

Full mouth rehabilitation with Implant-supported Fixed prosthesis with dental CAD/CAM system in fully edentulous patient

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Introduction

There are various prosthetic treatment options for fully edentulous patients, including complete denture, implant retained- or supported-overdenture, hybrid type prosthesis, and implant-supported fixed prosthesis. The treatment plan should be determined in consideration of the patient's intraoral and extraoral condition and patient's history including preference, oral hygiene, socioeconomic status.

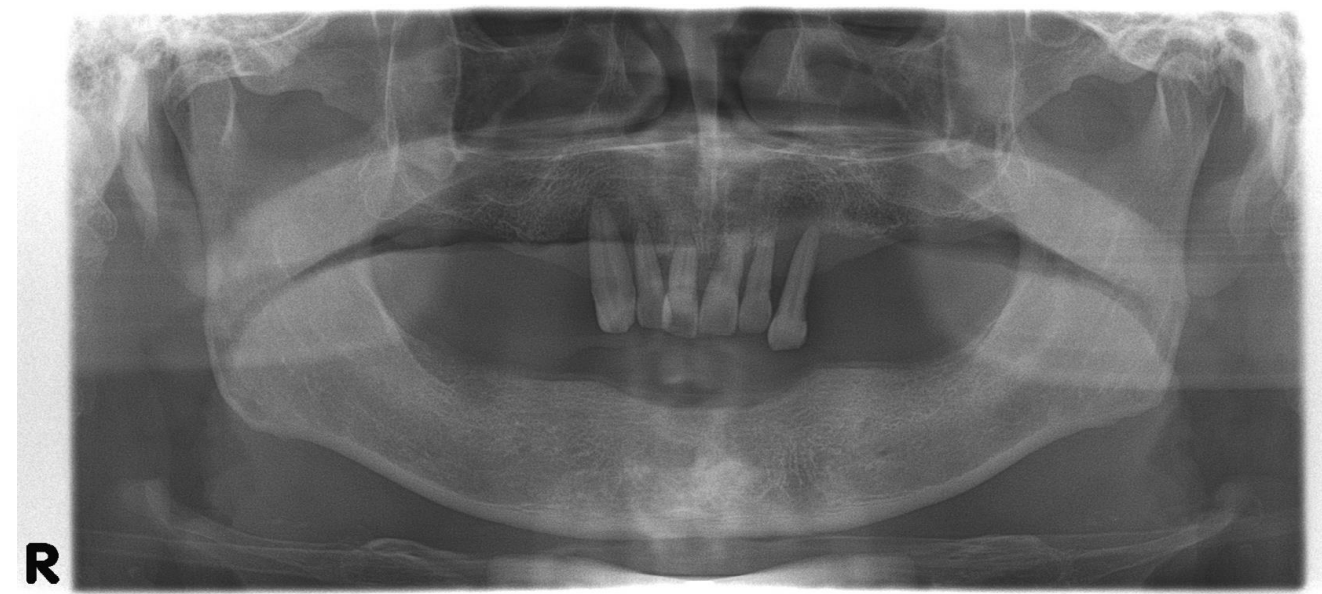
For all prosthetic options combined with implants, the implants should be placed at the planned site for the prosthesis. In the patient with insufficient residual ridge, site development or prosthetic consideration for soft and hard tissue support is required. Computer guided surgery and CAD/CAM based prosthetic design provide predictability for achieving these goals.

Patient Information

- Age / Sex: 60 years old / Male
- PMH: N/S, smoking (-)
- PDH: Ext (+), L/A (+), bruxism/clenching (-)
- Chief Complaint: Existing denture does not fits and want new tx.

Pre-treatment State

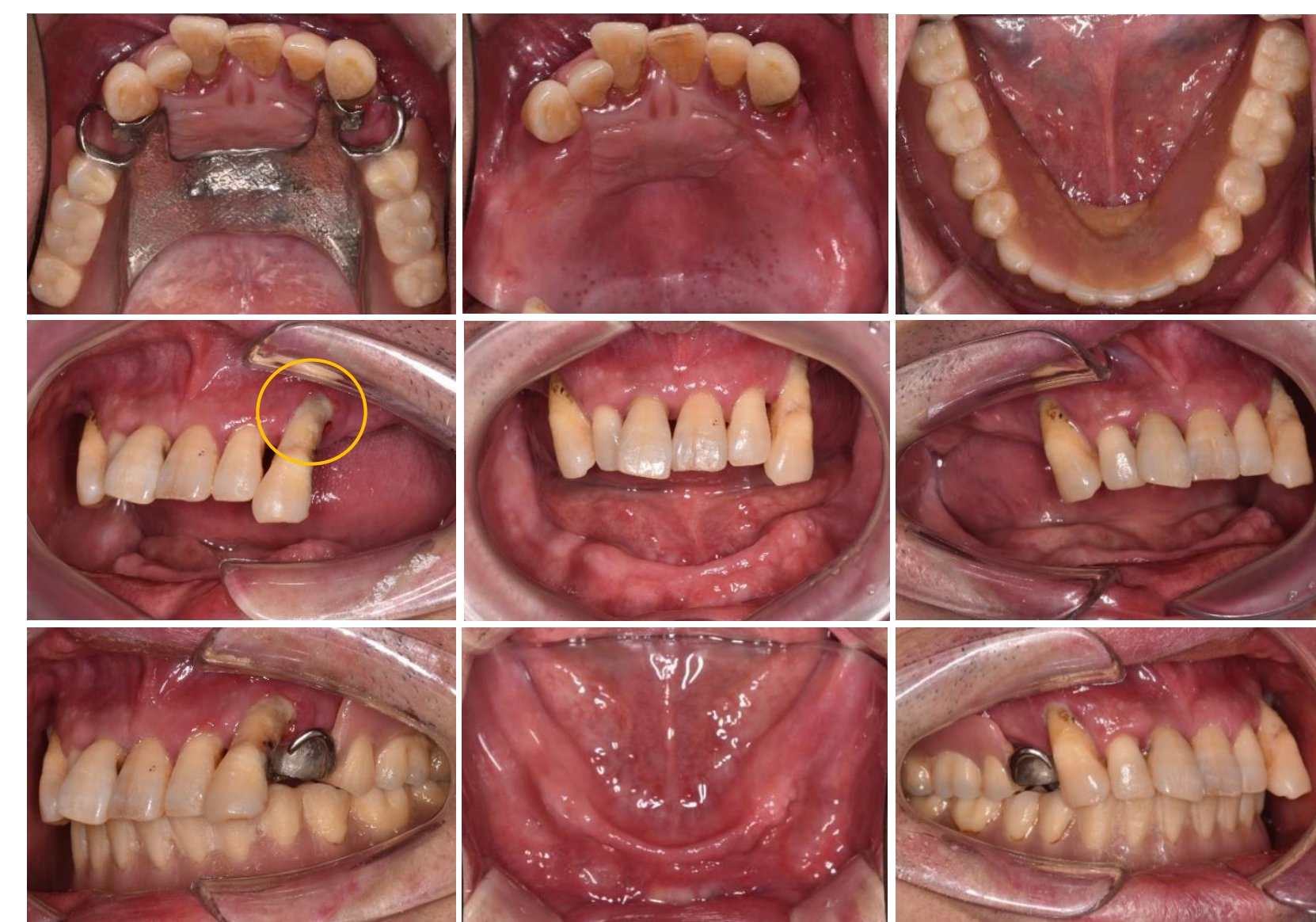
- Panoramic Radiograph



- At first visit, remaining teeth needed to be extracted due to apical involvement state

- The patient wanted to be treated with fixed prosthesis

- Clinical Photograph



- Calculi deposition on the lingual side of lower denture

- Pus d/c through sulcus (+)

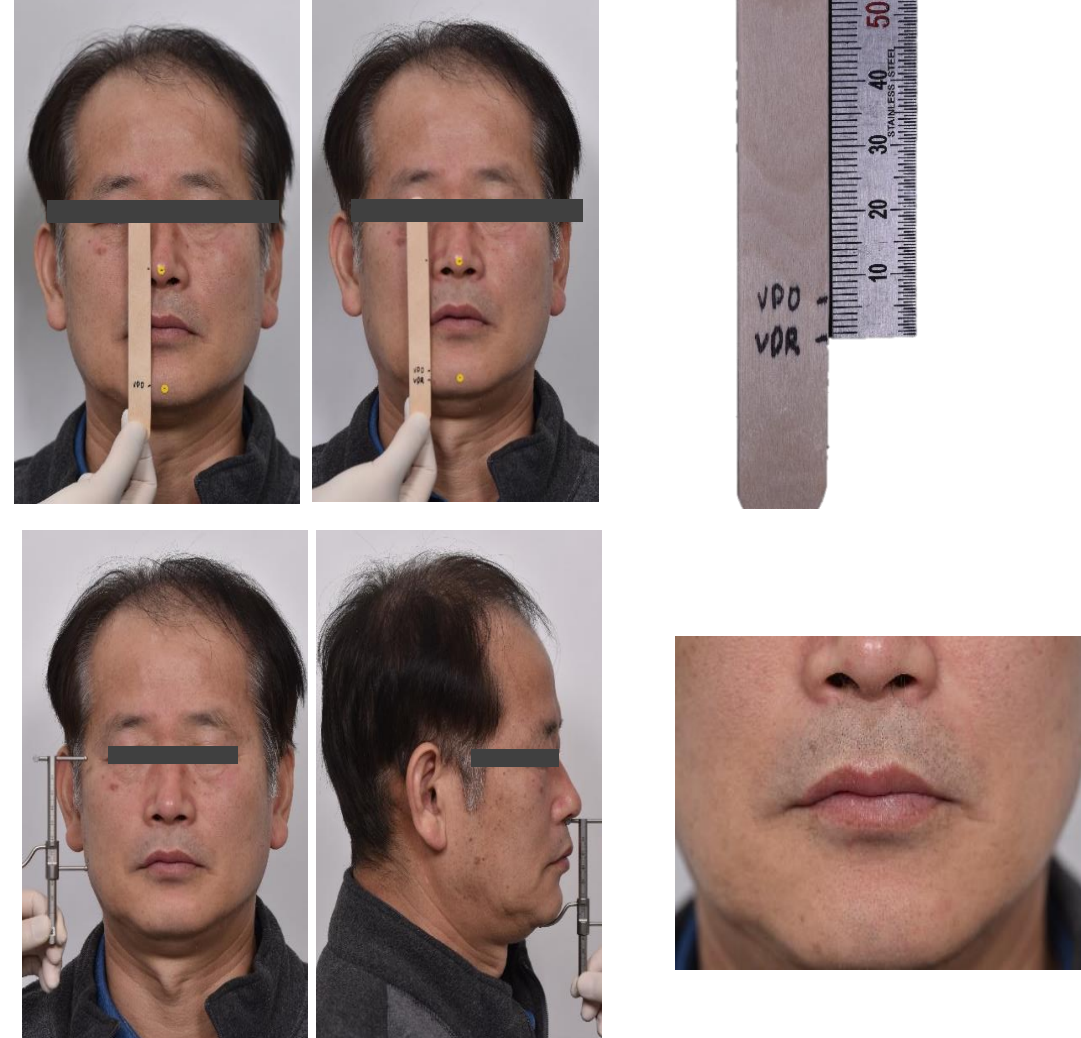
- irregular residual ridge

Facial support, Occlusal plane, Lip support



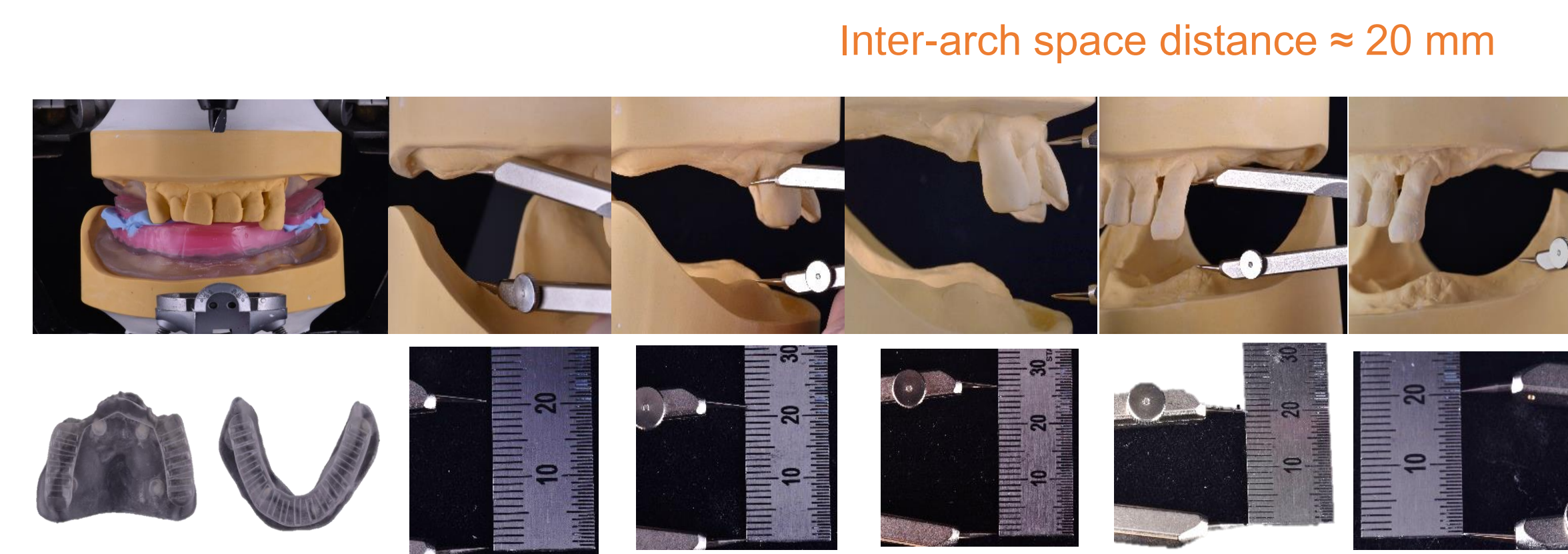
Proper lip support

VD evaluation; Willis method, Freeway space



Freeway space: 5~6mm

- Diagnostic Mounting & CT stent



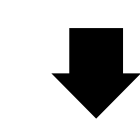
Inter-arch space distance $\approx$ 20 mm

Problem List

- Loss of posterior support
- Severe bone resorption & hopeless tooth
Bone augmentation could be needed
- Poor OH
Heavy calculi deposition on lower denture

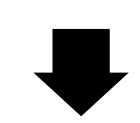
Treatment Flow

Diagnostic wax-up w/ CAD/CAM, surgical stent Fab.



Maintain current vertical dimension
Sinus lifting and Mx. Anterior GBR are needed

Surgical procedure, Provisional restoration



Temporary CD for healing state
Early placement after soft tissue healing
Root-form first fixed provisional

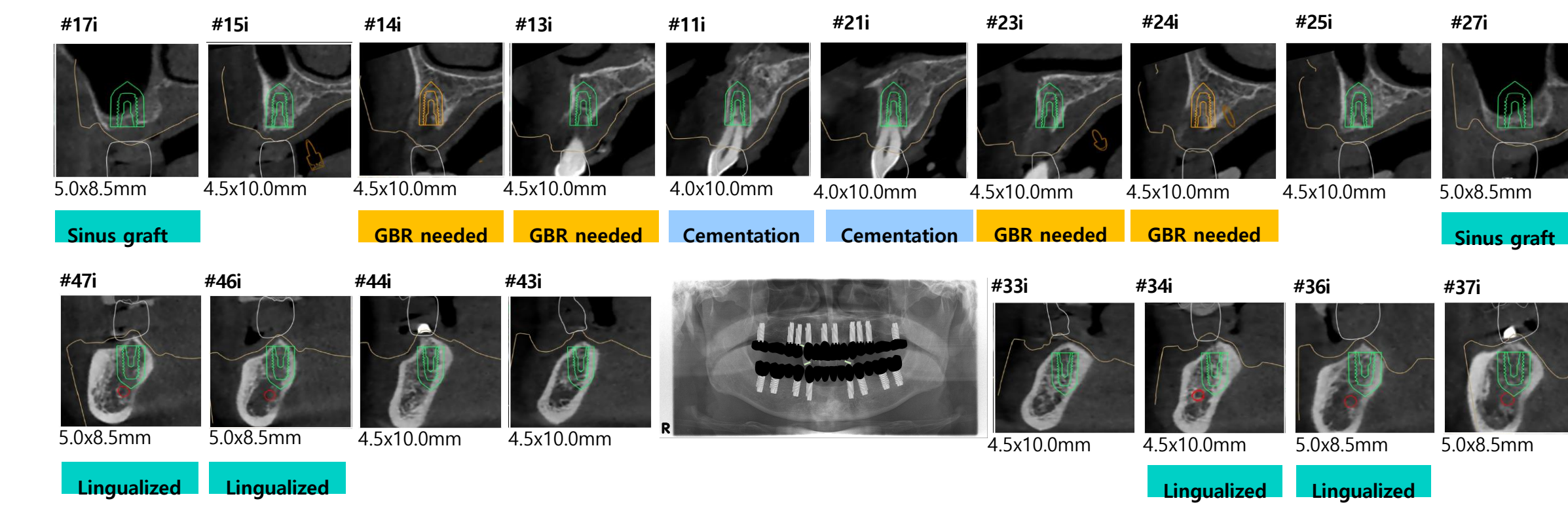
Definitive restoration



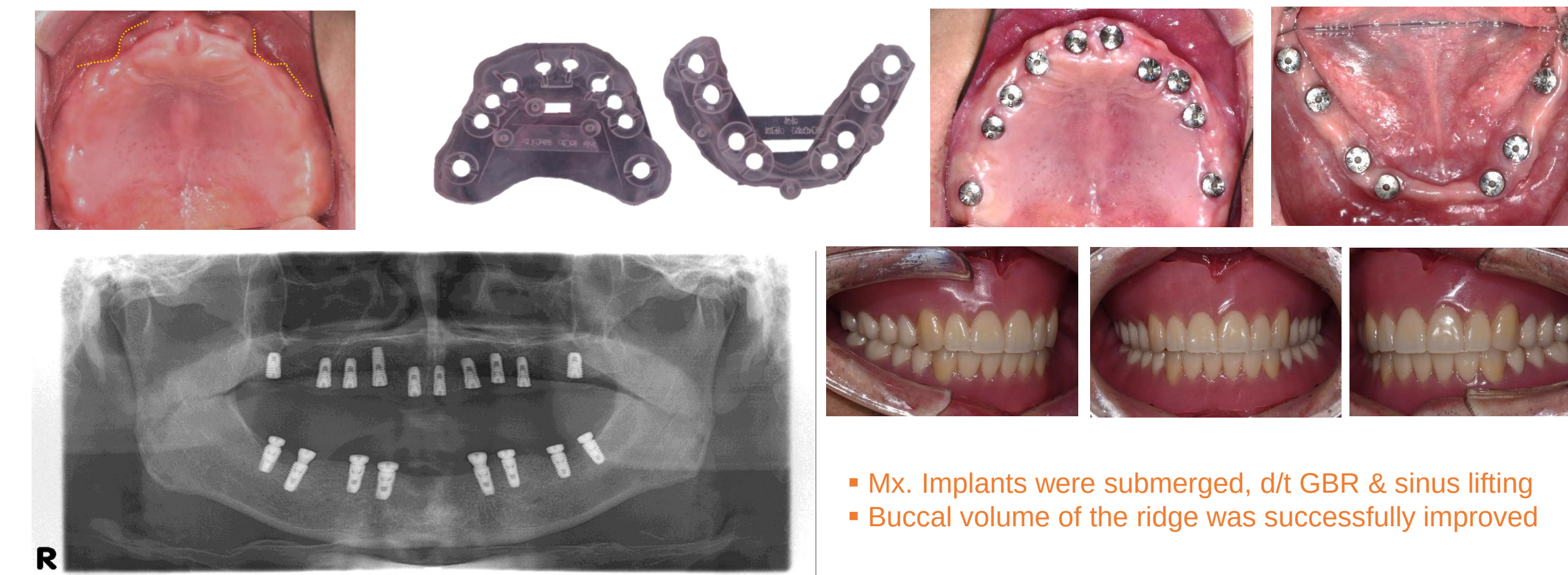
Maintenance recall

Treatment Procedures

- CT evaluation & Planning

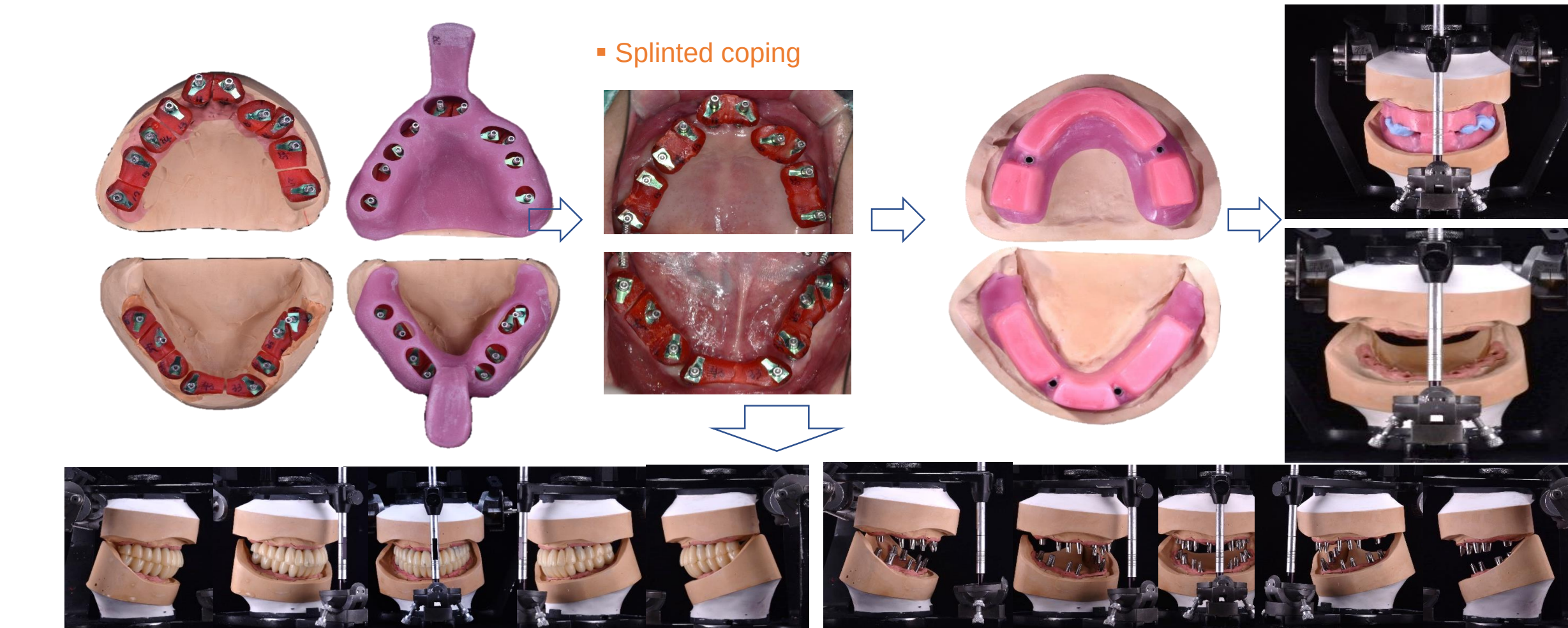


- Tooth extraction, implant installation & Temporary CD delivery



- Mx. Implants were submerged, d/t GBR & sinus lifting
- Buccal volume of the ridge was successfully improved

- Fixture level imp, Ti customized abutment & fixed provisional restoration fab.



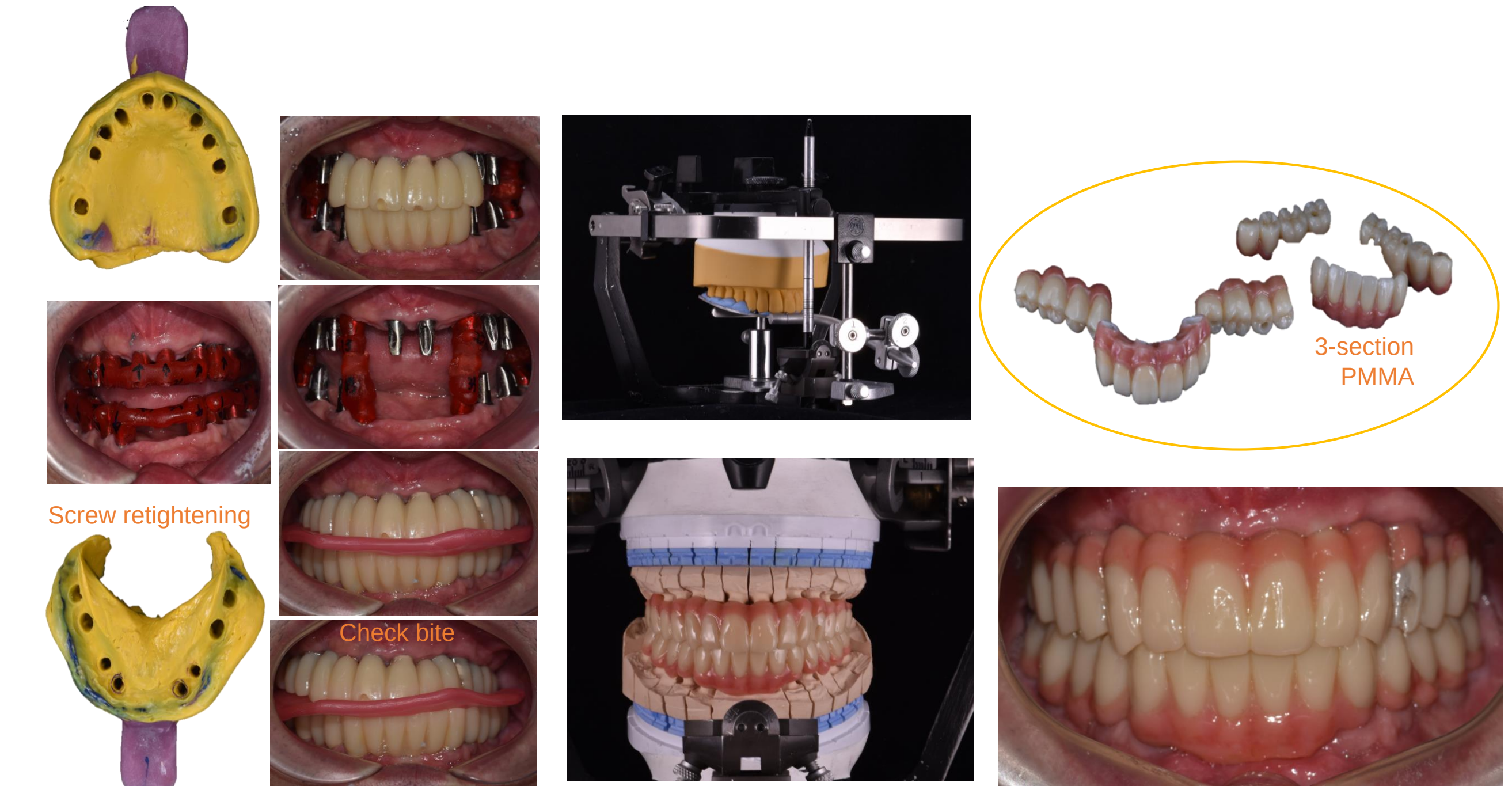
1st provisional CD

Past

Proper lip support

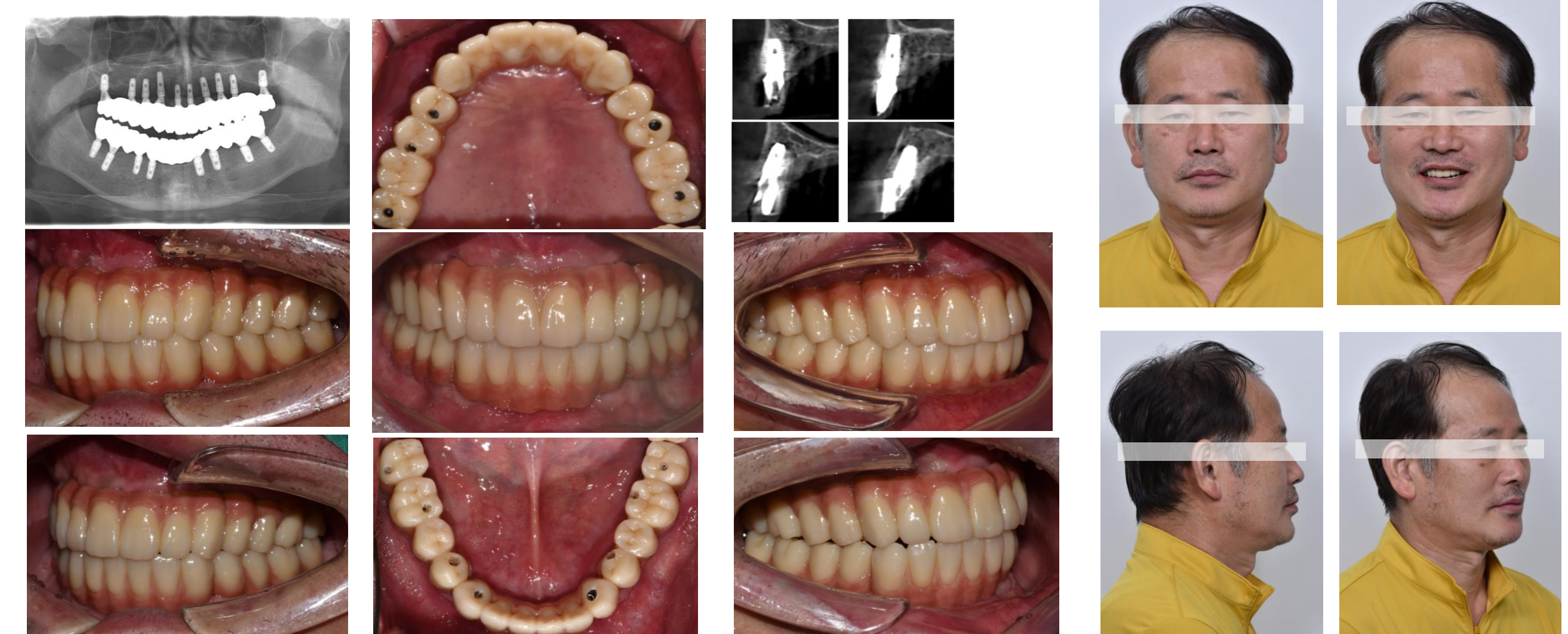


- Abutment level imp & 2nd provisional



Post-Treatment State

- Definitive restoration



Conclusion

With a digitally planned surgical guide, implants were placed proper site for restoration, at the same time as the site development. The patient was satisfied with the aesthetics and functionality of the prosthesis. For long term success of the treatment, periodical recall checks, especially in oral hygiene and occlusal change, should be made carefully.