

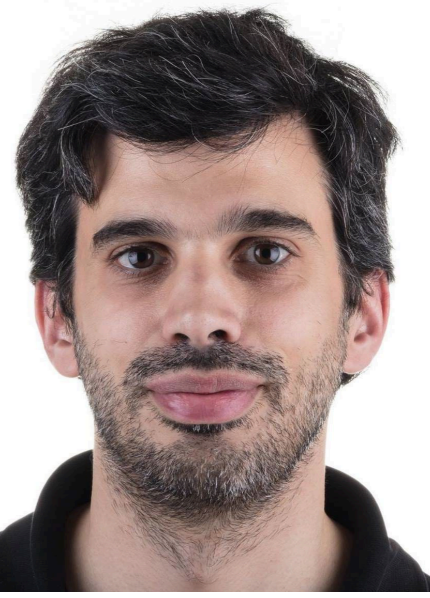


# PRECISION DENTAL MEDICINE

## SEQUENTIAL SURGICAL GUIDE FOR FULL ARCH IMMEDIATE IMPLANT PLACEMENT AND PROVISIONALIZATION IN HIGH RISK PATIENT

Tiago Marques<sup>1\*</sup>, Filipe Araújo<sup>1</sup>, Nuno Santos<sup>1</sup>, Patrícia Fonseca<sup>1</sup>, André Correia<sup>1</sup>

<sup>1</sup> Universidade Católica Portuguesa, Faculty of Dental Medicine, Center for Interdisciplinary Research in Health, Portugal.



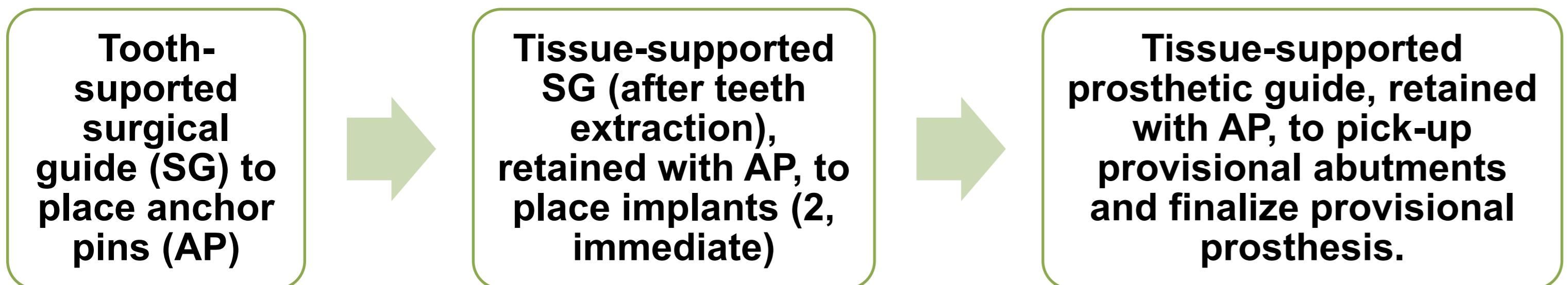
### BACKGROUND

- Incorporation of virtual engineering in Dentistry and digitalization of information are giving new perspectives for dental treatments.
- Implant planning software allow combination of radiology, prosthetic and surgical fields under a common virtual scenario, creating a **virtual patient**.
- This allows an optimized treatment planning and, when possible, the use of least invasive surgical techniques, with the patient experiencing a better postsurgical course with a faster tissue healing.[1]

### CASE REPORT

- 54 years-old male
- **Chief complaint:** teeth advanced mobility and an ill-fitting maxillary removable partial denture.
- **Anamnesis:** former smoker, no relevant medical history, with a Stage III/B Periodontitis and diagnosed with bruxism.
- **Diagnosis:** partial edentulous maxilla and mandible. Case classified as COMPLEX by the SAC classification ITI®, for possible rehabilitation with dental implants.
- **Treatment plan:** rehabilitation of maxilla with dental implants and immediate loading with a provisional fixed prosthesis with a digital procedure (Fig.1-7)

### SEQUENTIAL SURGICAL GUIDES



- 3 months: definitive zirconia monolithic prosthesis, with a titanium-bar framework.
- **Centric relation splint:** to protect the prosthesis and temporomandibular joints.
- **Follow-up:** 1 year. Success/survival rate 100%. Patient is very satisfied with the rehabilitation (alpha score, modified USPHS criteria).

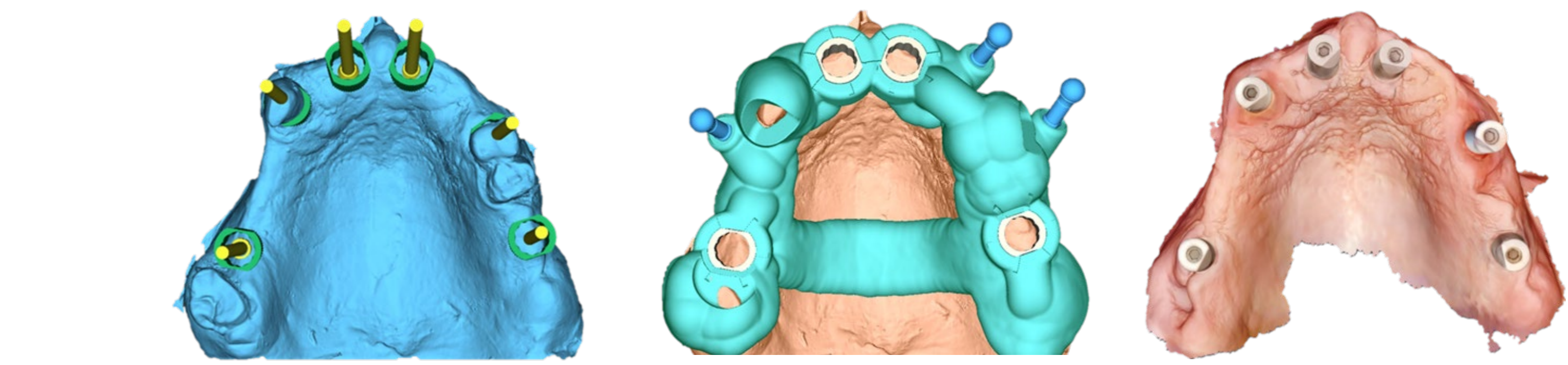


Fig.3. Digital Treatment Plan sequence

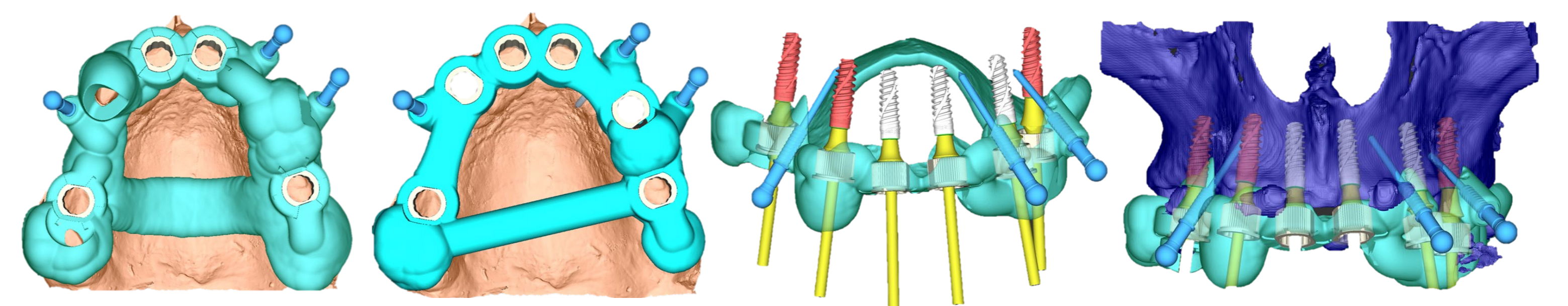


Fig.4. Treatment plan with two surgical guides to be used in sequence



Fig.5. Titanium Zirconia structure



Fig.6. Intra Oral views of final rehabilitation

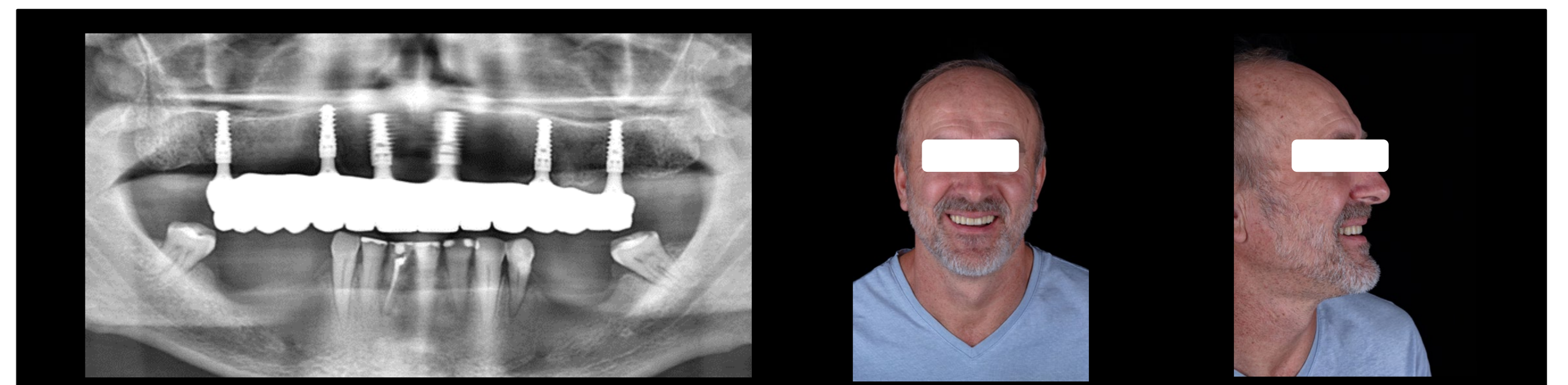


Fig.7. Extra Oral views of final rehabilitation and final Ortopantomography

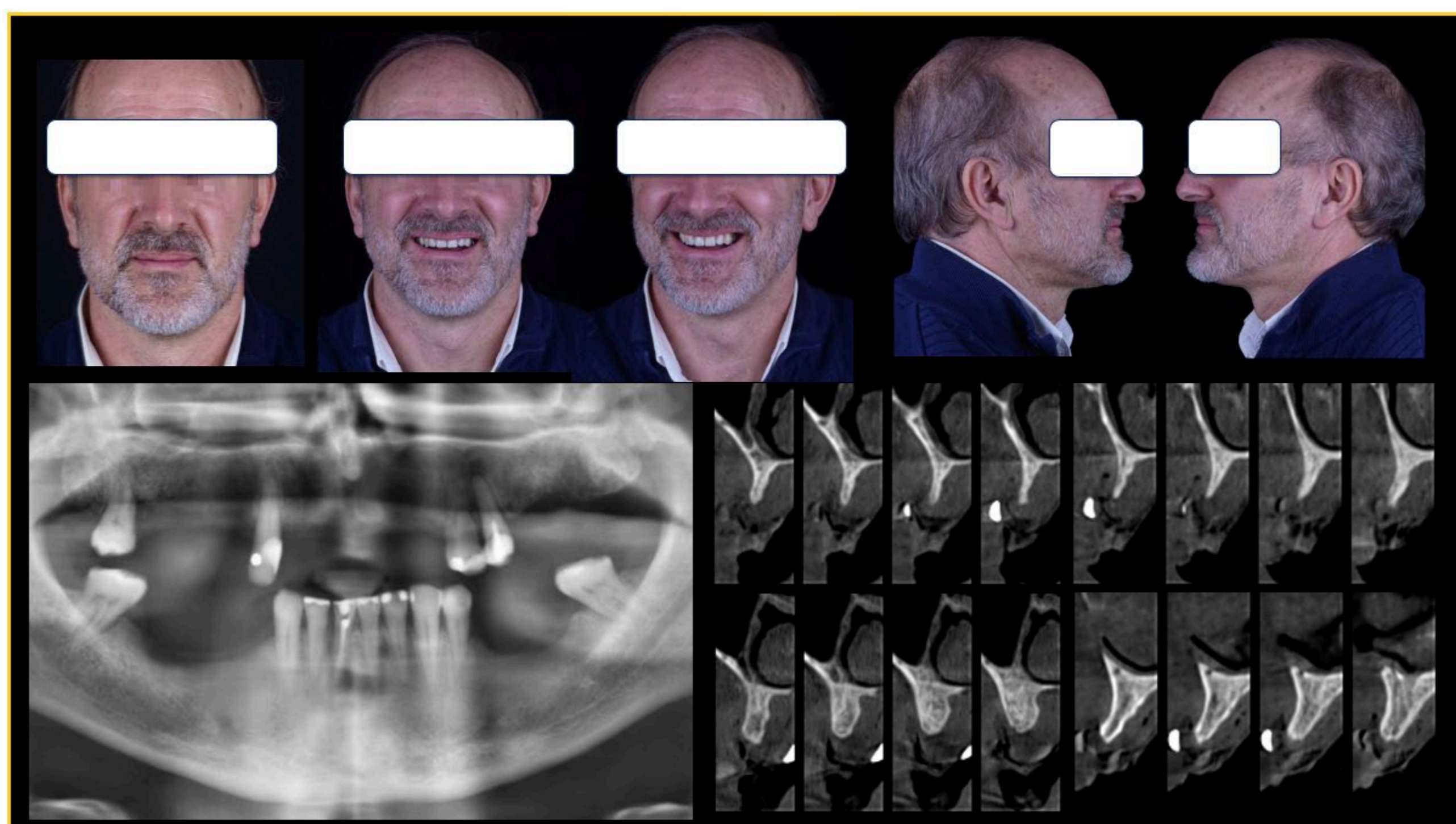


Fig.1. Patient initial status, Ortopantomography and CBCT

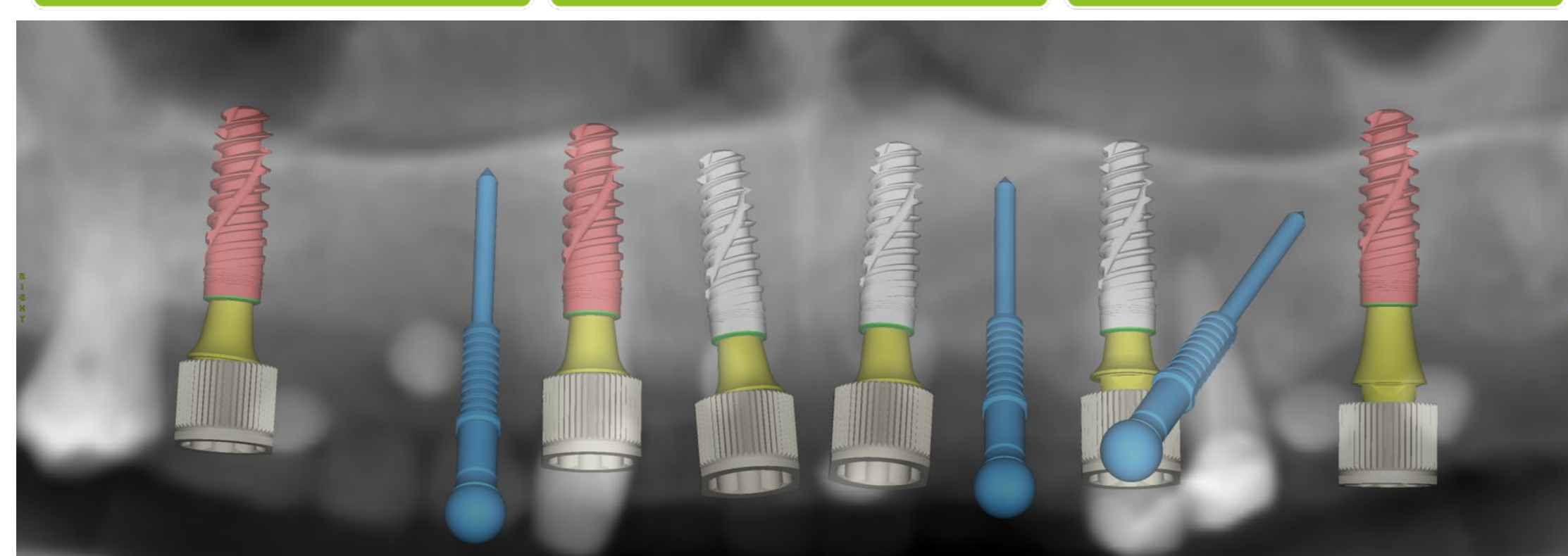


Fig.2. Digital implant planning

### REFERENCES

1. Lanis A, Llorens P, Álvarez Del Canto O. Selecting the appropriate digital planning pathway for computer-guided implant surgery. Int J Comput Dent. 2017;20(1):75–85.

### CONCLUSION

Sequential surgical guides to assist patients with severe periodontitis for immediate full-arch implantation and immediate restoration can expand the indications of static-computer guided implant surgery. It meets the safety requirements in clinical applications.

