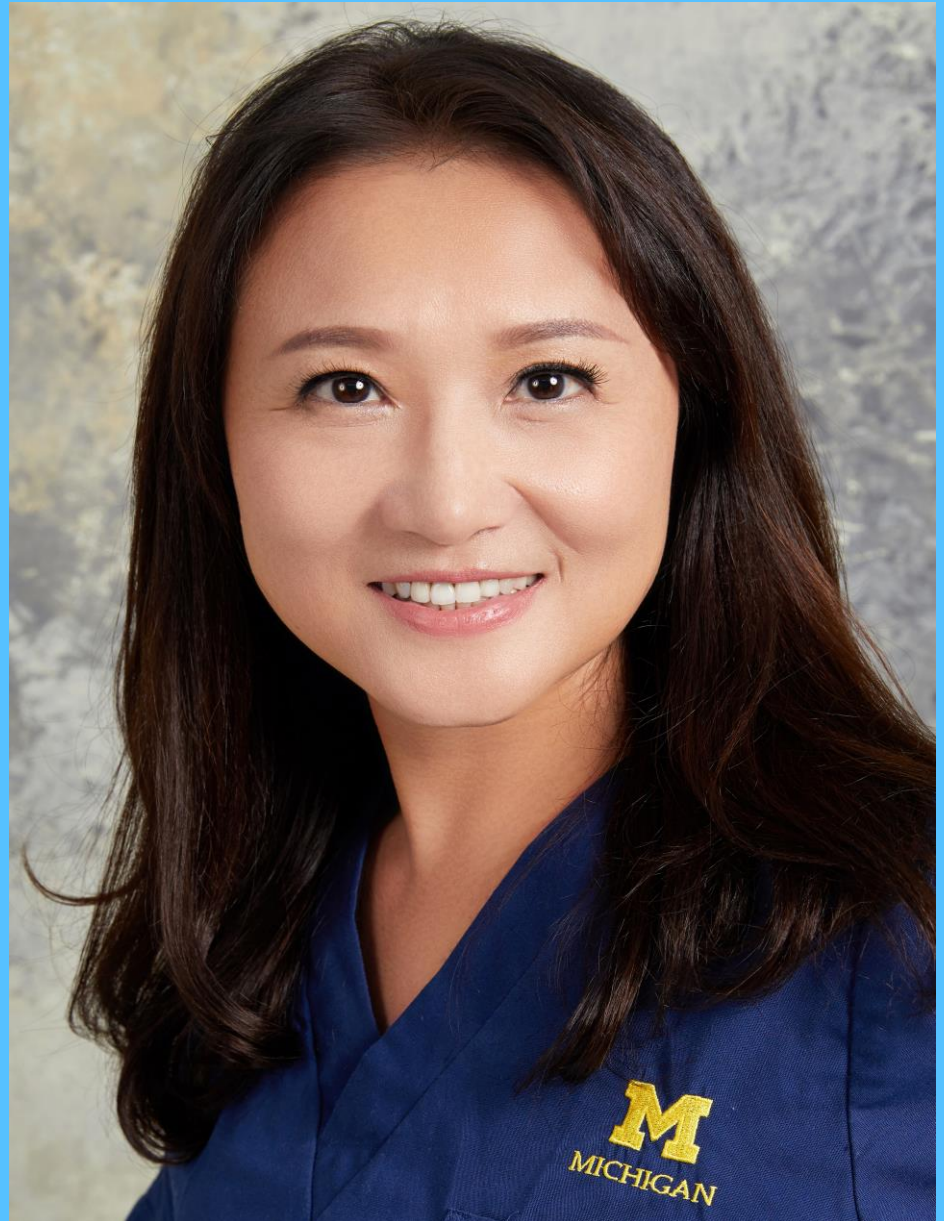
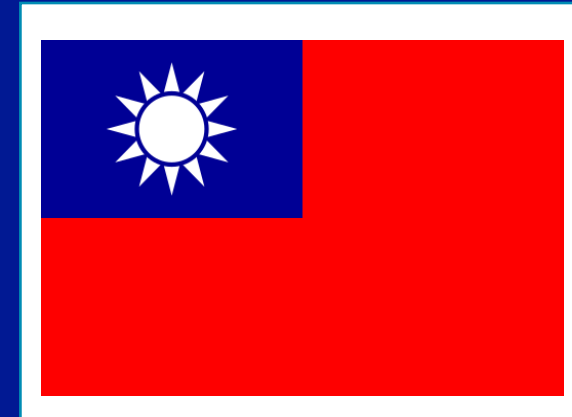




The application of Digital Imaging in 3D implants, for the use of Emergence Profile Index, achieving esthetic zone

LEE MEI HUA D.D.S. Poster Presenter

Background

Dental implants serve both form and function. However, improper implants can be frequently found, either on the position, inclination, or the implant depth. Improper implants not only greatly diminish the expected function of the prosthesis, but also put patients' appearance and confidence in concern.

With the help of digital technology, the exact location for implants can be precisely positioned three dimensionally, mesial-distally, buccal-lingually, and coronal-apically. Special focus on the coronal-apical emergence profile index (E.P.I.) makes the esthetic prosthetic implants possible.

Material and Methods

Material: Biocompatible Clear MED 610  **stratasys**

MED 610 is a transparent, biocompatible PolyJet material medically approved for bodily contact.

The material is designed for both medical and dental applications and is approved for permanent skin contact (more than 30 days) and limited mucosal membrane contact (up to 24 hours).

Methods:

- 1) Patients are taken cone-beam C.T. under central occlusion bite (with 2 gauzes at molars area for anterior teeth opening) .
- 2) The  **BenQ** AB DentCare Corp software is used to identify and check the bone level 、 roots position of natural teeth surrounding for missing teeth (implants area) to identify ideal implant position for offering patients functional and esthetic dentition.

CASE A

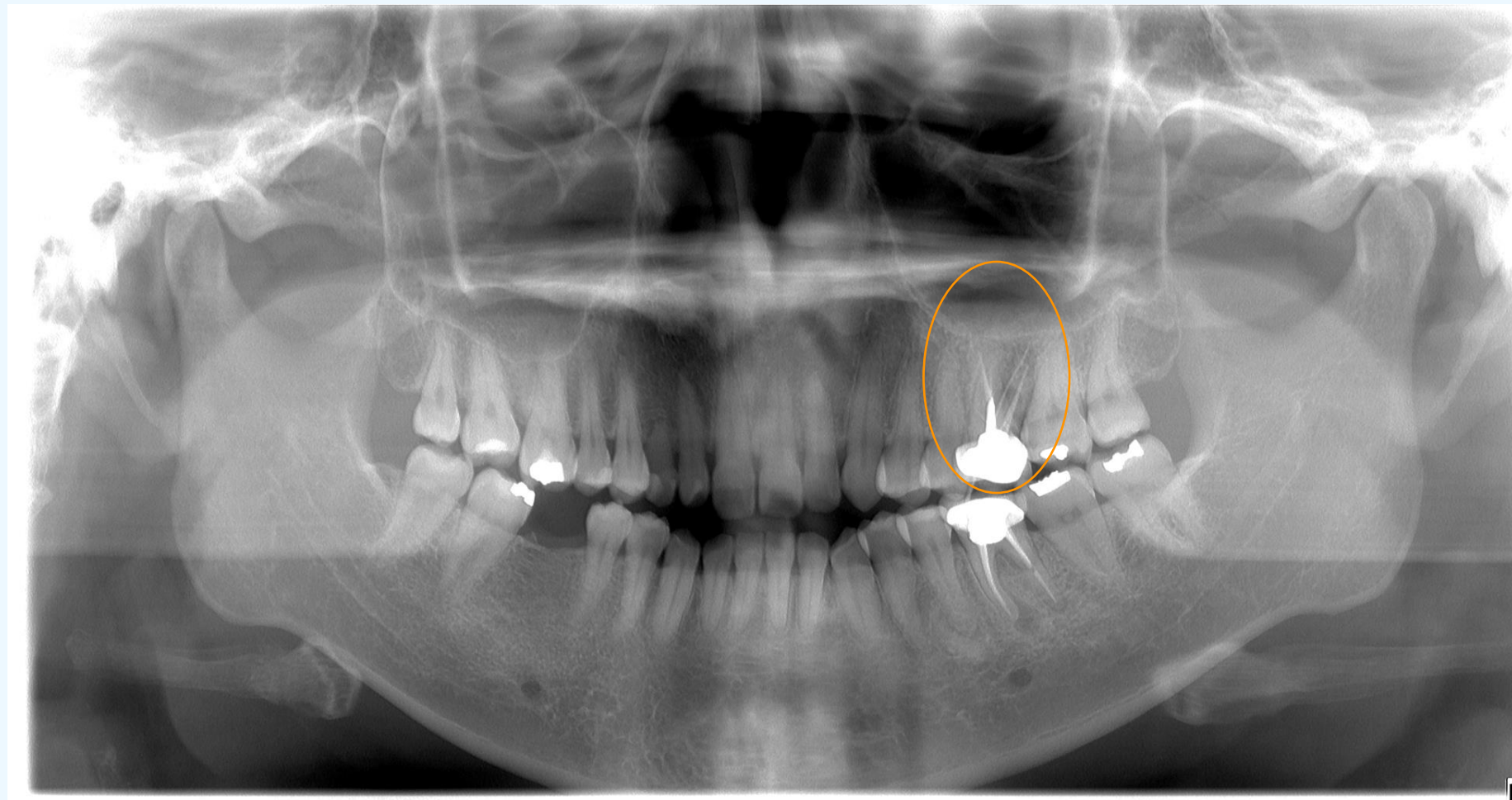
Sex: Female

Age: 39 years

Health condition : good

C.C. : Upper left tooth accidentally biting pain

D.D. : Upper left the first molar accidentally biting vertical fracture

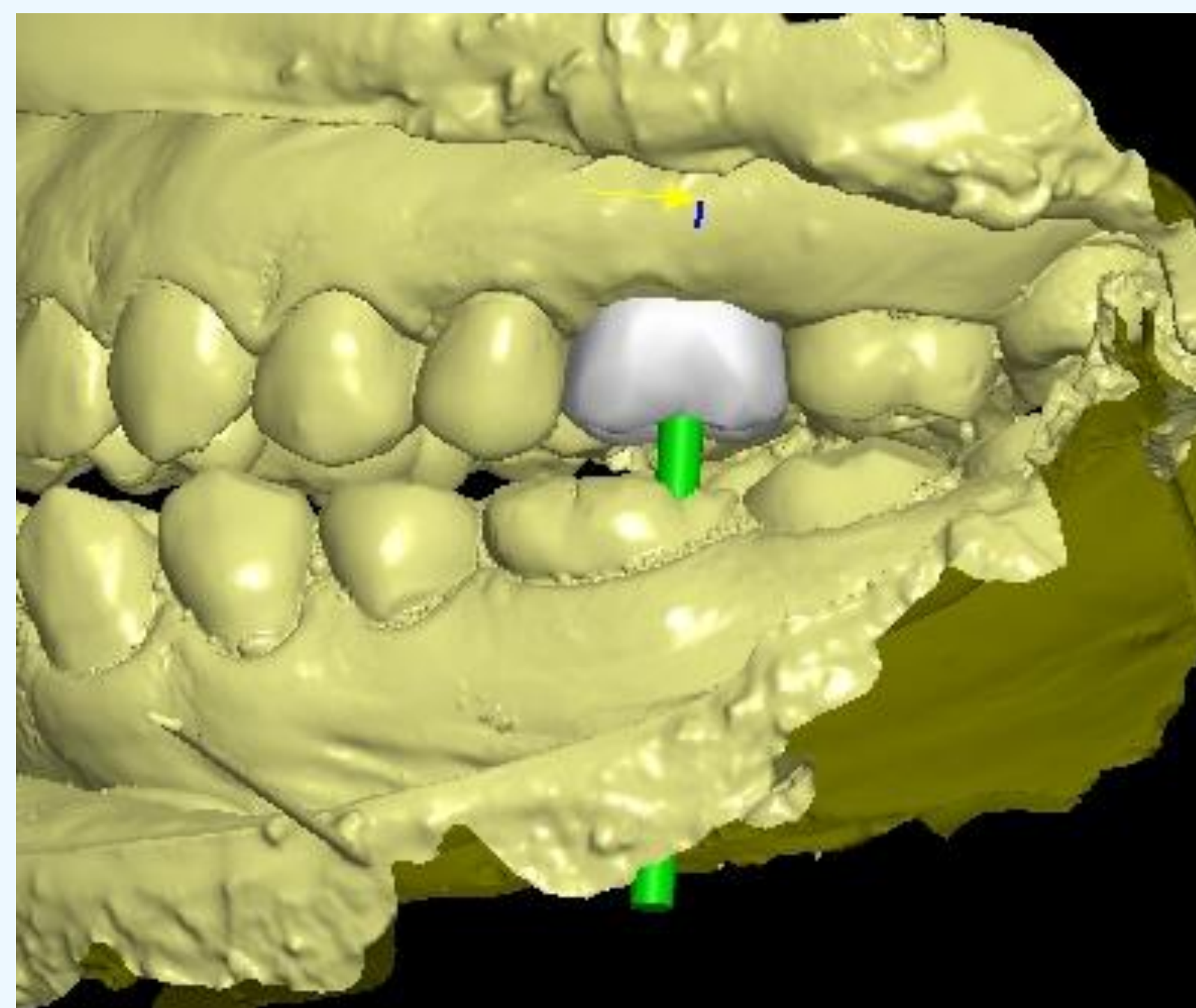


Apical lesion



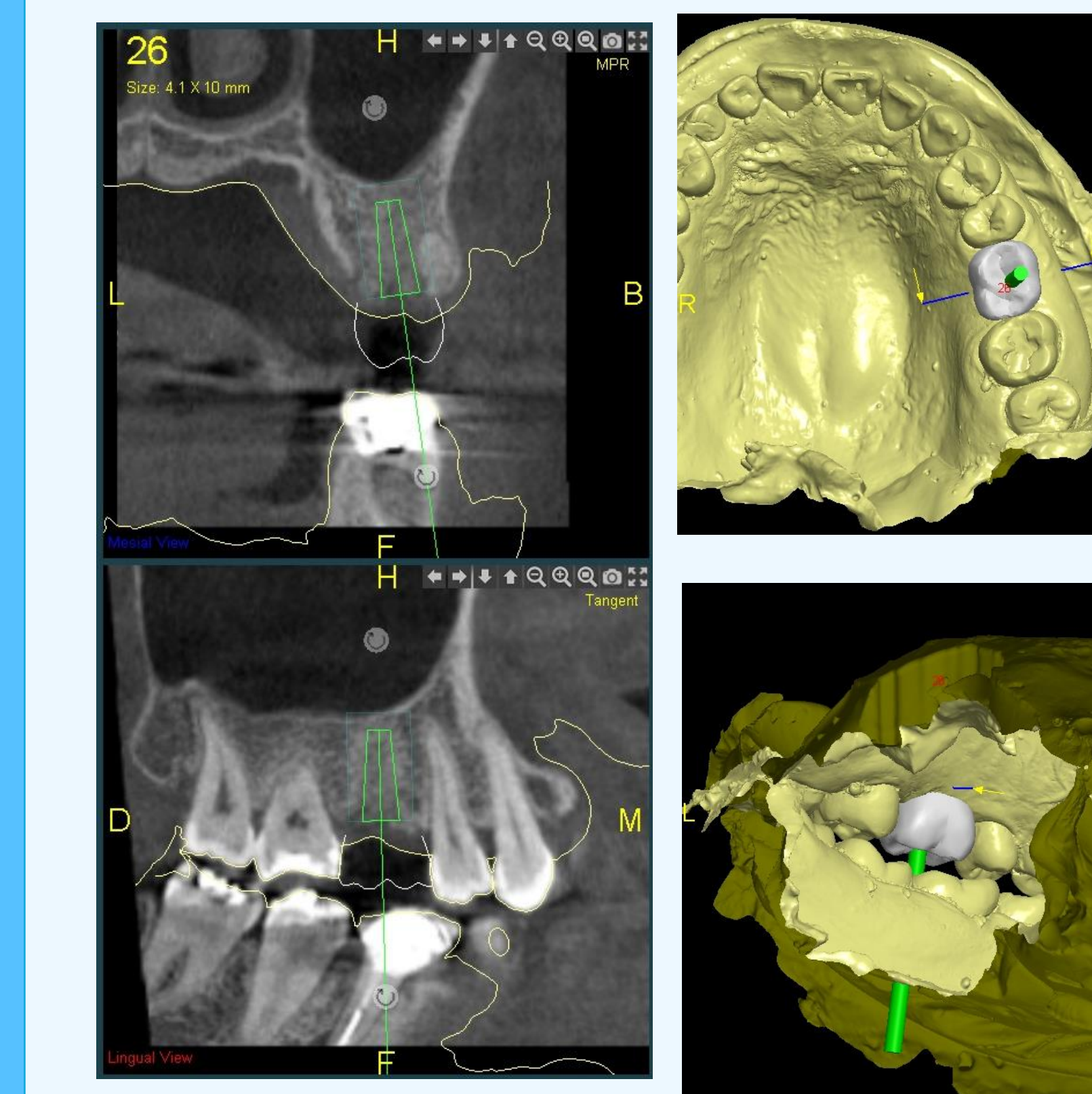
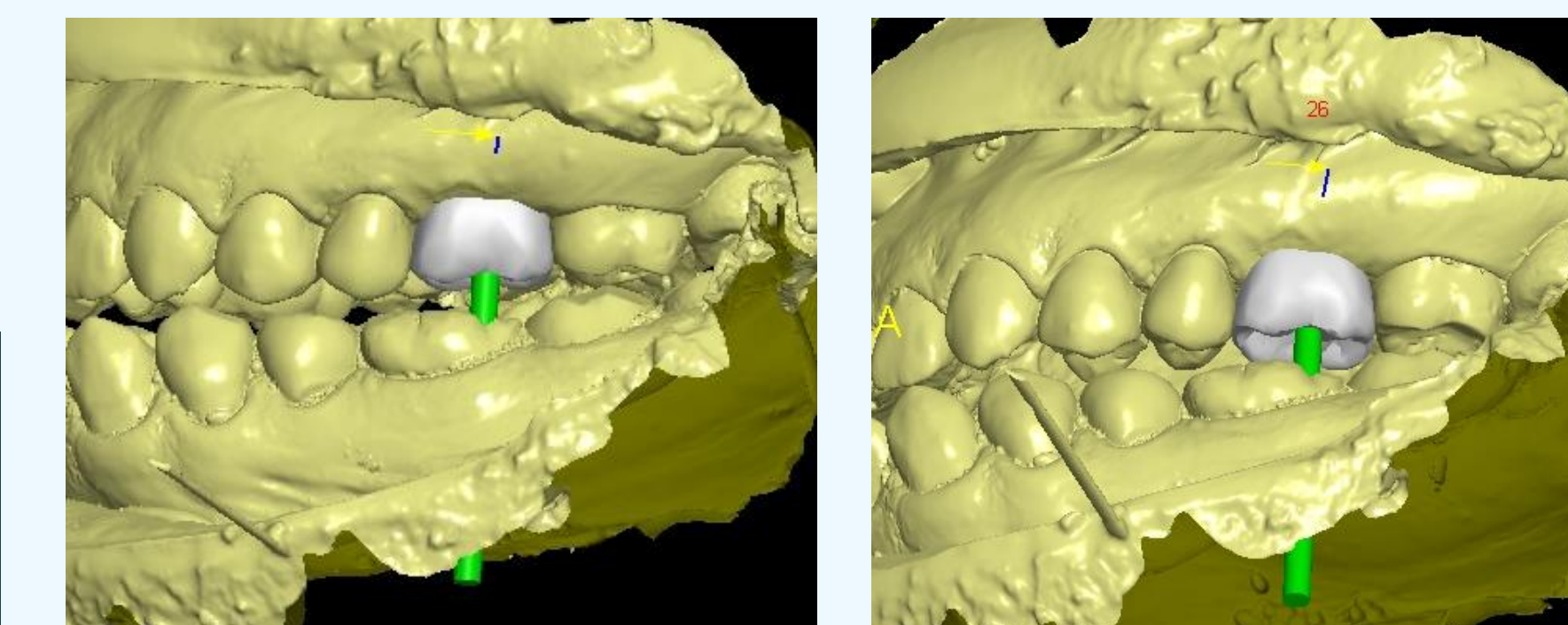
Debridement

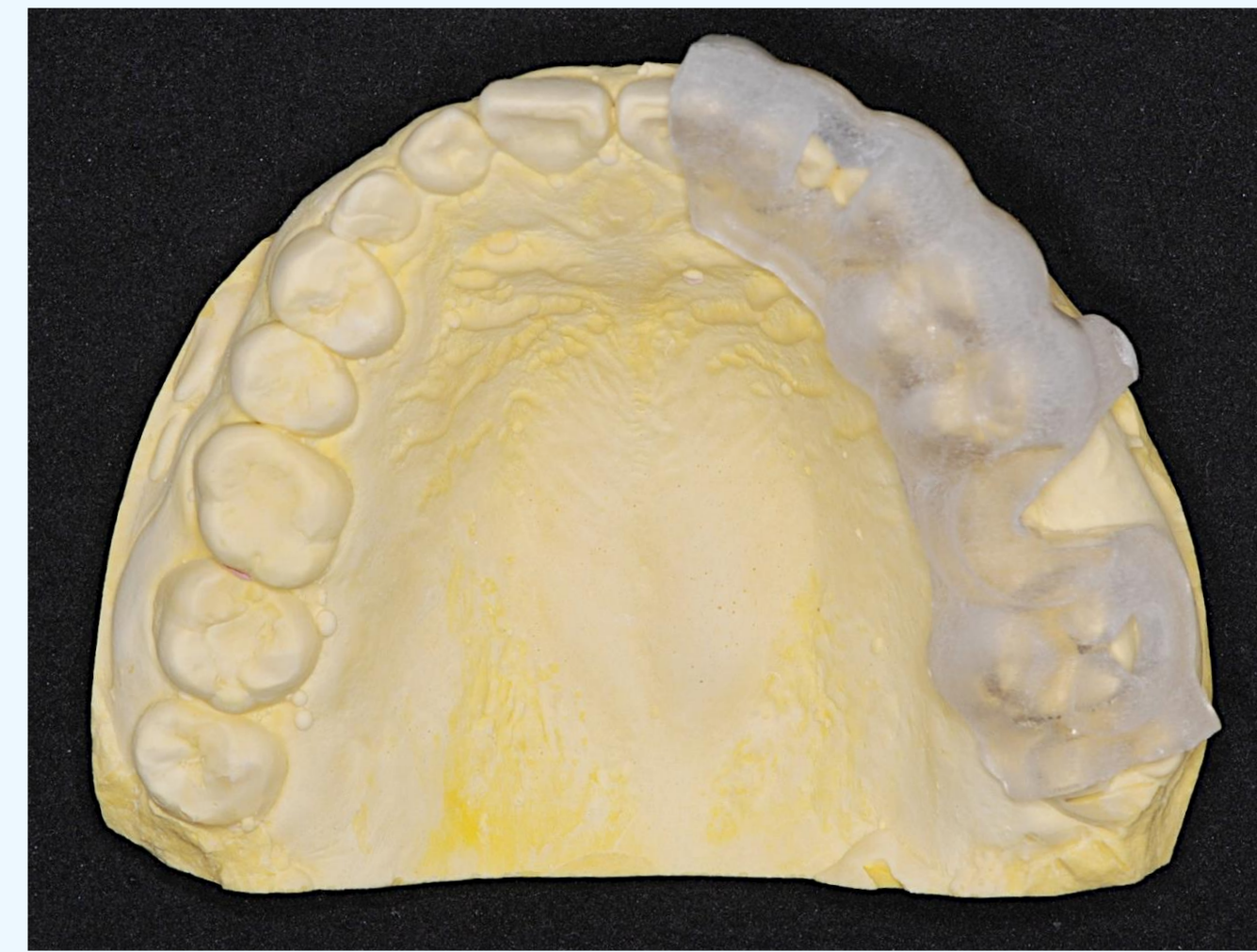
**Socket preservation
(FDBA + Collagen)**



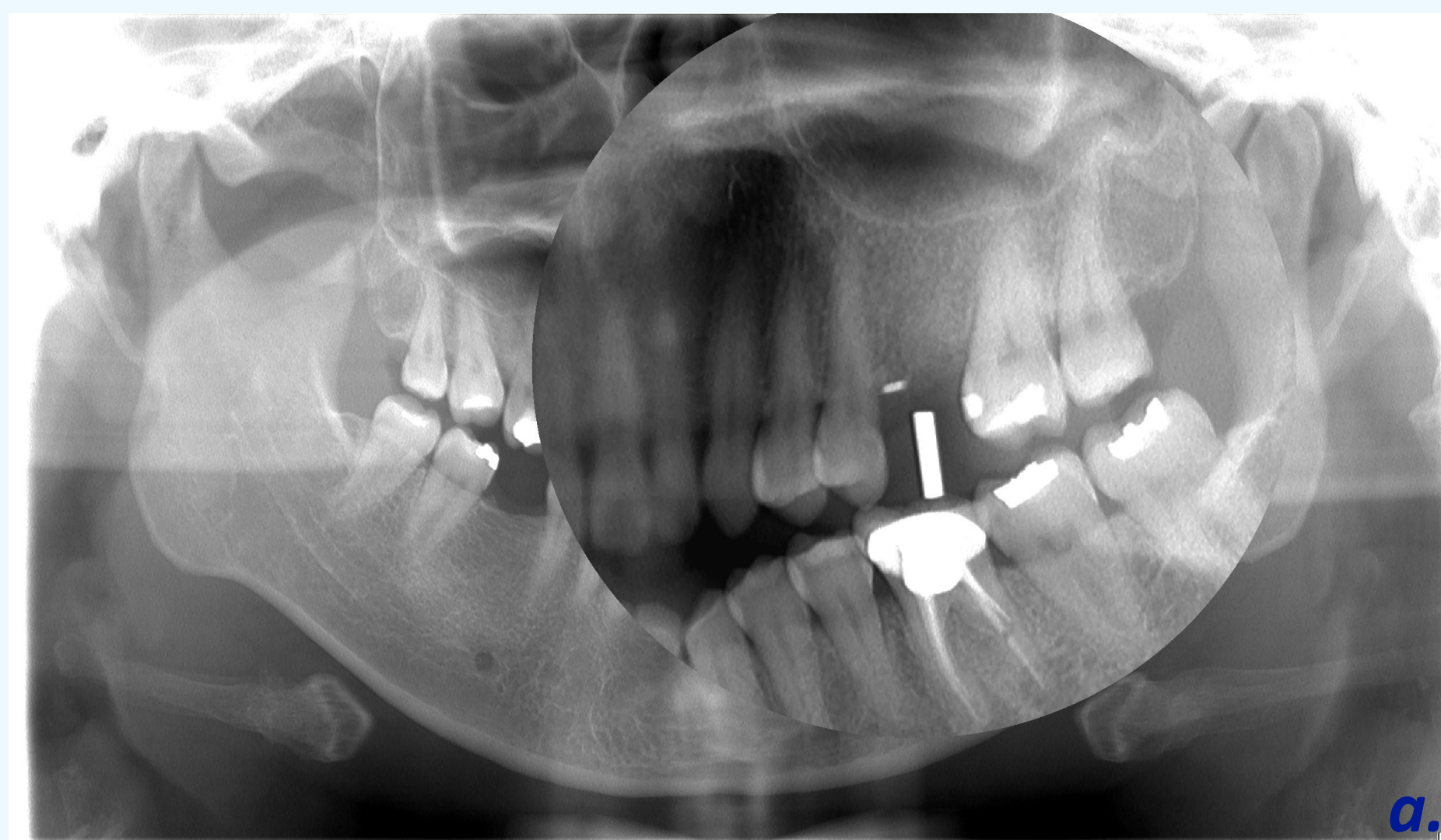
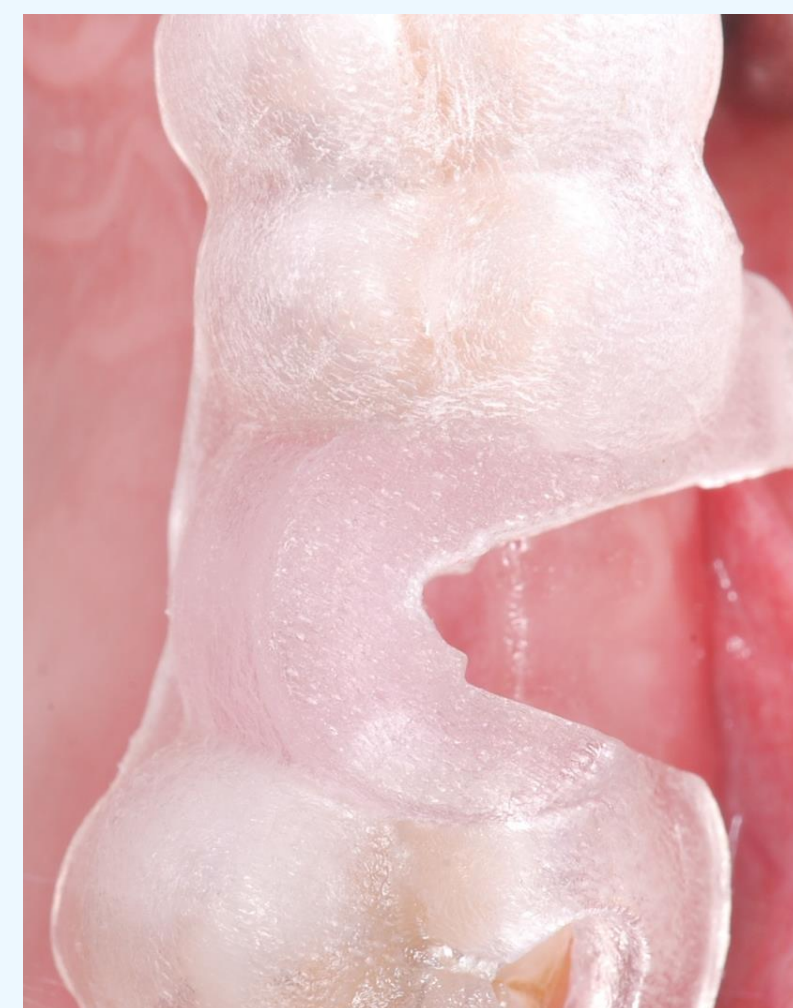
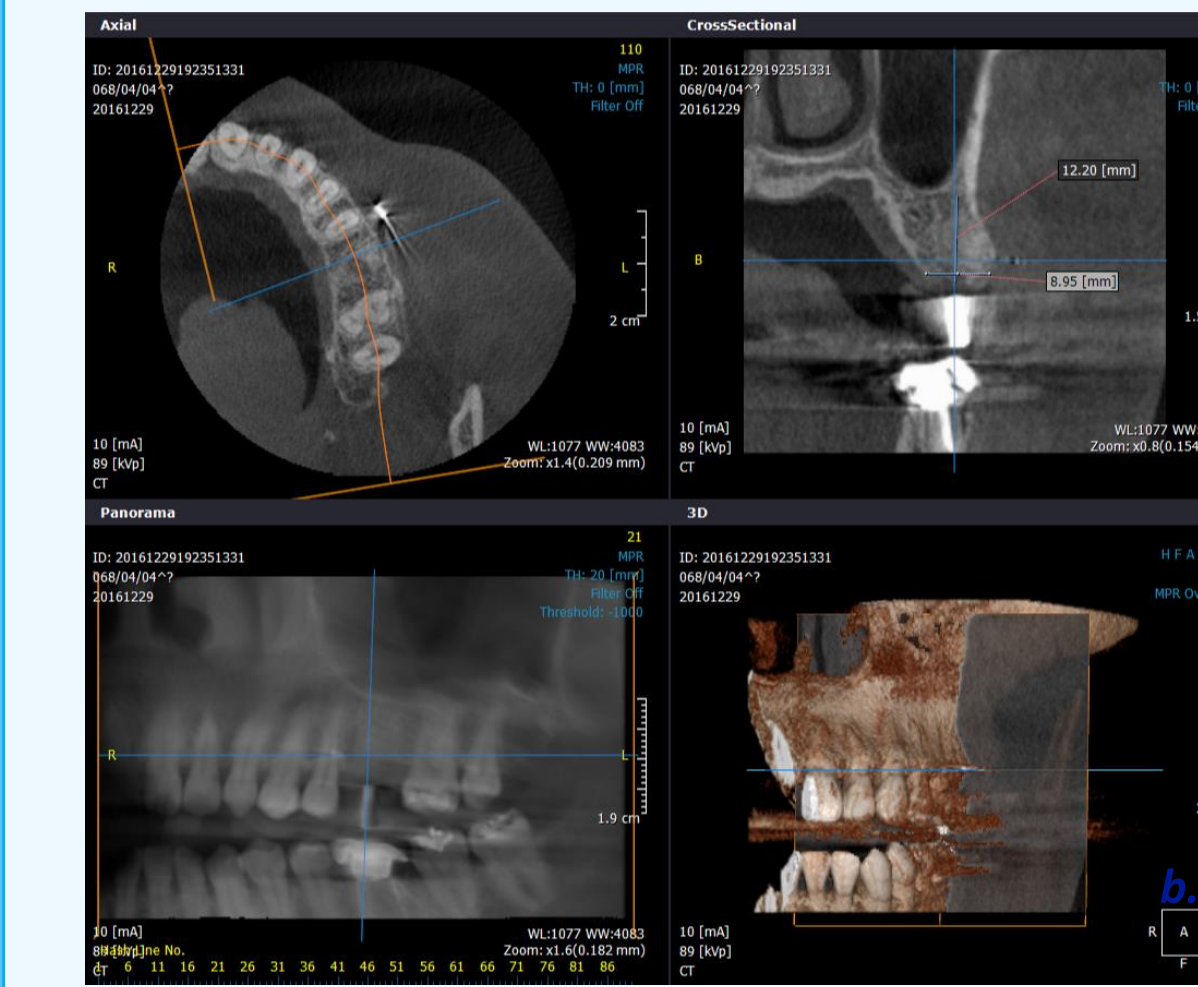
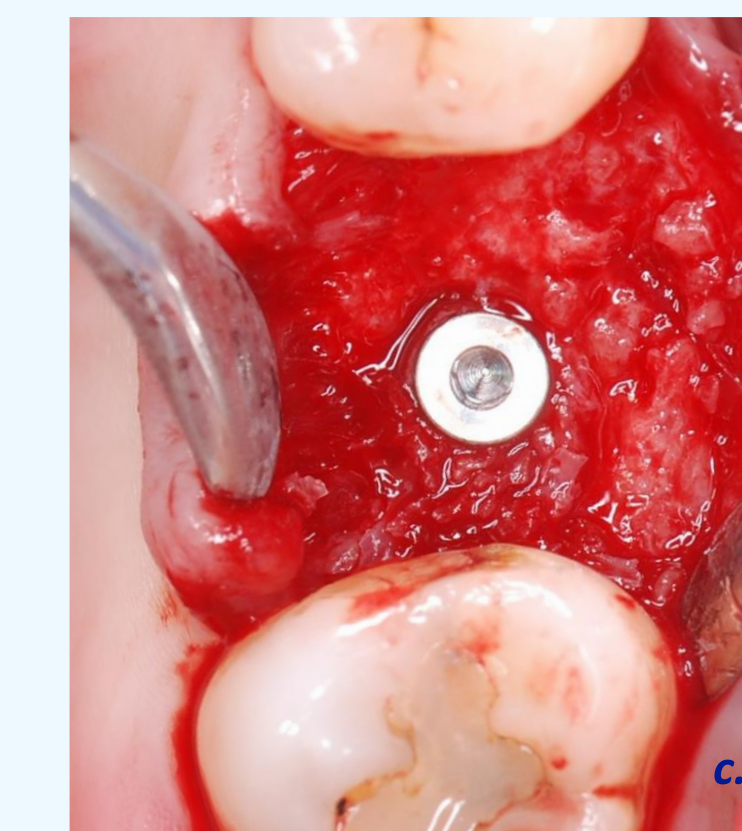
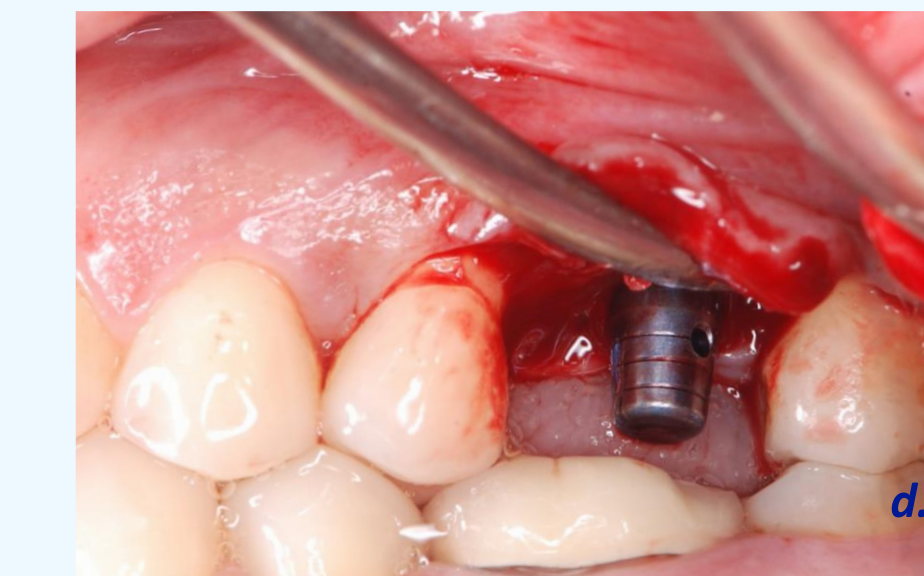
Treatment planing :

- 1. Bone height : 12.20 mm**
- 2. Osteotome technique**
- 3. 3.5 mm x 10 mm Implant**



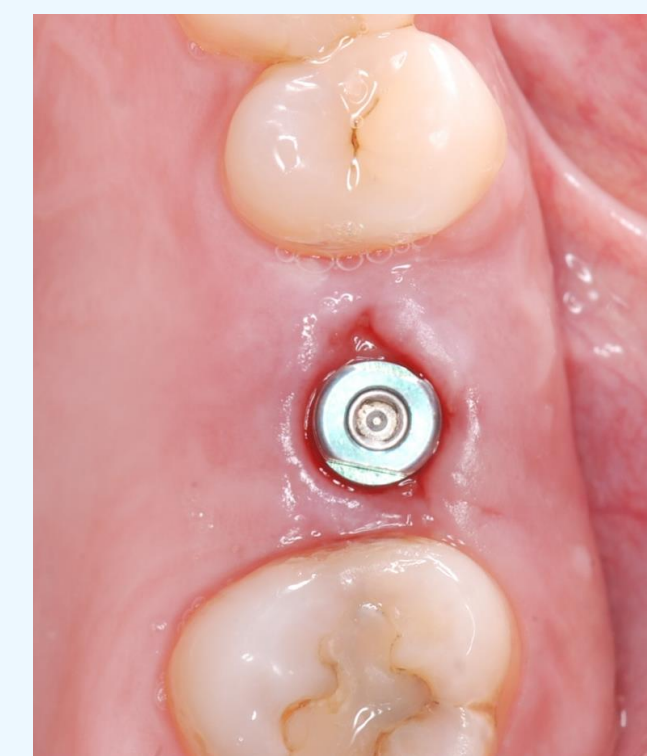


Invention Patented digital surgical stent

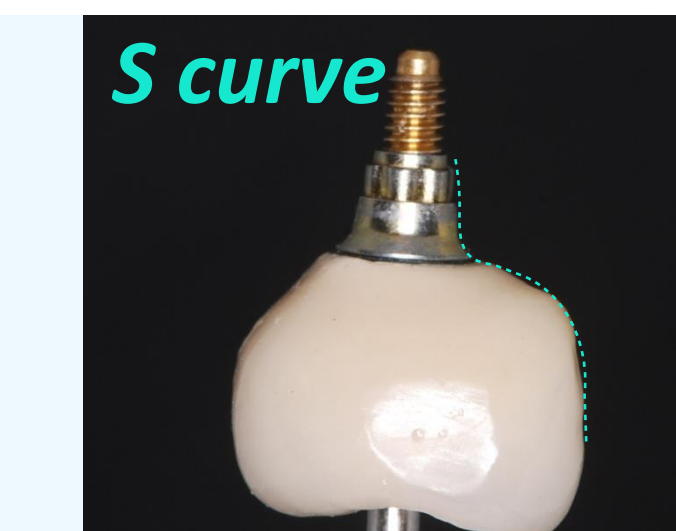


Invention Patented digital surgical stent

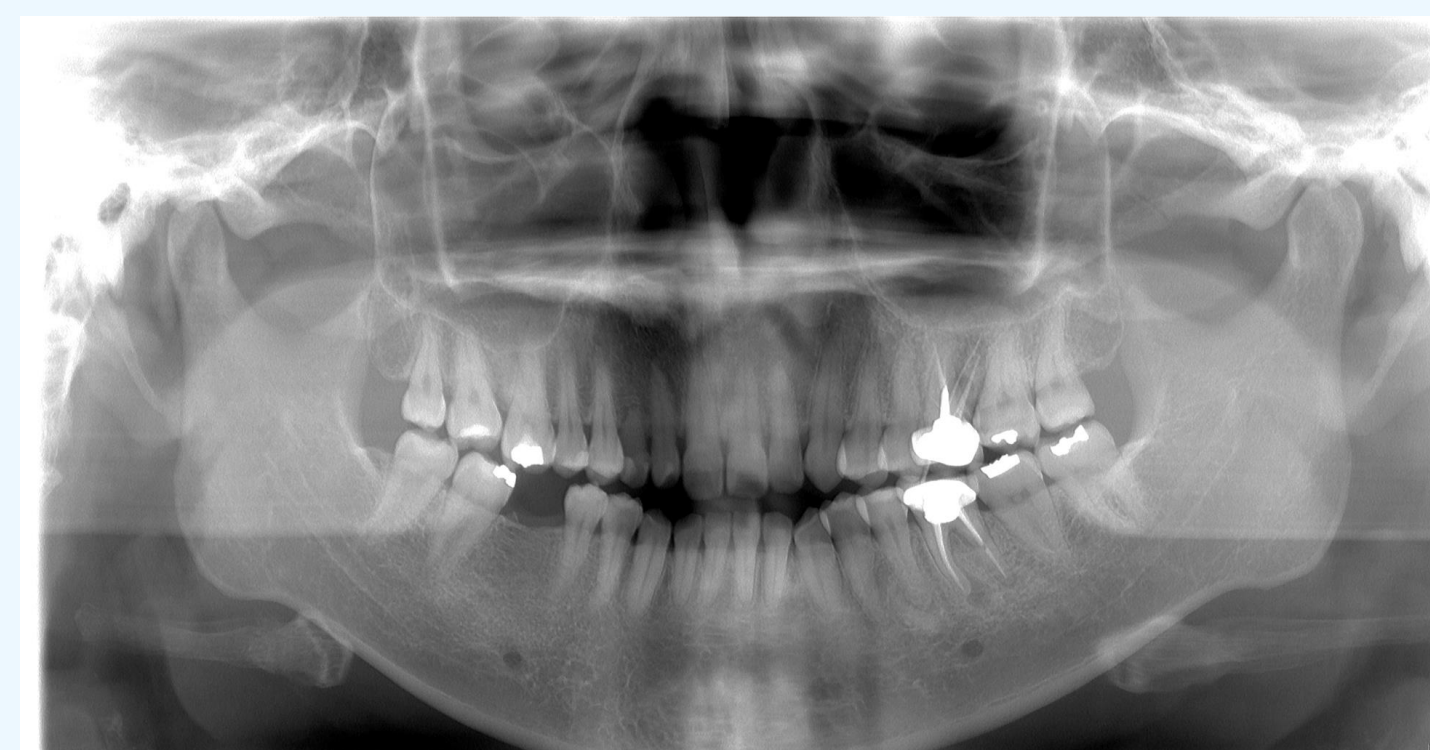
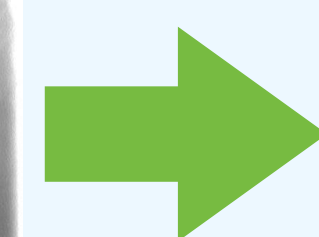
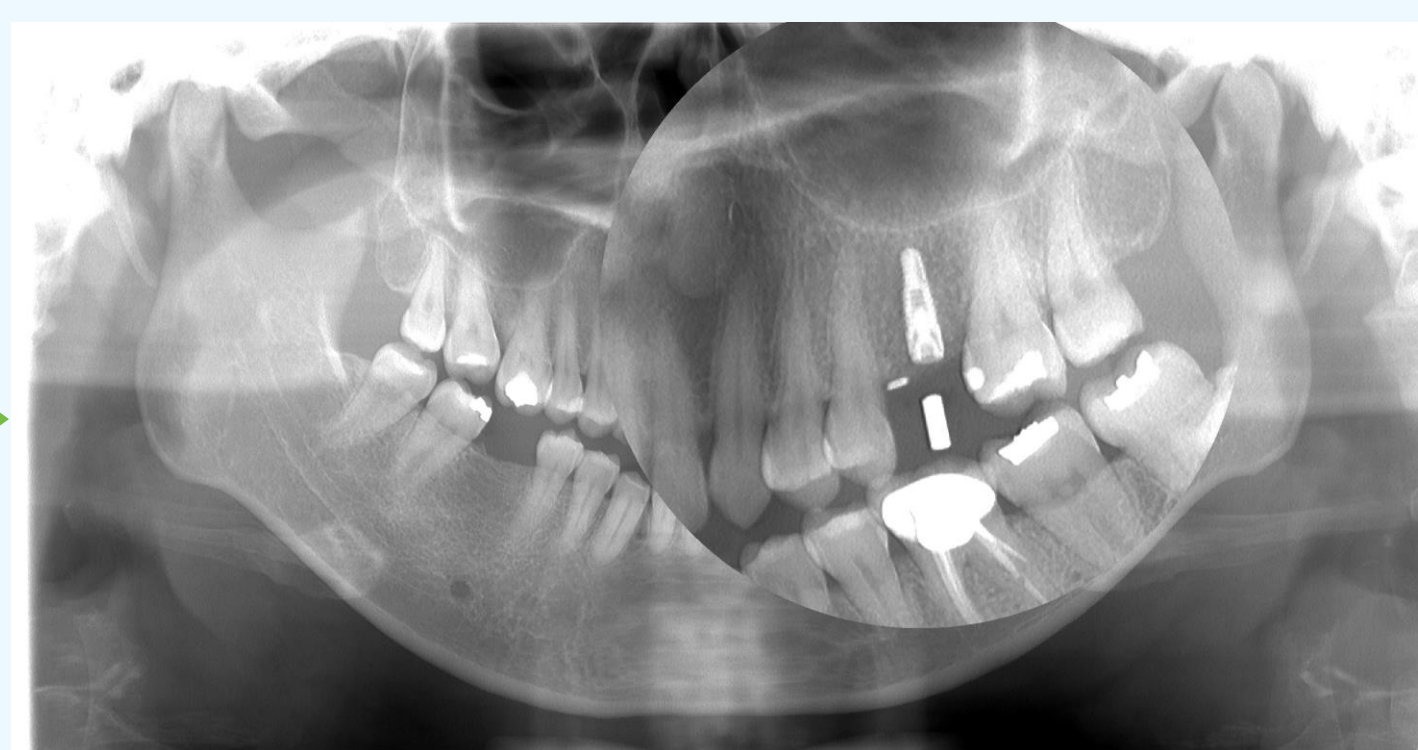
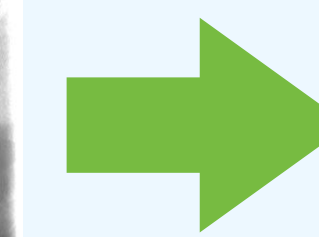
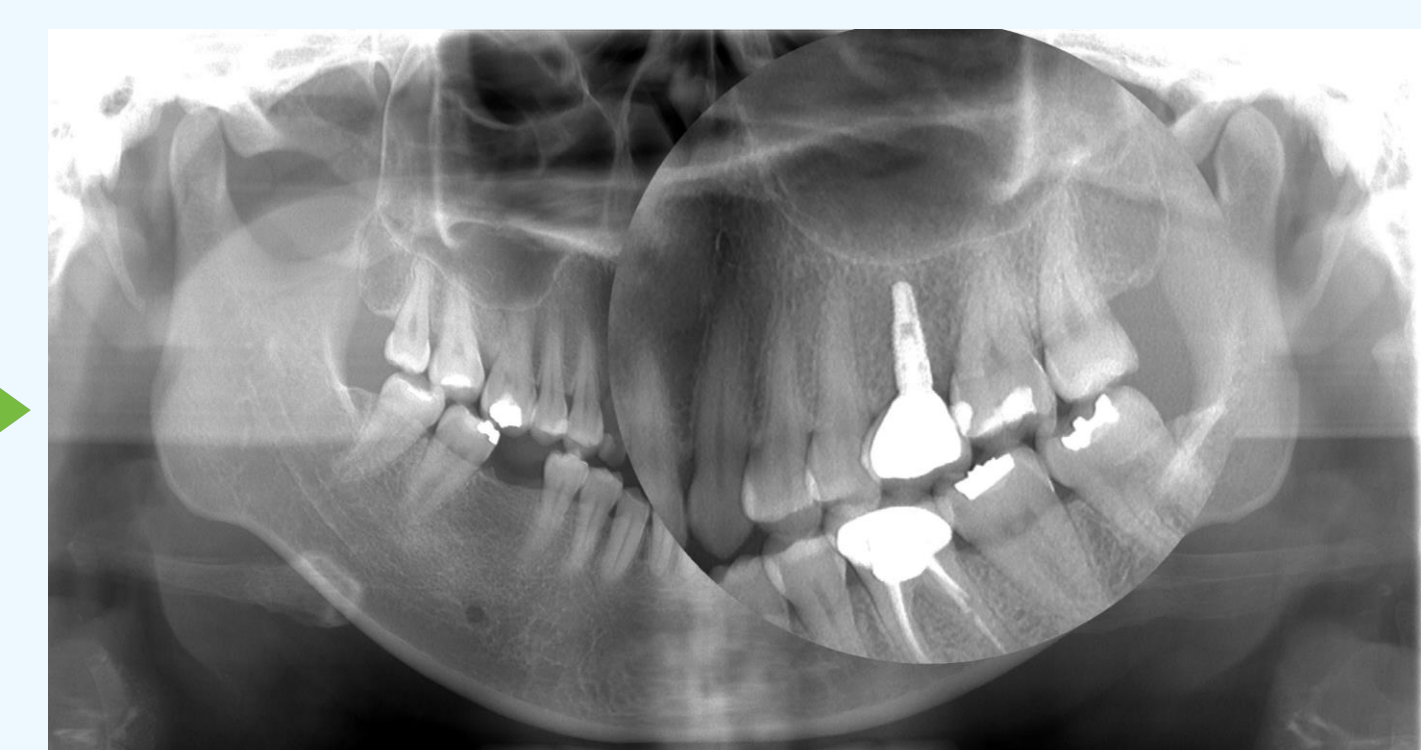
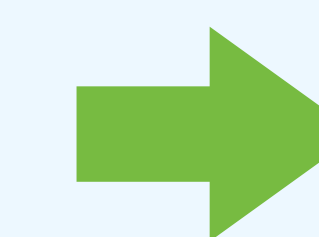
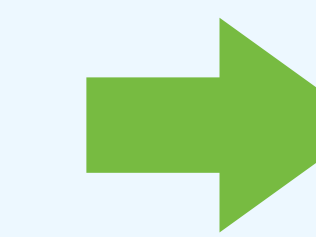
- a. PANO.
- b. C.T.
- c. 3.5 mm x 10 mm
- d. guide pin



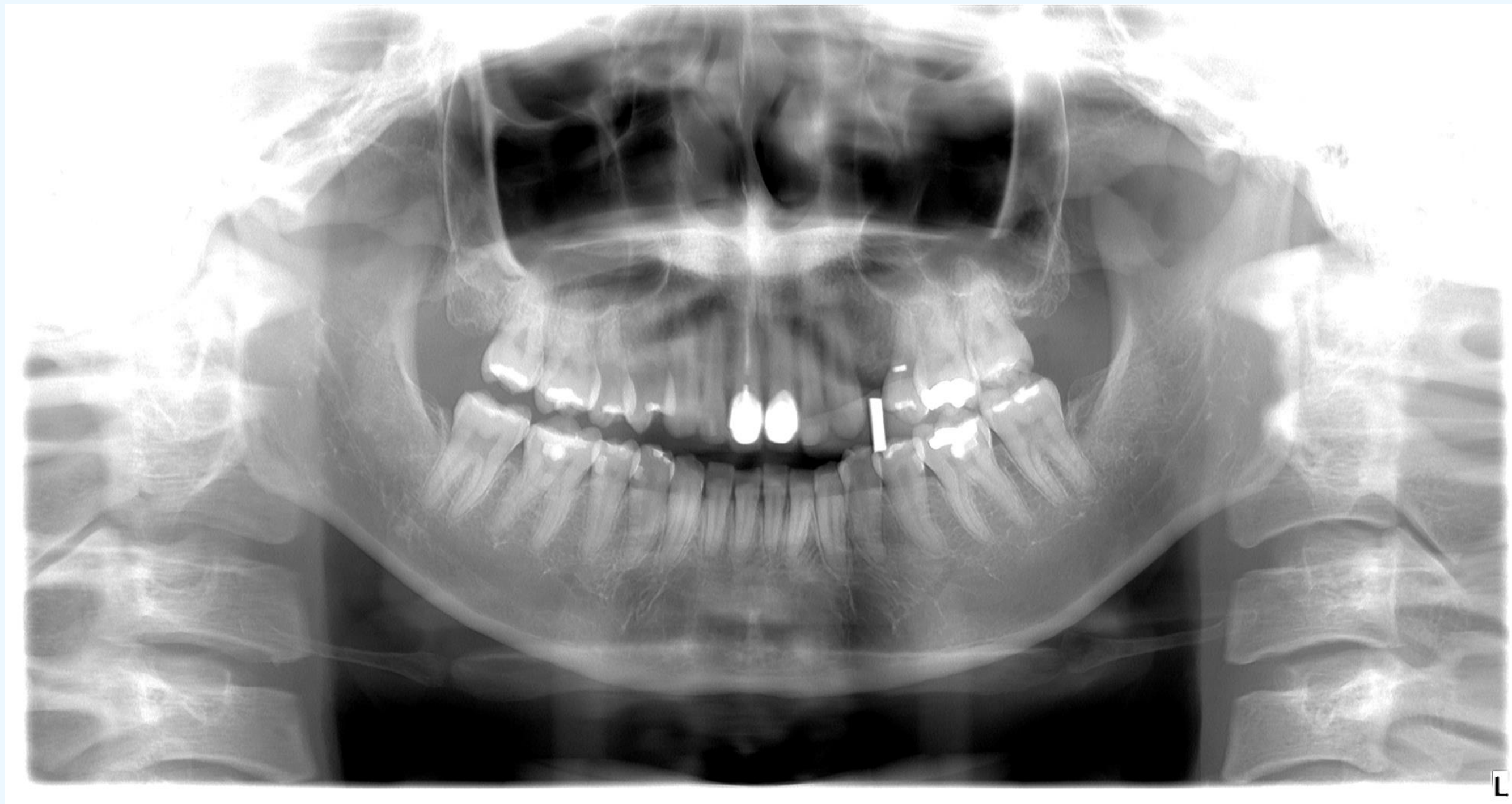
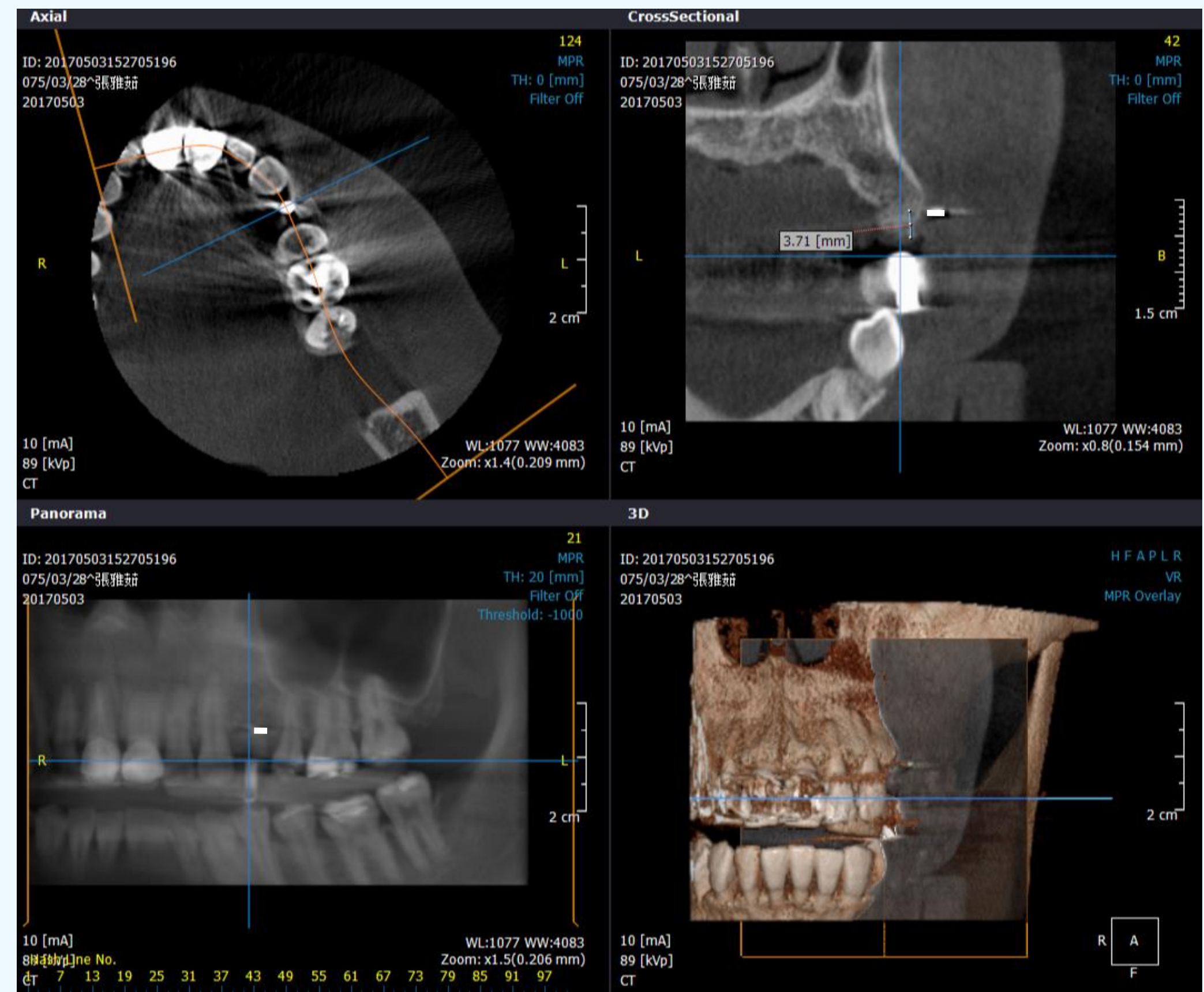
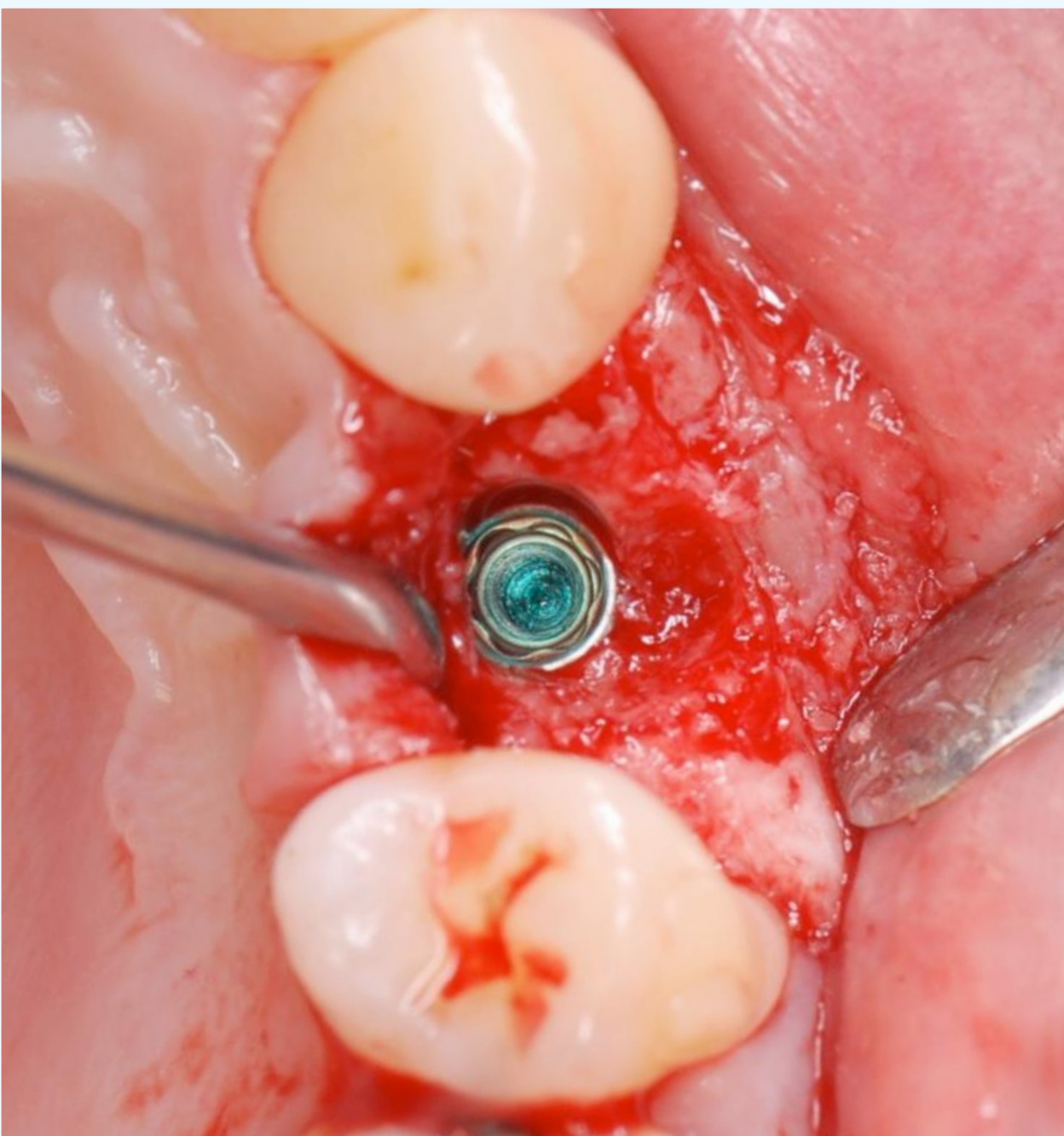
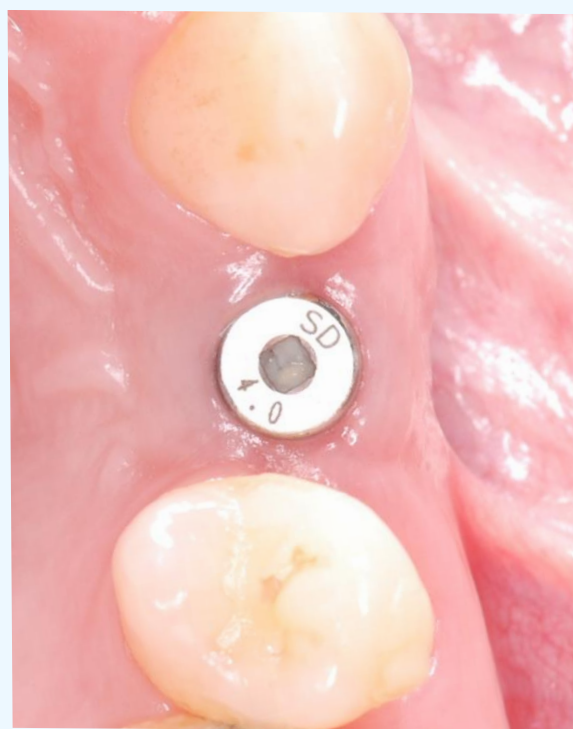
soft tissue molding



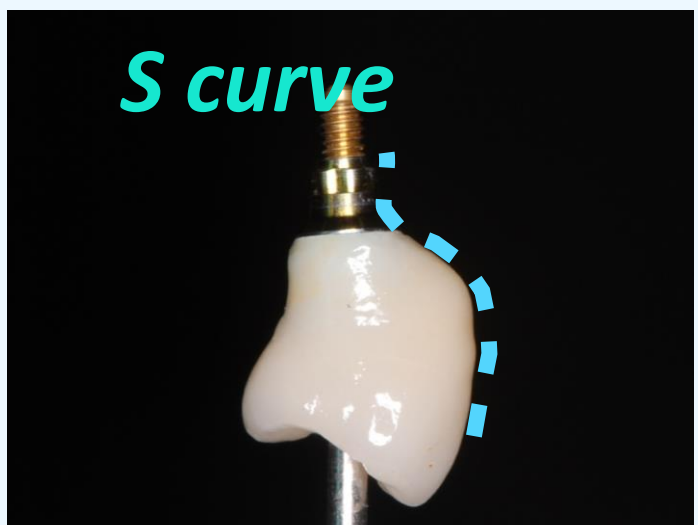
emergence profile



CASE B



soft tissue molding



emergence profile



3 months later



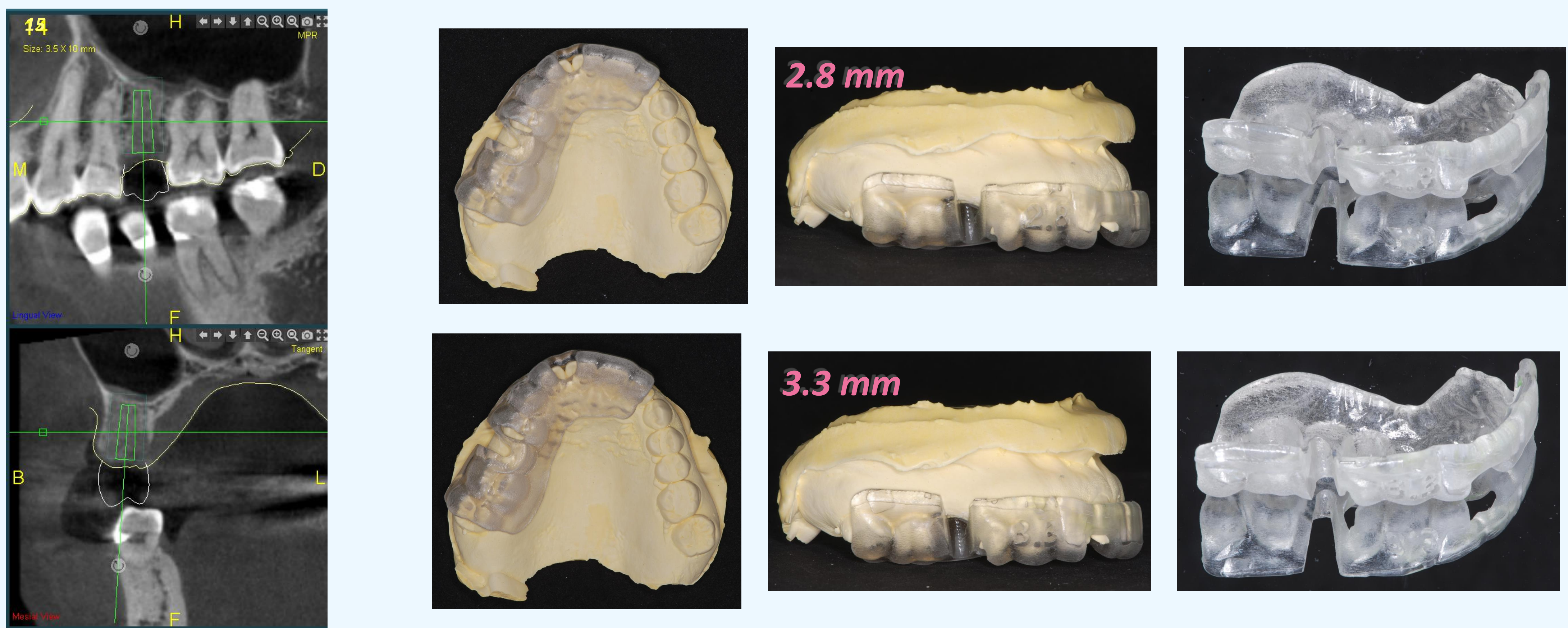
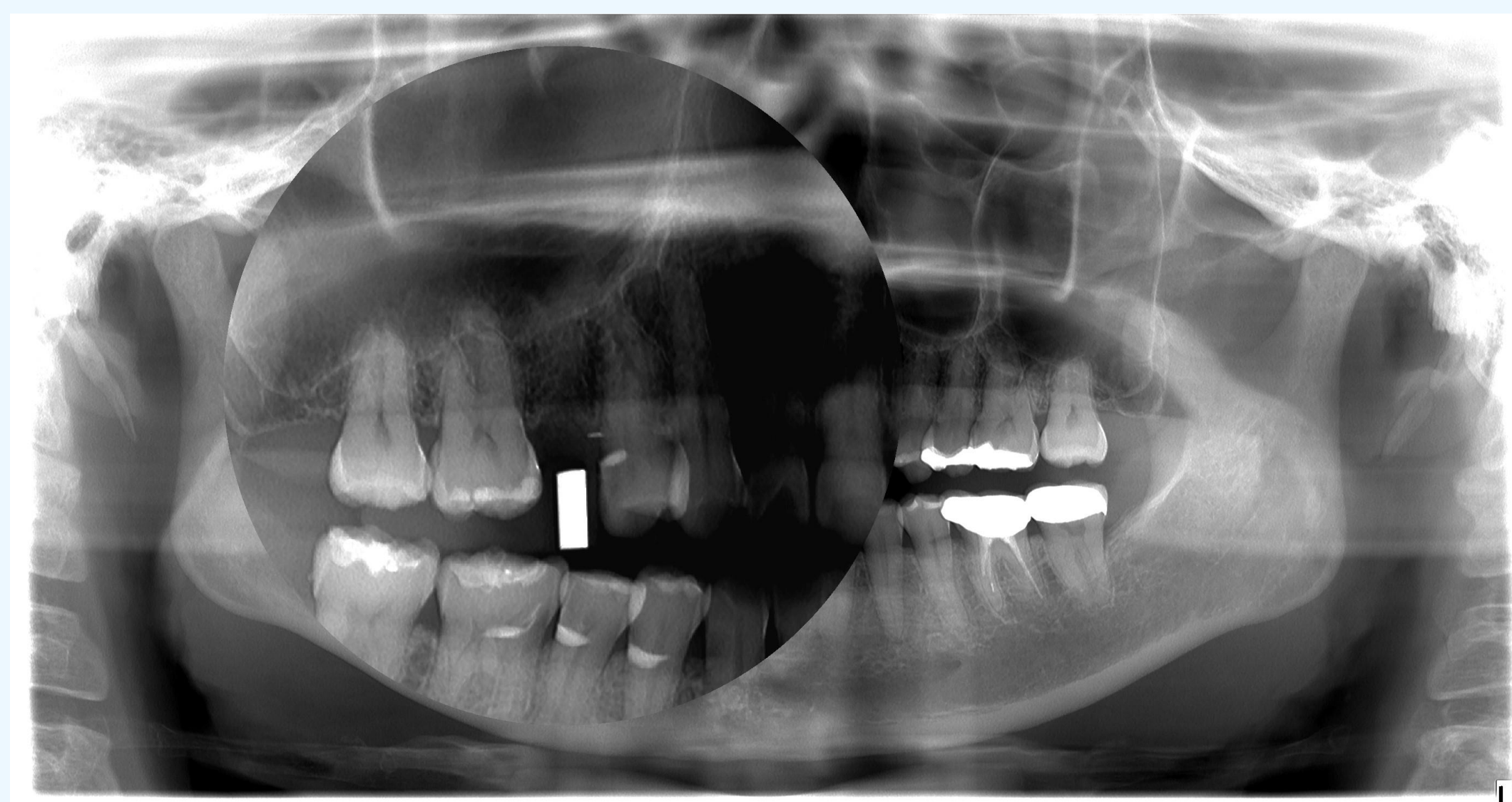
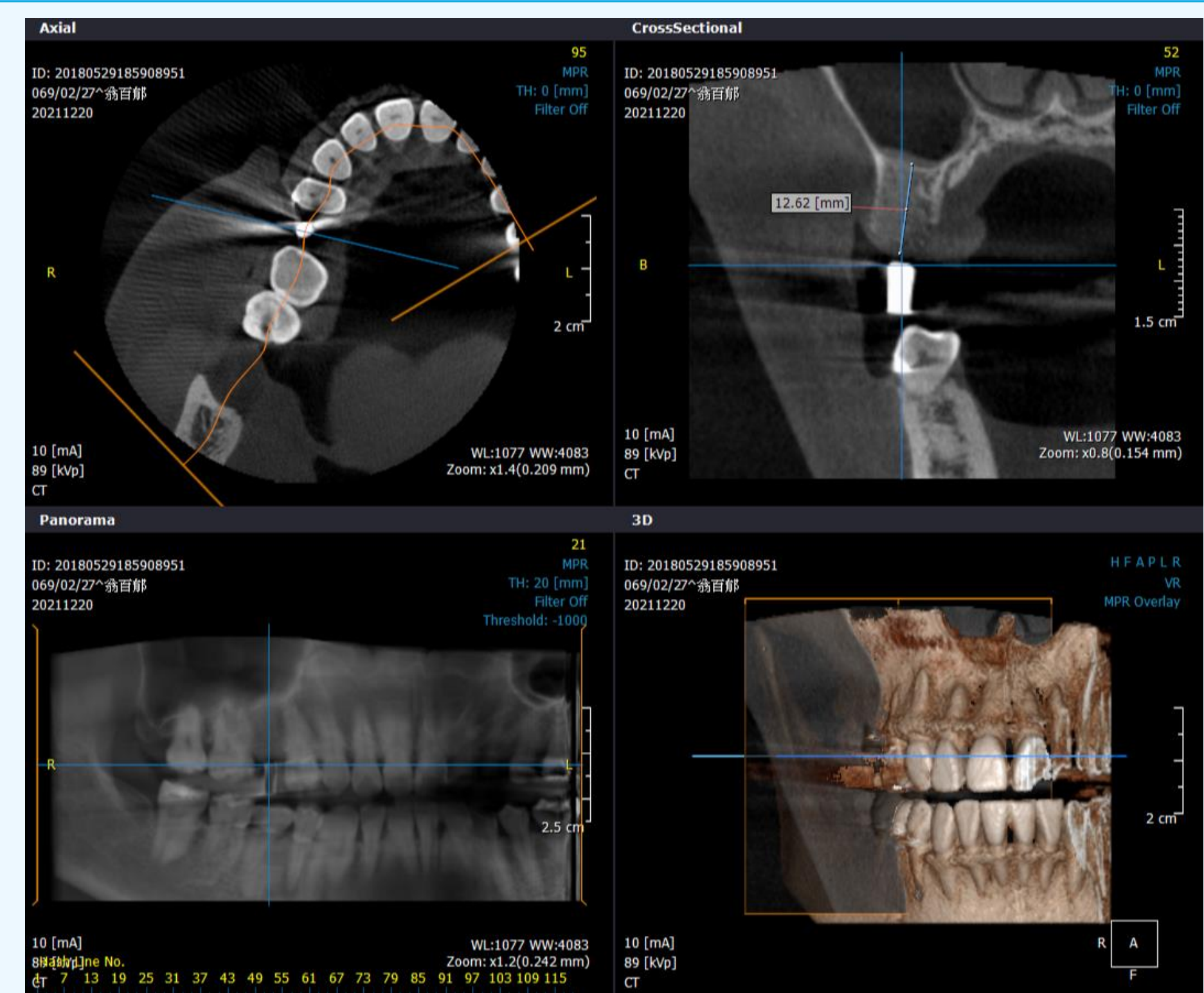
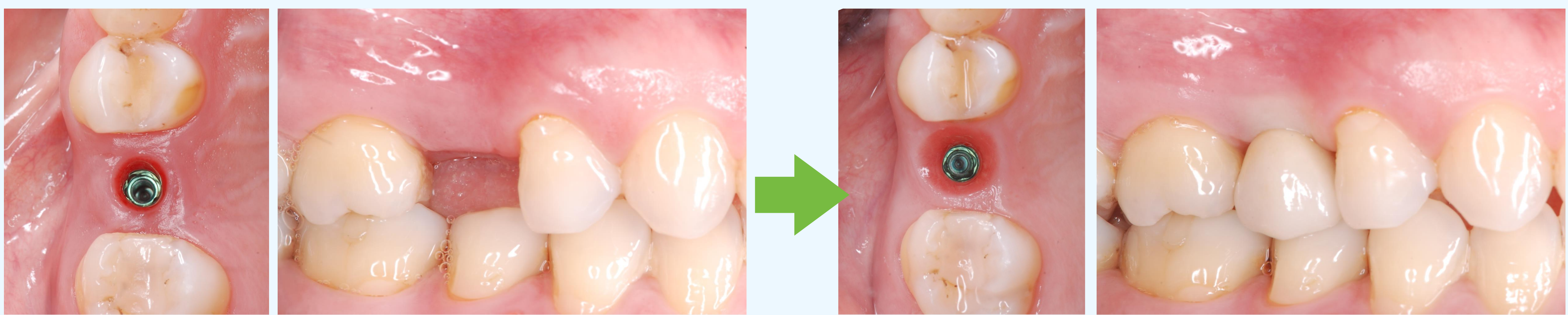
8 months later



9 months later



CASE C



Result:

The minor-arc guiding groove of the E.P.I. digital surgical stent accurately guides the implant drills buccal-lingually and mesial-distally, while the index portion of the E.P.I. digital surgical stent is to ensure proper depth for the prosthesis to be precisely implanted coronal-apically. Both the esthetic form and expected function of the implants can be achieved.

Conclusion:

The emergence profile index (E.P.I.) is the crucial indicator ensuring proper implantation, mesial-distally, buccal-lingually, and coronal-apically. Digital imaging serves as an essential media to ensure proper alignment to get the satisfying outcome.

Keyword:

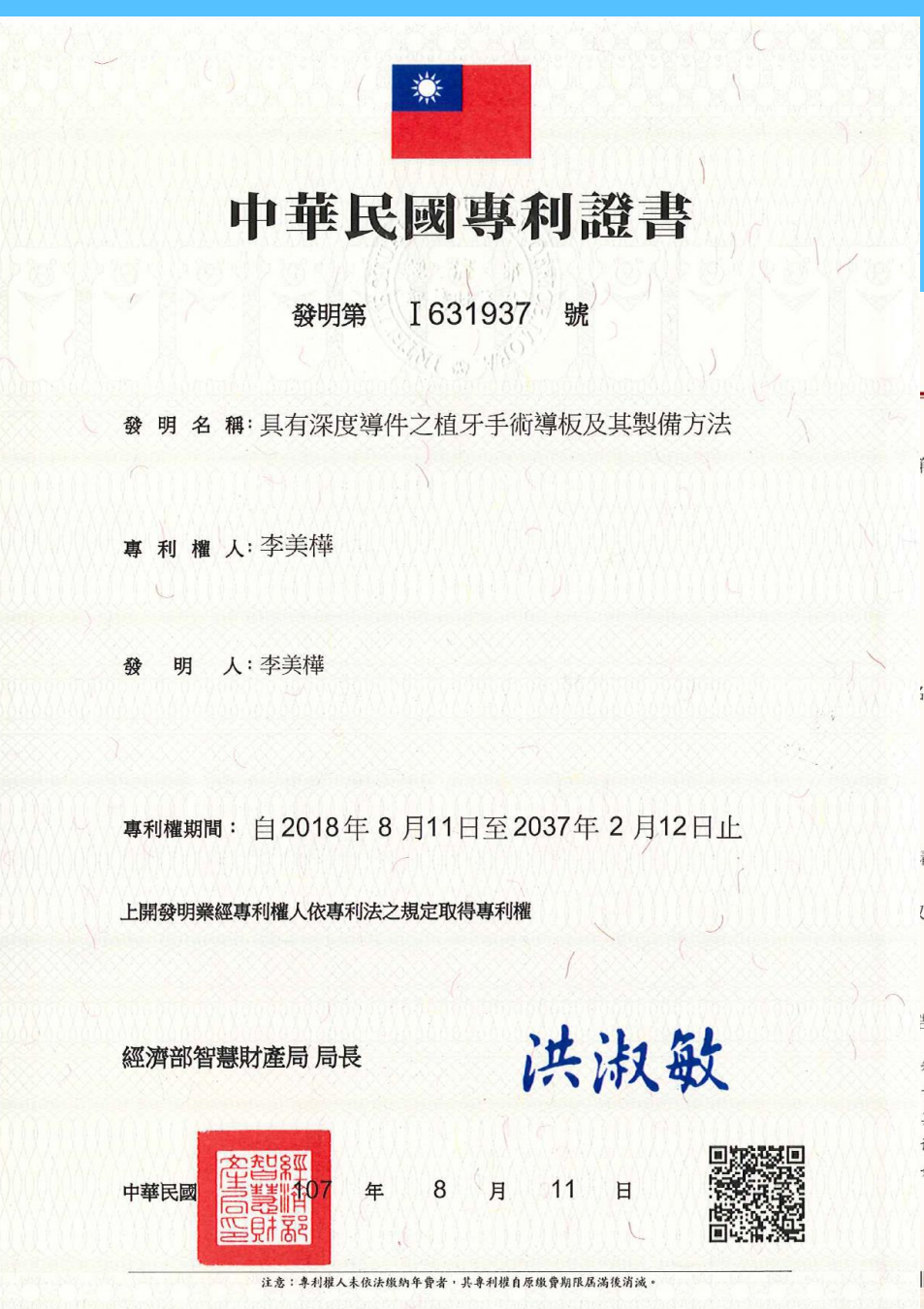
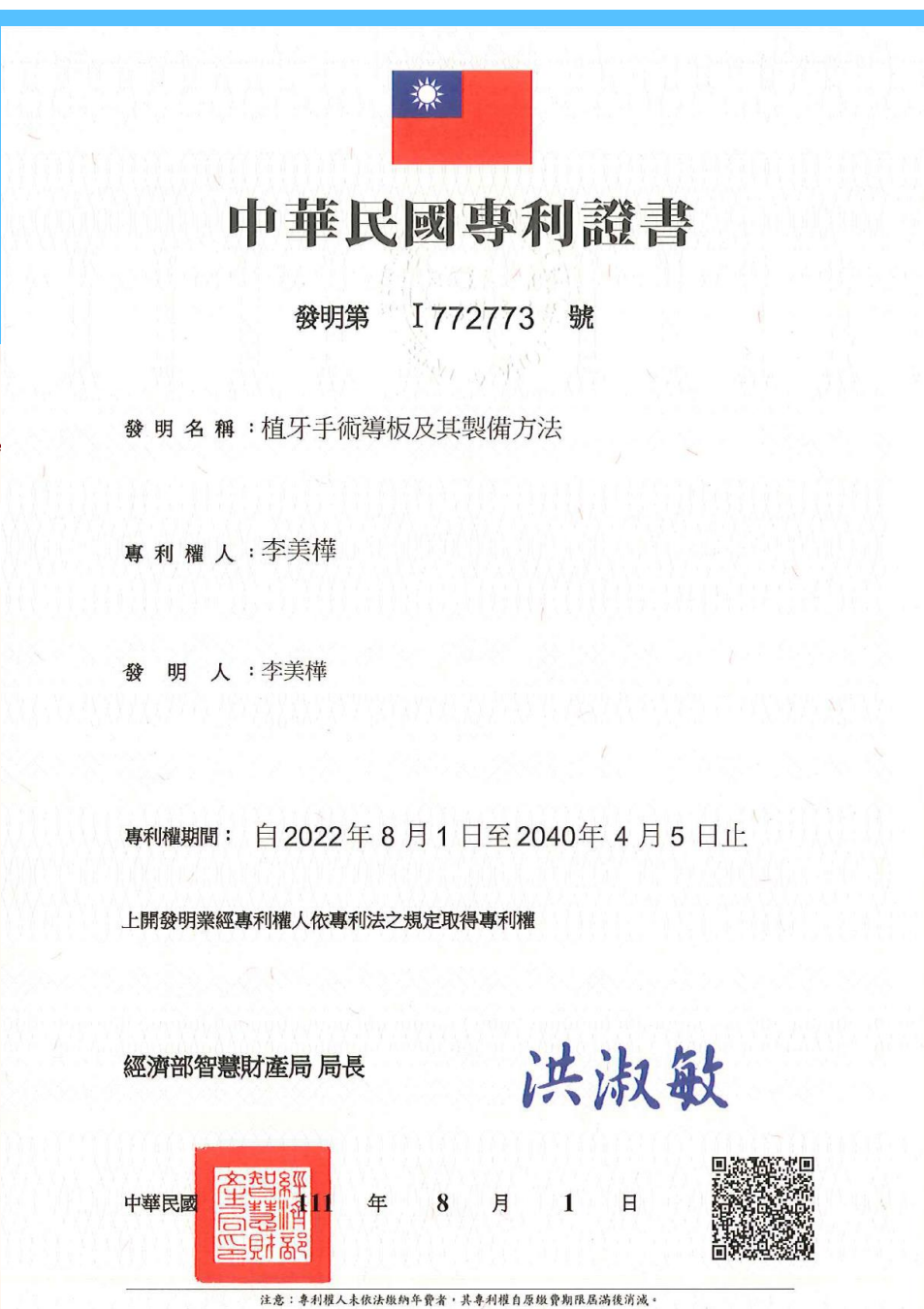
E.P.I. (emergence profile index) , half circle ,index



Emergence Profile Index
任意門數位手術導板



Website



US patent pending No. :
US 16 / 849667

CN patent pending No. :
CN 202010272041.1