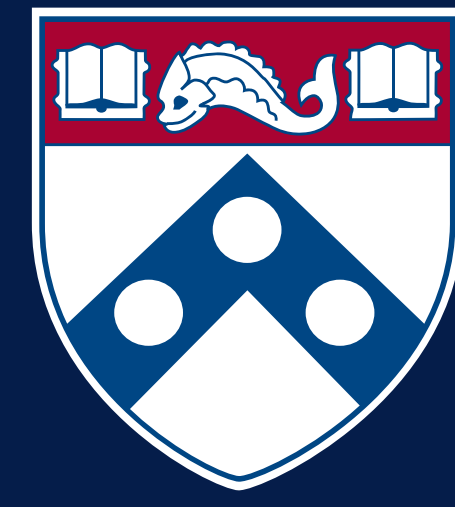




Implant Placement Via Osseodensification Approach With Simultaneous Guided Bone Regeneration

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Background

Alveolar ridge atrophy following extractions frequently poses significant limitations for subsequent implant placement. Simultaneous and delayed implant placement with lateral ridge augmentation has been reported as a viable solution for such ridge deficiency. The aim of the described approach is to provide a treatment option that allows for implant placement and simultaneous guided bone regeneration.

Materials and Methods

Atrophic maxillary arch was treatment planned for an implant retained overdenture. CBCT scan was used to evaluate the ridge deficiency and to plan for implant placement with simultaneous bone grafting with particulate allograft (Fig. 1). A pilot guide was used to place bone level implants following osseodensification bone preparation technique using Densah burs (Fig. 2). Allograft bone was stabilized with a long lasting resorbable collagen membrane and periosteal stabilizing sutures (Fig 3). The implants were evaluated and restored 6 months following the implant placement (Fig 4, 5, 6).

Results

Adequate crestal bone level was maintained around implants, and lateral bone regeneration was observed at 6 months.

Conclusion

Implant placement following osteotomy prepared via osseodensification technique and simultaneous bone grafting with particulate allograft demonstrated a promising outcome in treating atrophic alveolar ridge.

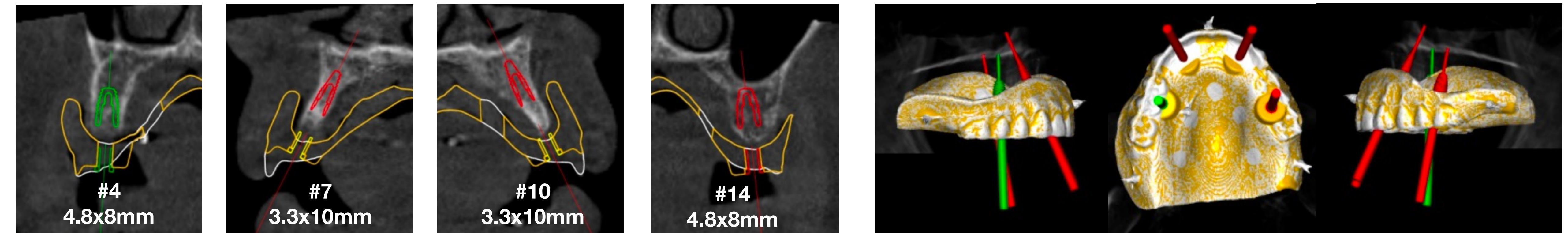


Figure 1. Implant planning using dual scan CBCT

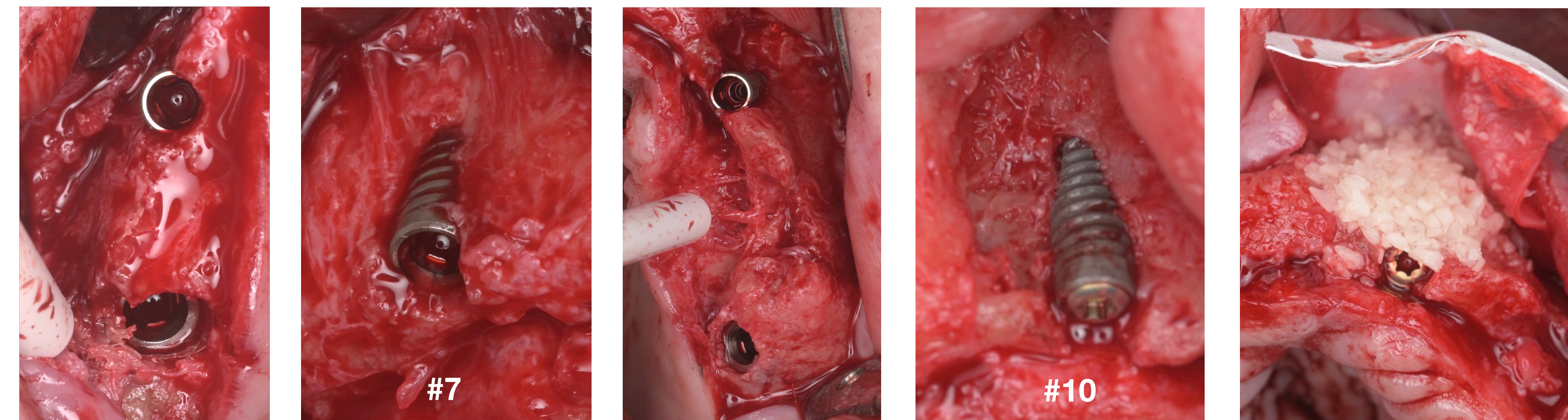


Figure 2. Implant placement with osseodensification bone preparation and simultaneous GBR.

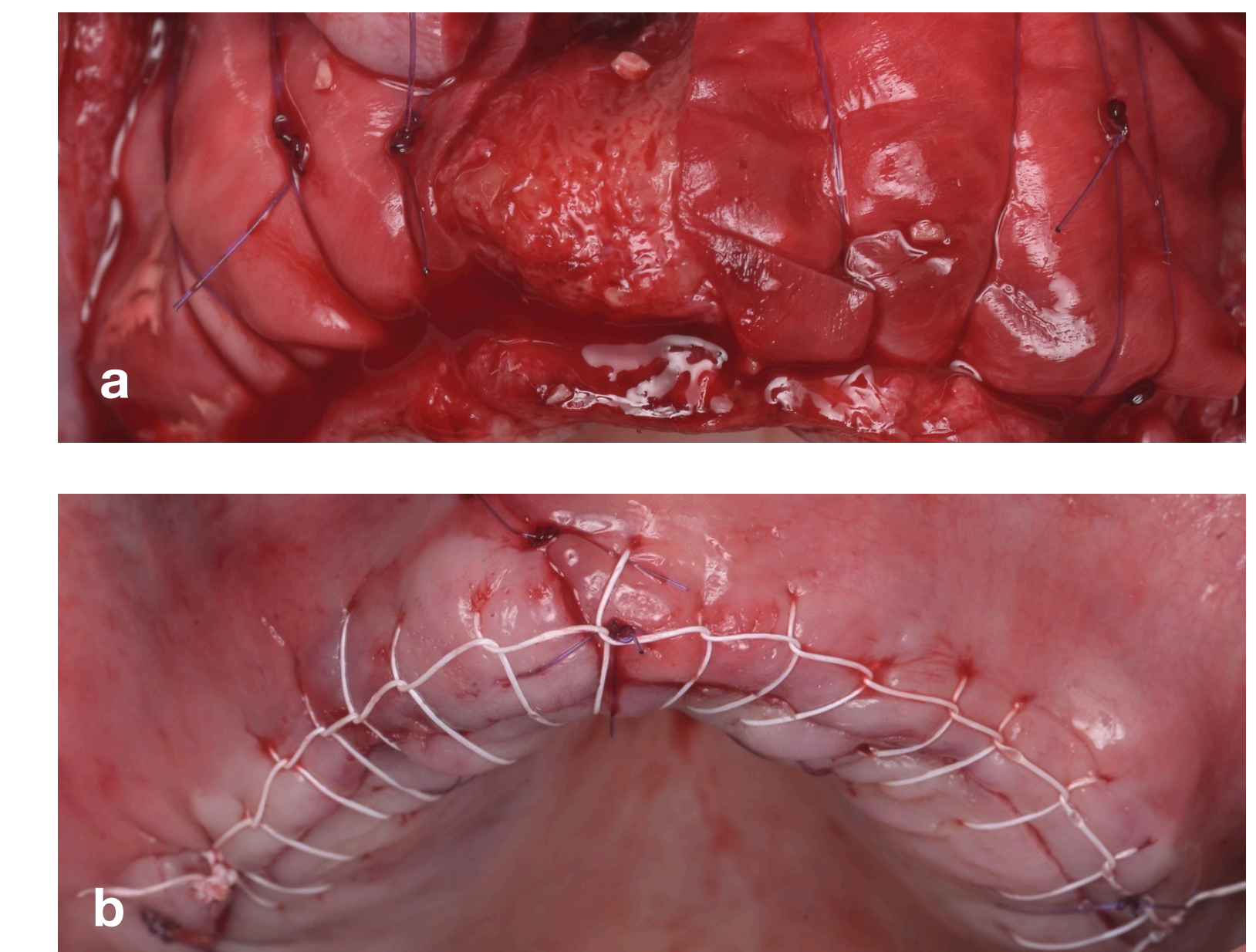


Figure 3. (a) Periosteal stabilizing sutures for GBR, (b) immediate post-op.

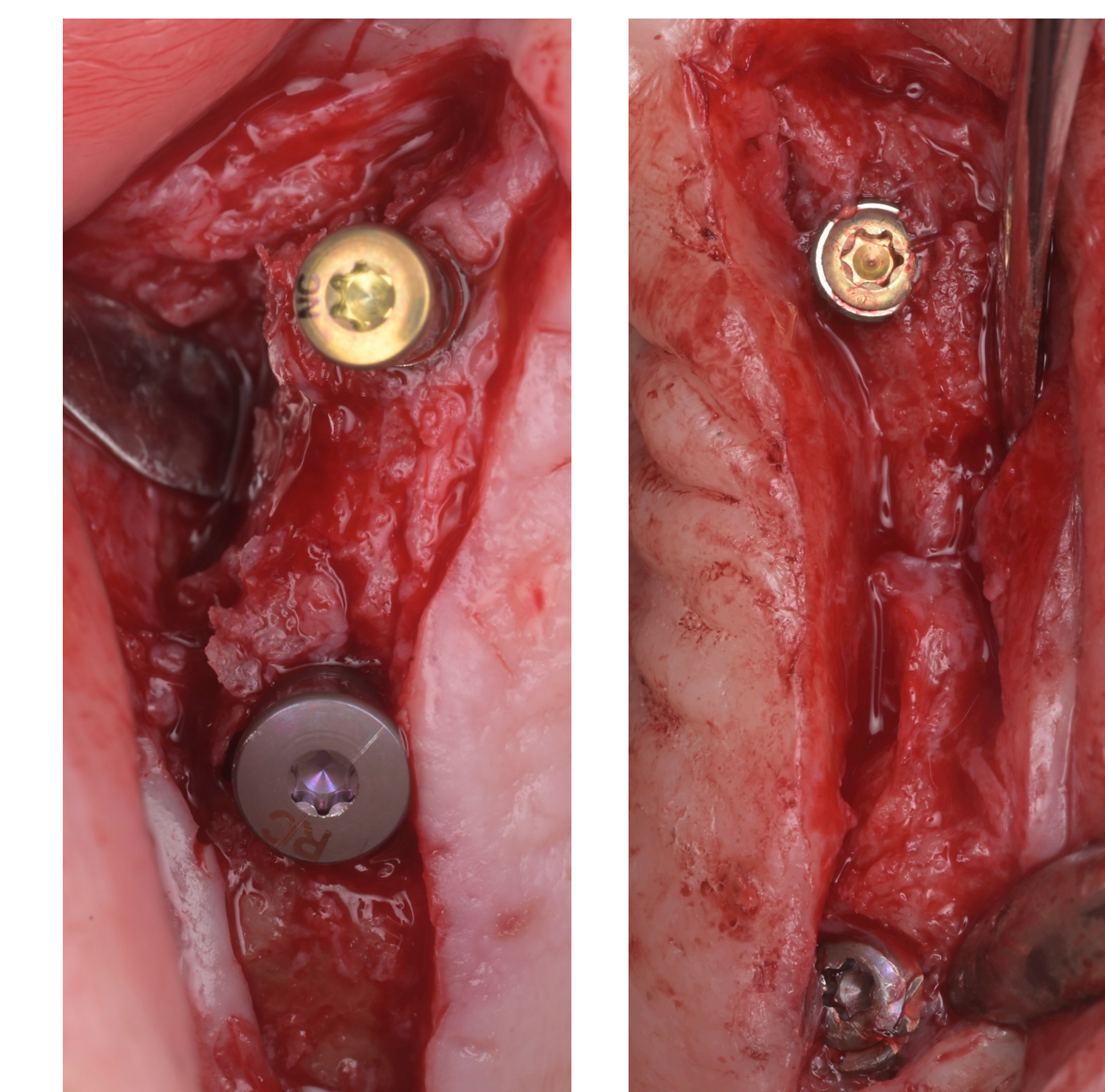


Figure 4. Second stage surgery at 6 months.

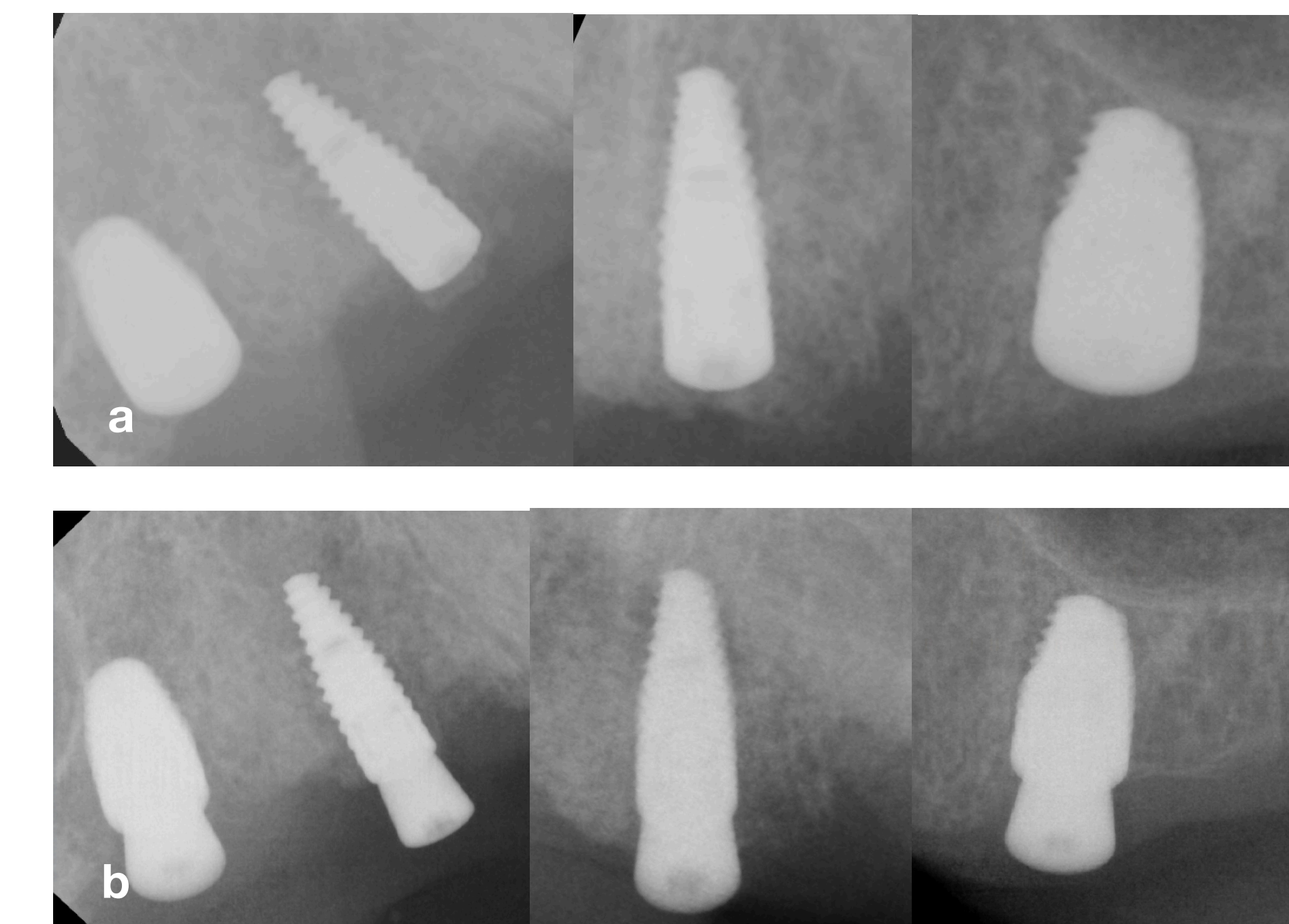


Figure 5. (a) Immediate post-op, (b) 6 months post-op.

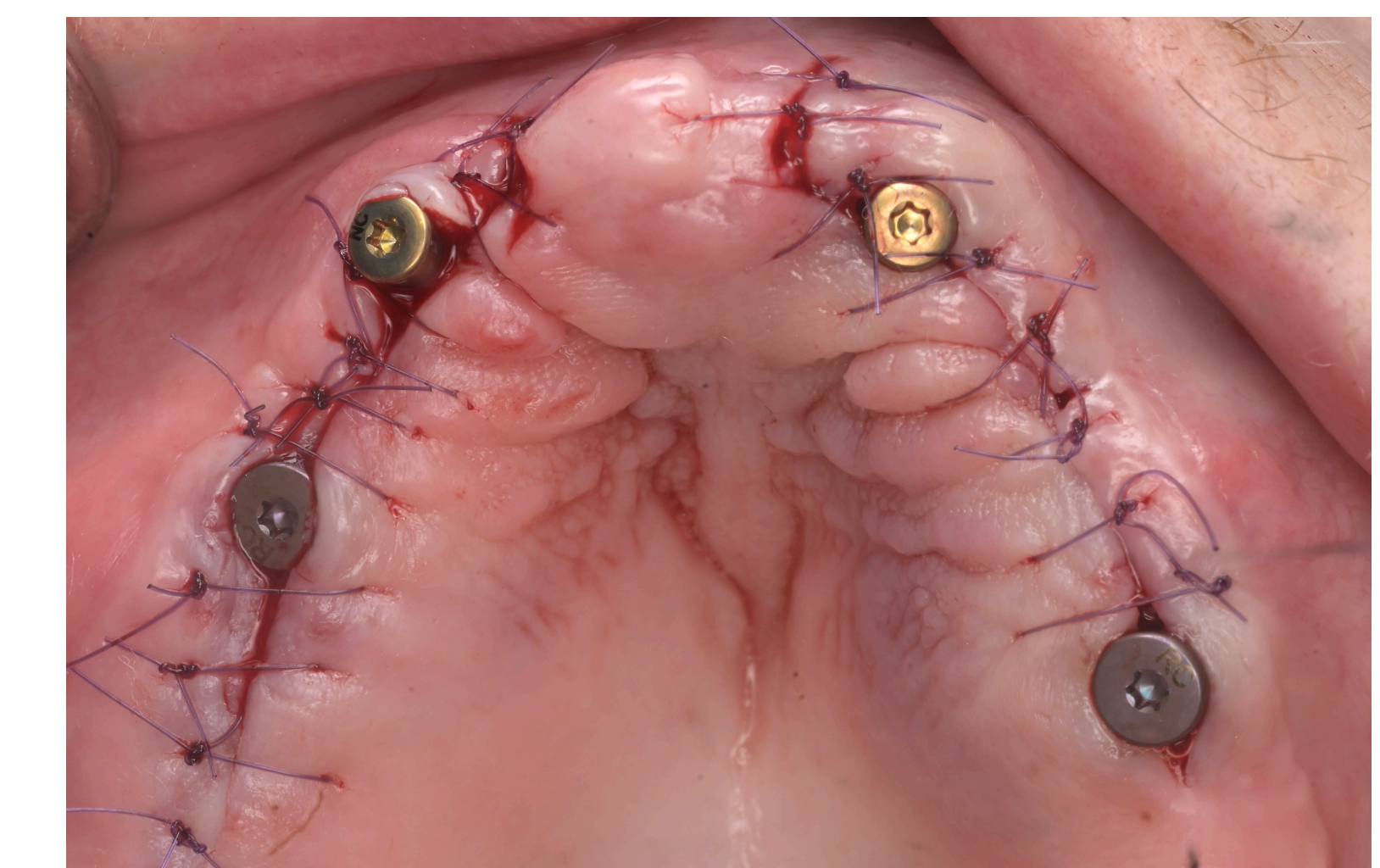


Figure 6. Immediate post-second stage surgery.

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