



Immediate provisionalization as a form for soft and hard tissues stabilization in single implants in the aesthetic zone



Zamora Alpizar V., Rodríguez Tizcareño M. H., Sifuentes Carrillo G. García-Lee V.

Introduction: Dental implants are considered the choice of treatment for single tooth loss, in such cases, there is bone remodeling leading to a decrease in height and width of the alveolar process. Consequently, the surrounding soft tissues collapse and reduce. However, using the technique of immediate provisionalization, there is a better stabilization of the hard and soft tissues. Combining CBCT and IOS files, measurements of the tissue can be taken more precisely.

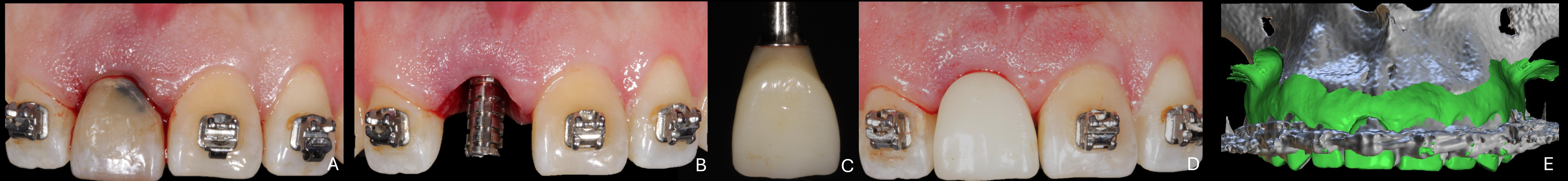


Figure 1. Example of immediate provisionalization of a right upper central incisor. A. Tooth indicated for extraction. B. Temporal abutment connected to the implant. C. PMMA provisional. D. Immediate provisionalization. E. Combination of DICOM and STL files .

Method: Three patients received a single implant in the anterior maxilla with immediate provisionalization. Using CBCT and IOS, the vertical and horizontal dimensional changes of the soft and hard tissues after the placement of the implant were evaluated; as well the aesthetic parameters using the PES/WES index.

Features	Case 1	Case 2	Case 3
Gender	Male	Male	Female
Age	38	40	38
Systemic Condition	Healthy	Healthy	Healthy
Treatment Reason	Root Fracture	Endodontic Failure	Trauma
Implant Site	11	11	21
Implant Diameter	3.5	3.5	3.5
Implant Length	10	12	12
Implant Placement	Post- extraction	Early	Conventional

Table 1. Main features of the patients

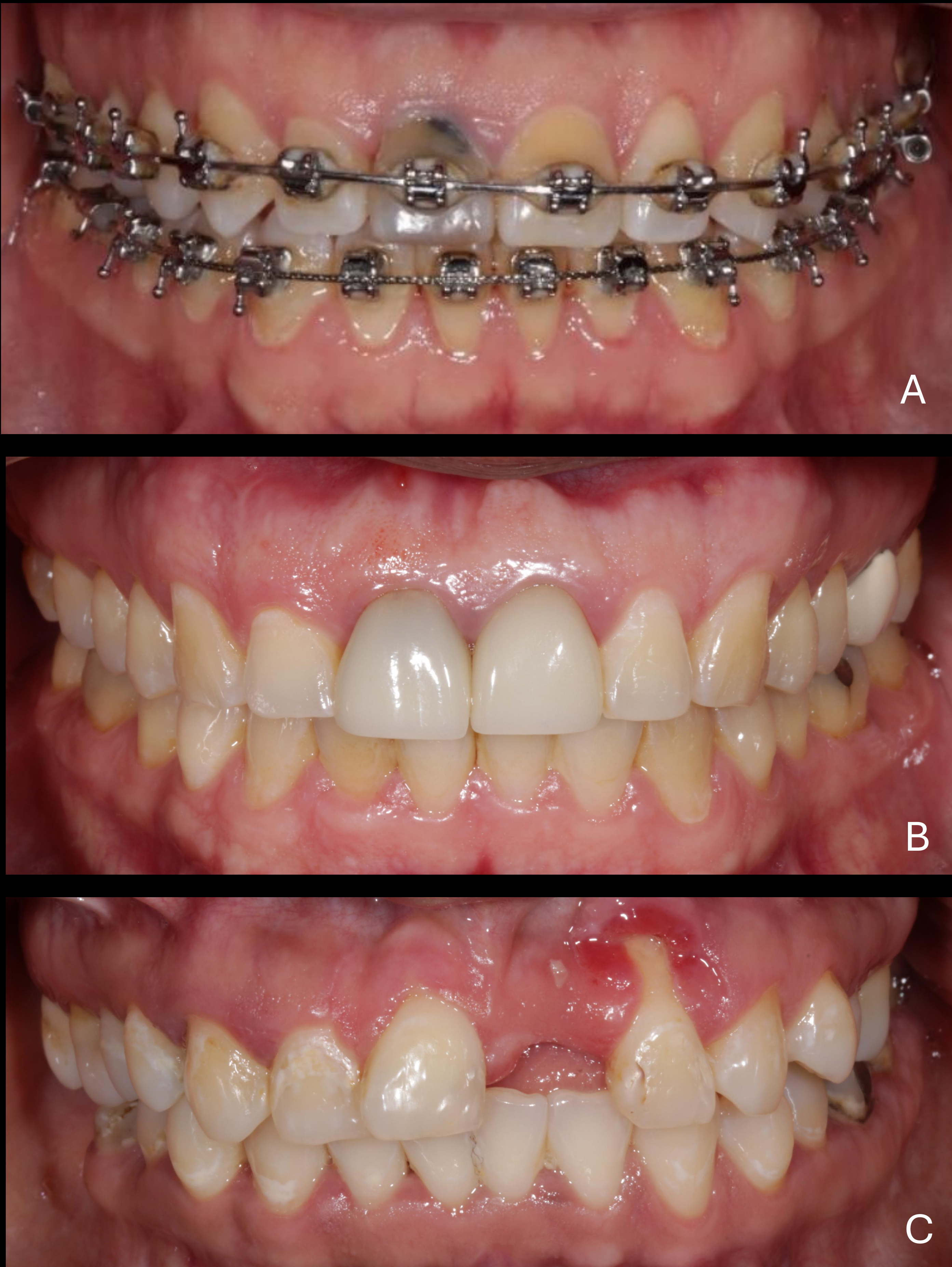
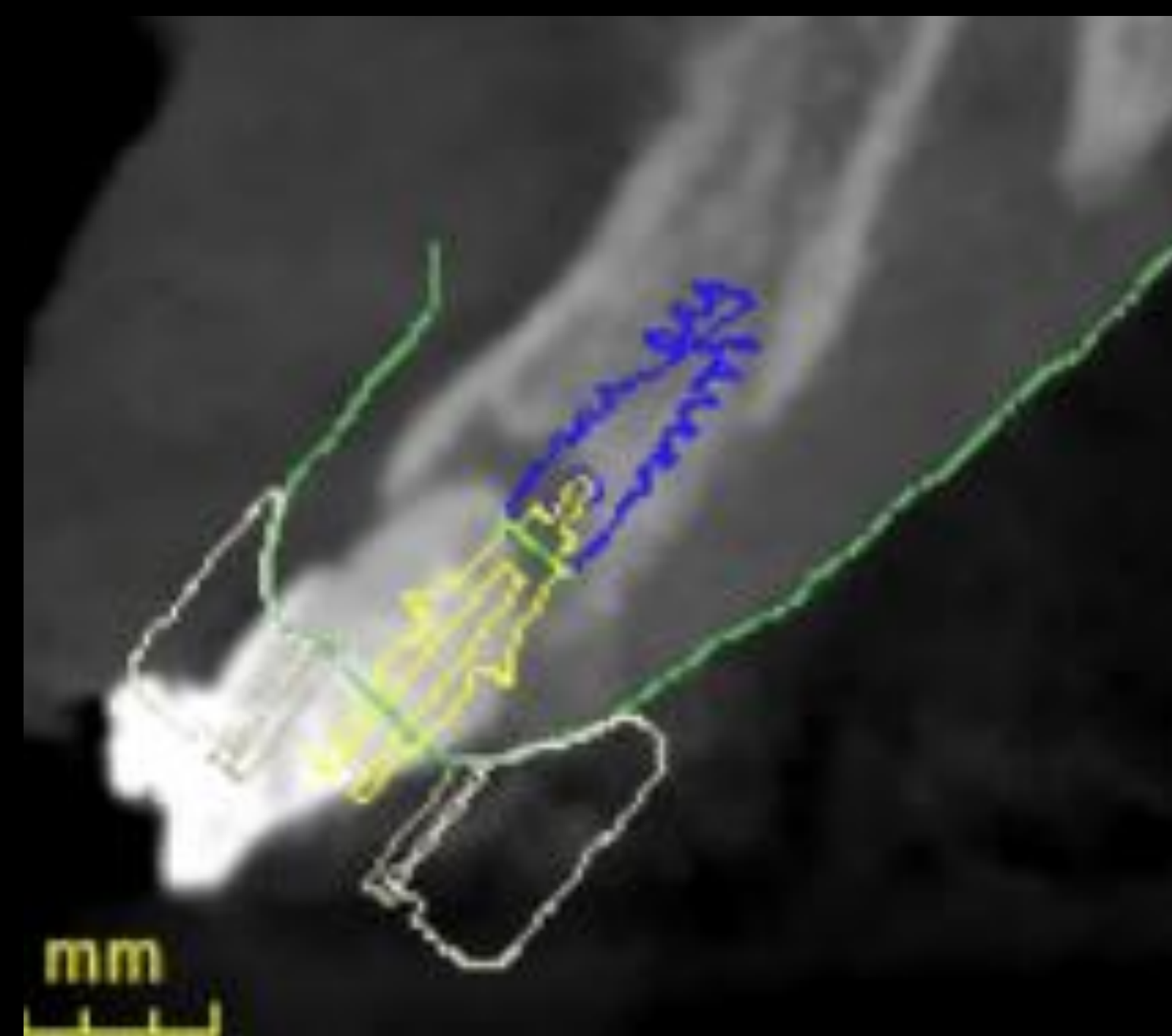
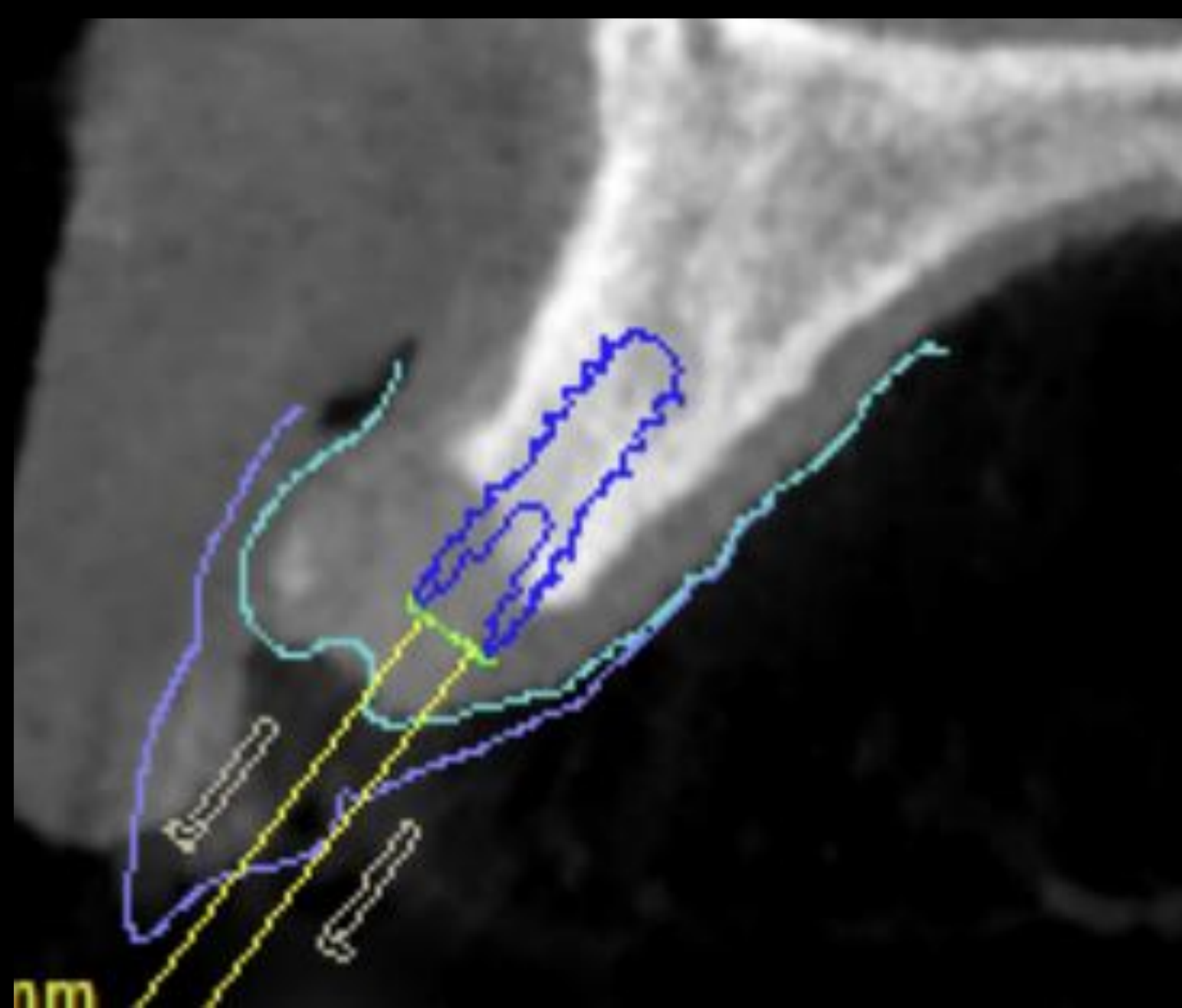
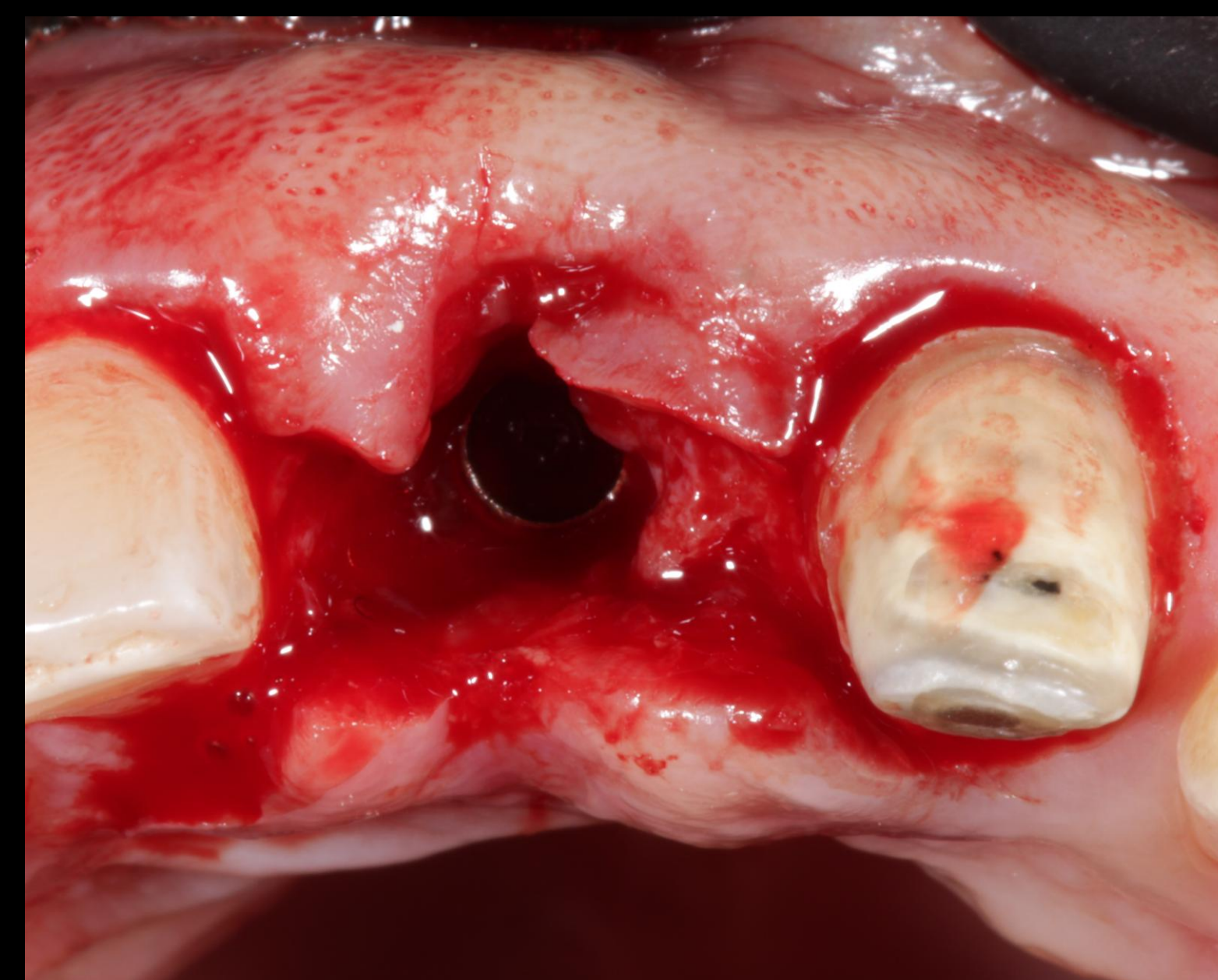


Figure 2. Initial clinical situation of the cases. A. Necrotic right upper central incisor. B. Fixed crown in both central incisors. C. Missing left upper central incisor.

Case
1



Case
2



Case
3

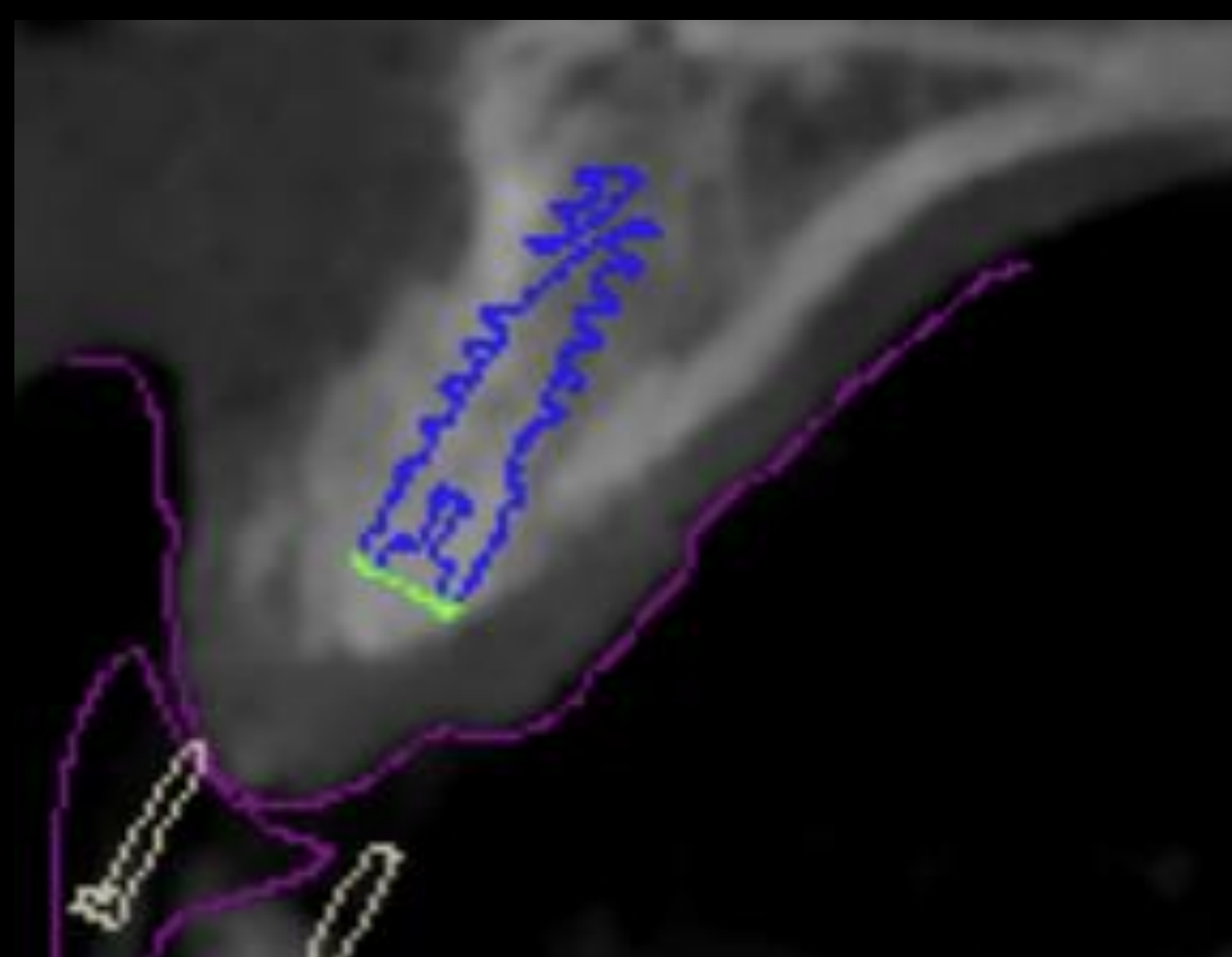
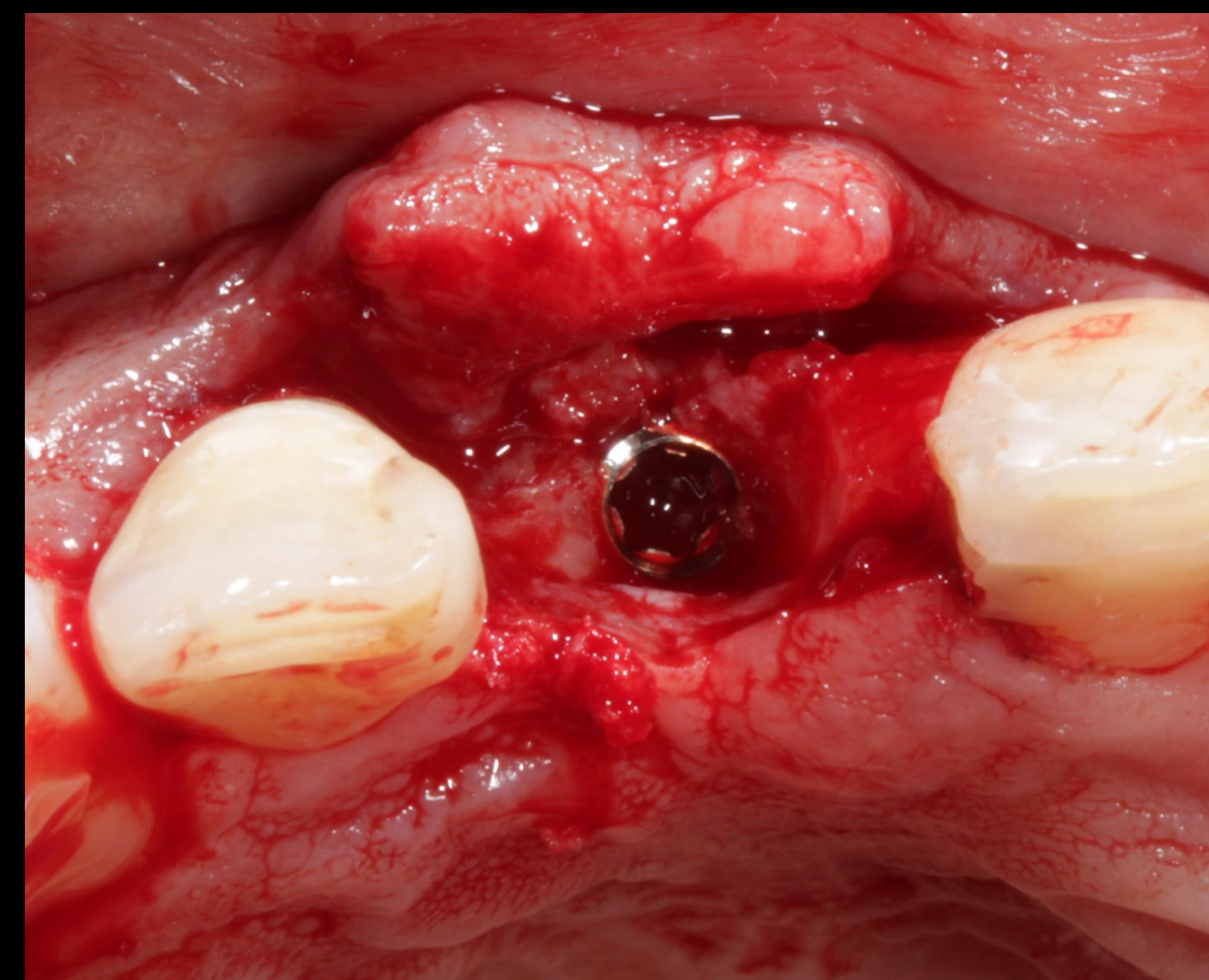


Figure 3. Treatment sequence. A. Sagittal view of the implant planning. B. Restrictive surgical guide C. Implant placement D. Post surgical x-ray. E. Immediate provisionalization

CBCT/IOS

VESTIBULAR PLATE

MARGINAL BONE LOSS

FACIAL MUCOSA

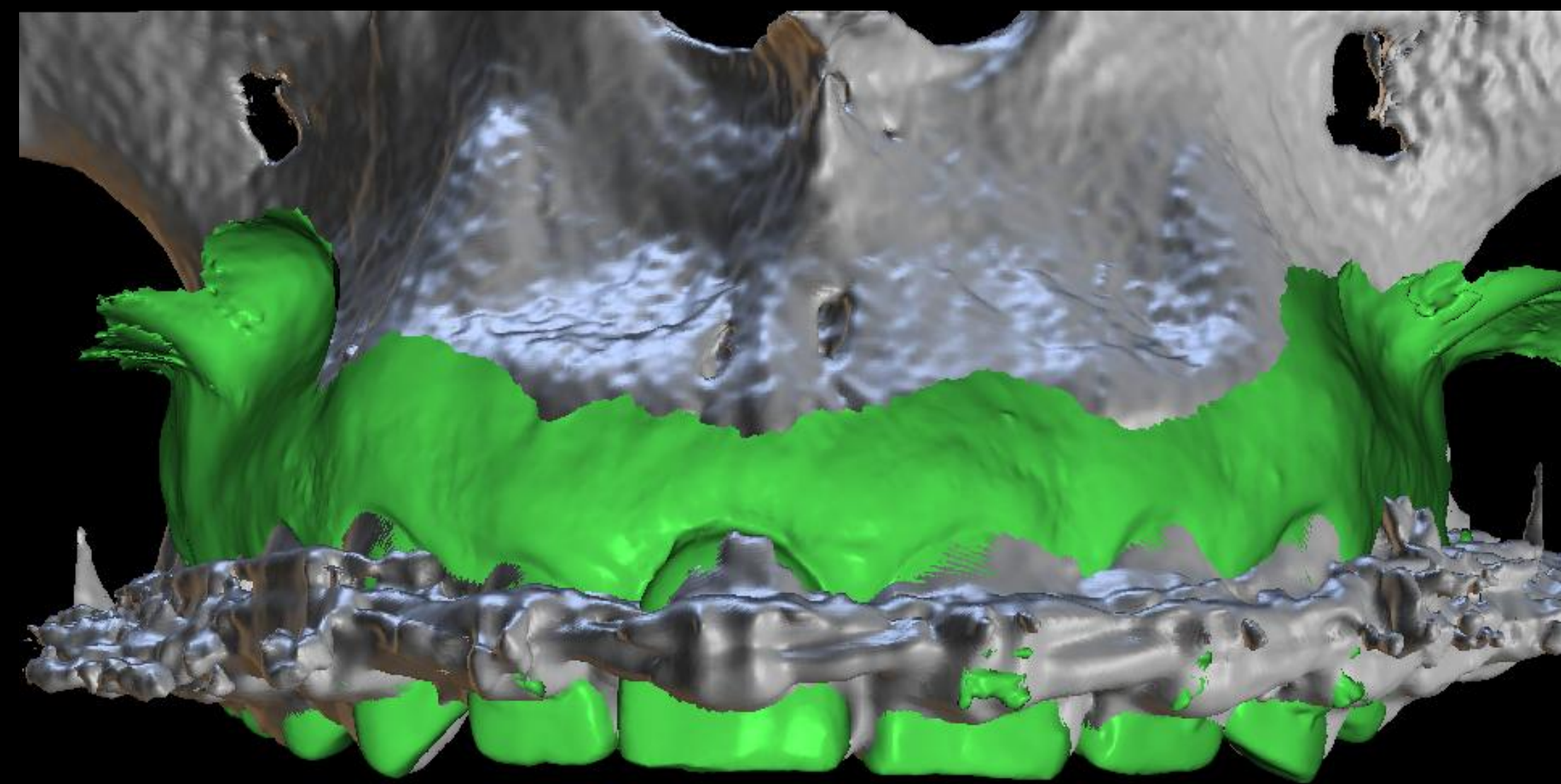
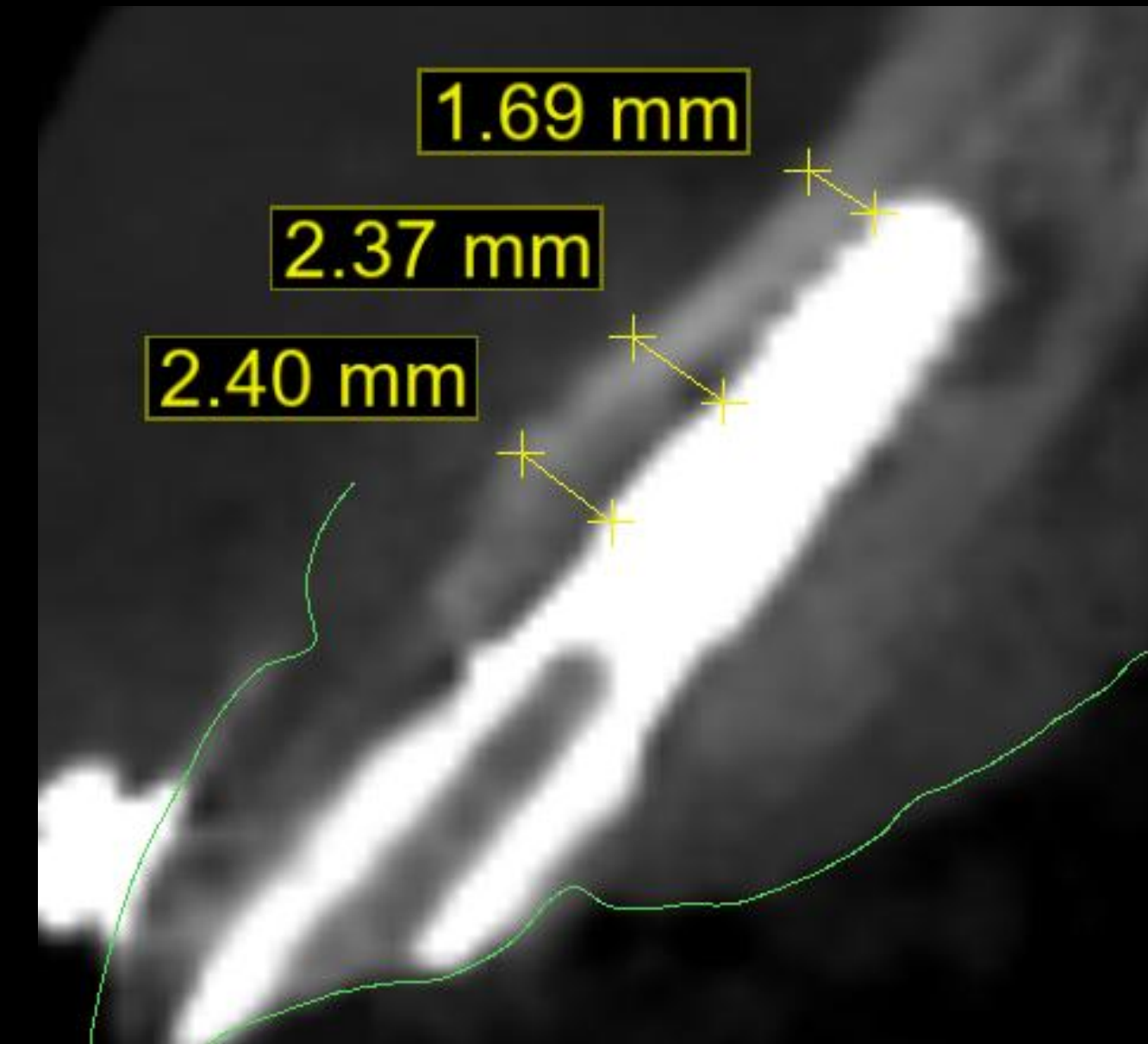
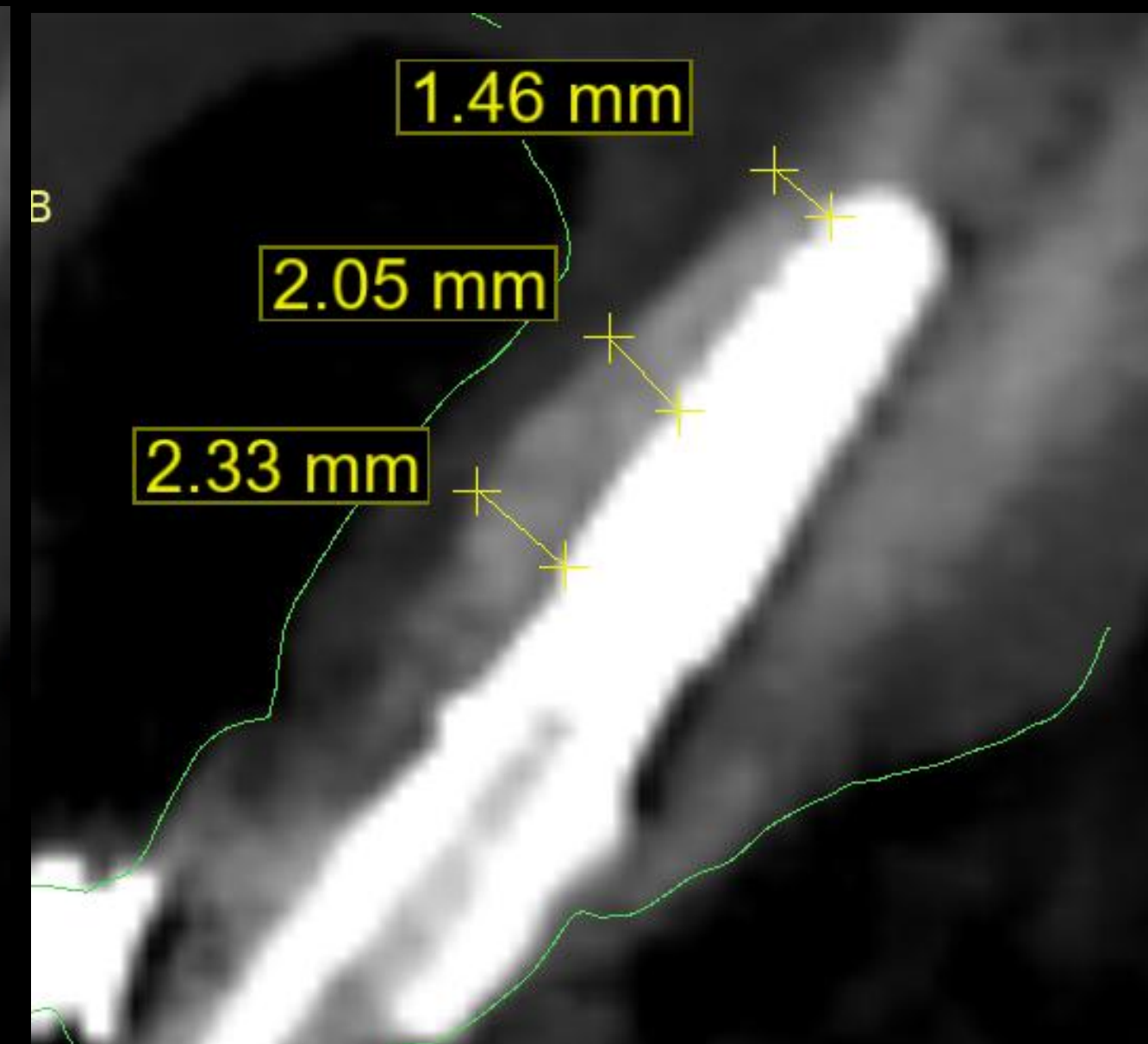
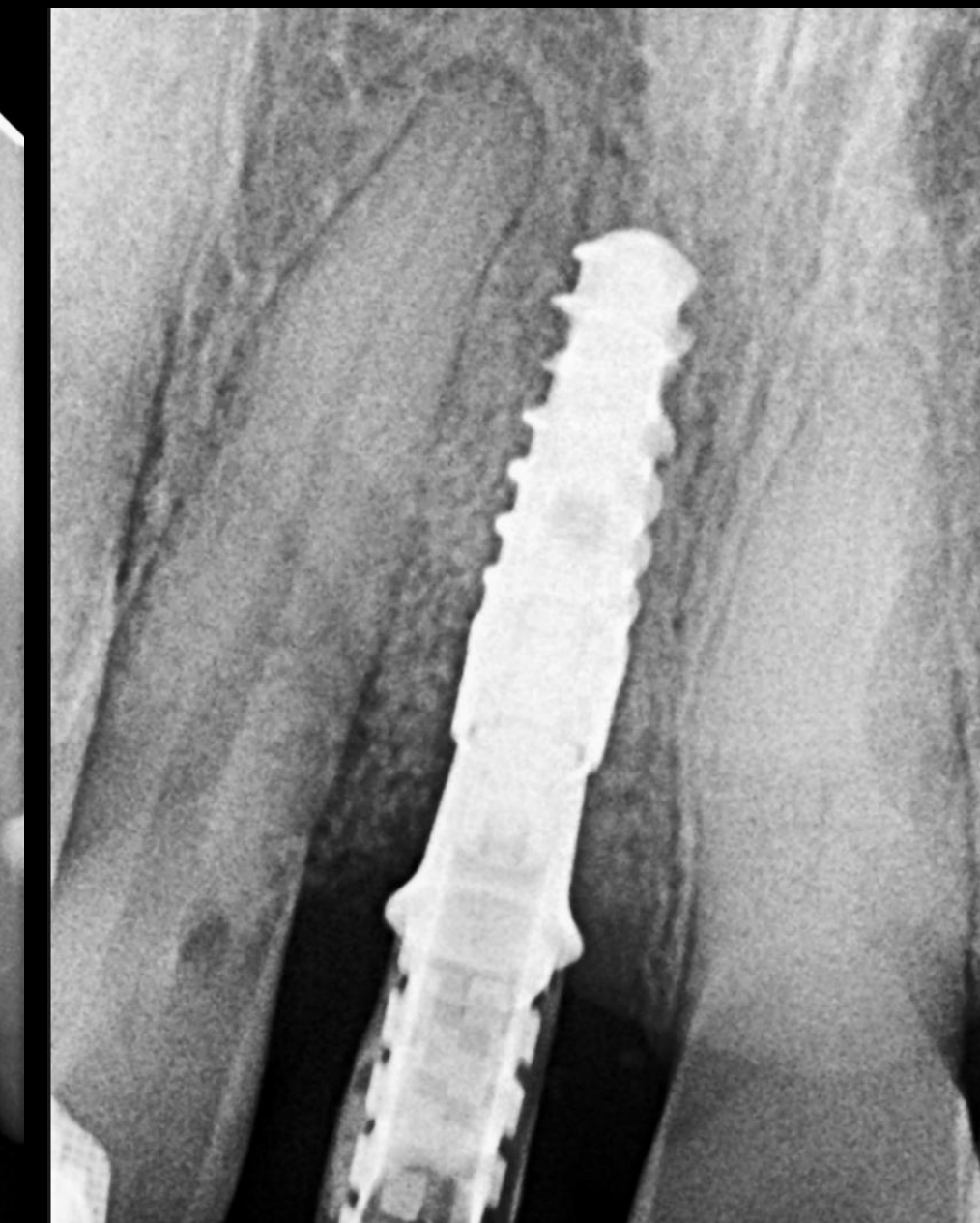
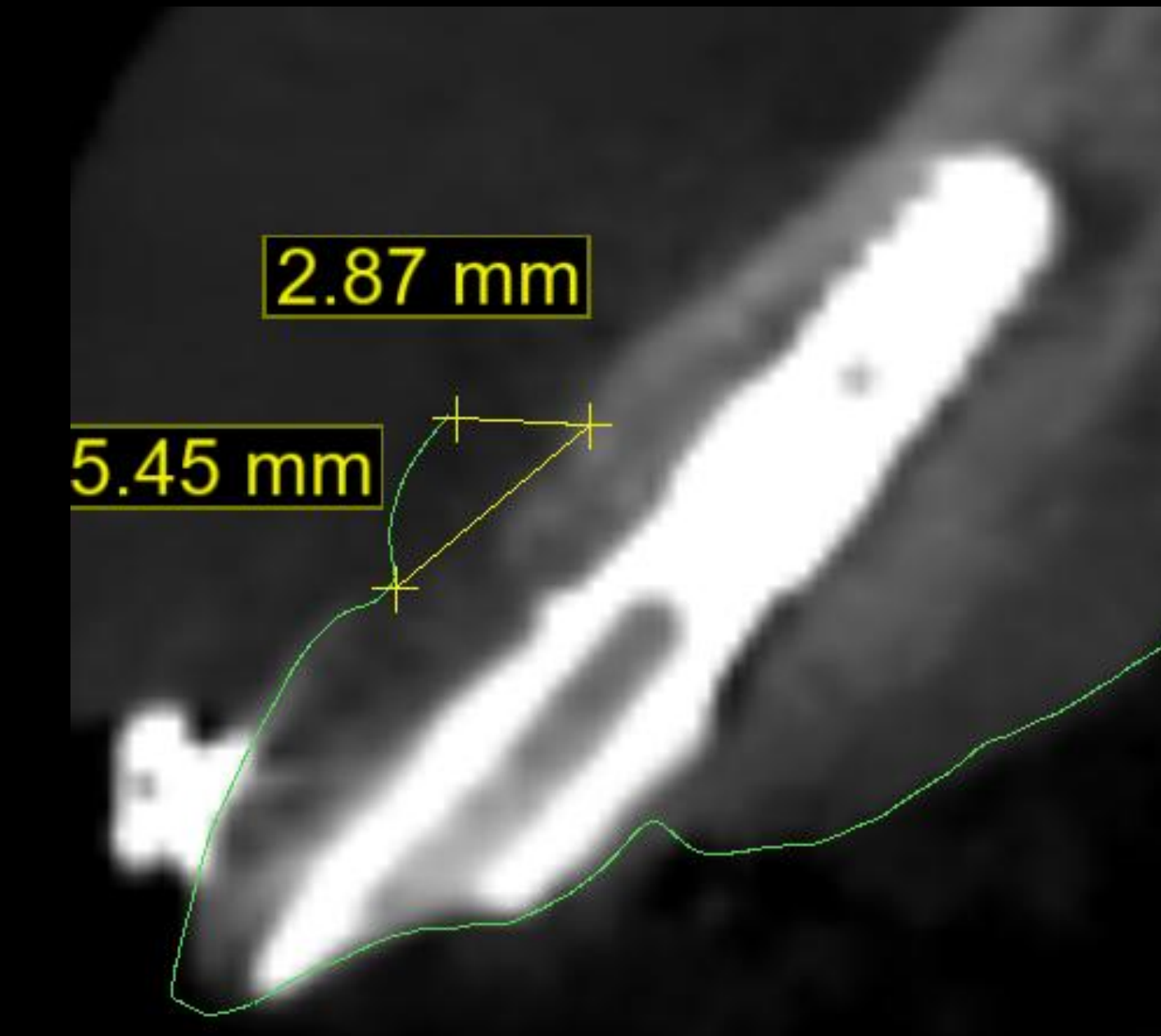
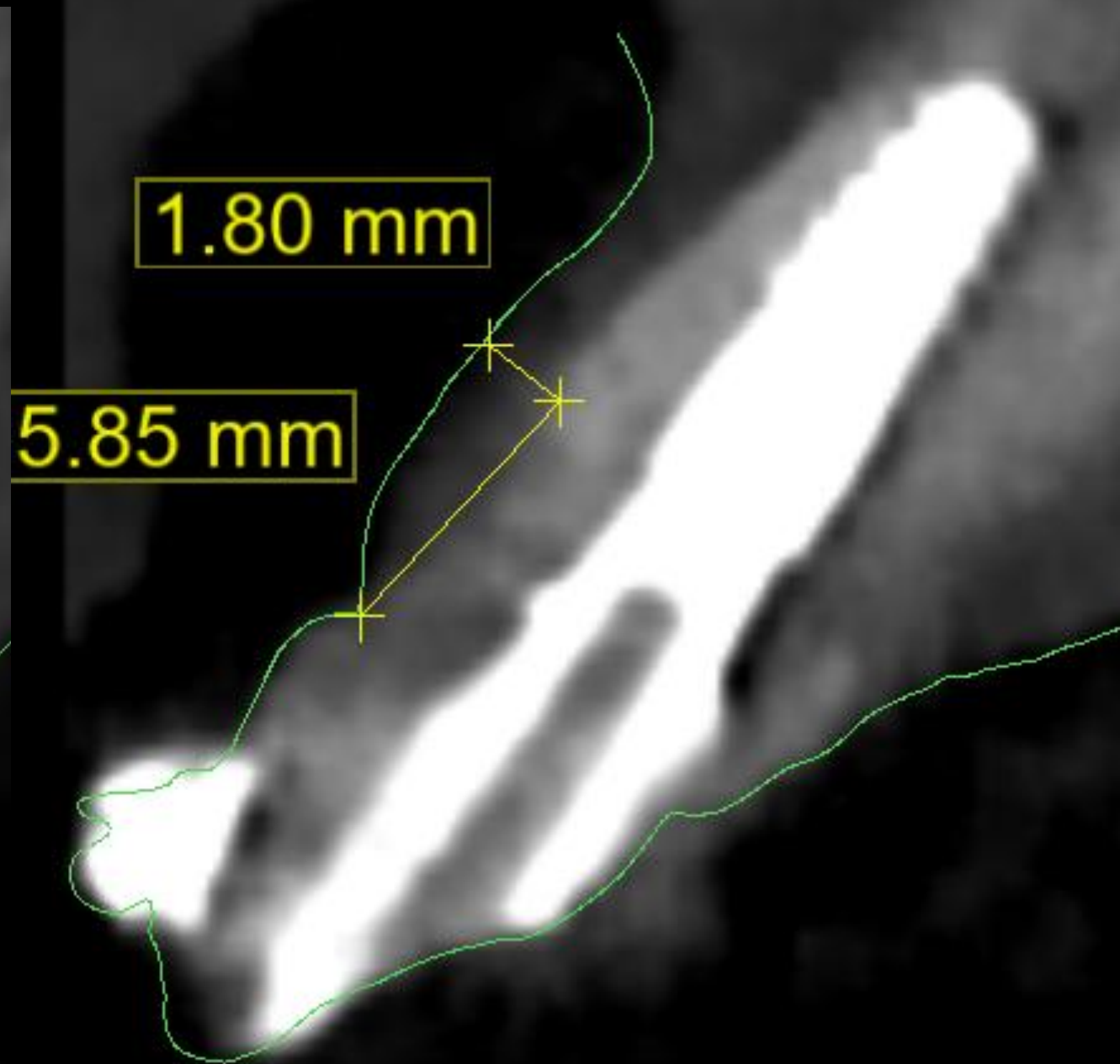
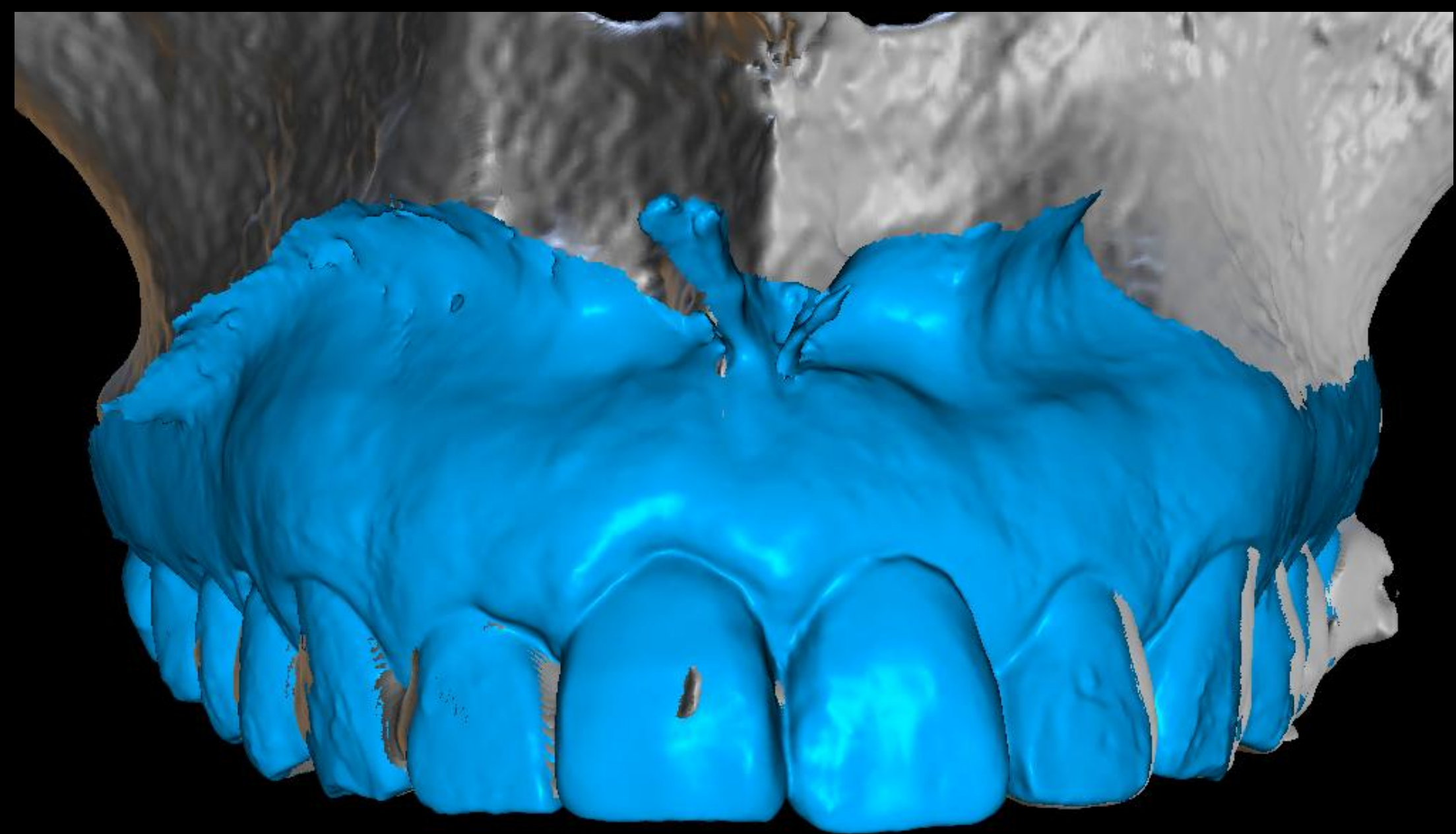
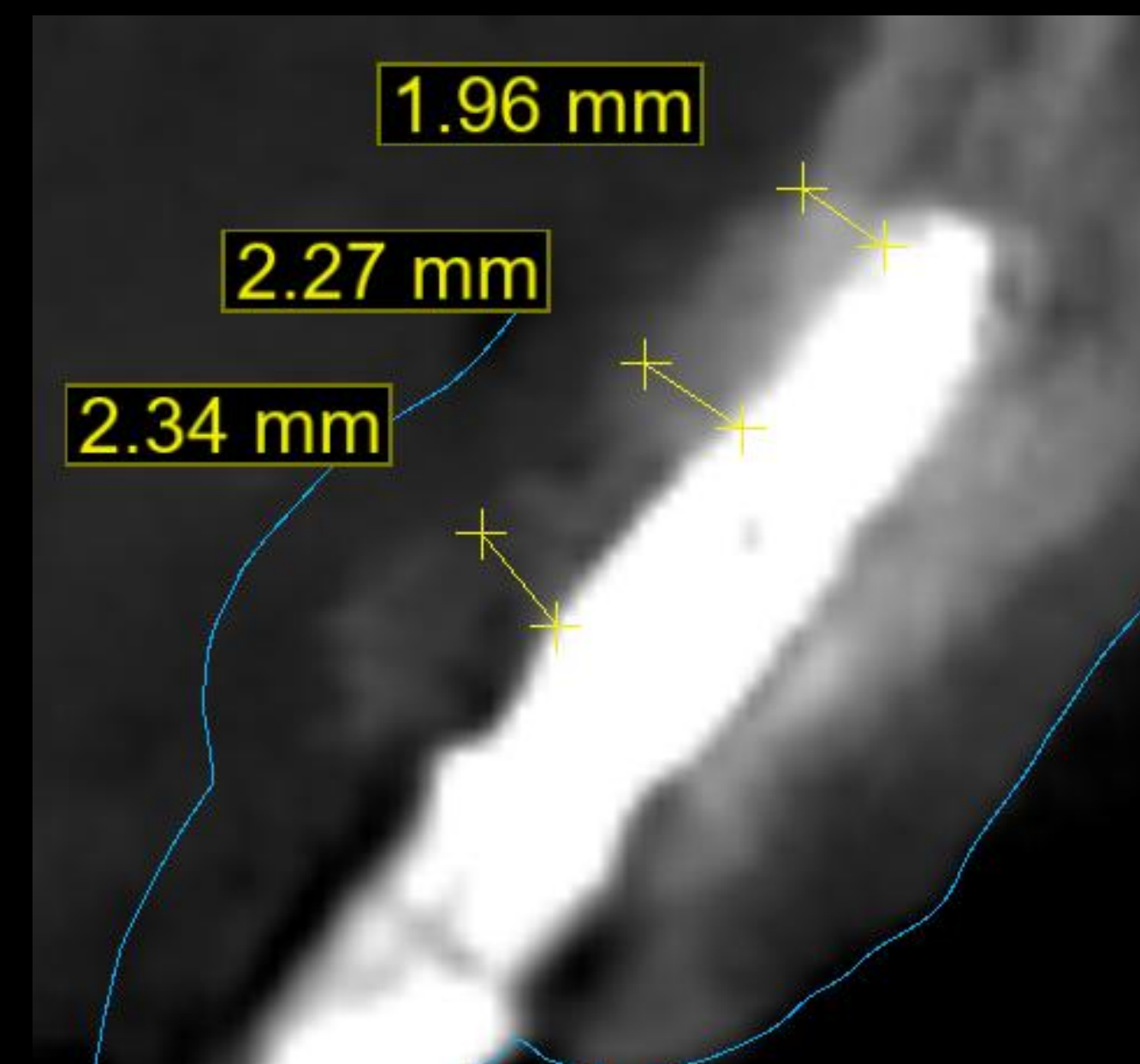
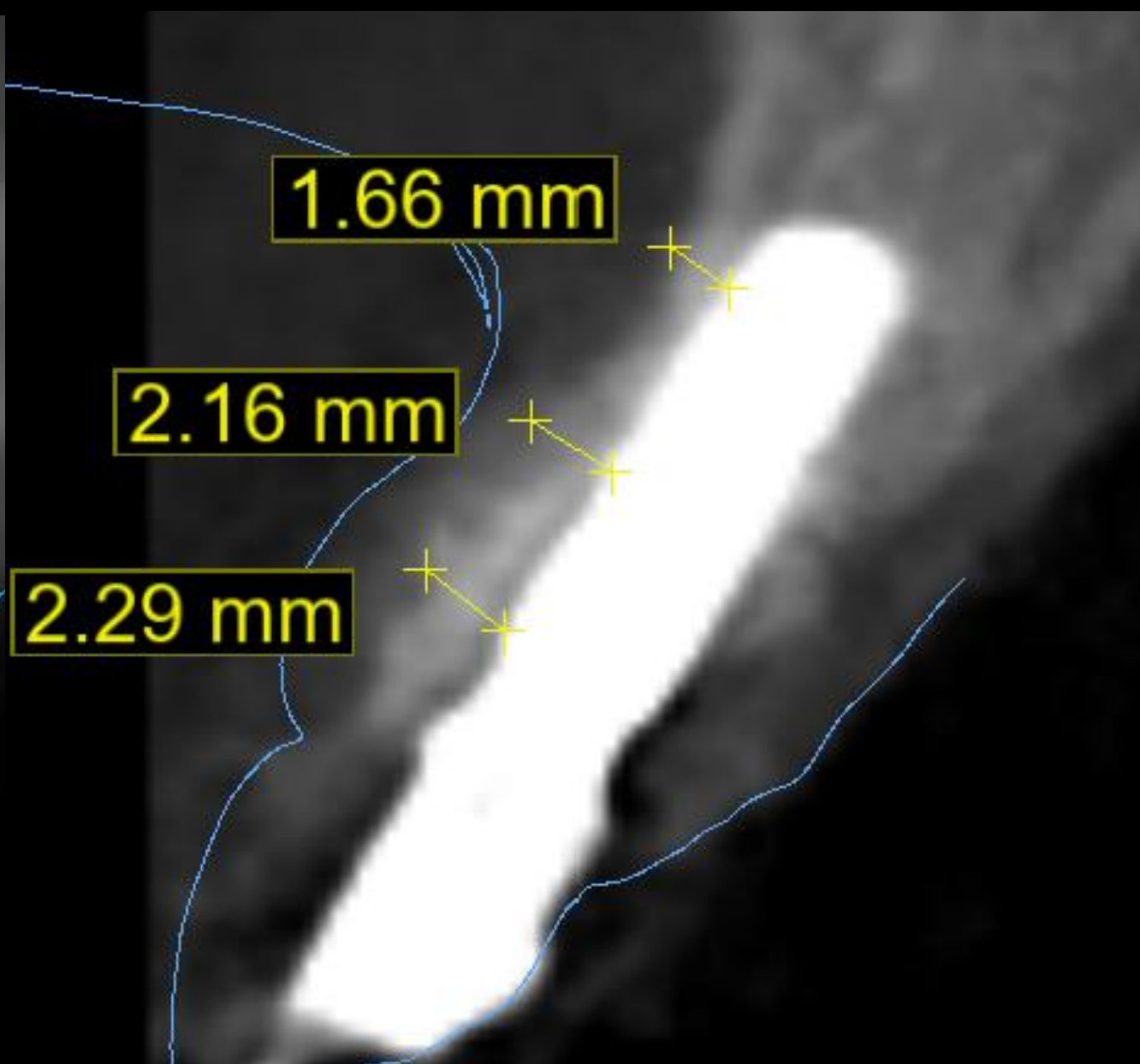
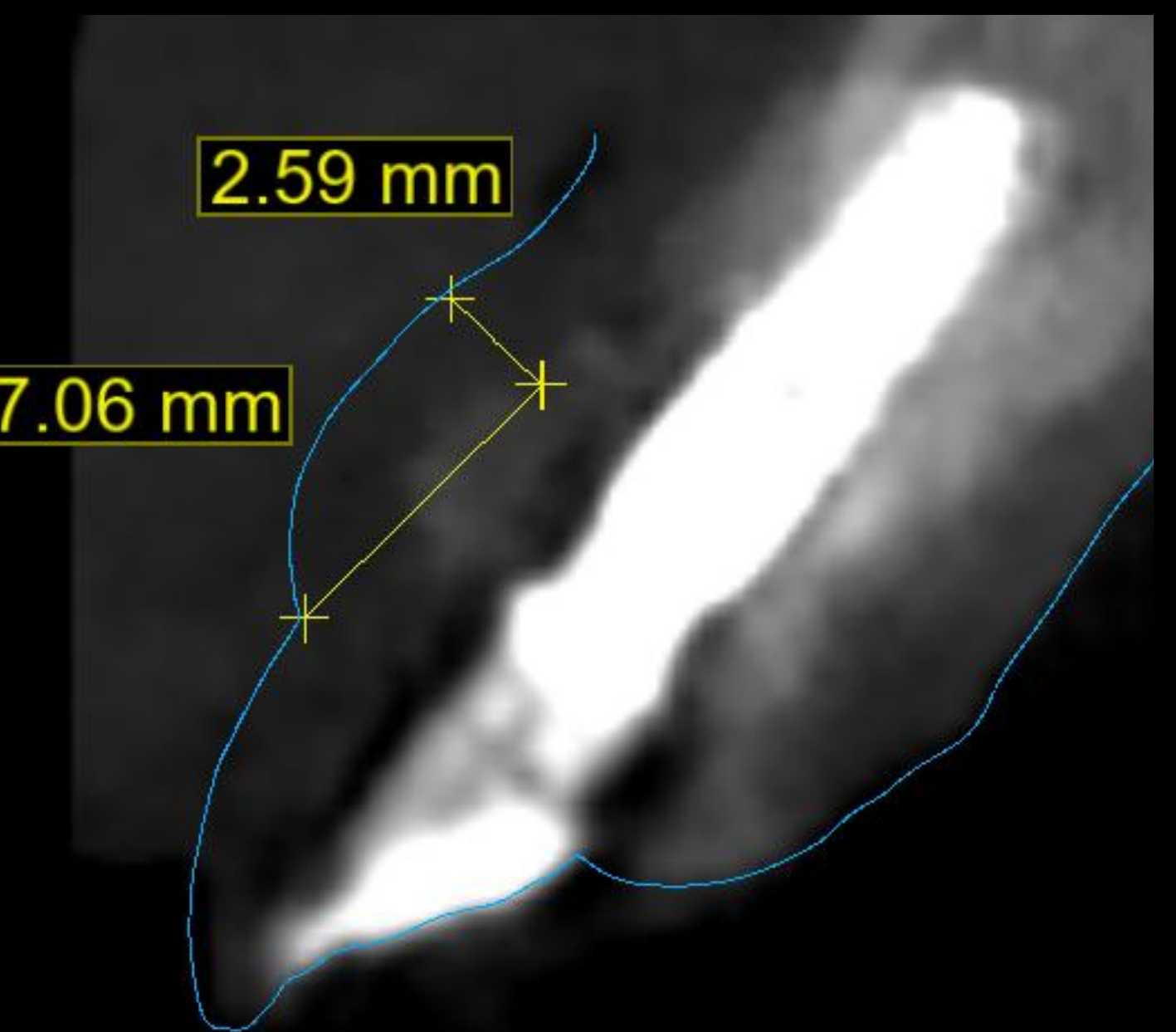
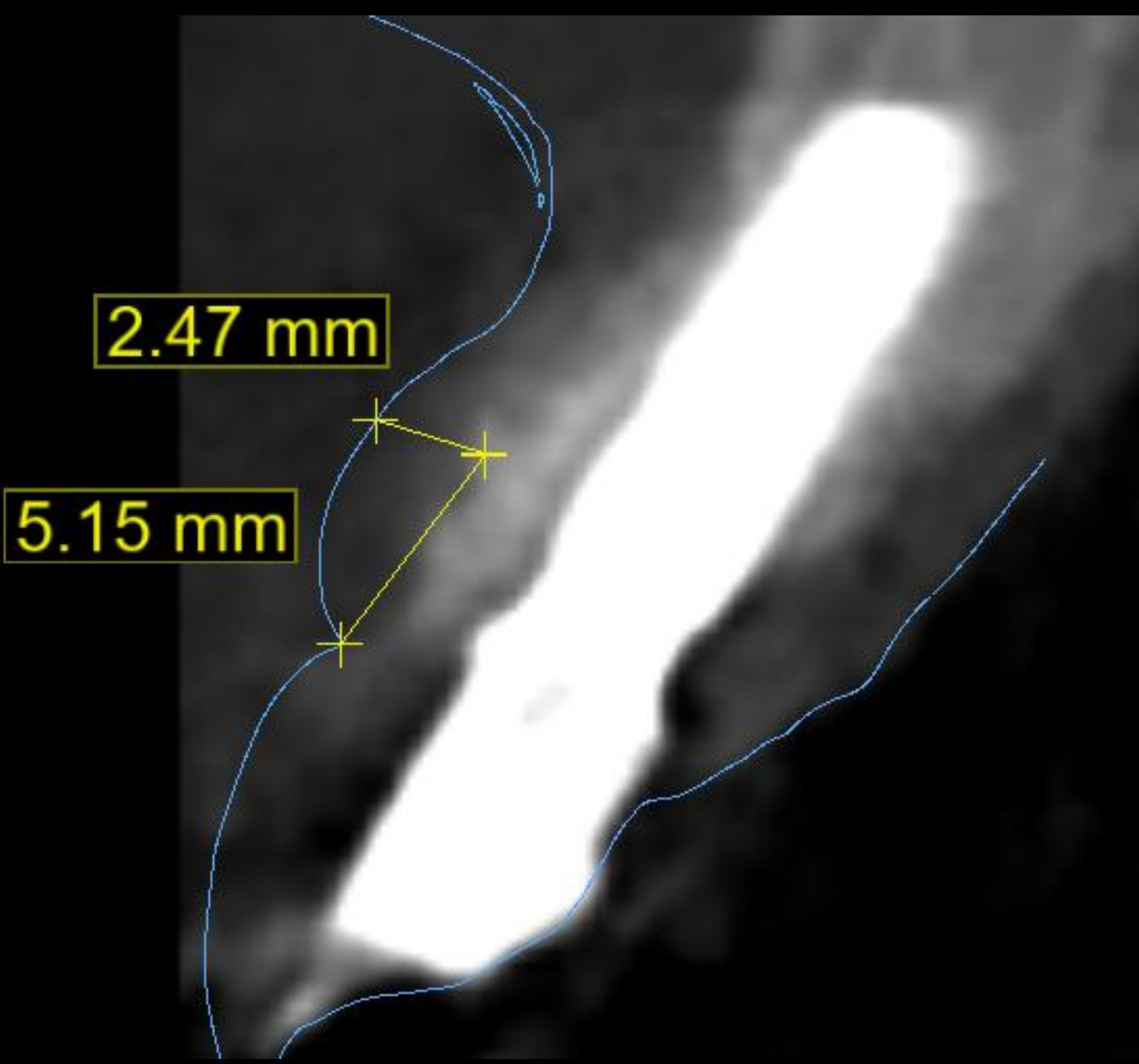
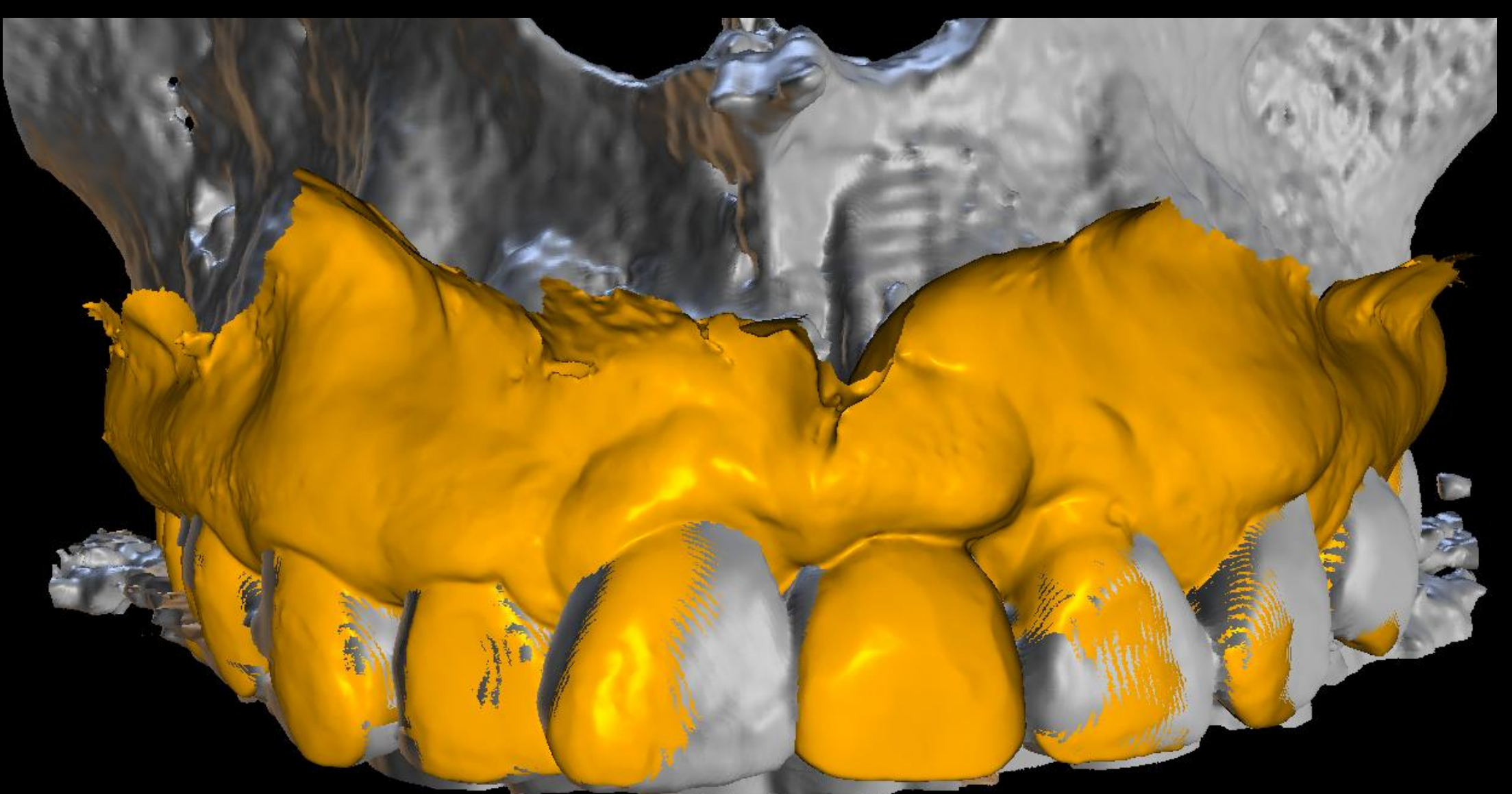
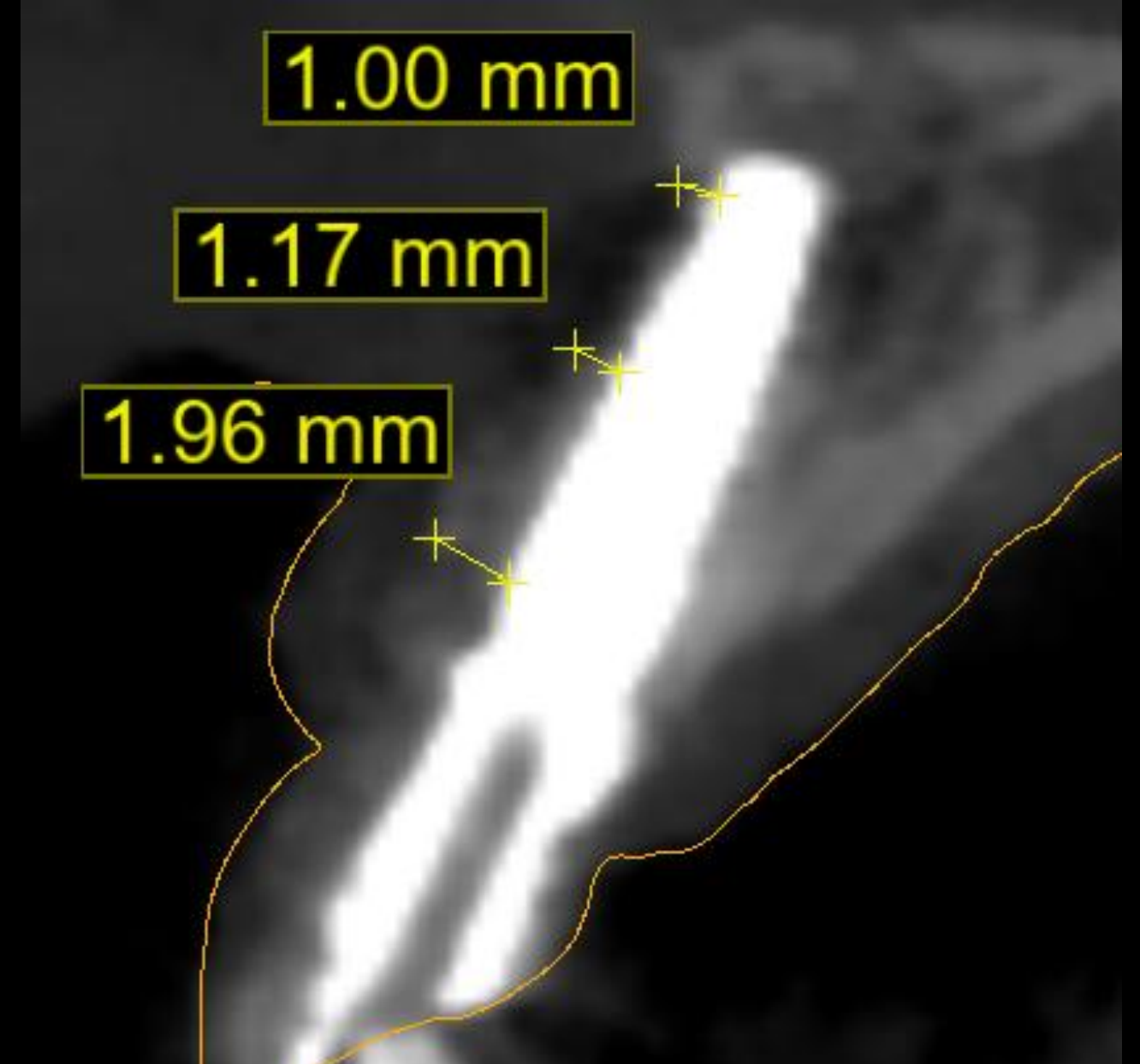
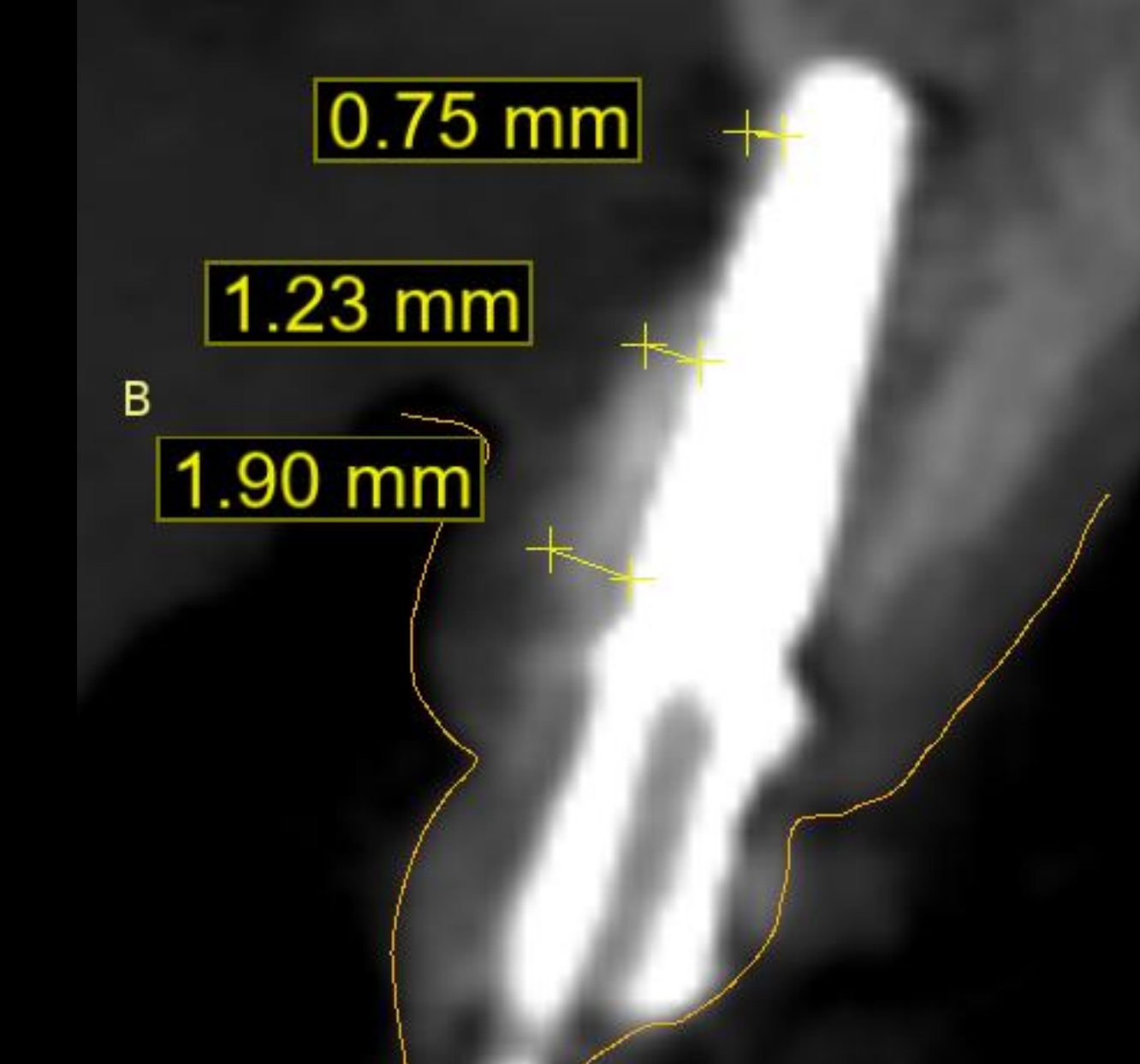
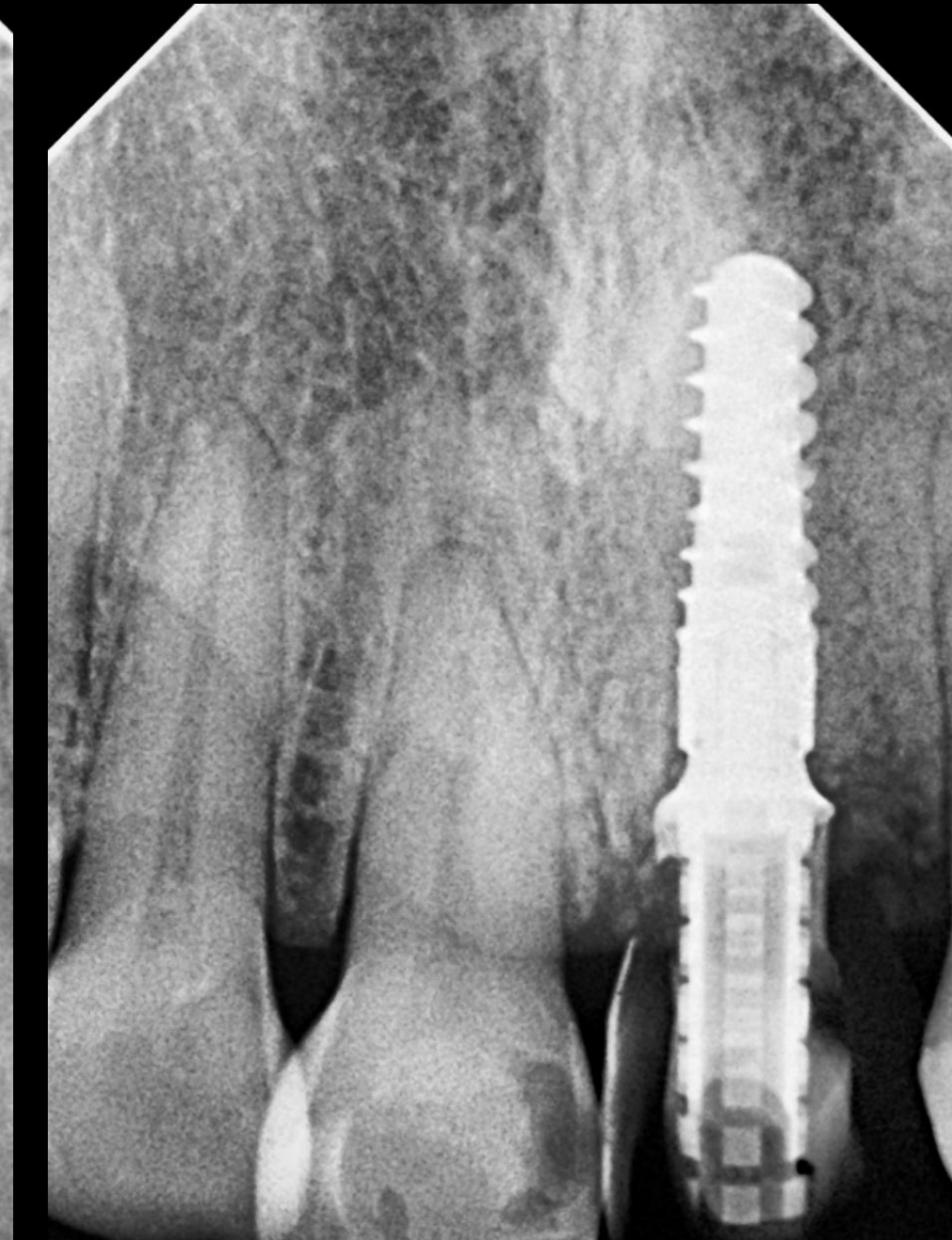
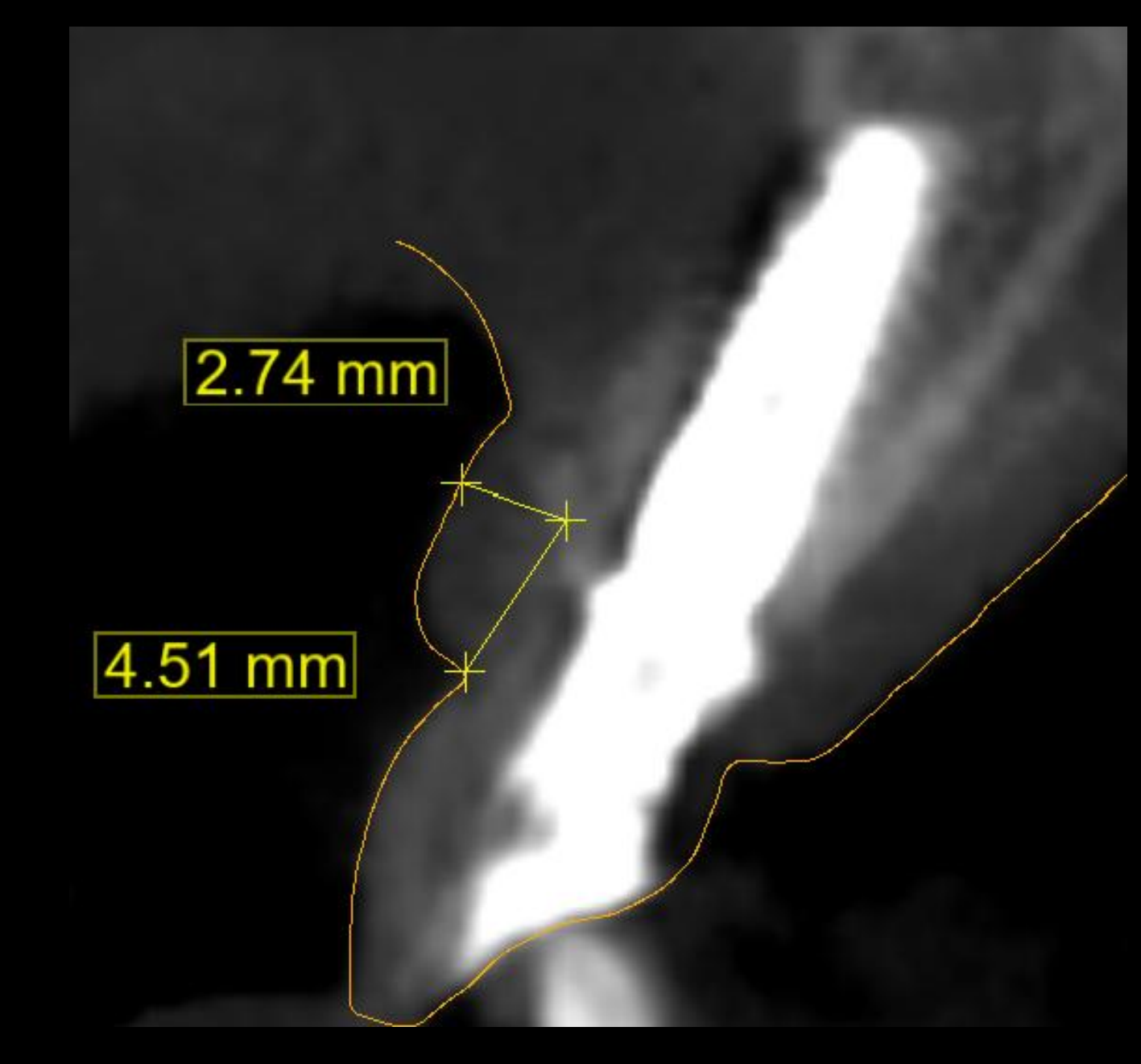
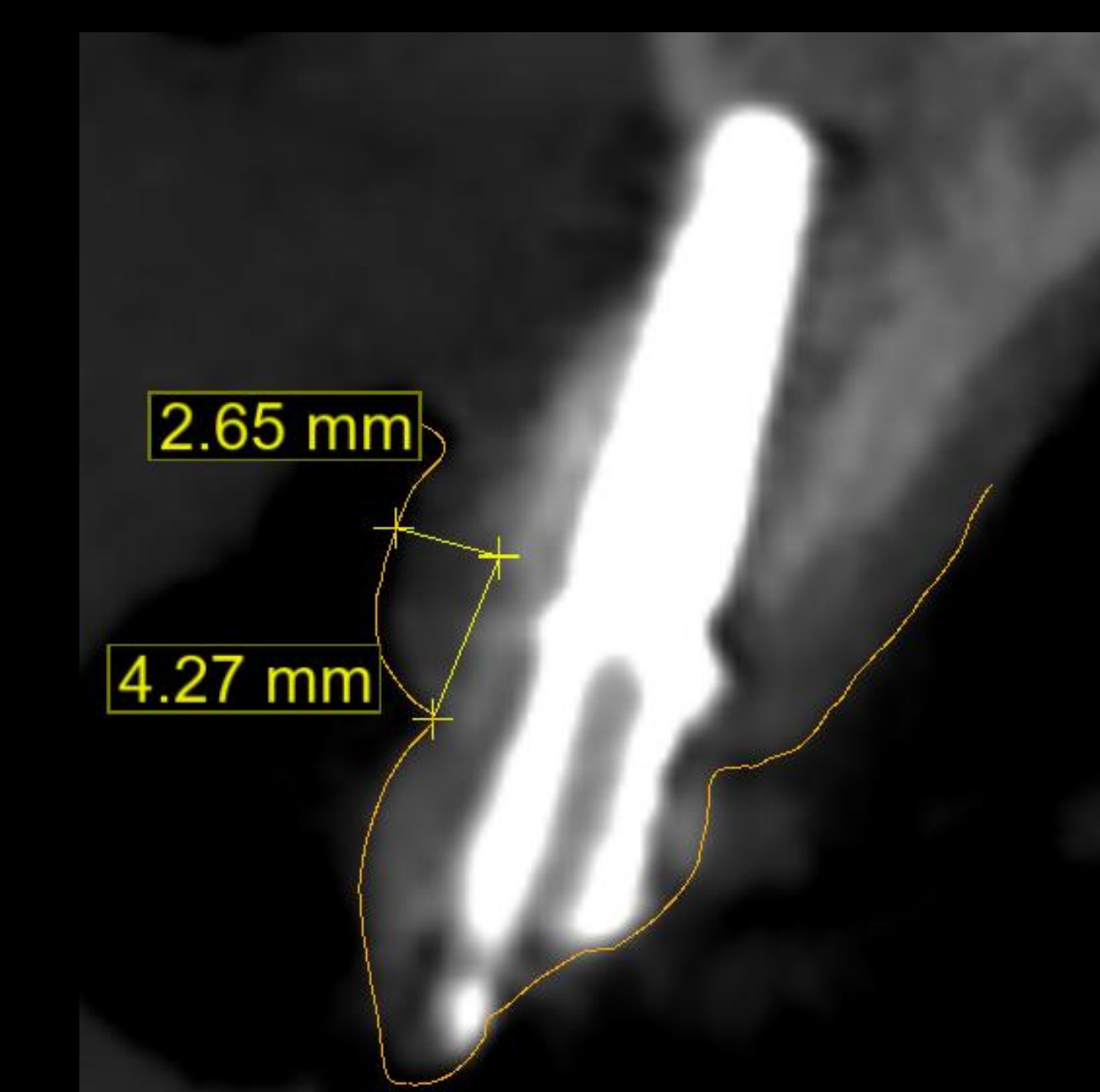


Figure 4. Measurements of the buccal, interproximal bone and facial mucosa.

Results

	Case 1		Case 2		Case 3	
Horizontal	Facial Mucosa					
	Initial	Final	Initial	Final	Initial	Final
	2.87	1.80	2.59	2.47	2.74	2.65
	5.45	5.85	7.06	5.85	4.51	4.27
Vertical	Buccal Bone					
	Initial	Final	Initial	Final	Initial	Final
	2.40	2.33	2.34	2.29	1.96	1.90
	2.37	2.05	2.27	2.16	1.17	1.23
Apical	1.69	1.46	1.96	1.66	1.00	0.75
	Esthetic Analysis					
	Initial	Final	Initial	Final	Initial	Final
	PES	8	9	8	8	5
WES	7	7	6	6	6	6

Table 2. Results of the three cases evaluating facial mucosa, buccal bone and PES/WES index.



Figure 5. Provisionals after 3 months.

Conclusion

Immediate provisionalization is a functional technique that helps conform and stabilize soft and hard tissue during osteointegration process. However, it is a sensitive technique and the provisional must be placed in the ideal position for optimal results. CBCT and IOS facilitate the establishment of the measurements along the treatment. Besides, operator experience can affect the quality of the IOS and the interposition of images as well as execution of the treatment.

