

The Use of Implantoplasty in the Treatment of Gingival Recession Involving Zygomatic Implants.

Erica L Queiroz-Hewitt¹, Sarah Bessi², Sergio Funchal Filho³

¹ Private Practice, Orlando FL, USA, ² 4Surgery Institute, Sao Carlos, SP, Brazil, ³ Private Practice, Campinas, SP, Brazil



Introduction

Zygomatic implants are used to rehabilitate severely atrophic maxillae. ZAGA (Zygomatic Anatomy-Guided Approach) classification guides implant design and positioning. ZAGA 4 indicates a more externalized (extra-sinus) implant body and head position in relation to the maxillary wall and the alveolar crestal bone; with the implant body beneath the mucosal surface. In this case, the implants were superficial due to insufficient anchorage at the crestal bone. The design of these implants featured a surface treatment, which combined with the bone and periodontal anatomy led to exposure of the threads. Implant surface exposure can increase the risk of peri-implantitis and biological/technical complications.

Rationale for implantoplasty: reduce surface roughness, remove exposed threads, smooth supracrestal appearance, and facilitate plaque control, potentially lowering peri-implant disease risk and stabilizing the restoration.



Figure 1: Exposed threads on zygomatic implant placed 6 months prior

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Methods

Study design: Case report / Clinical intervention.

Preoperative: Assessment and imaging (CBCT) to confirm anatomy and implant positions. Probing.

Intervention: Implantoplasty performed to have smooth implant surface and more soft tissue stability. Mechanical modification: gradual, controlled removal of sharp threads and rough surface using multilaminated burs and amalgam polishers, ensuring maintenance of critical implant geometry and under magnification.

Postoperative care: meticulous plaque control, chlorhexidine regimen, and monitoring for signs of inflammation.

Outcome measures:

Soft tissue healing quality, absence of peri-implant radiolucency progression, absence of recurrent thread exposure, long-term implant stability and prosthetic success.

Figure 2: ZAGA 4 implant case on surgery day

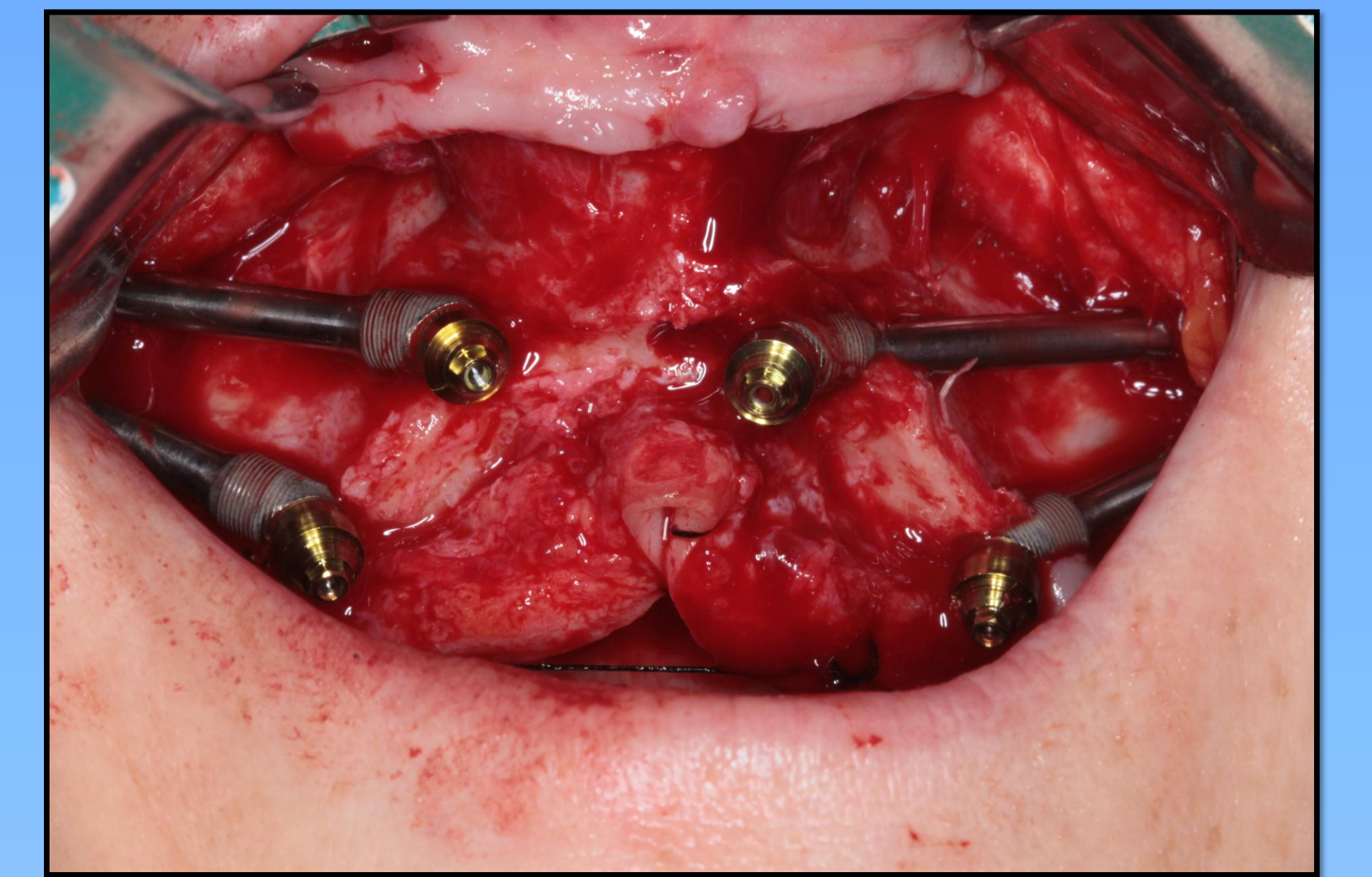


Figure 3: CBCT Taken before Implantoplasty procedure

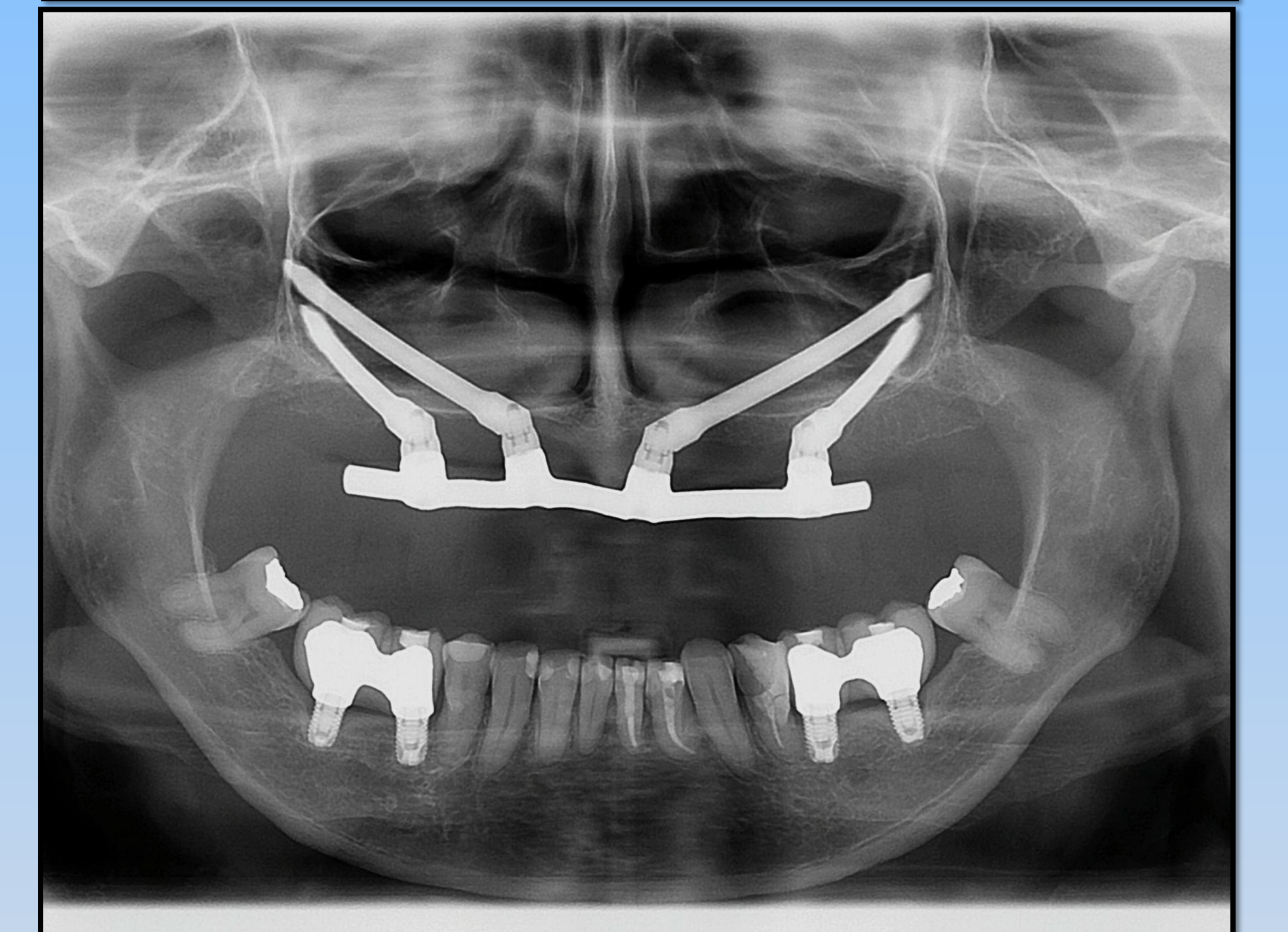
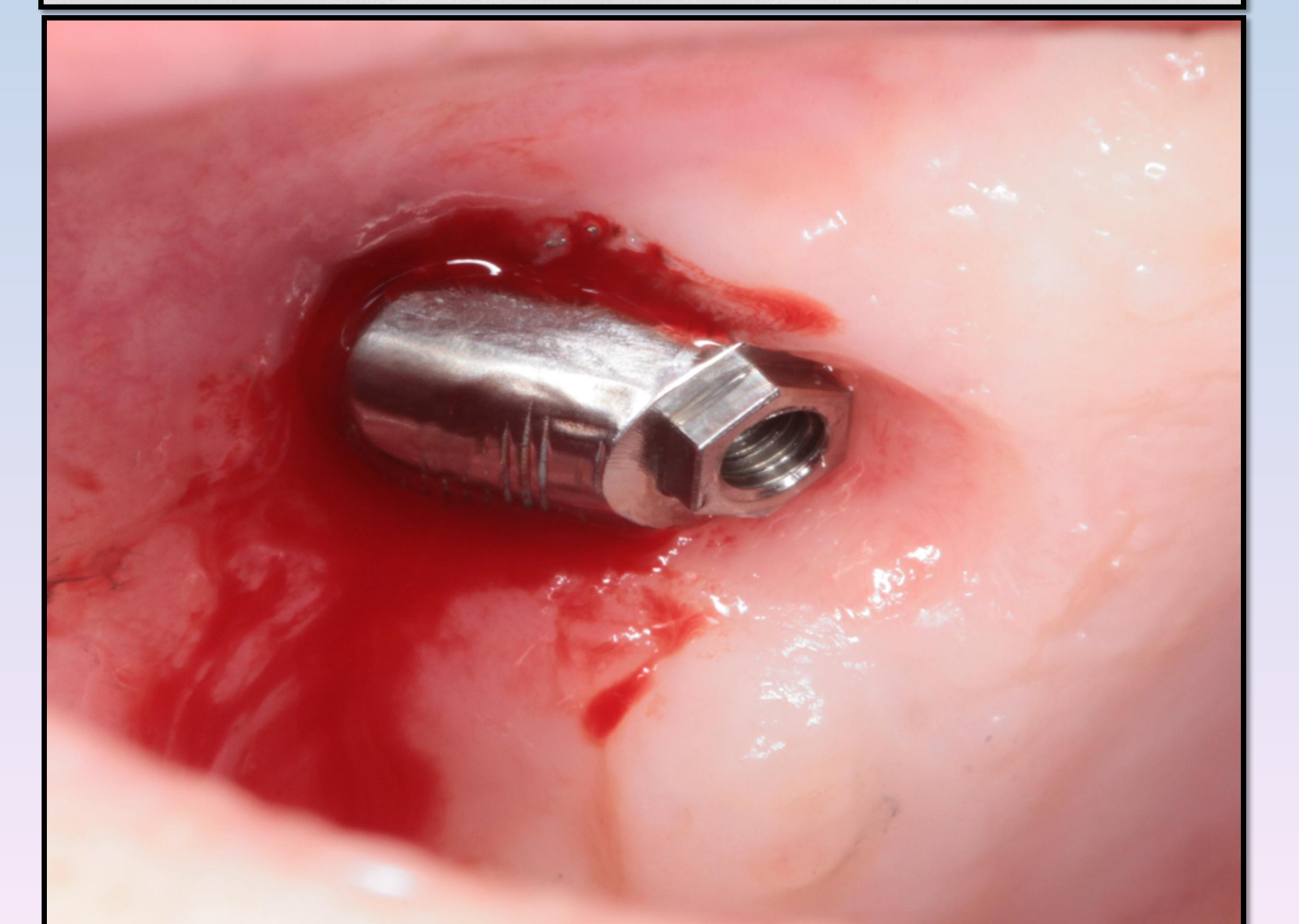


Figure 4: Implantoplasty done 6 months after implant placement



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Follow-up

Clinically healthy soft tissue around implants; reduced plaque accumulation.
No peri-implantitis signs: no bleeding on probing and stable probing depths.

Results

- Smoother implant surfaces with reduced thread exposure.
Improved mucosal seal around previously exposed areas.
- Stable prosthetic framework with satisfactory occlusion.
Patient reported improved comfort and functional mastication with no adverse events.

Figure 6: 10 Month Follow-up

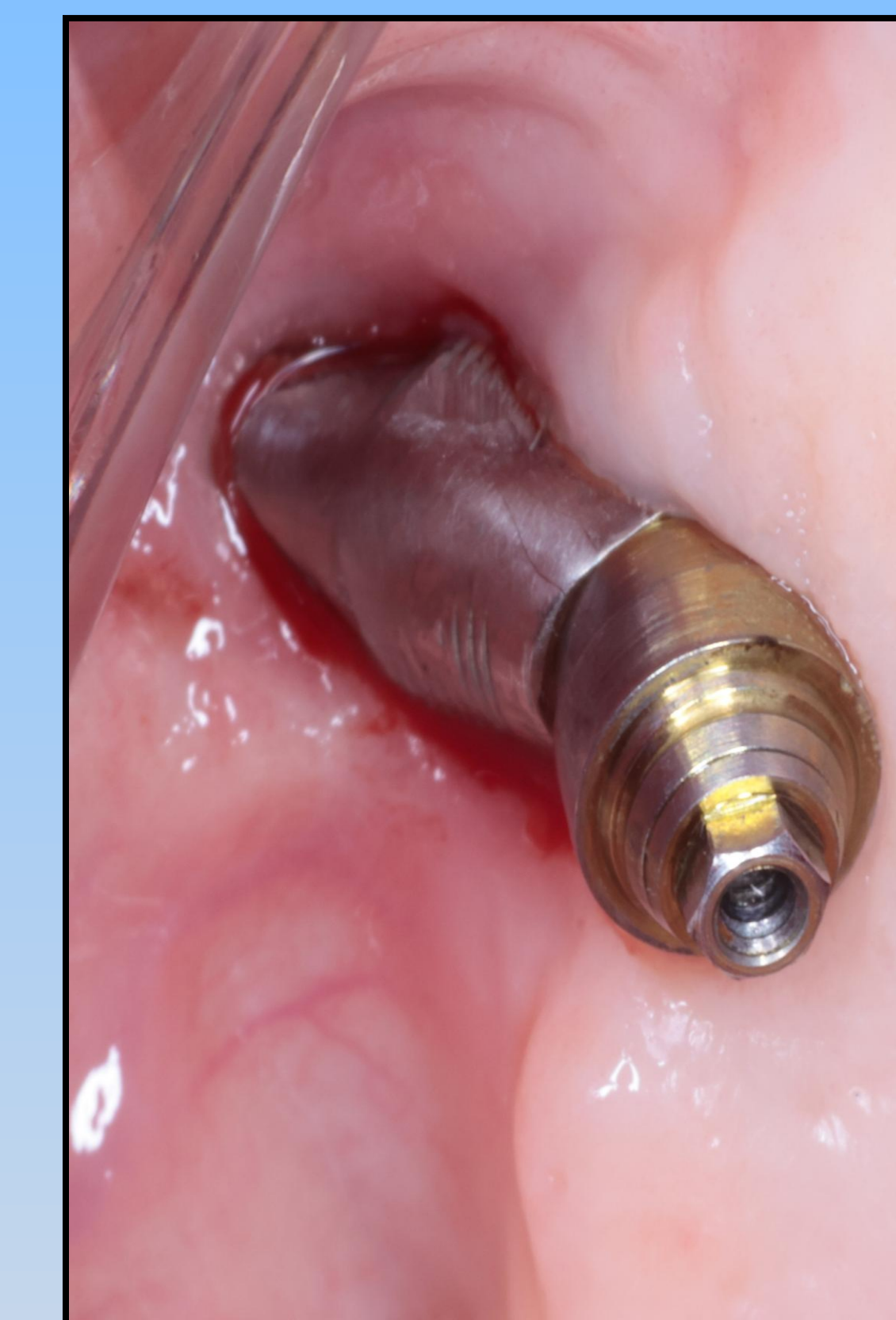
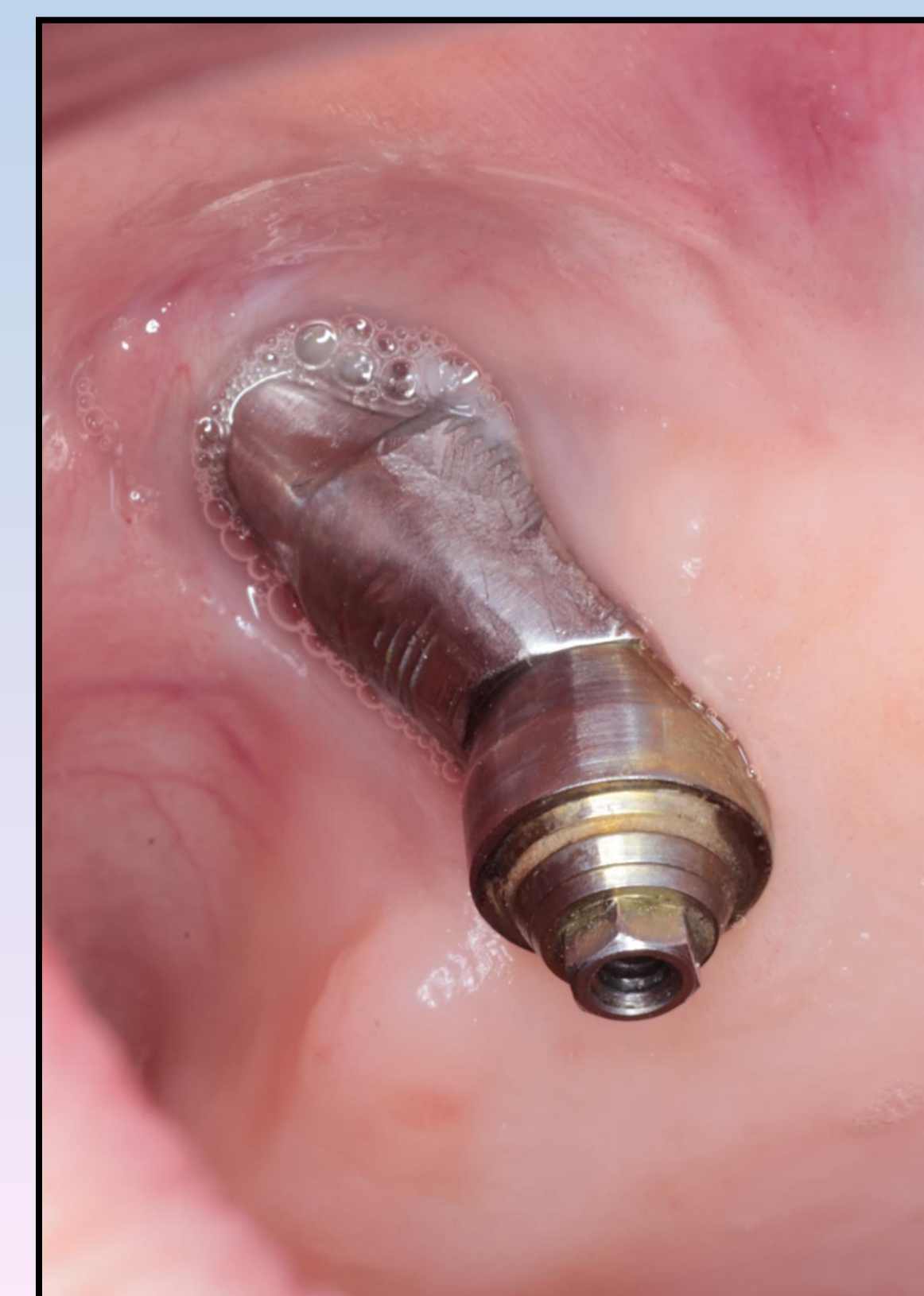


Figure 7: 1.5 Year Follow-up

Figure 8: 4 Year Follow-up



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Conclusion

In cases of ZAGA 4 zygomatic implants that present gingival recession and thread exposure, implantoplasty can be an effective adjunct protocol to minimize plaque-retentive rough surfaces and reduce peri-implantitis risk. The procedure contributed to a smoother implant surface, improved soft-tissue seal, and stabilized clinical status in a 4-year follow-up case.

Critical factors for success:

Gentle, controlled instrumentation under magnification to avoid structural damage to the implant and soft tissue. Rigorous postoperative maintenance and meticulous plaque control.

Recommendation: Consider implantoplasty for similar gingival recession with exposed threads cases to mitigate complication risk, while ensuring ongoing surveillance and maintenance.

References:

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