

Case Report

1. Abstract

We will present this case of implant-prosthetic restoration performed in collaboration between the prosthetic dentist and the surgeons, using a digital protocol for scanning and making surgical guides, in a 55-year-old patient who came to our clinic after performing a relatively recent prosthetic treatment in another clinic, being unsatisfied with the occurrence of frequent inflammation and recurrent pain. The documentation of the case includes photos from the initial consultation and from the entire prosthetic restorative treatment. The stages of the treatment will be detailed, represented by implant insertion, endodontic retreatment on recoverable teeth, definitive prosthesis made of A1 multilayer Zirconium.

2. Introduction

The patient presented himself in our clinic for bimaxillary prosthetic restorations, presenting numerous chronic apical lesions, irrecoverable teeth under solidarized metal-ceramic crowns, incorrectly marginally adapted, made 4 years ago. In the maxillary jaw, dental bridges were made on implants and individual crowns on natural teeth, and an All on 4 treatment on the mandible.

3. Presentation of the case

1. Patient information:

- **Name:** Daniel

- **Age:** 55 years
- **Gender:** Male
- **Date of first consultation:** 24 February 2023
- **The reason for the presentation:** dental pain, abscesses, bleeding gums, unsightly appearance of the existing bridges.

2. **Dental history:**

- Realization of total metal-ceramic dental bridges 4 years ago, incorrectly adapted, without proper treatment of the abutments, with chronic apical lesions and coronary destruction.

3. **Clinical examination:**

- During the clinical consultation, the total bridges have been decemented with the impression material for future provisional works, dental abutments showing numerous carious lesions, gingival inflammation. Masticatory function relatively maintained, proper VDO.

4. Evaluation and diagnosis

1. **Dental photos:**

- Taking intraoral and portrait photos

2. **Imaging:**

- Bimaxillary CBCT

3. **Digital Scan**

4. **Diagnosis:**

- After establishing the recoverable teeth, a diagnosis of maxillary end-to-end edentation and mandibular subtotal edentation was established.

5. Treatment

1. **Initial management:**

- Dental Prophylaxis
- Digital smile design
- Mock-up, for validating the shape and position of future prosthetic restorations, also extremely useful for planning the insertion of implants.

2. **Therapeutic interventions:**

- The treatment performed at the maxillary arch consisted of performing irrecoverable teeth extractions (1.1, 1.3, 1.4), endodontic retreatments on the teeth remaining on the maxillary arch (2.1, 2.2, 2.3, 2.4, 2.5) and insertion of 5 Osstem dental implants on positions 1.1, 1.3, 1.4, 1.6, 2.6 using surgical guide, and the final prosthesis after the osseointegration period of the implants using two bridges of three elements in quadrant 1 and individual crowns in quadrant 2.
- For the mandibular arch, it was opted for the extraction of irrecoverable teeth and the preservation of canines to support a overdenture during healing. Subsequently, 4 Osstem dental

implants were inserted, keeping the canine roots submerged to preserve the bone volume, and a provisional work was made of PMMA screwed intraoperatory on the 4 implants. After the 6 months of osseointegration, a FP3 zirconium bridge with titanium bar structure was.

3. Follow-Up and Monitoring:

- Check-up every 6 months: Follow-up through consultation, dental photos and professional hygiene.
- Control at 1 year and a half: Consultation, photos, panoramic x-ray, dental hygiene.

6. Final result and monitoring

The final result, aesthetic and functional, was a truly successful one, the patient being extremely satisfied with the natural appearance of his new teeth. Subsequent checks have shown that the result is stable over time, of course requiring periodic monitoring.

7. Discussion

This case was a complex one, and solving it through interdisciplinary collaboration and using state-of-the-art digital technologies was the key to success. Certainly a special contribution was made by the patient's compliance, the rigor with which he complied with the therapeutic indications and the trust given to the medical team in making the right decisions for the long-term well-being of the teeth.

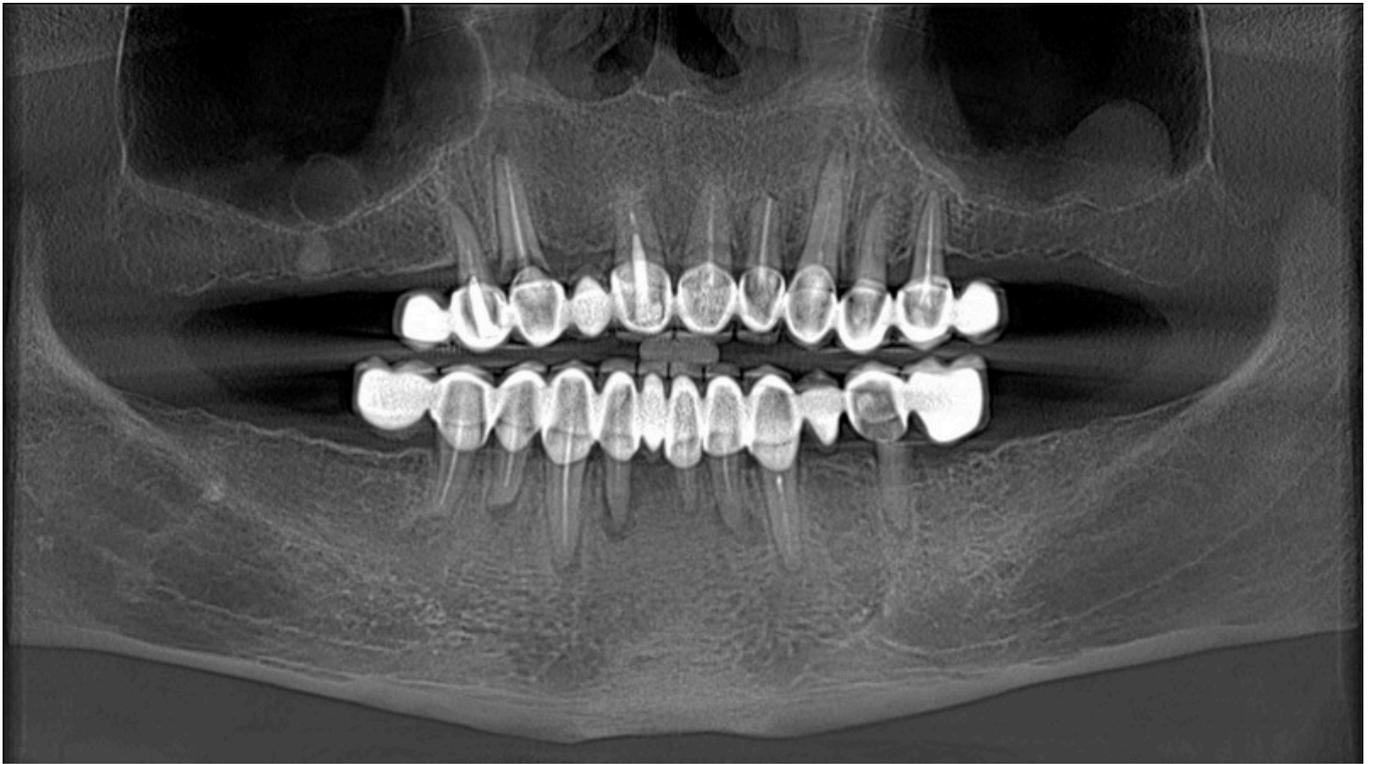
8. Conclusion

Dental treatments must be carried out with a well-established therapeutic plan, previewed and accepted by the patient, and of course with a close collaboration between the members of the medical team. The use of digital technologies is of great help to be predictable and precise, the final result being as planned.

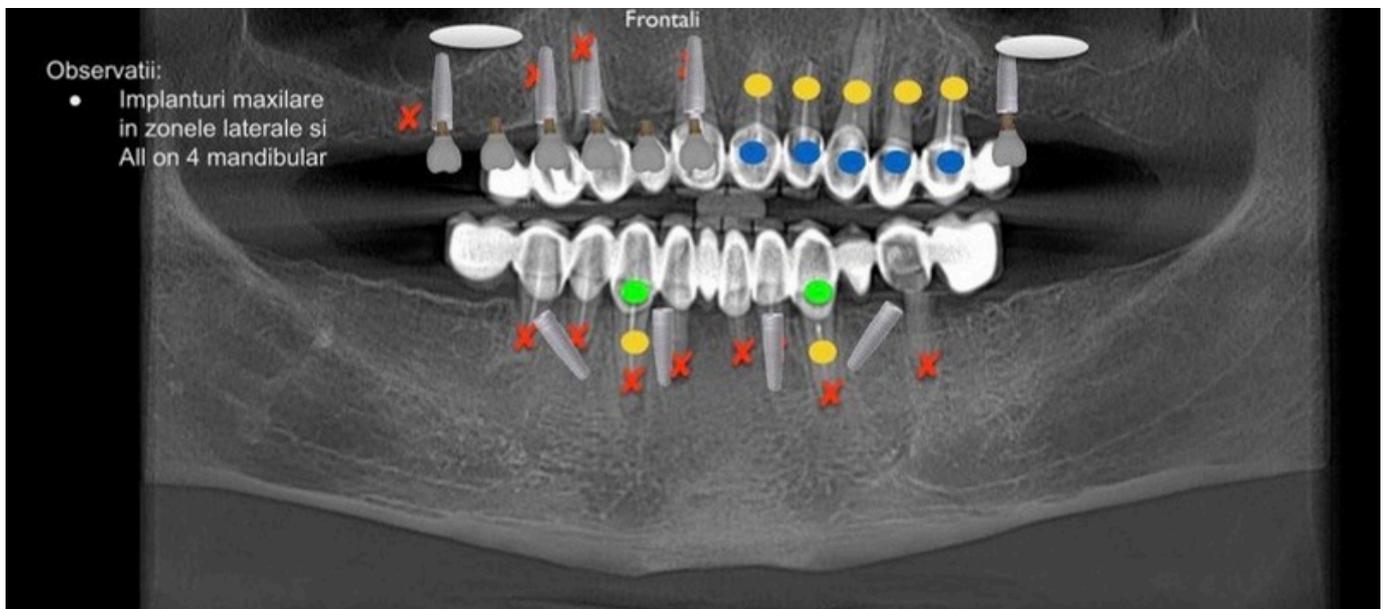
9. Photos

Photos taken during the initial consultation

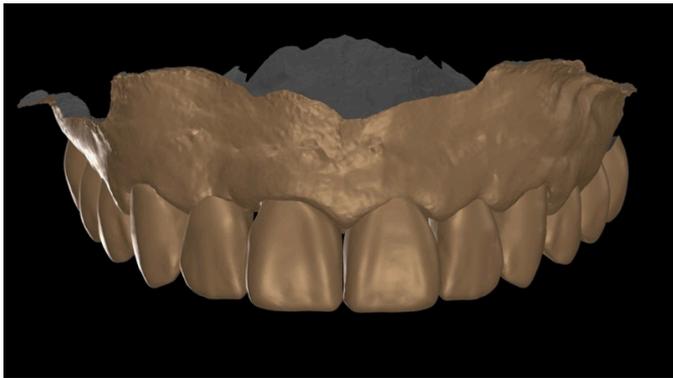




Treatment Plan, Digital Design, Mock-up



Smile design

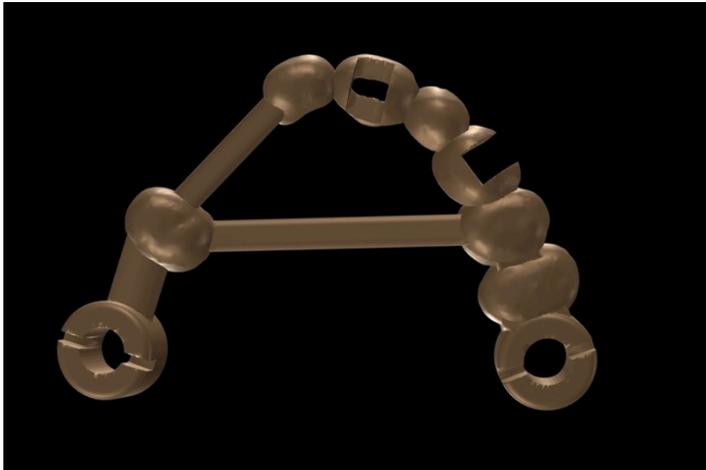


Mock-up

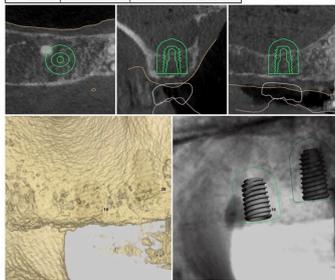


Digital planning, upper jaw surgery, provisional and final crowns

Surgical guide with dental support



Implant Information	
Implant position (FDI)	16
Manufacturer	Oxstern
Type	T521 Regular 4.5x7.0
Order number	T5210574
Length, mm	7
Diameter (D), mm	4.5
Color	Blue
Safety zone - apical distance, mm	2.0
Safety zone - radial distance, mm	1.5



Implant information	
Implant position (FDI)	13
Manufacturer	Oxstern
Type	T521 Regular 4.5x10.0
Order number	T5210575
Length, mm	10
Diameter (D), mm	4
Color	Green

Sleeve information	
Name	Oxstern DS 0 Guide Hole Closed
Type	Fully passive
Order number	OS7300
Offset, mm	10.5

Drill information	
Minimum drill length	20.5

Implant information	
Implant position (FDI)	14
Manufacturer	Oxstern
Type	T521 Regular 4.5x10.0
Order number	T5210575
Length, mm	10
Diameter (D), mm	4
Color	Green

Sleeve information	
Name	Oxstern DS 0 Guide Hole Closed
Type	Fully passive
Order number	OS7300
Offset, mm	10.5

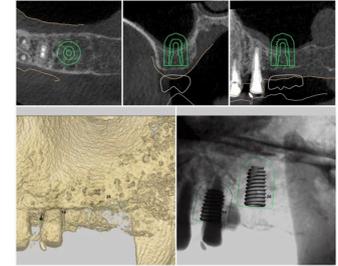
Drill information	
Minimum drill length	20.5

Implant information	
Implant position (FDI)	16
Manufacturer	Oxstern
Type	T521 Regular 4.5x7.0
Order number	T5210574
Length, mm	7
Diameter (D), mm	4.5
Color	Blue

Sleeve information	
Name	Oxstern DS 0 Guide Hole Closed
Type	Fully passive
Order number	OS7300
Offset, mm	10.5

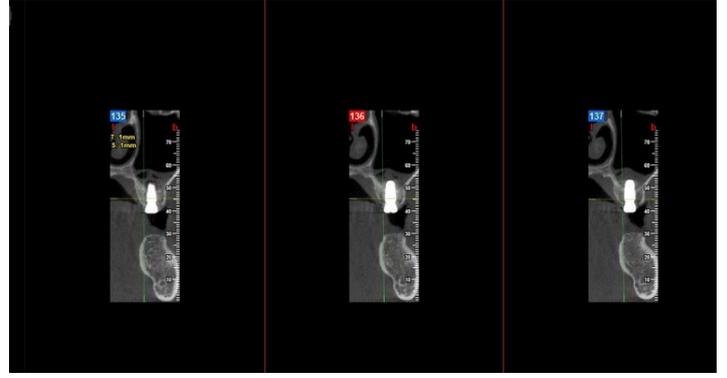
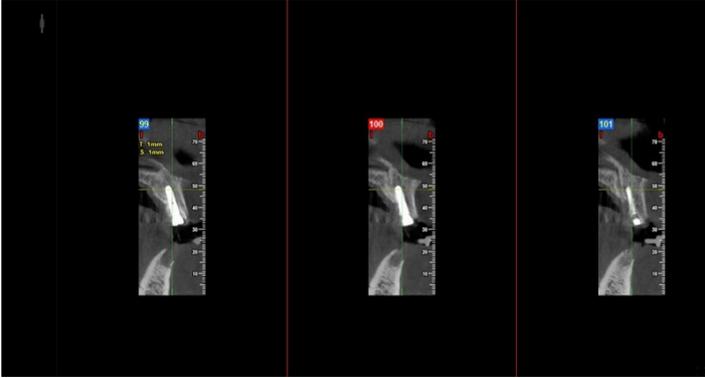
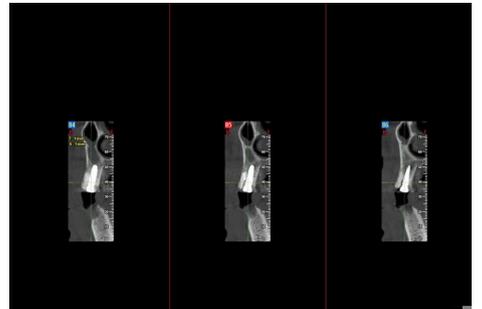
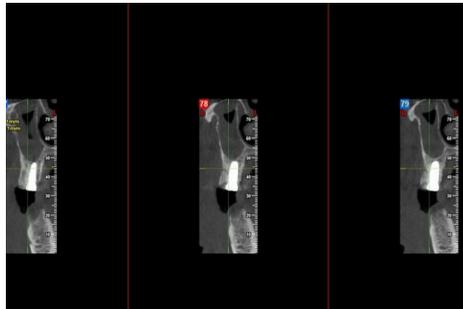
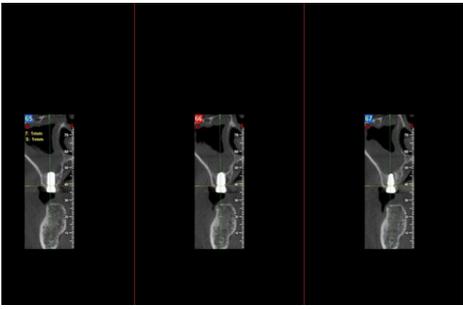
Drill information	
Minimum drill length	17.5

Implant Information	
Implant position (FDI)	26
Manufacturer	Oxstern
Type	T521 Regular 4.5x8.0
Order number	T5210576
Length, mm	8.0
Diameter (D), mm	4.5
Color	Blue
Safety zone - apical distance, mm	2.0
Safety zone - radial distance, mm	1.5

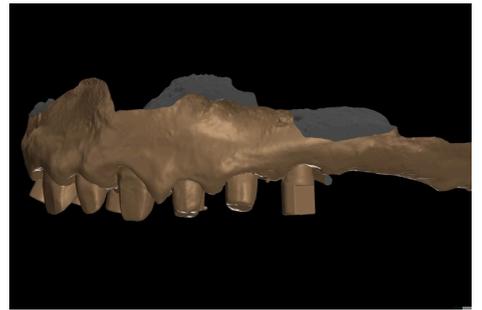
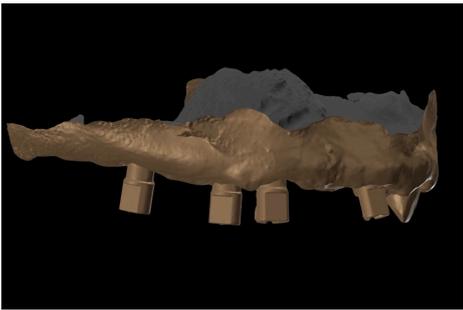


Control CBCT



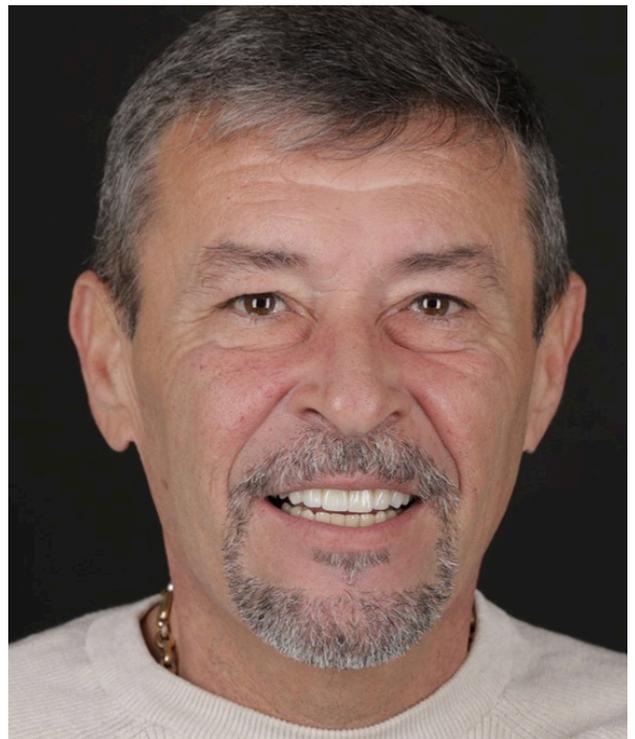


Maxillary digital impression

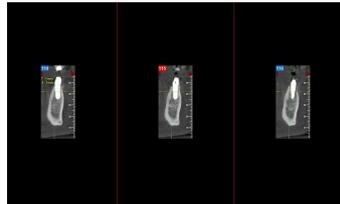
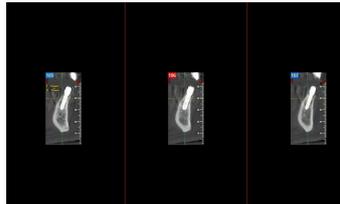
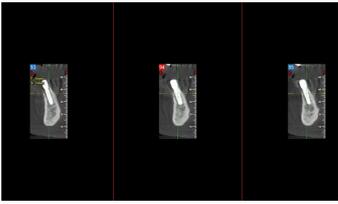
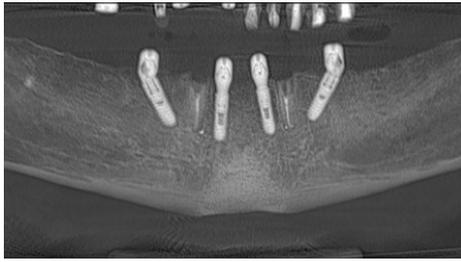
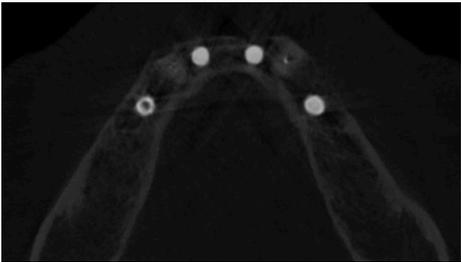
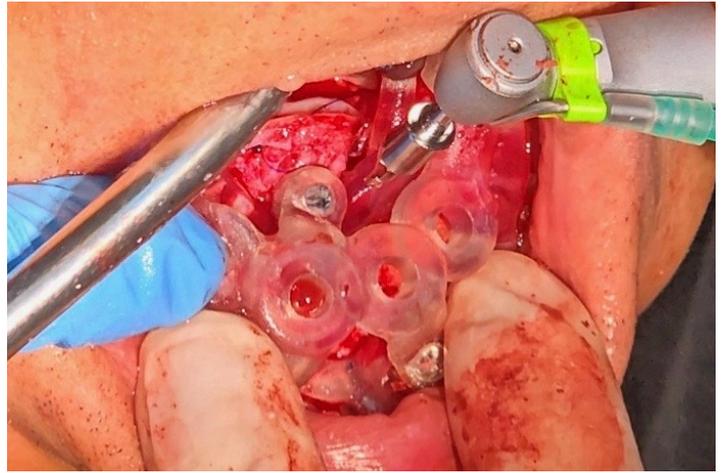
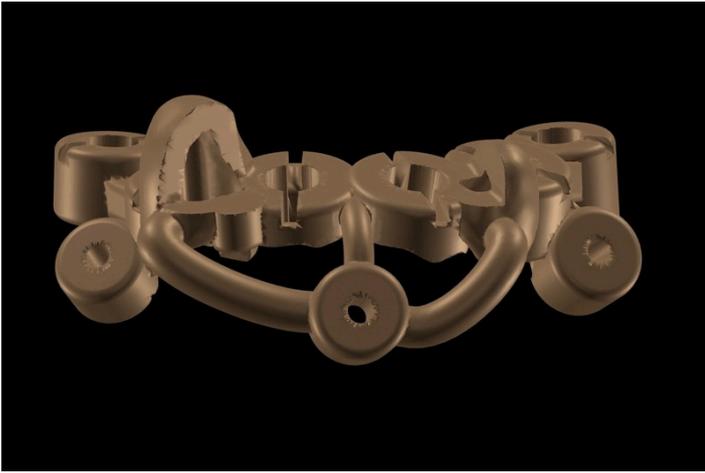


Provisional

Maxillary Final Works



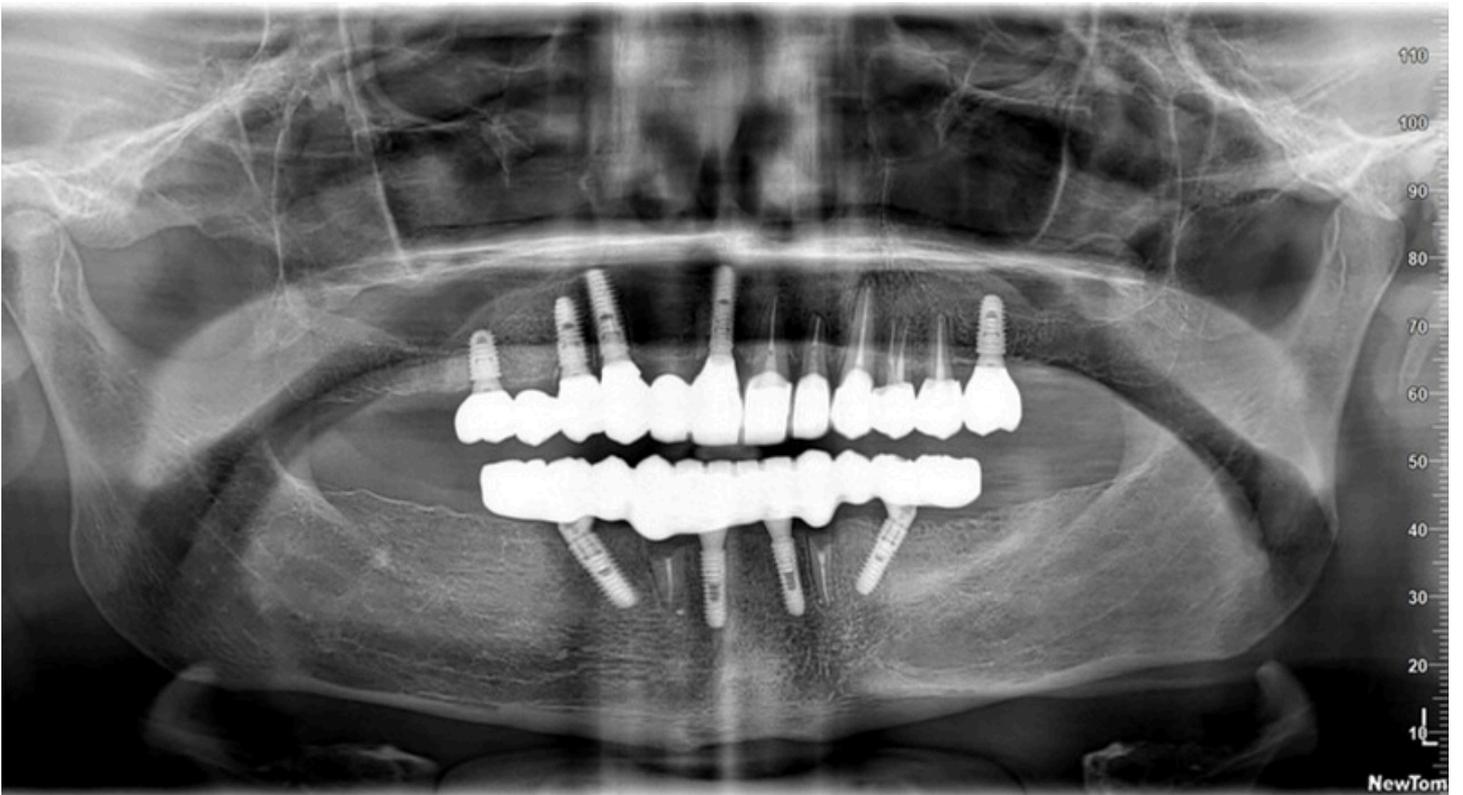
Digital planning, mandible surgery, temporary prosthesis



Prosthetic rehabilitation (completed one year after the initial consultation)







1,5 years Follow-up

