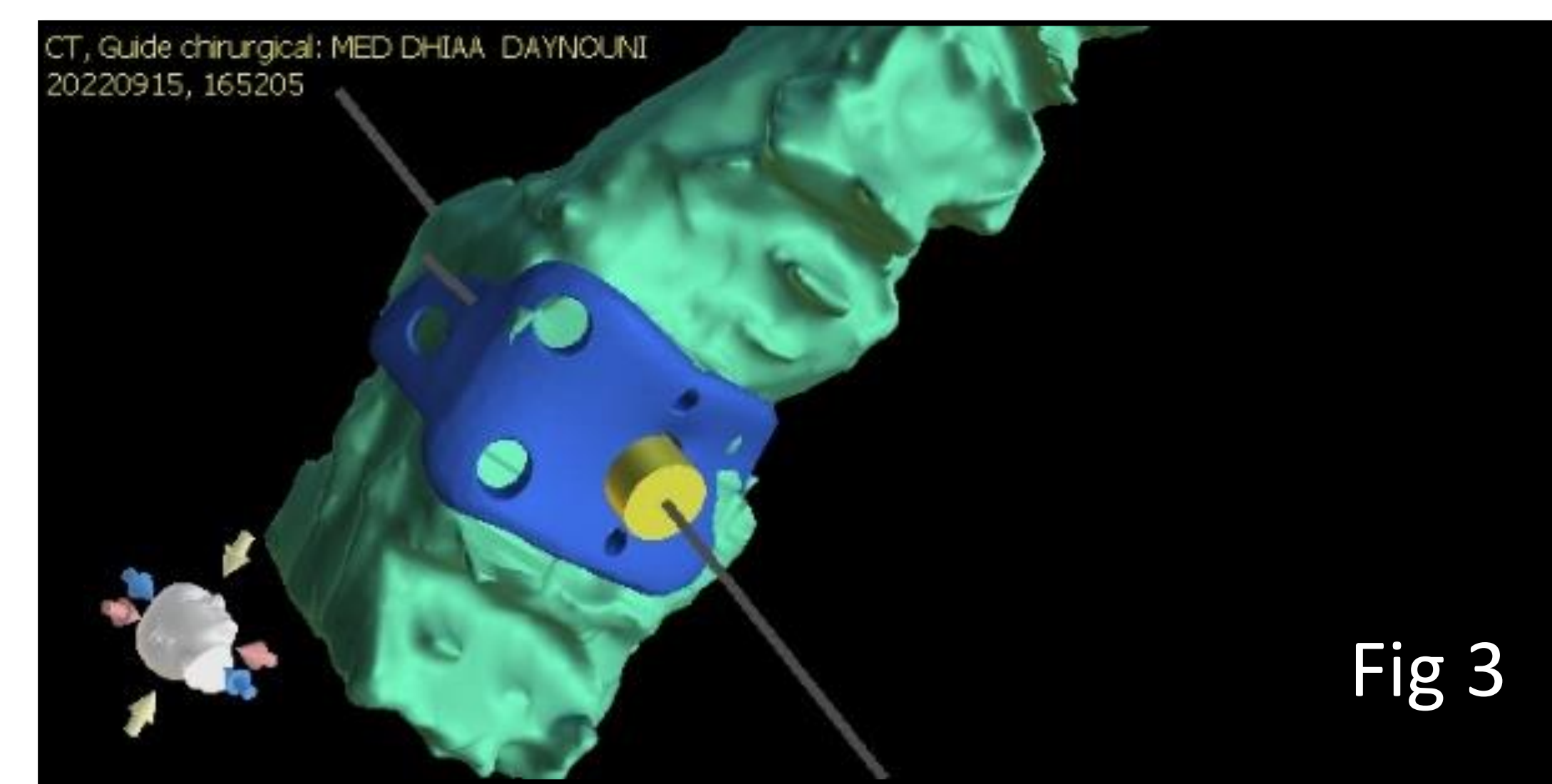
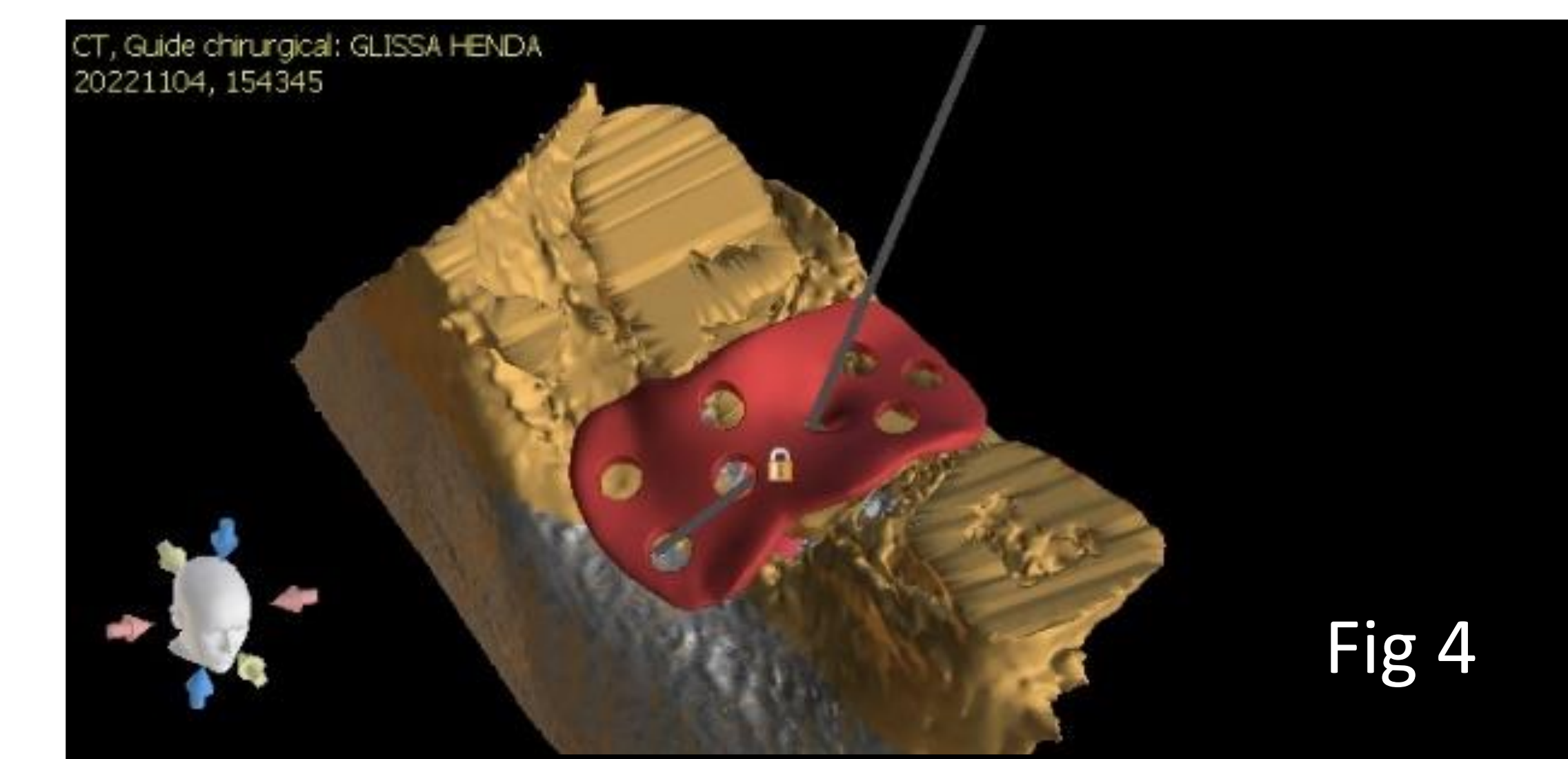
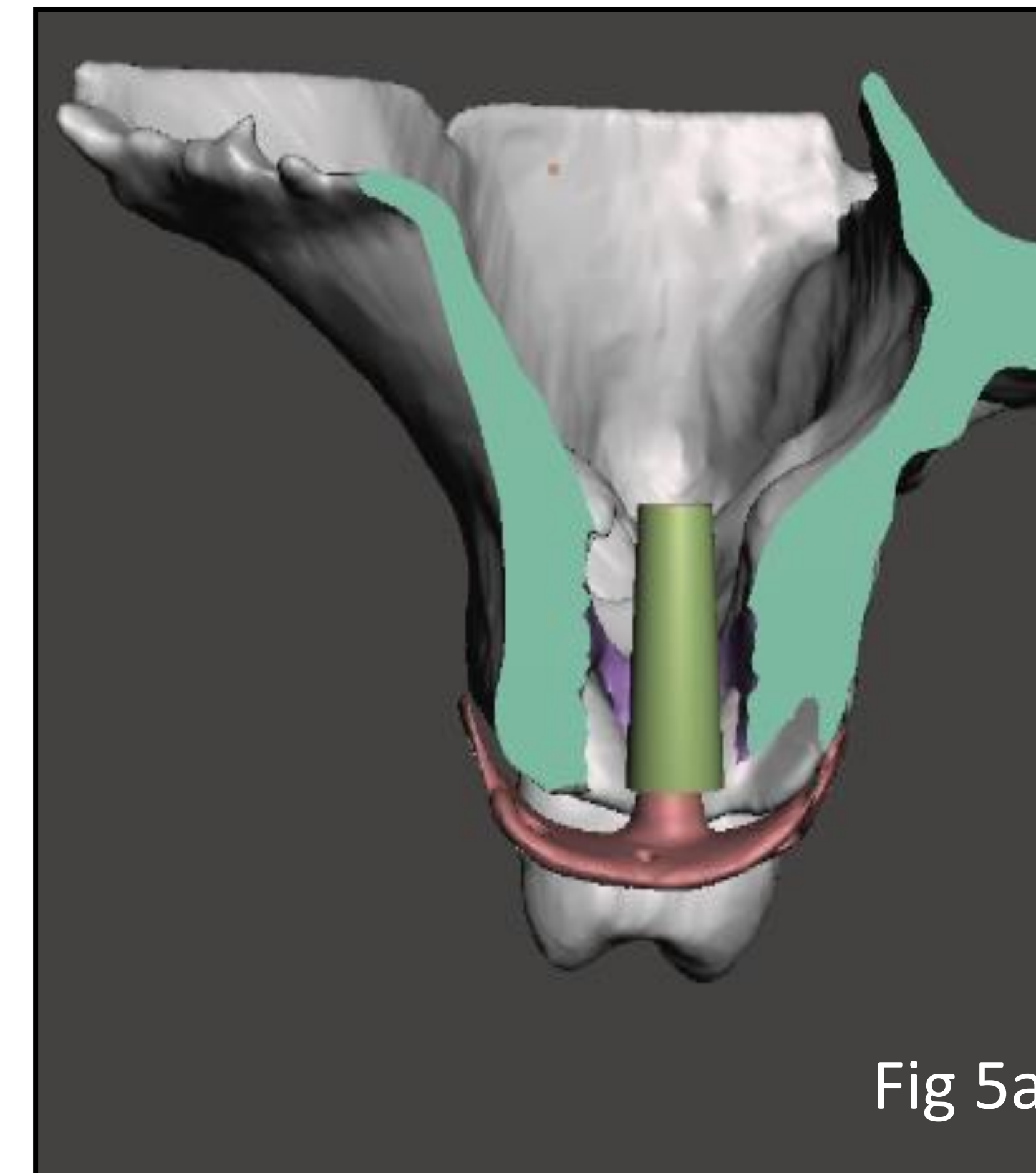
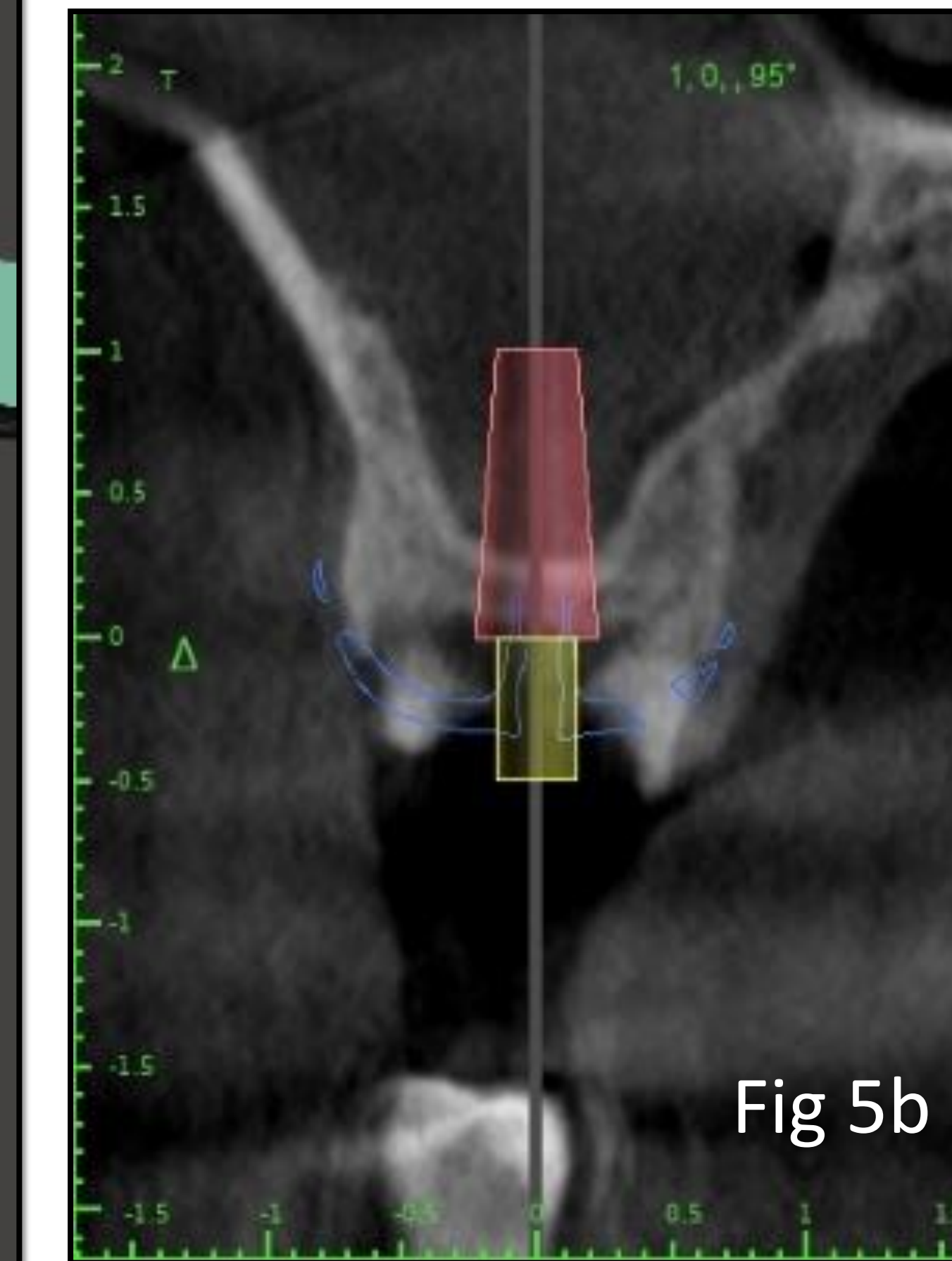
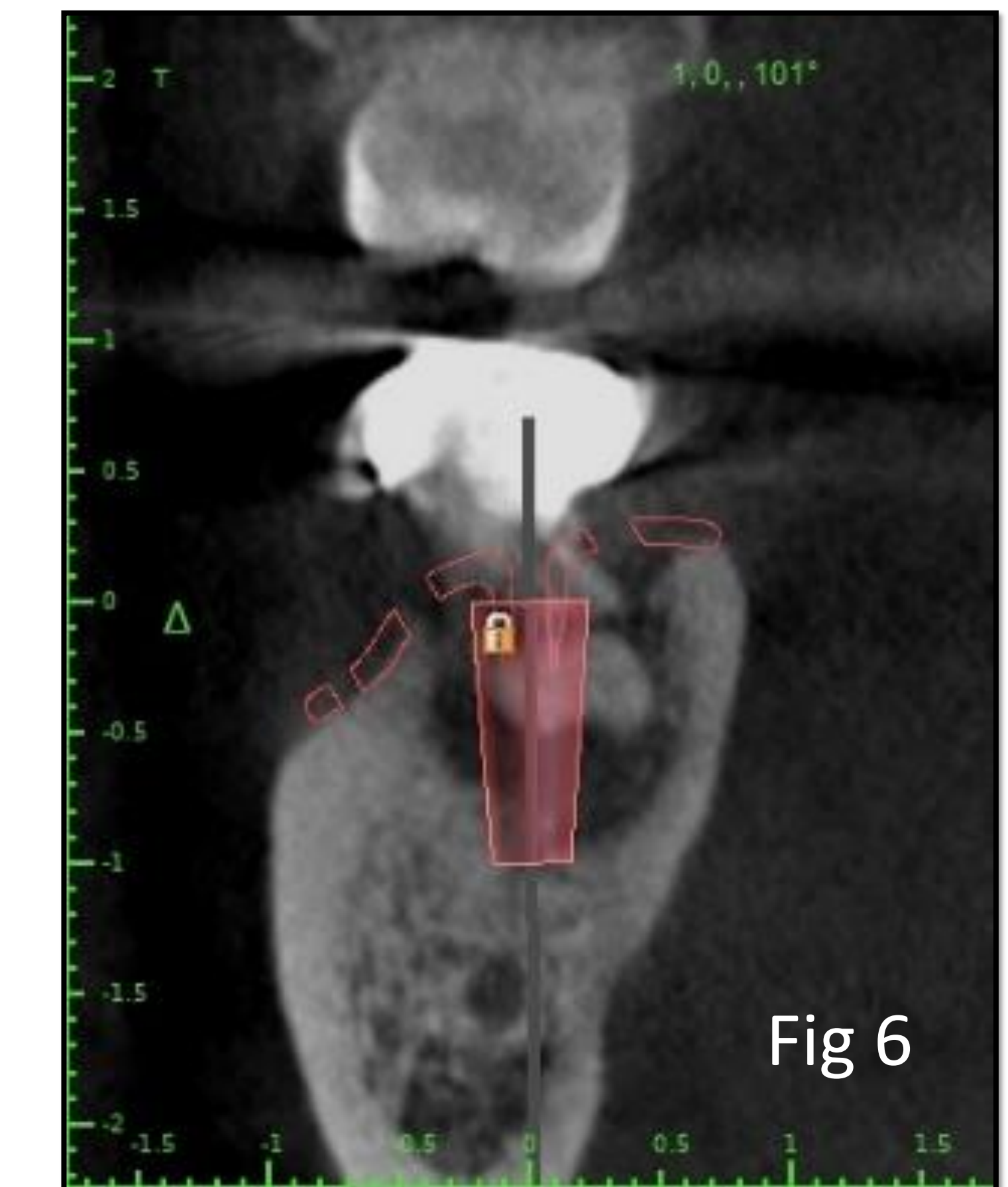
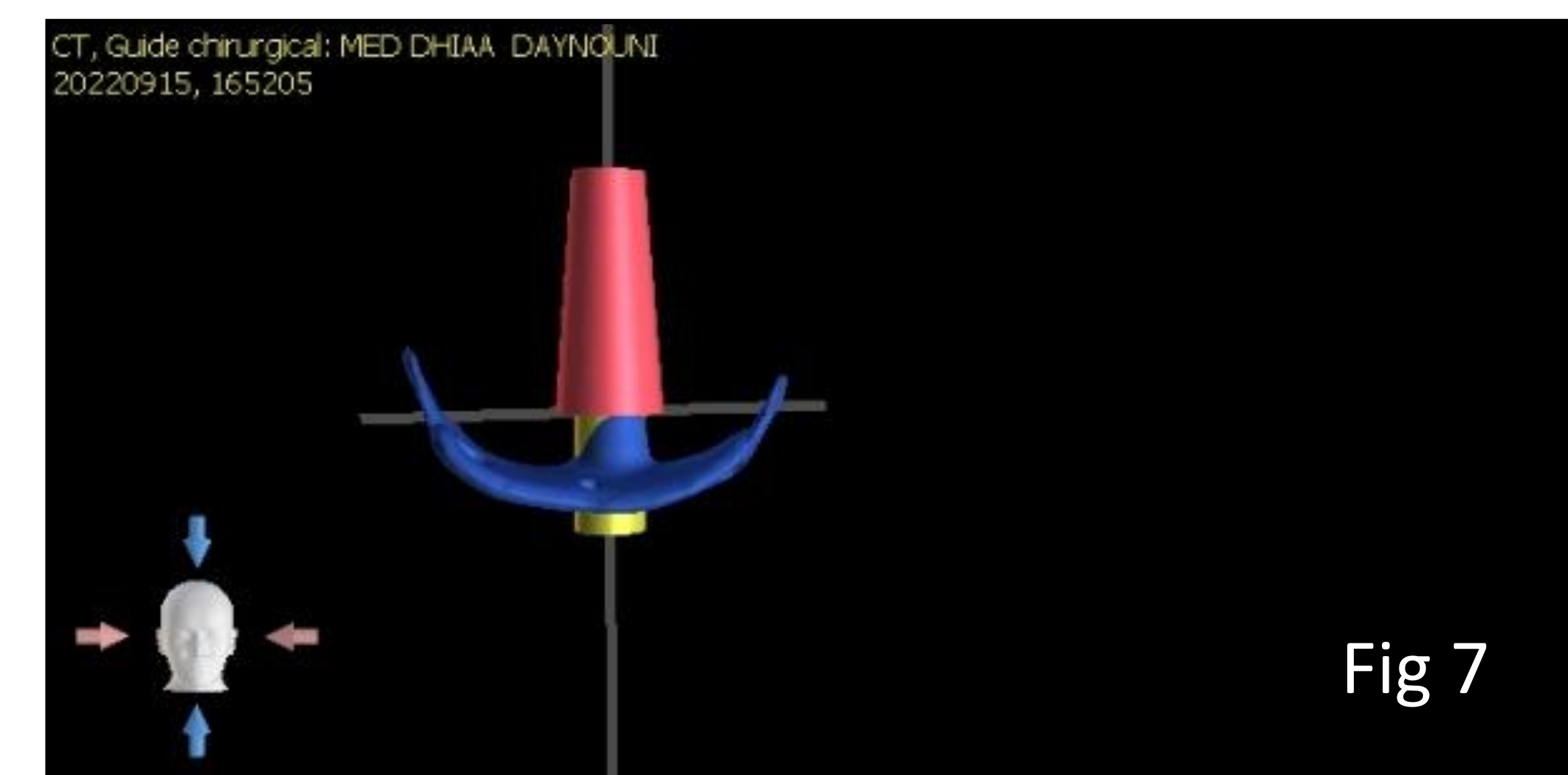


Case 3: mandibular first molar

Initial Xrays

Methods:

The study involved three healthy patients with insufficient alveolar bone in the sockets to anchor implants properly (Fig 1,2). Implants were suspended in the sockets without bone contact and stabilized using zirconia membranes, which were secured to the buccal and lingual walls with screws (Fig 3,4,5a,5b,6,7,8,9,10,11,12). Two implants were placed in the posterior maxilla, and one in the posterior mandible. Bovine bone was added to one maxillary case (Case 1), while no grafts were used in the other maxillary (Case 2) or mandibular case (Case 3).



Case 1: Conception of the membrane in BlueSkyplan/Meshmixer softwares

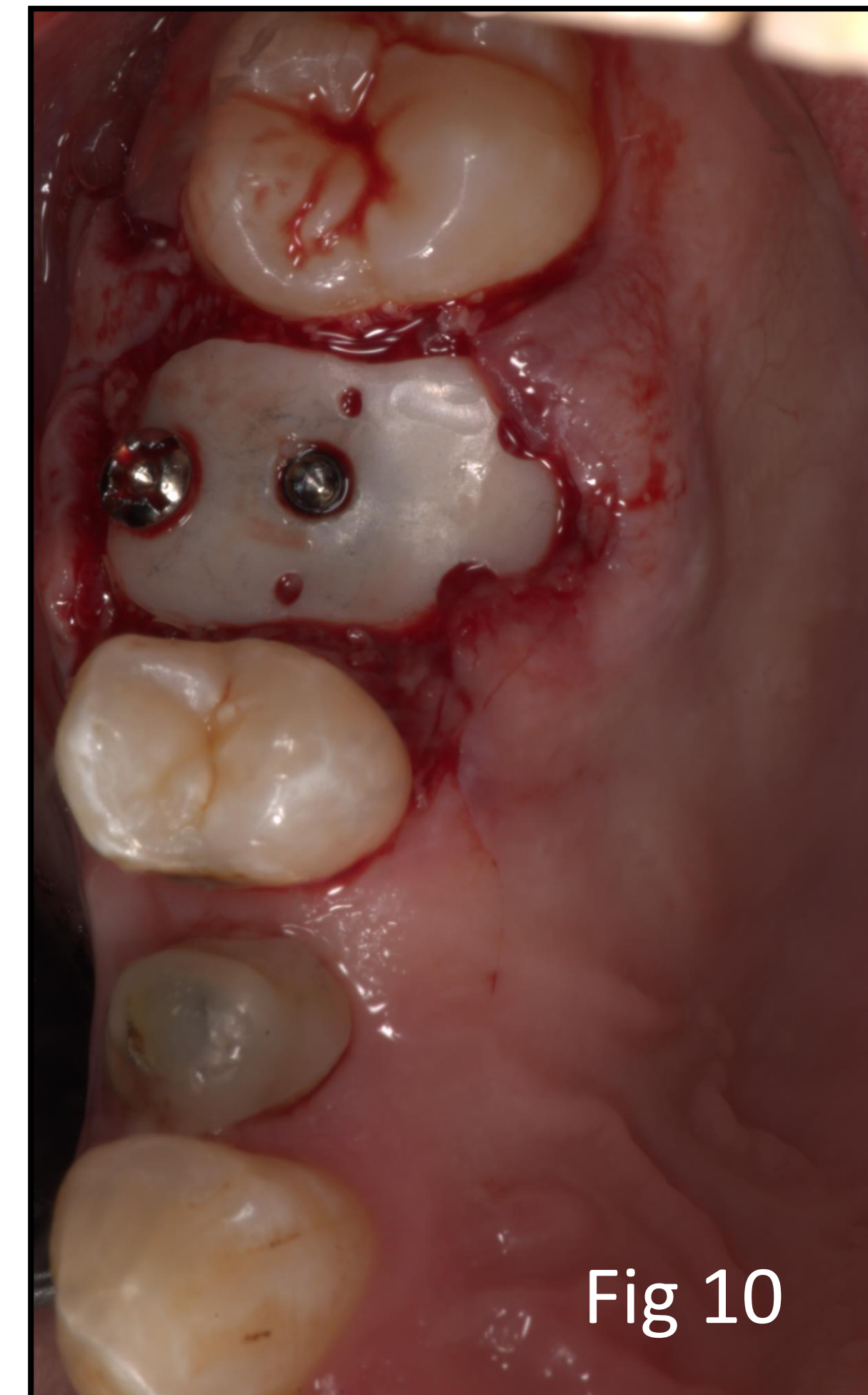


Case 3: Conception of the membrane in BlueSkyplan/Meshmixer softwares

Results:

Case 1(Fig1,13,14): We removed the membrane after 8 months, with no signs of inflammation. A CT scan confirmed that bone covered the entire implant. Upon loading, the patient experienced no pain, and after 1 year, the implant remained healthy and fully functional.

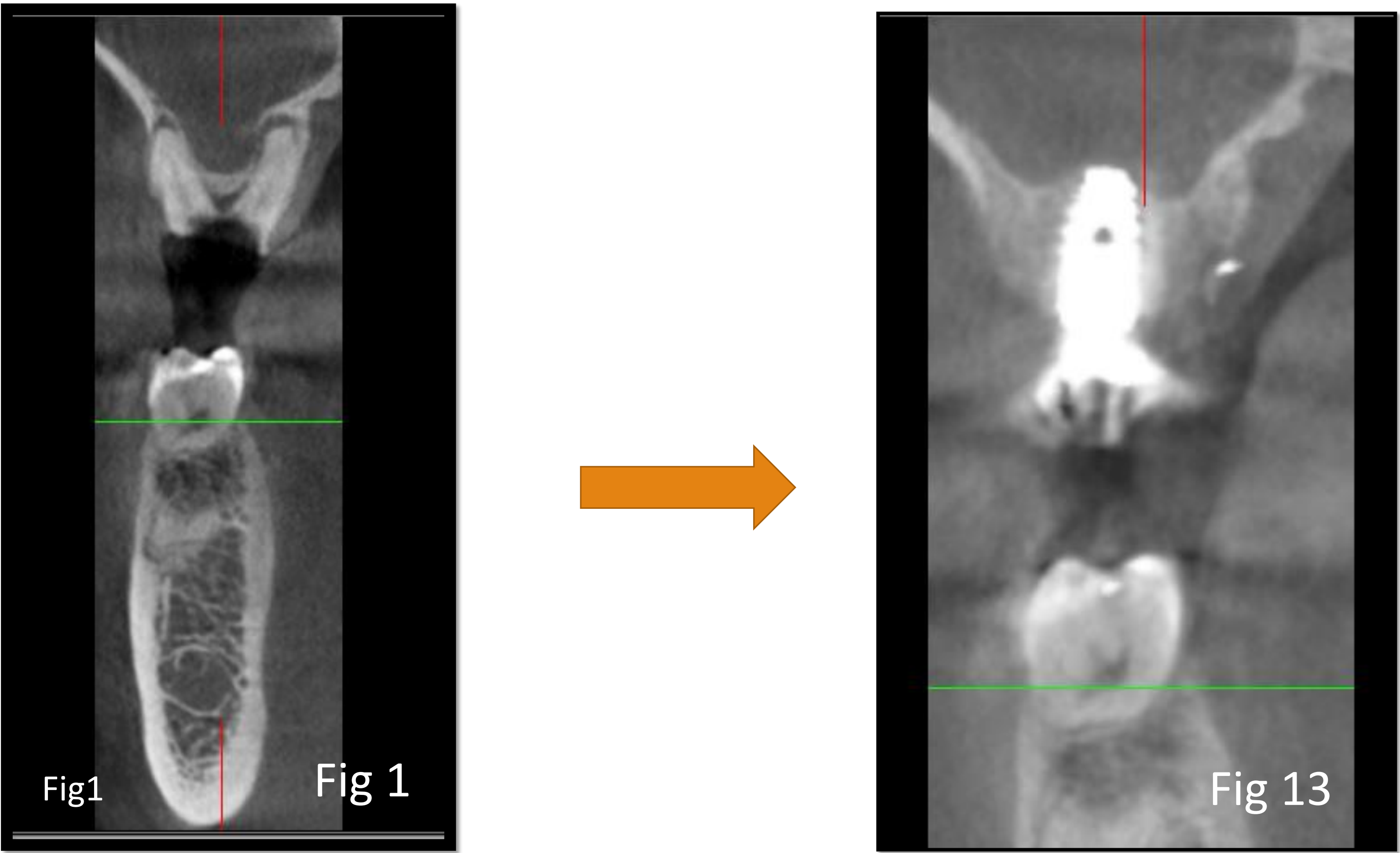
Case 2: After 4 months, we removed the zirconia membrane. The implant showed movement, so we allowed an additional 4 months for healing without the membrane. At 8 months, the fixture was mechanically stable. The CT scan indicated that the bone had reached the apex, though with a loss of 3-4 mm from the crest. On loading, the patient experienced no pain during mastication, and after one year, the implant was fully functional with healthy gingiva .**Case 3**(Fig 2,15,16): We removed the zirconia membrane after 4 months, but the implant was mechanically unstable, so we allowed another 4 months for healing. At 8 months, the fixture was stable but deviated buccally. The CT scan showed bone coverage with a 1 mm loss from the crestal bone. On loading, the patient reported no pain, and after 1 year, the implant remained fully functional and healthy.



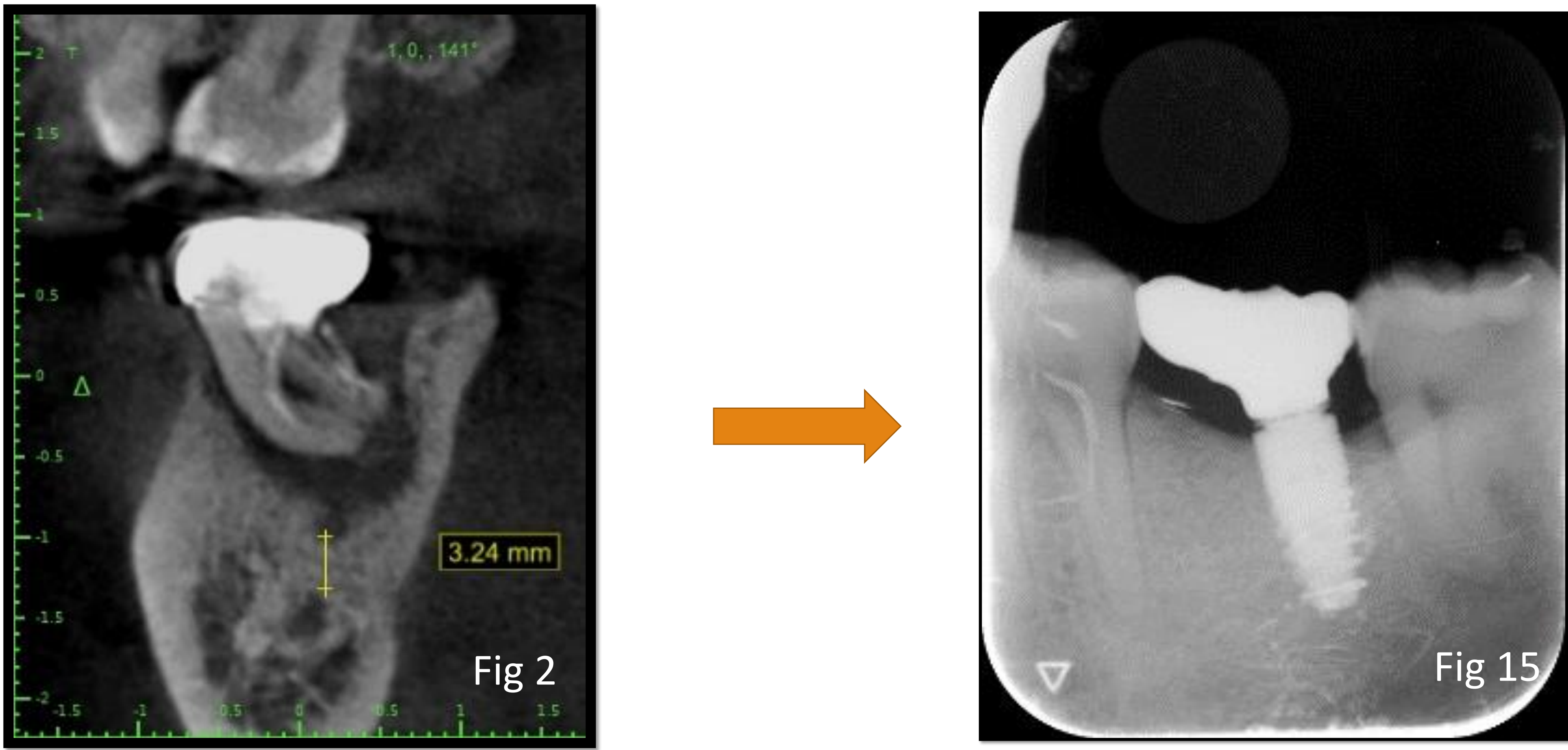
Case 1: Clinical Placement of the zirconia membrane

Case 3: Clinical Placement of the zirconia membrane

Conclusion: These results suggest that this technique is promising, potentially reducing mechanical contraindications for immediate implants. It provides clinicians with greater control over implant axis in sockets with minimal bone, offering time savings for patients compared to other methods. Further studies are needed to better assess clinical outcomes.



Patient 1 : 1 year recall



Patient 3 : 2 years recall

References:
1)Federico Mandelli, Tonino Traini, Paolo Ghensi,Customized-3D zirconia barriers for guided bone regeneration (GBR): clinical and histological findings from a proof-of-concept case series,Journal of Dentistry,Volume 114,2021,103780,ISSN 0300-5712,<https://doi.org/10.1016/j.jdent.2021.103780>.
2)Tarnow, D.P.; Chu, S. Human histologic verification of osseointegration of an immediate implant placed into a fresh extractionsocket with excessive gap distance without primary flap closure, graft, or membrane: A case report. Int. J. Periodontics Restor.Dent.