

A panoramic radiograph (X-ray) of a human jaw showing a full-mouth dental implant rehabilitation. The image displays two rows of dental implants, each with a textured, cylindrical body and a flared, hexagonal head. The implants are arranged in a symmetrical pattern, with six implants on each side of the upper and lower arches. The surrounding bone structure is visible, showing the maxilla and mandible. The implants appear to be well-integrated with the bone.

Case report

Full-mouth rehabilitation with Axiom X3® Simplification of the drilling protocol

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axiomx3®

Anthogyr
A Straumann Group Brand

**DR. PIERRE BRUET**

France

CASE PRESENTATION

Mr. V., 56 years old, came for a consultation as he had a complex about his smile and difficulty in eating correctly. The patient was very anxious and had a pronounced dentophobia, which explained the deteriorated condition of his teeth.

His job involved contact with the public and he had an extremely busy schedule.

After a thorough prosthetic and radiographic evaluation, we proposed an extraction of all teeth under conscious sedation followed by full-mouth implant-borne rehabilitation with immediate loading of 6 maxillary implants and 6 mandibular implants 48 hours after surgery.

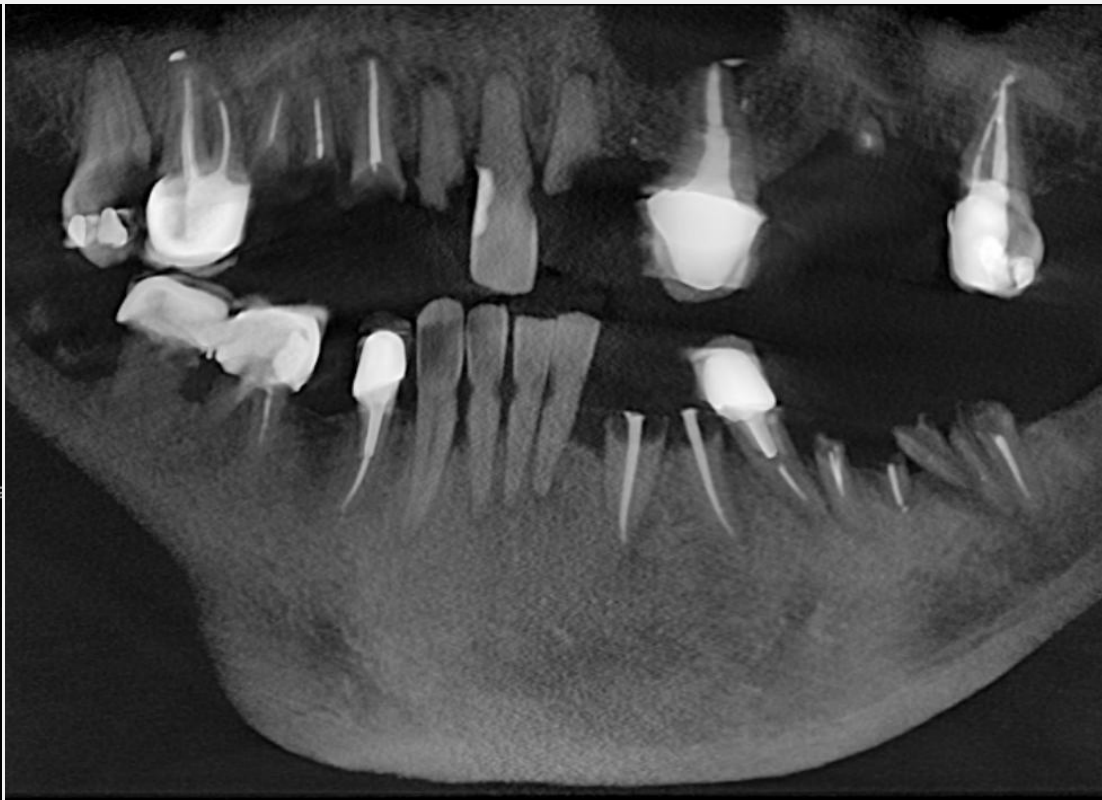
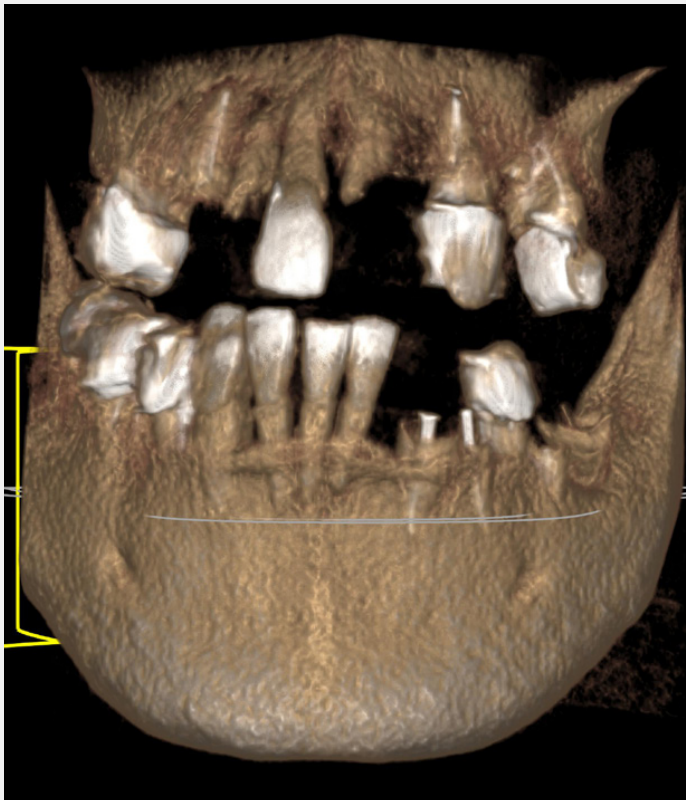
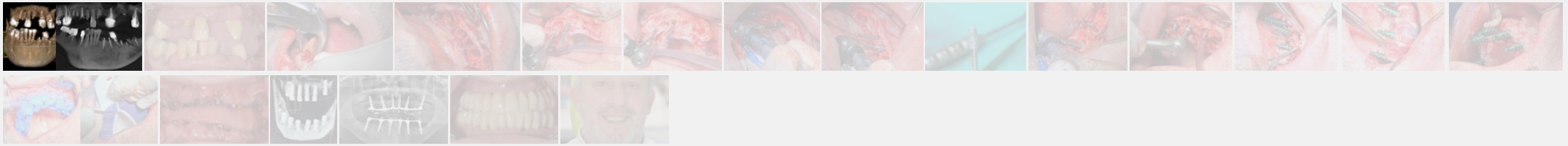
Significant bone reconstruction would be performed simultaneously using sticky bone from allogenic bone.

A healing period of 4 months had to be observed before fabricating the final bridges.



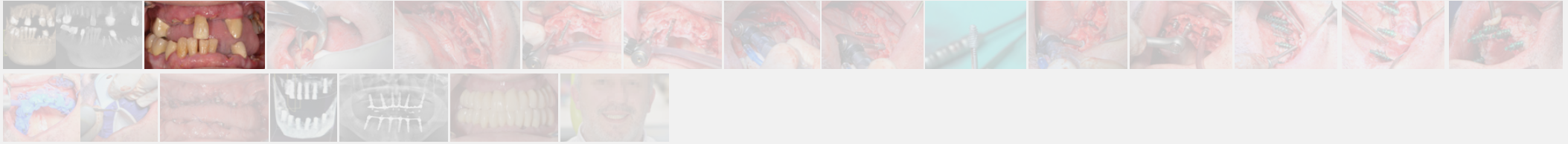
Initial situation





1. 2. Preoperative 3D scan revealing an extremely degraded clinical situation.



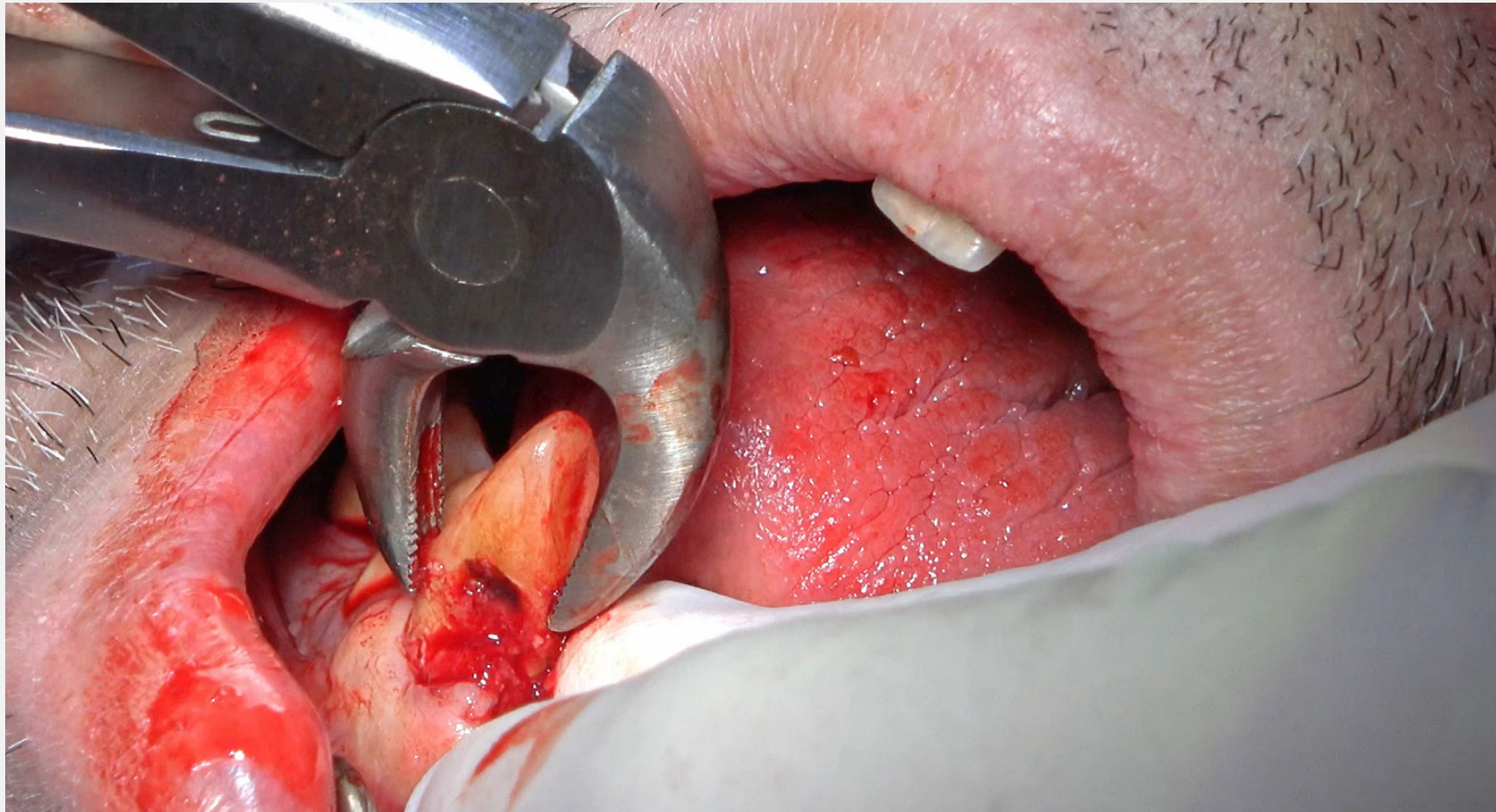
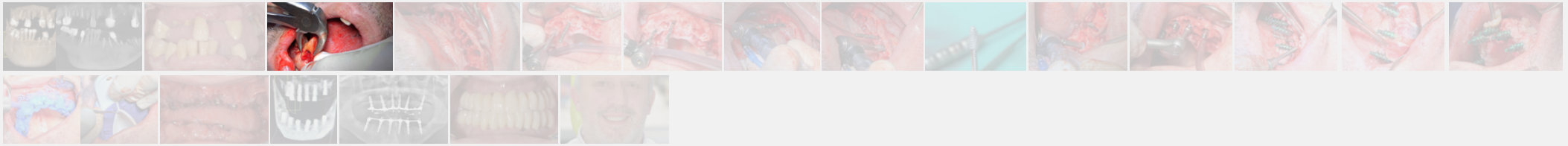


3. Initial clinical situation. Many teeth missing or with only roots remaining. Note the absence of maxillomandibular occlusal stability.



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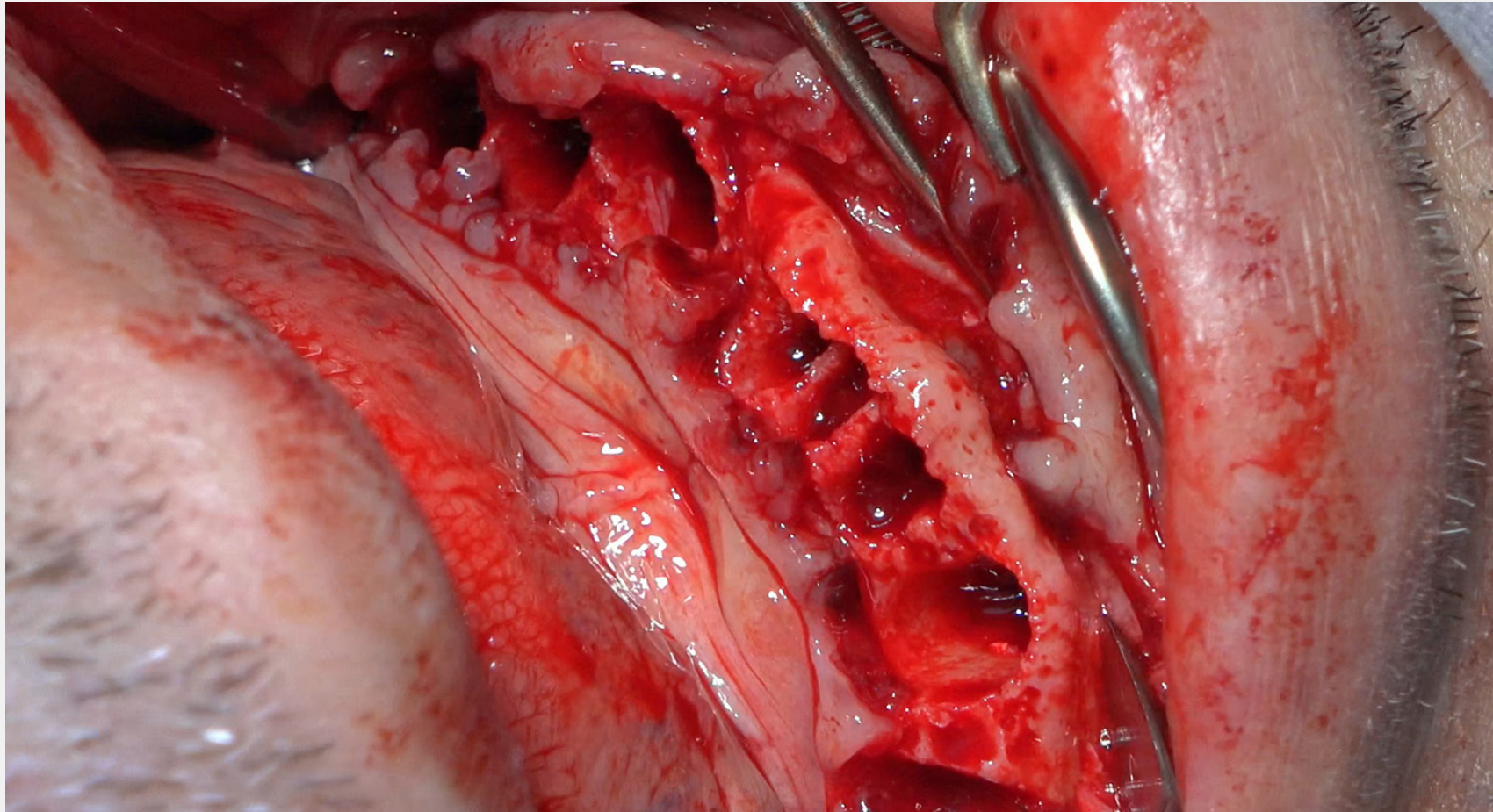
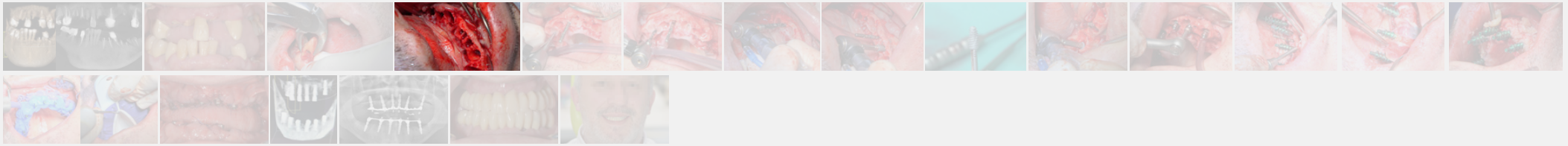




4. Extraction of the remaining teeth. During a full-mouth rehabilitation, we always begin by extracting the mandibular teeth.



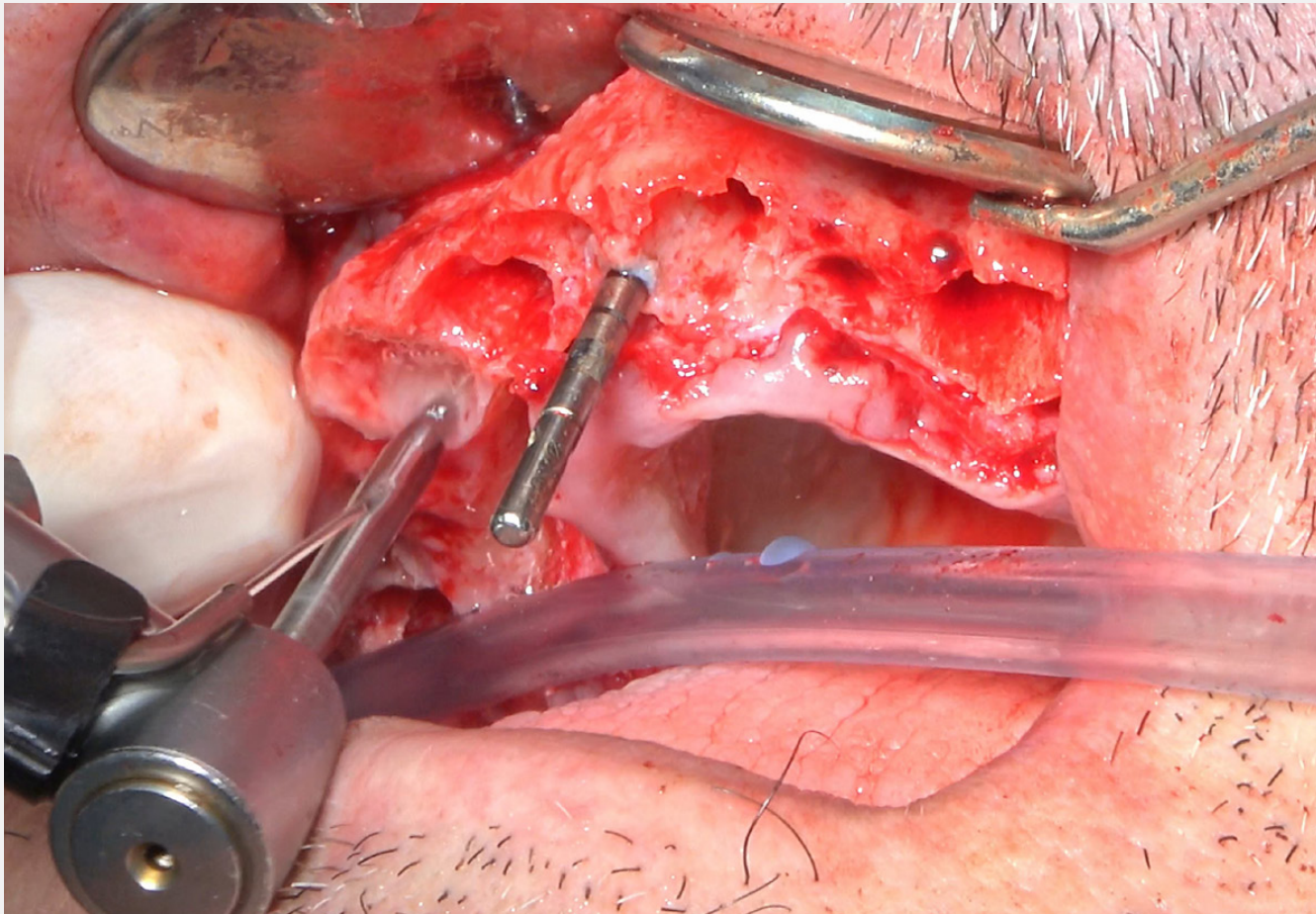
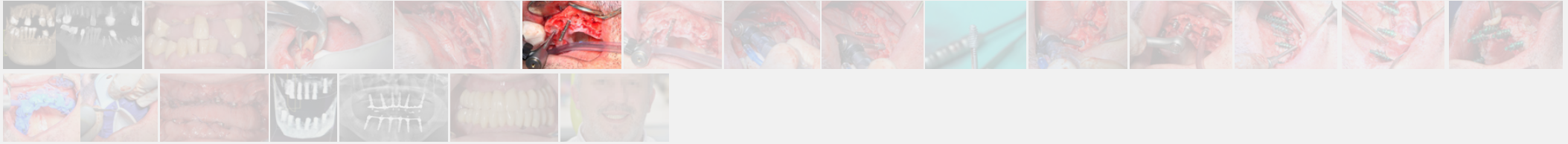
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5. The mandibular alveoli were meticulously curetted and disinfected after extraction before performing the initial drilling.



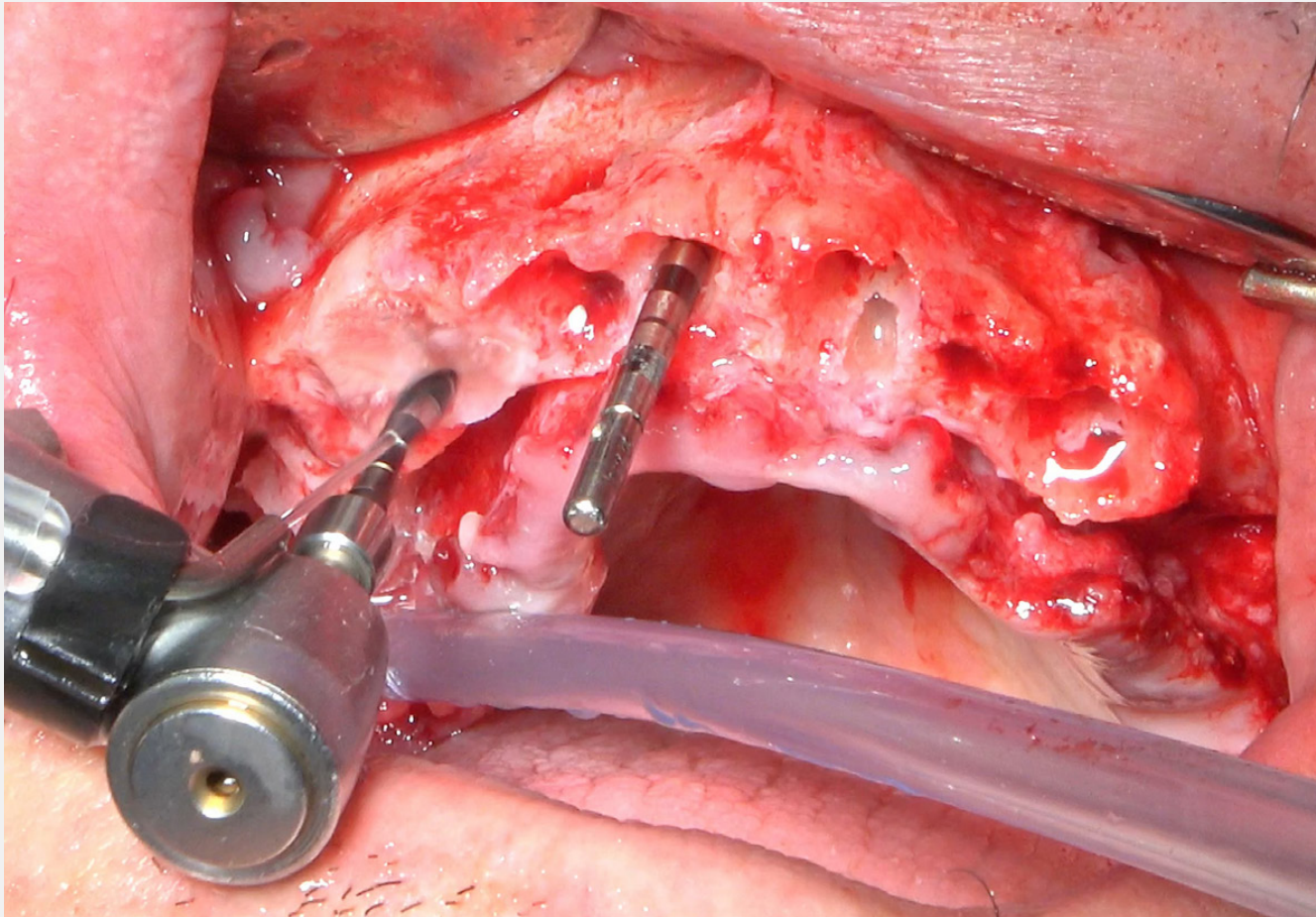
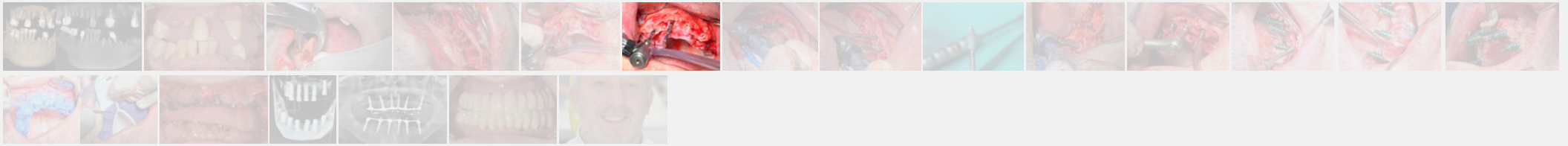
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6. Initial central drilling was performed to provide a reference axis to place the 6 implants parallel to each other. Additionally, a surgical guide is always made beforehand.

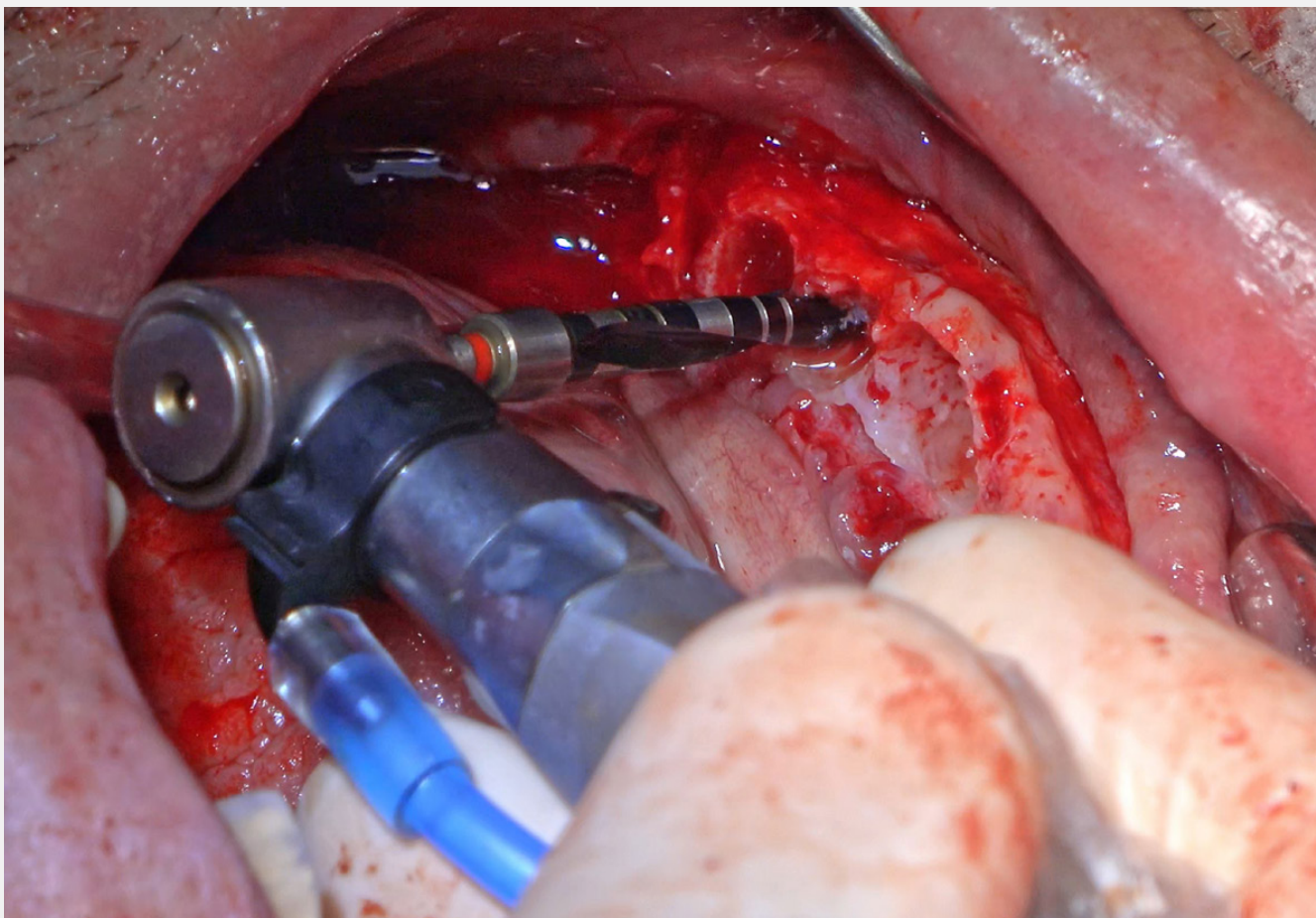
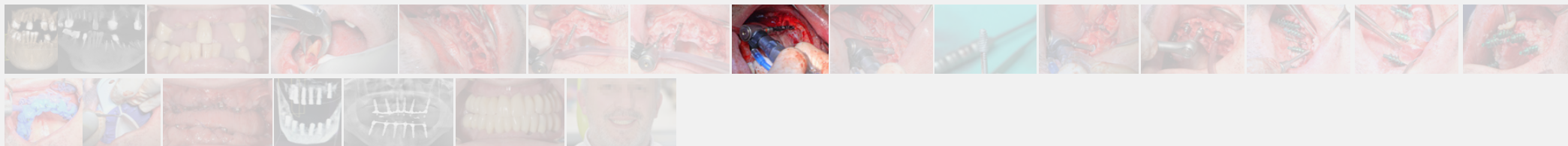


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7. The drilling sequence began with the pointer drill, followed by the 2 mm drill, yielding very dense D1 bone.





8. For the insertion of this Ø 3.4 mm implant, the Axiom X3® drilling protocol did away with the need for a bone tap despite the presence of D1 bone.



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Initial
situation



Surgery

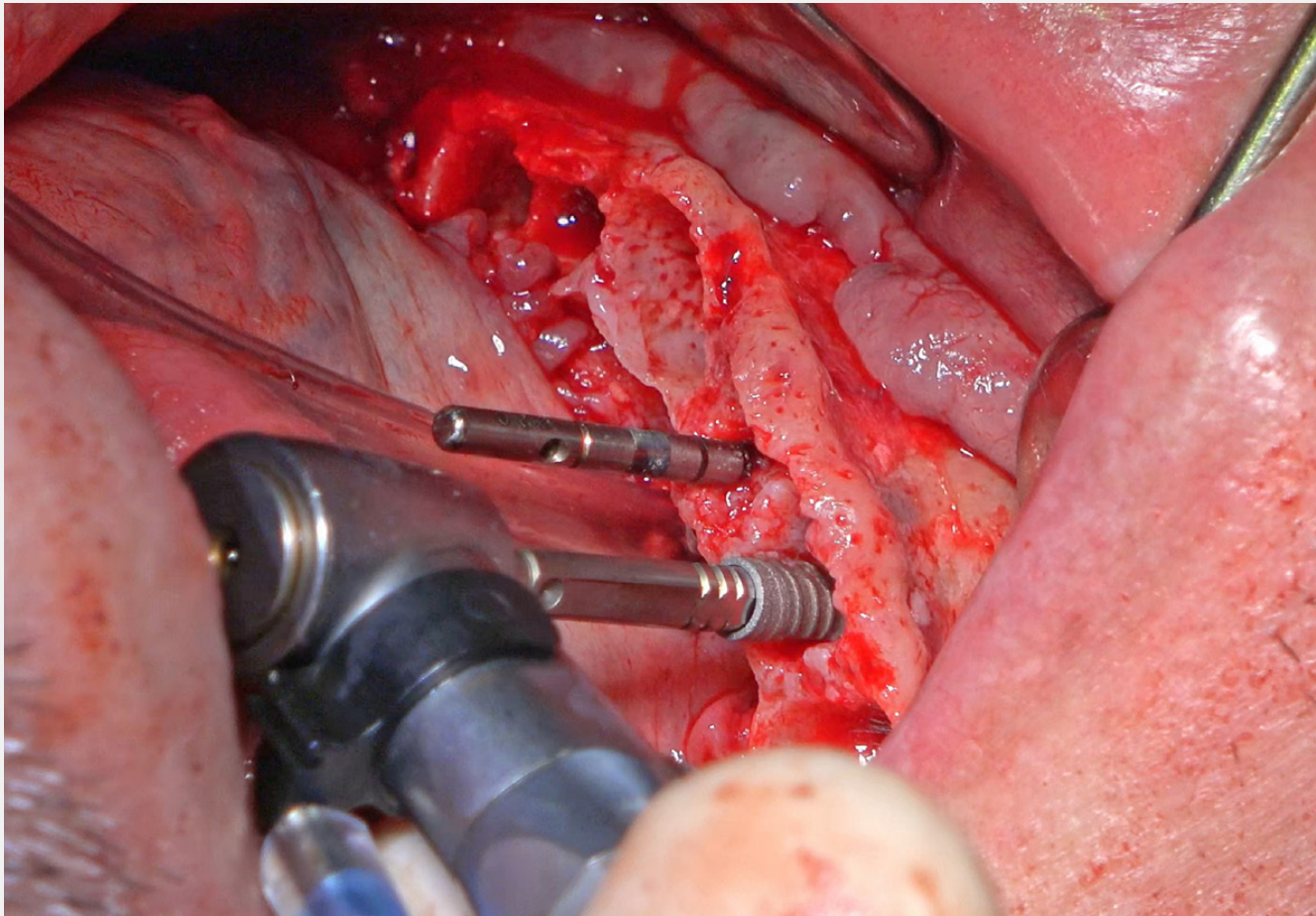
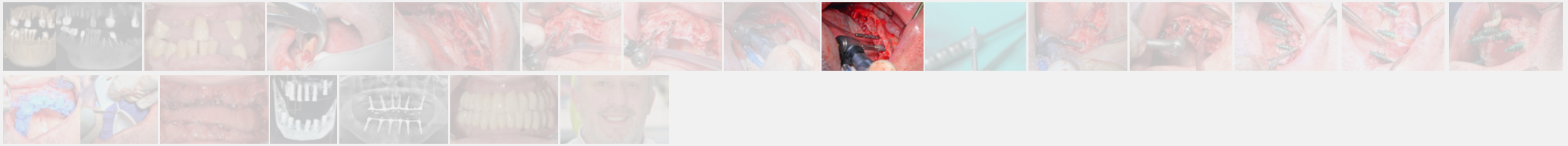


Prosthetic
restoration



Final
situation

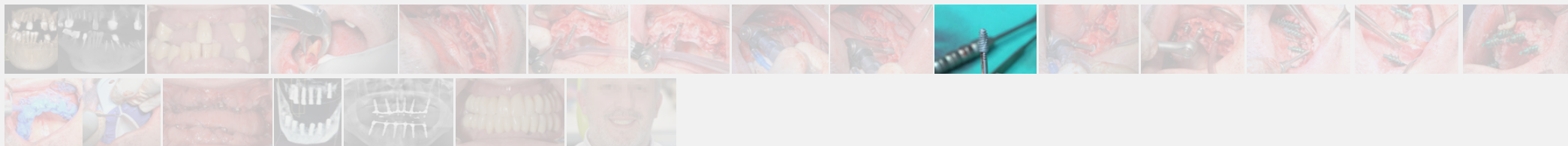
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9. The implants screwed in very smoothly without blocking, despite not using a bone tap. Primary implant stability was very satisfactory, with a torque of between 35 and 45 Ncm.



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10. The Axiom X3® has special threads and 3 cutting flutes that enable simplified, trouble-free insertion with very satisfactory primary stability.



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Initial
situation



Surgery

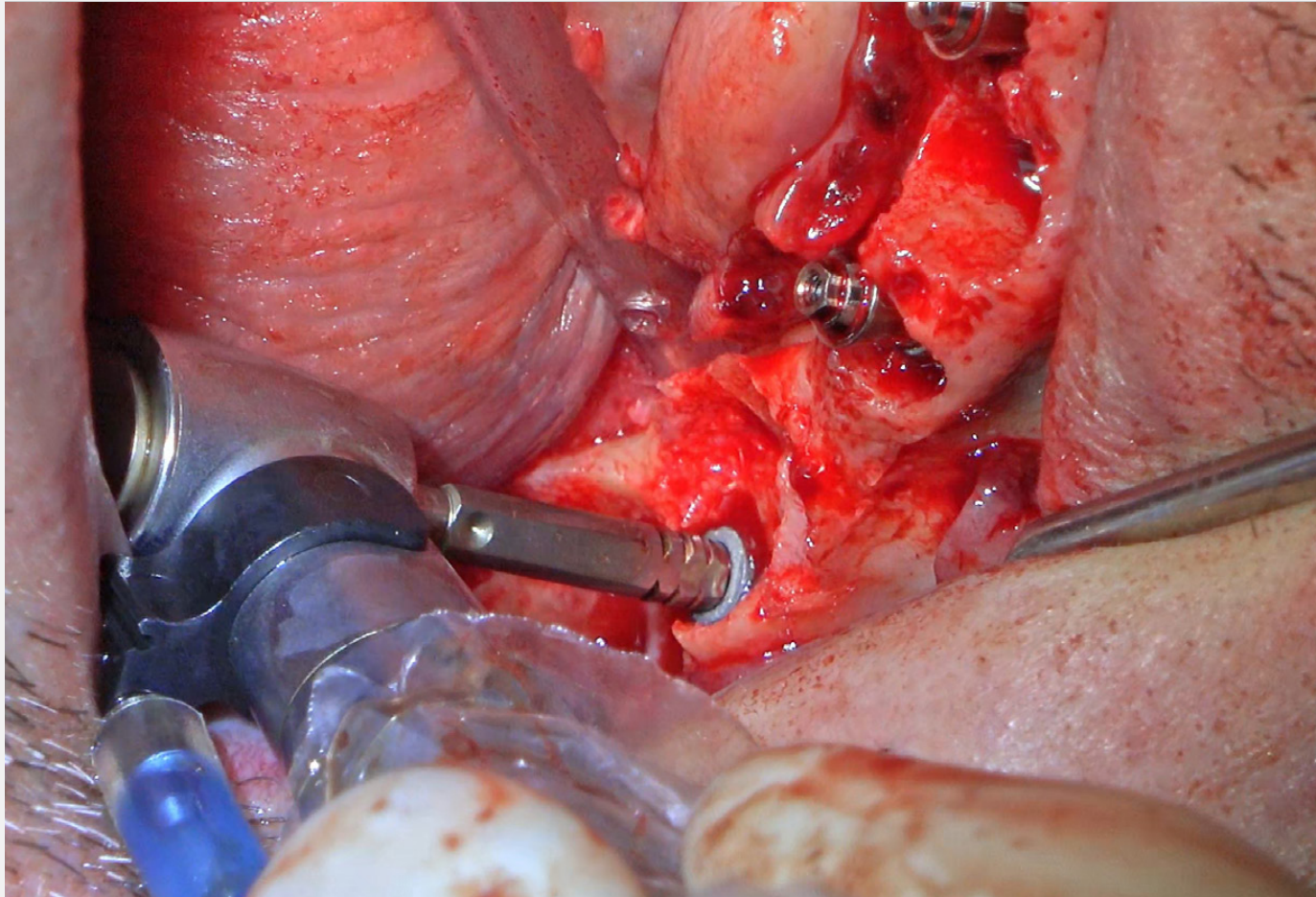
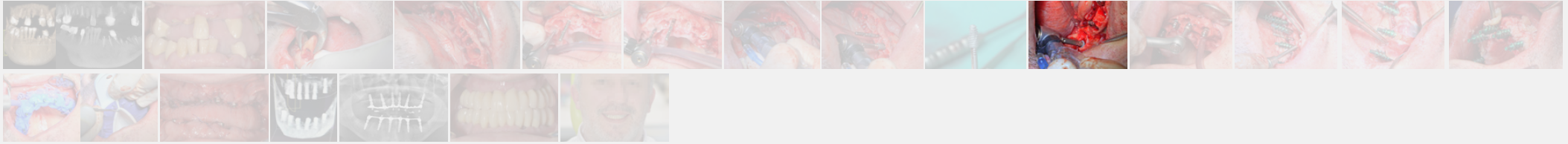


Prosthetic
restoration



Final
situation

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11. The cutting action of the implant, which allows for progressive stabilization in the mandibular bone, made implant insertion a smooth process.



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Initial
situation



Surgery

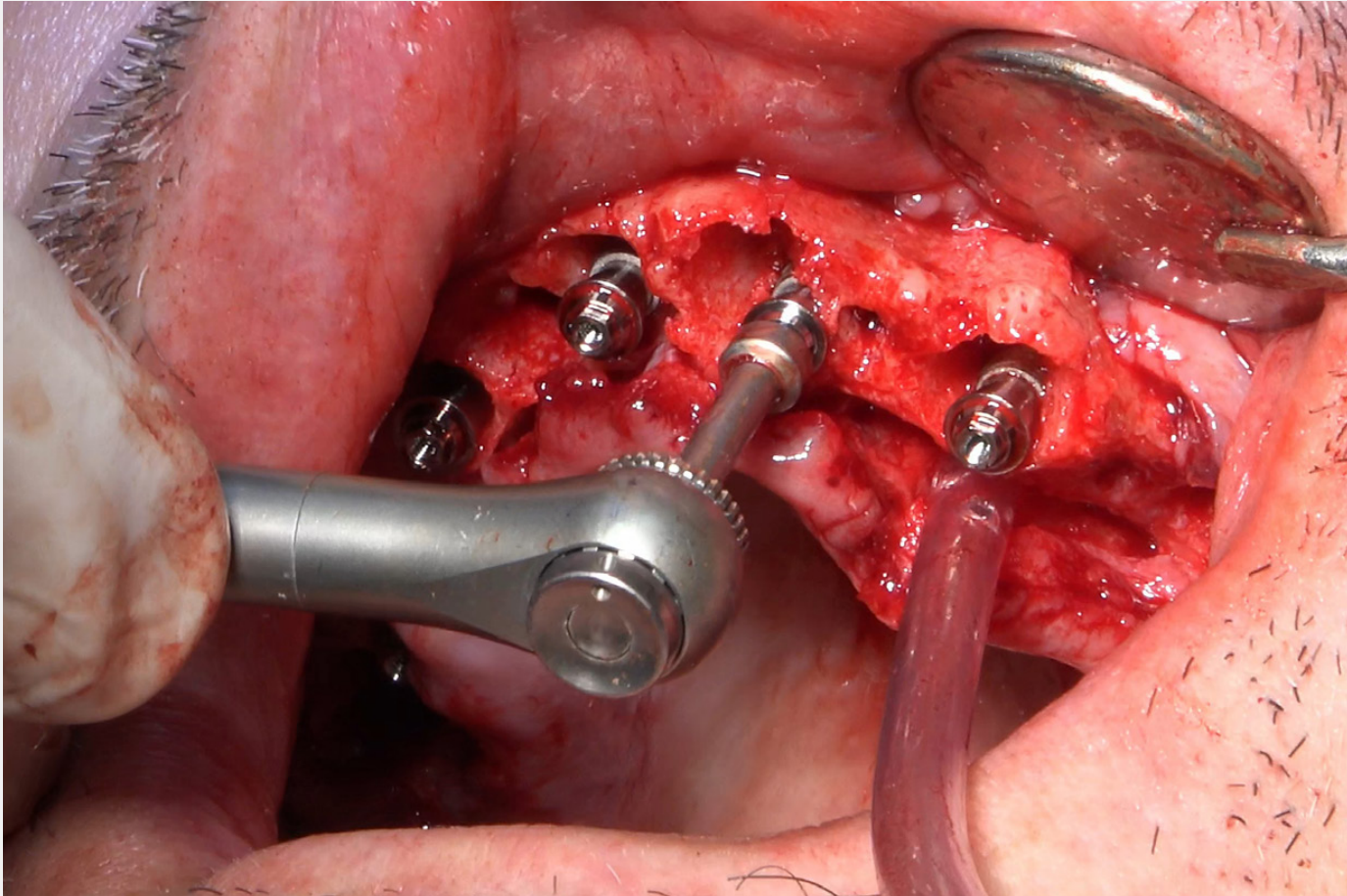
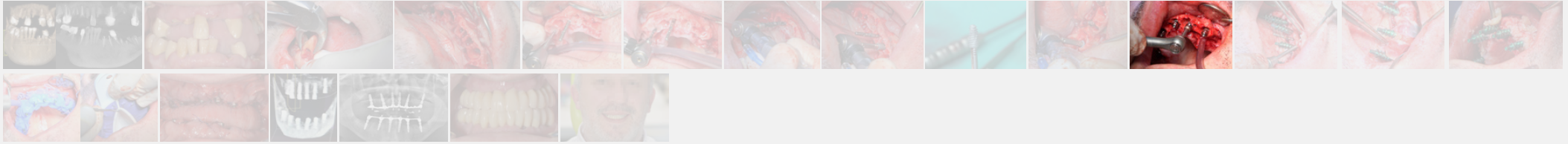


Prosthetic
restoration



Final
situation

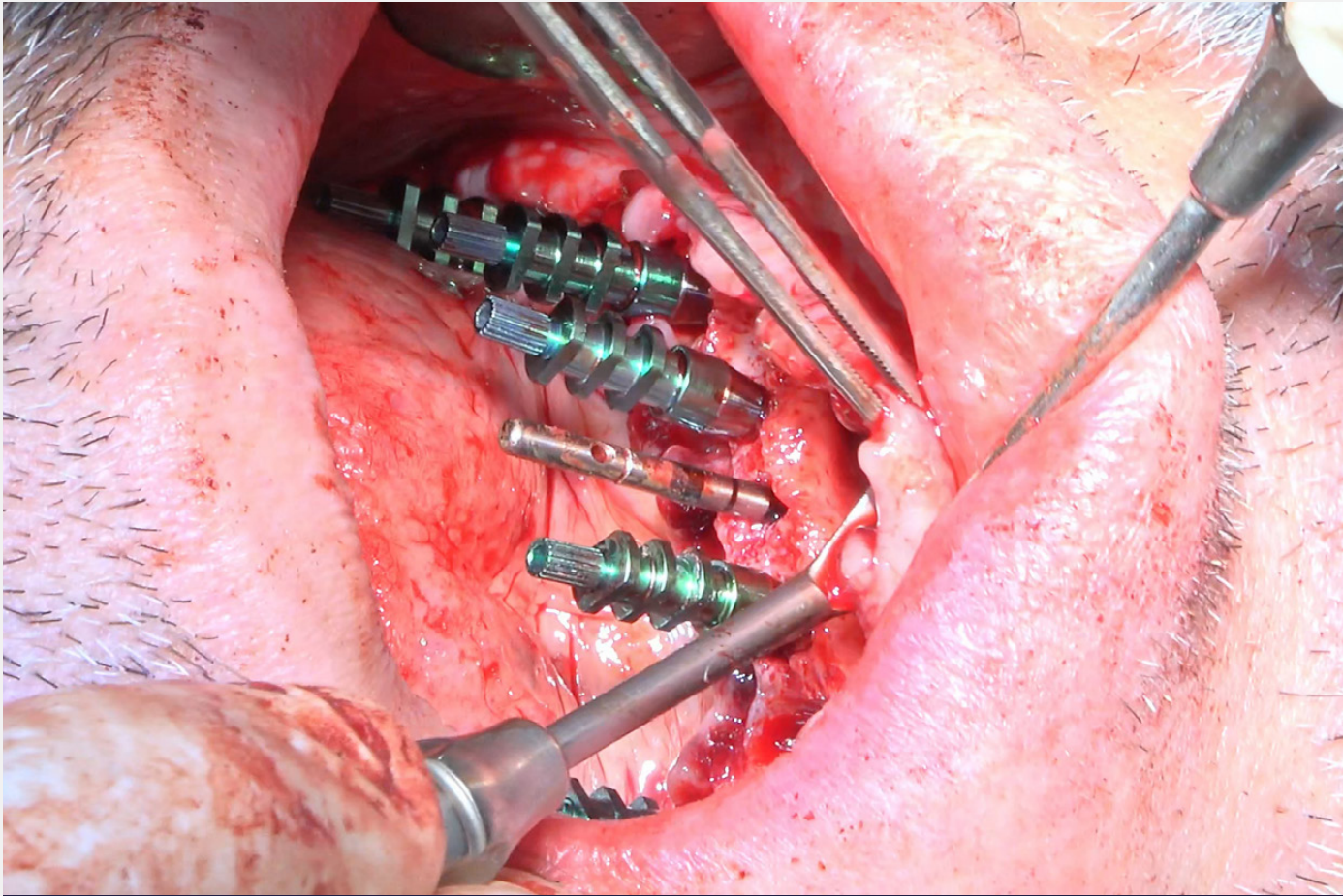
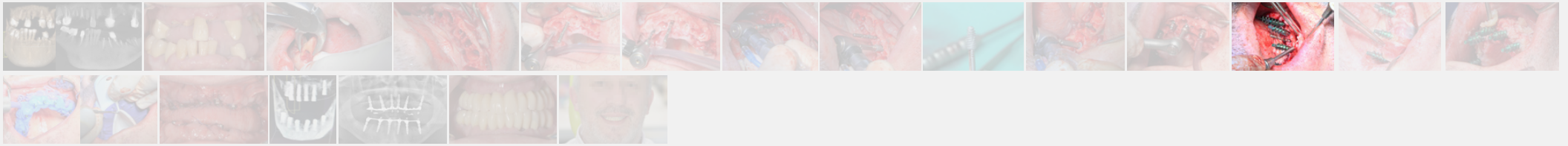
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12. Screwing in the narrow Multi-Unit abutments (Ø 4 mm) with a torque of 25 N.cm.



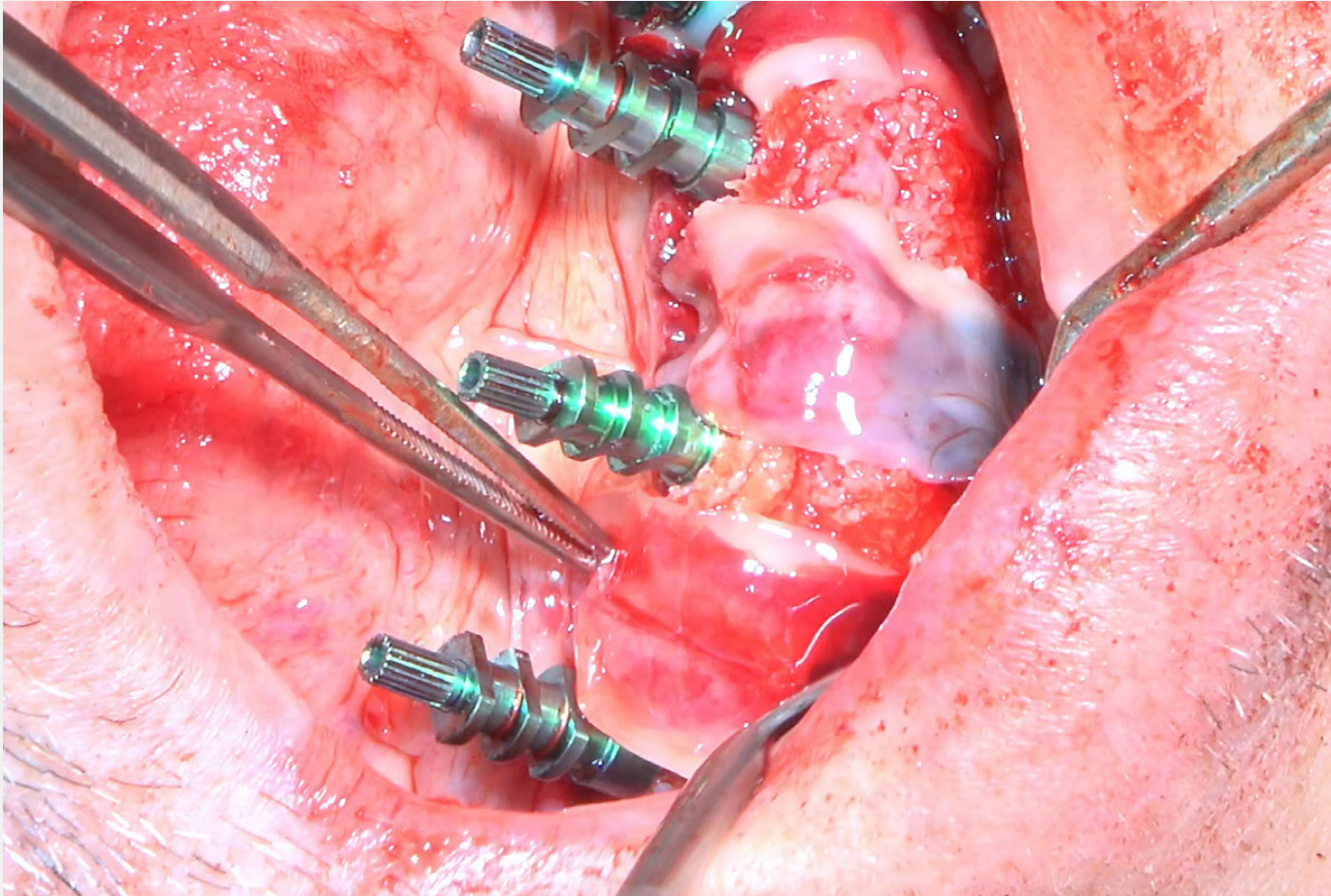
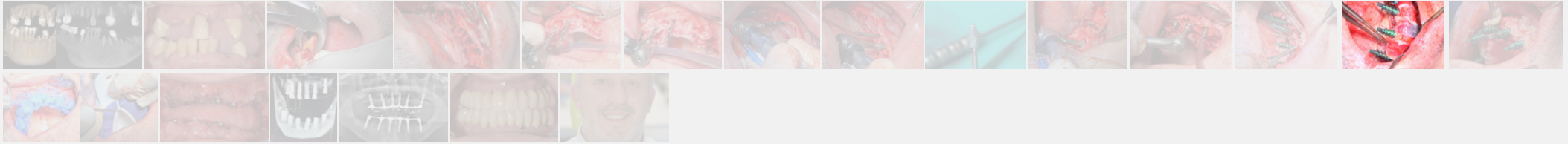
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13. Insertion of the pick-up impression transfers for an open-tray impression.



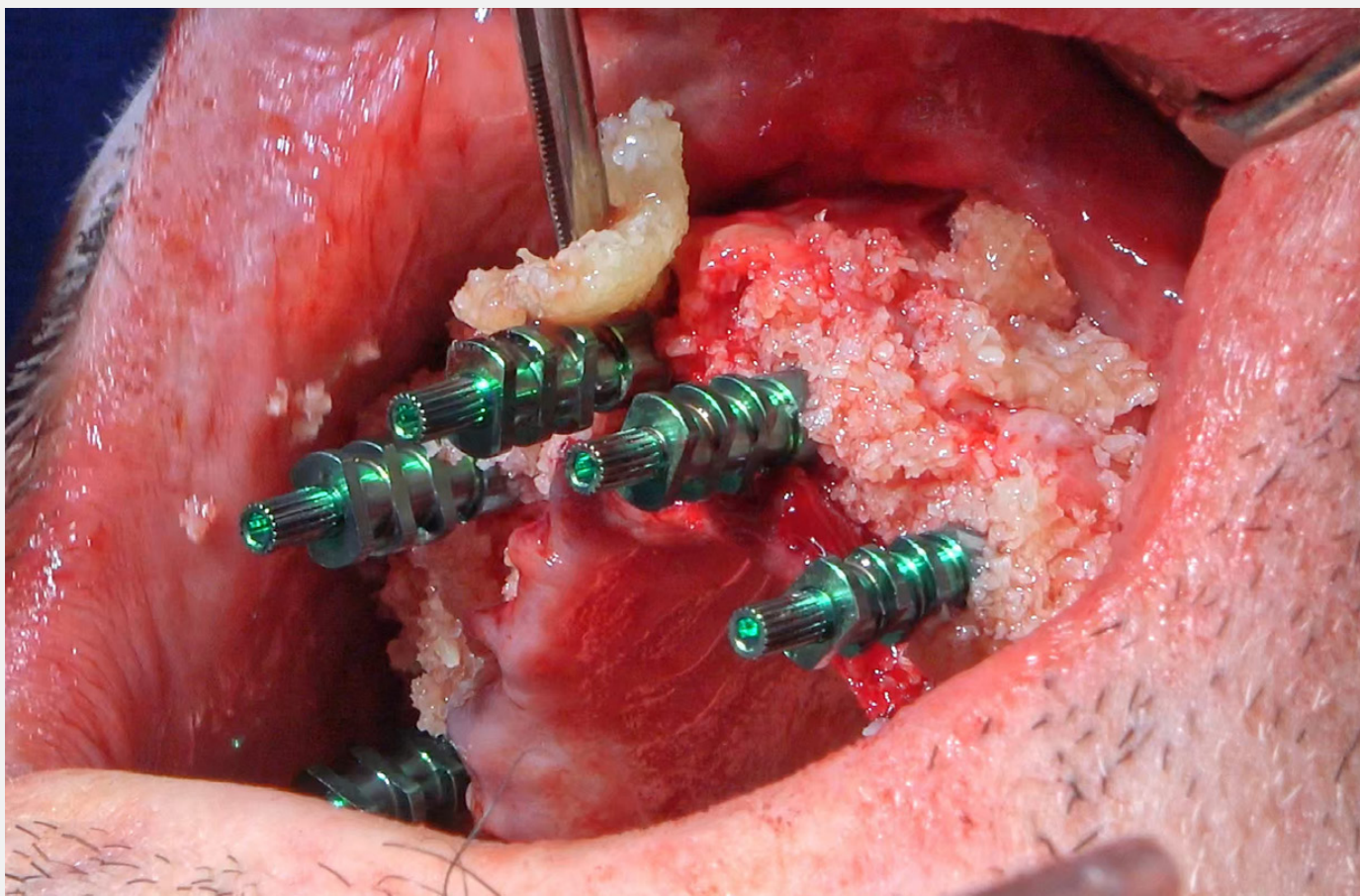
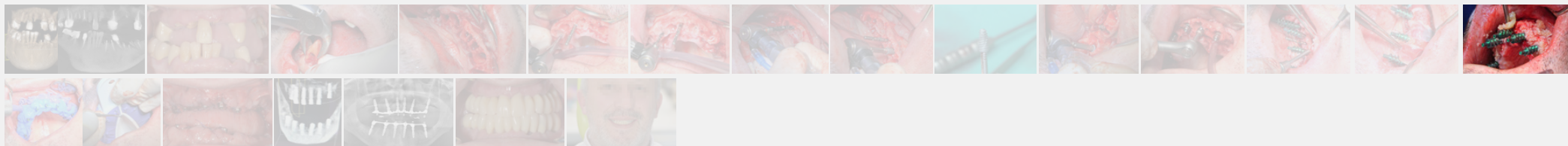
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14. Bone graft comprising allogenic bone mixed with injectable PRF and PRF membranes (3 cc of allogenic bone and 6 PRF membranes per arch).



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15. The drilling protocol in the maxilla was simpler than in the mandible, as we were dealing with D3 bone. We dispensed with the use of 2 drills that would have been used in an Axiom® REG drilling sequence.



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Initial
situation



Surgery

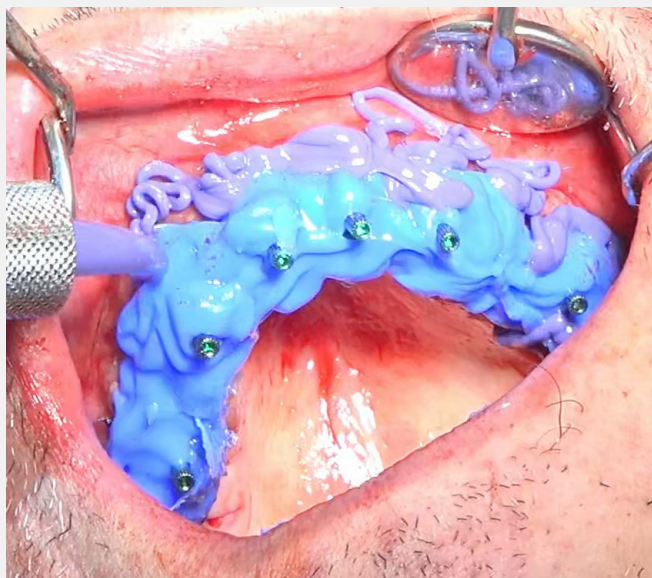
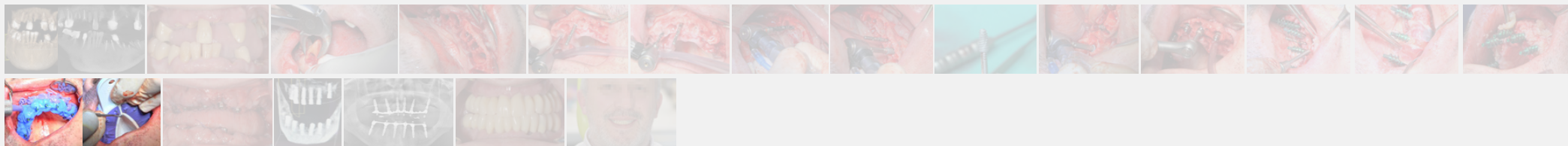


Prosthetic
restoration

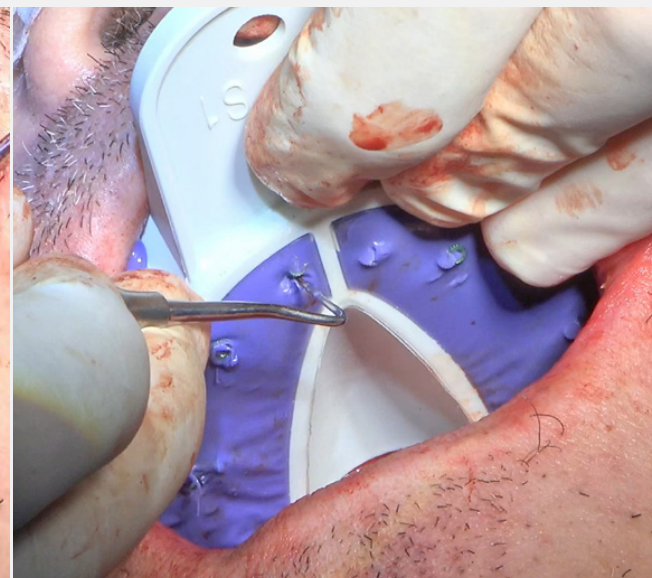


Final
situation

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16a. Splinting the pick-up transfers using the bite registration material. This completely locked the transfers into position relative to each other and during casting.

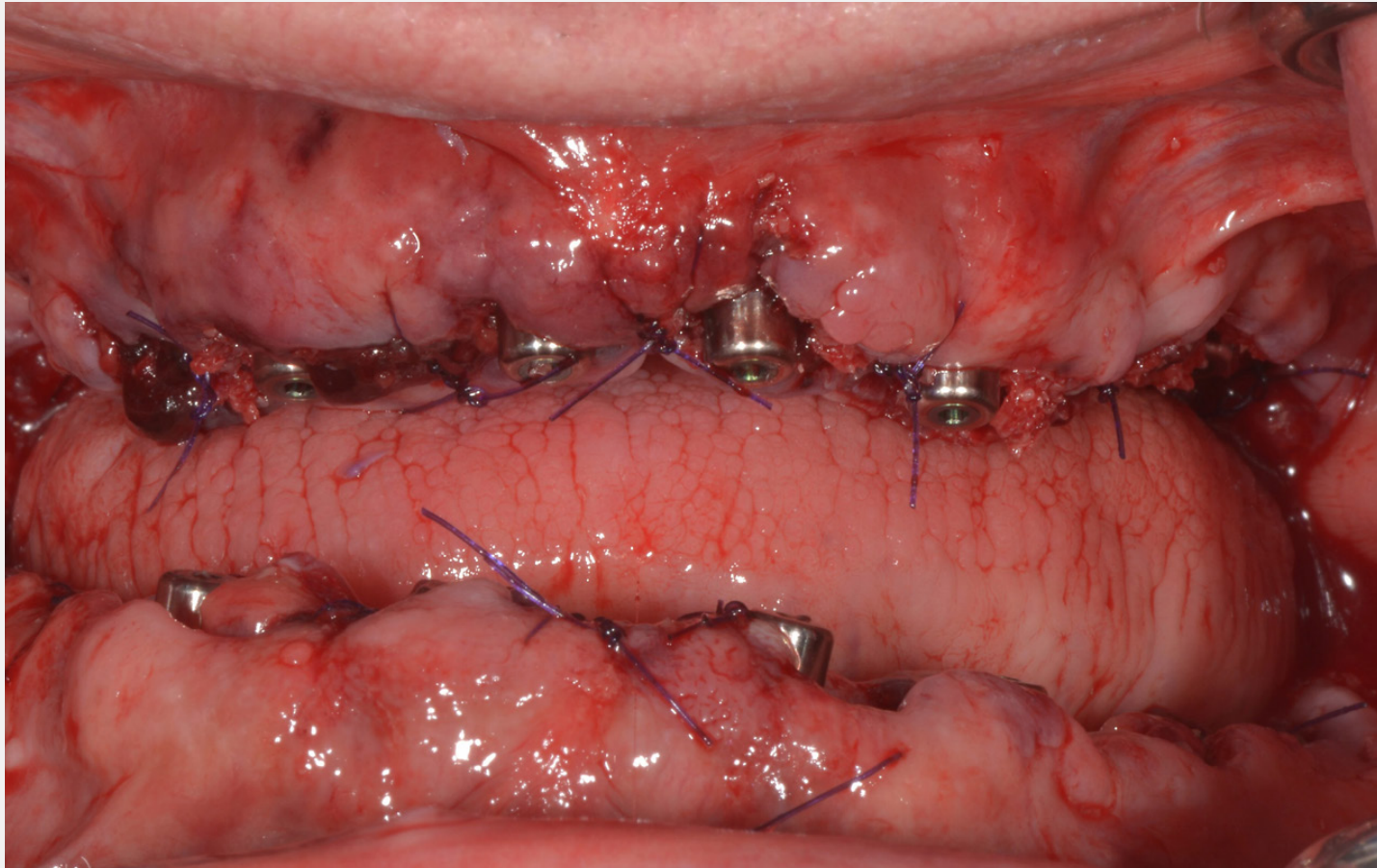
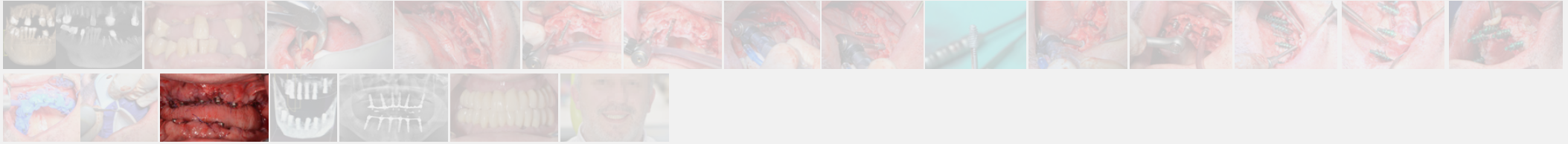


16b. Use of a perforated impression tray.



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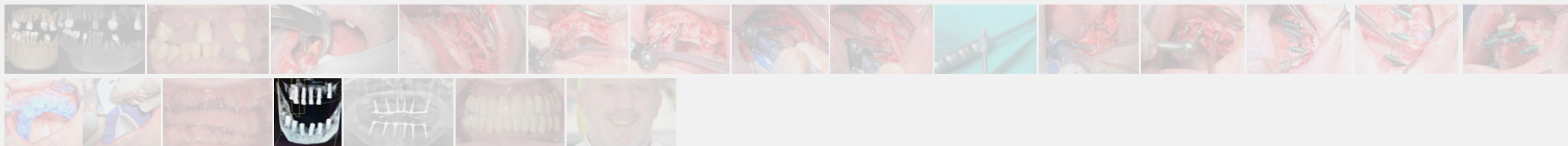




17. Healing at 48 hours before fitting the temporary bridges. Note the quality of the soft tissues and absence of inflammation. The temporary bridges would be fabricated using a cast framework and resin teeth.



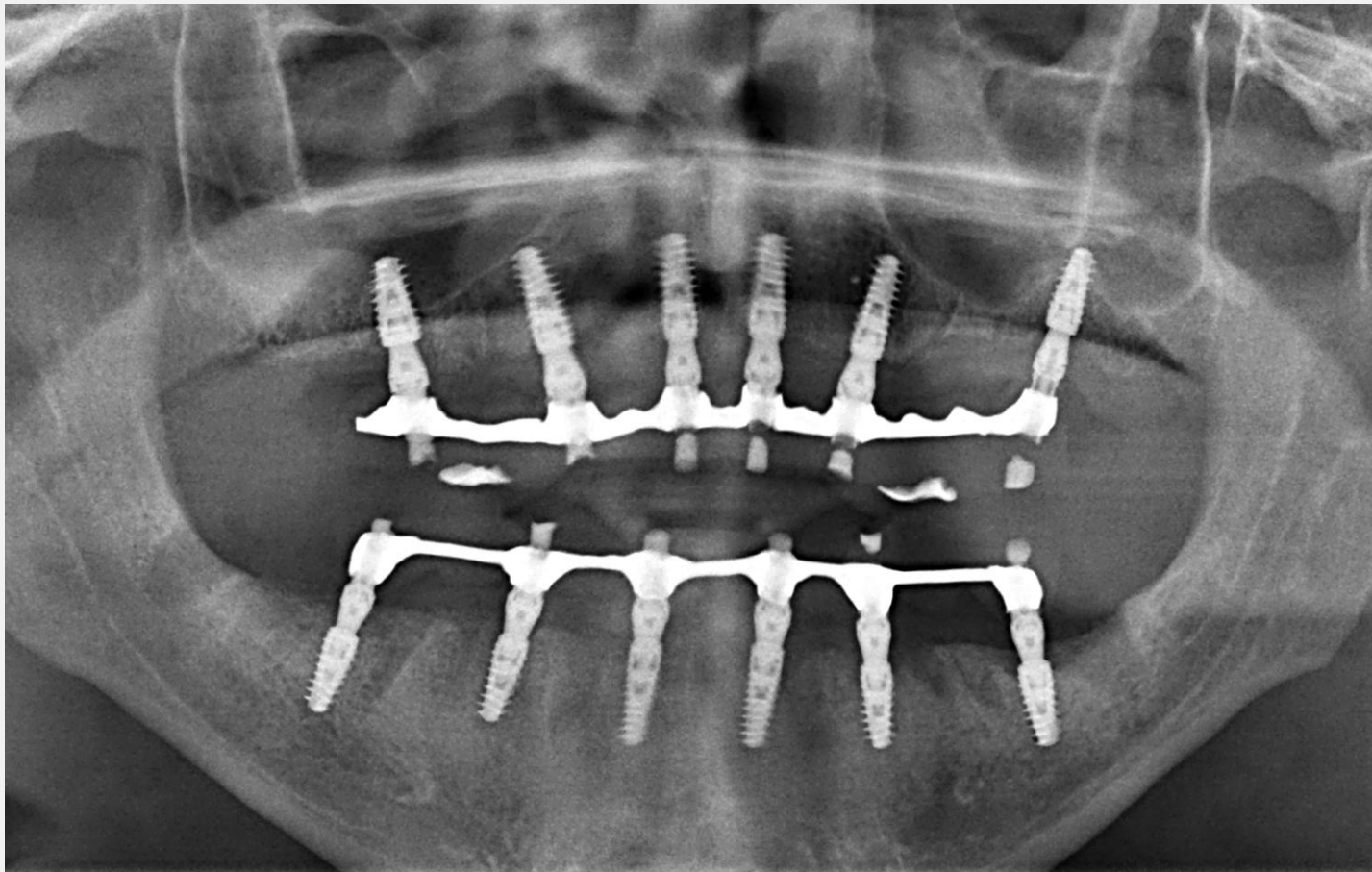
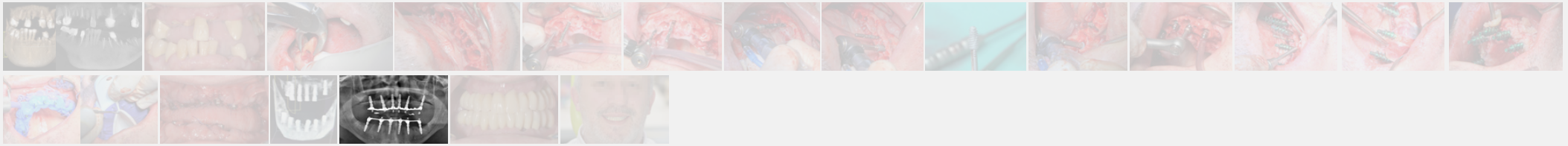
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18. Follow-up cone beam scan after surgery.

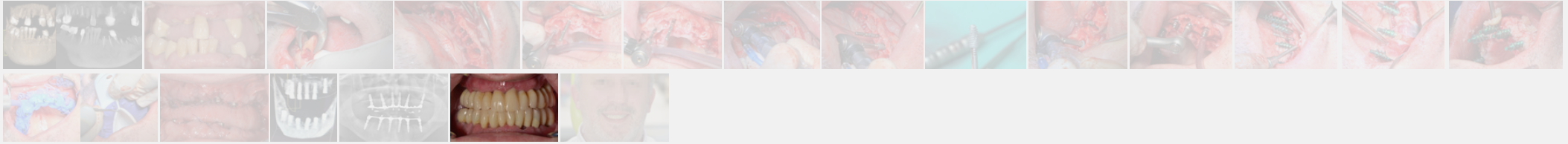


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19. Follow-up radiograph after loading.

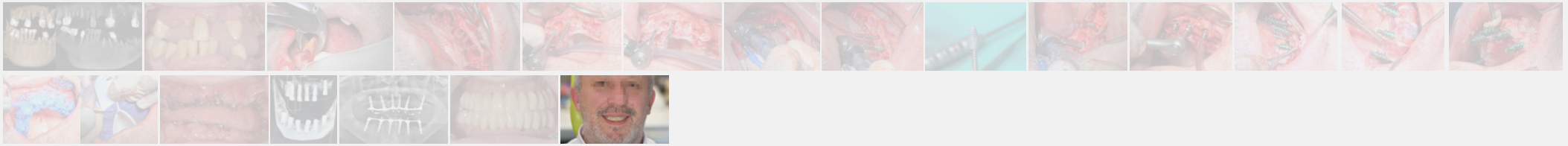




20. Four months after surgery, the temporary bridges had guided the healing of the soft and hard tissues.



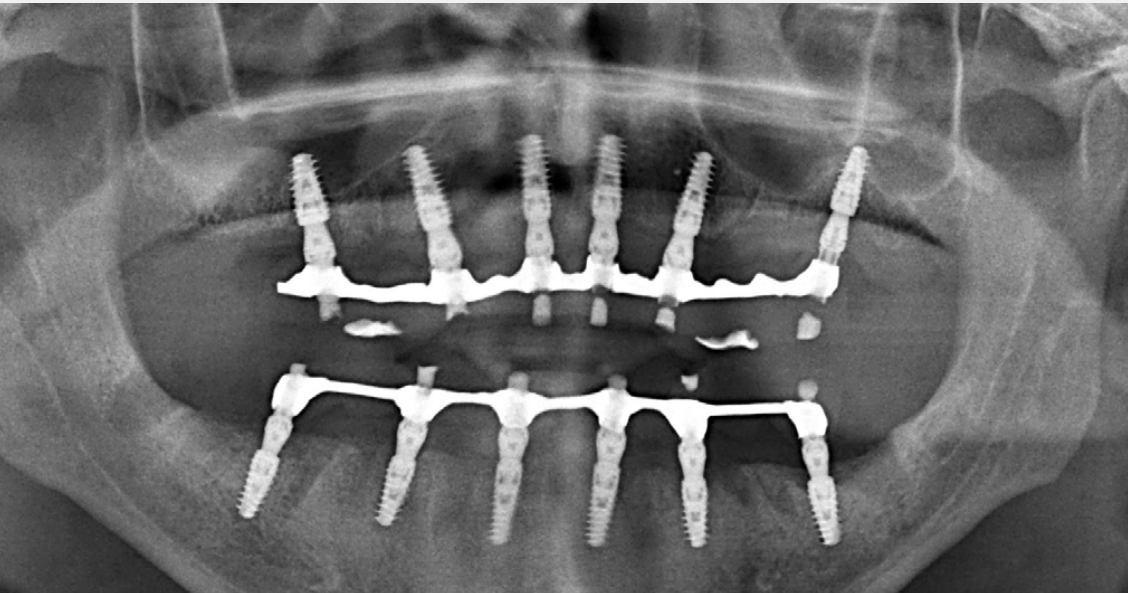
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21. Temporary smile met with the patient's complete satisfaction. He rediscovered the joy of being able to smile without embarrassment. He was also able to eat normally.



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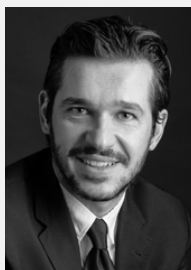


The case of Mr. V. demonstrated the capacity of Axiom X3[®] to achieve good stability in bone tissue without damaging it, both in dense and softer bone densities like D1 and D3.

The simplified drilling protocol made the use of this implant very convenient and reassuring, particularly in the immediate loading setting.

The Axiom X3[®] implant is an extremely useful implant as it combines bone tissue preservation with the proven benefits of the prosthetic connection of the Axiom[®] Bone Level range.





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- Implantologist, Moulins, France
- Higher Education Certificate in Biomaterials
- Postgraduate Diploma in Surgical and Prosthetic Implantology, Paris VII University, France
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2022-09

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