Case Report

Optimizing *emergence profiles* in the aesthetic zone: A comparative case series on the benefits of *coded abutments* for single implant rehabilitation

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INTRODUCTION

The management of anterior aesthetic edentulism presents a significant challenge due to the complexity of preserving and restoring hard and soft tissue around implant-supported prostheses. Achieving optimal aesthetic and functional outcomes requires meticulous surgical and prosthetic protocols to replicate the natural emergence profile and gingival architecture.

In this case series, we present 3 superimposed single-implant anterior clinical cases involving patients requiring central incisor restoration following extraction, with the dual aims of aesthetic prosthetic rehabilitation and harmonious integration surrounding tissues. A standardized surgical-prosthetic workflow was employed across all cases to ensure consistency in clinical outcomes.

Central to this approach was the utilization of the iPhysio® coded abutment, an innovative solution offering several biomechanical and biological advantages:

- ***Emergence Profile Mimicry***

The abutment's design closely replicates the natural tooth emergence, facilitating optimal peri-implant soft tissue contouring.

- ***Enhanced Biocompatibility***

A zirconium-coated surface ensures superior tissue compatibility, promoting passive osseointegration and dynamic gingival adaptation.

- ***Multifunctionality***

The abutment serves as a healing abutment, scan body, and interim prosthetic support, considerably simplifying the restorative workflow.

- ***Seamless Transition***

The ability to retain the abutment from implant placement to final prosthesis delivery ensures biological continuity, particularly when paired with a zirconia crown, maintaining physicochemical synergy between the abutment and the prosthetic intra-gingival margin.

This case series highlights the clinical rationale and procedural benefits of the iPhysio® abutment, even in challenging anterior implant cases, highlighting its role in enhancing aesthetic predictability and long-term peri-implant tissue stability.

CASE A

PATIENT:
63-year-old male

CONDITION:
Tooth 11 was to be extracted as it was periodontally compromised

MOBILITY:
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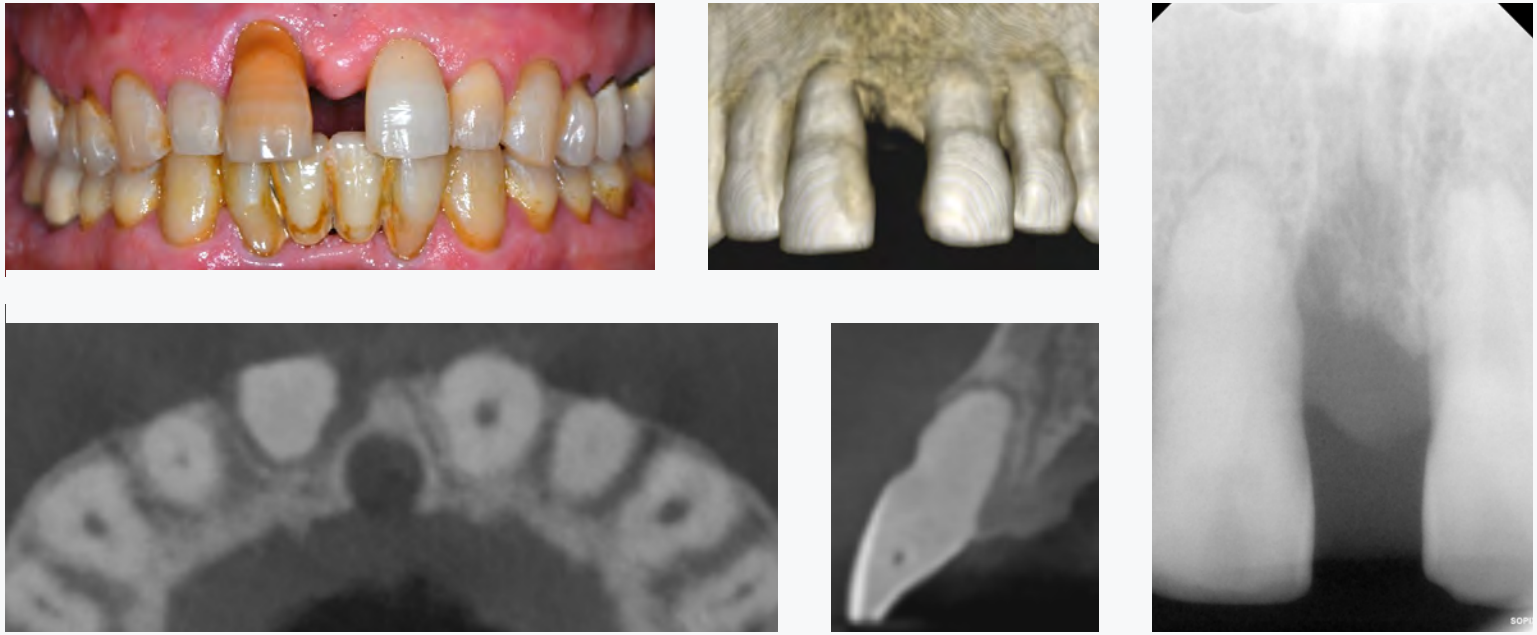

FIG. 1 *Case A: initial situation.*

FIG. 2 *Case A: Tooth extraction.*

FIG. 3 *Case A: try-in coded abutmen.*

FIG. 4 *Case A: iPhysio in place.*

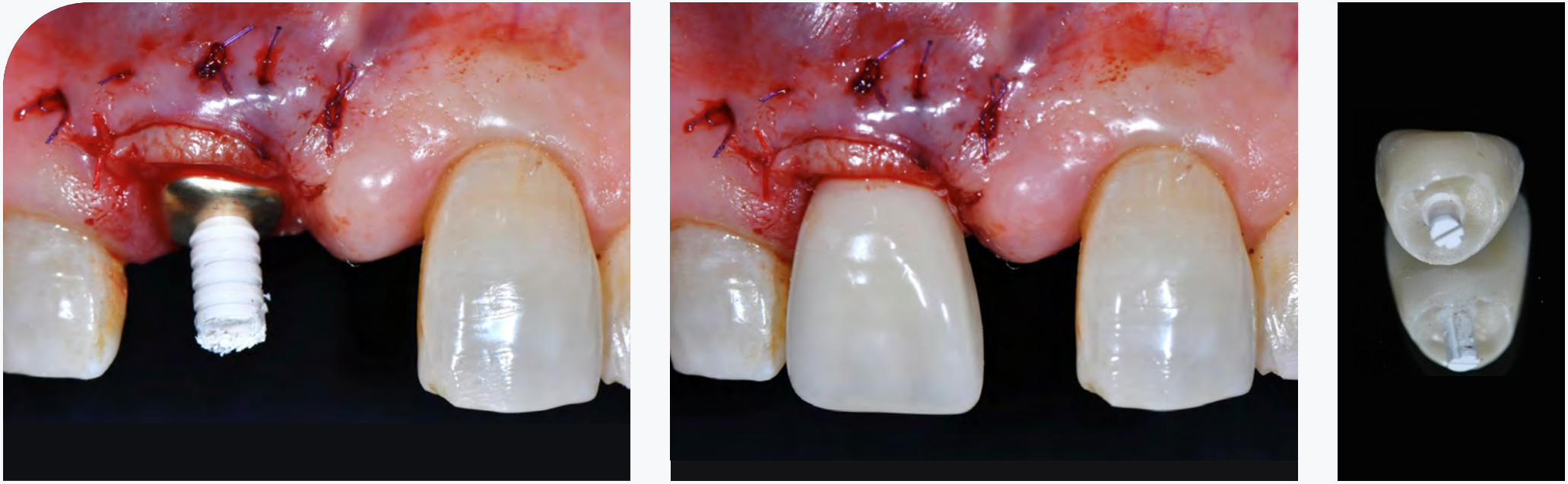

FIG.5A-C *Case A: provisionalization. Temporary peek-abutment and provisional crown religned wit PMMA.*

FIG. 6A-C *Case A: healing.*

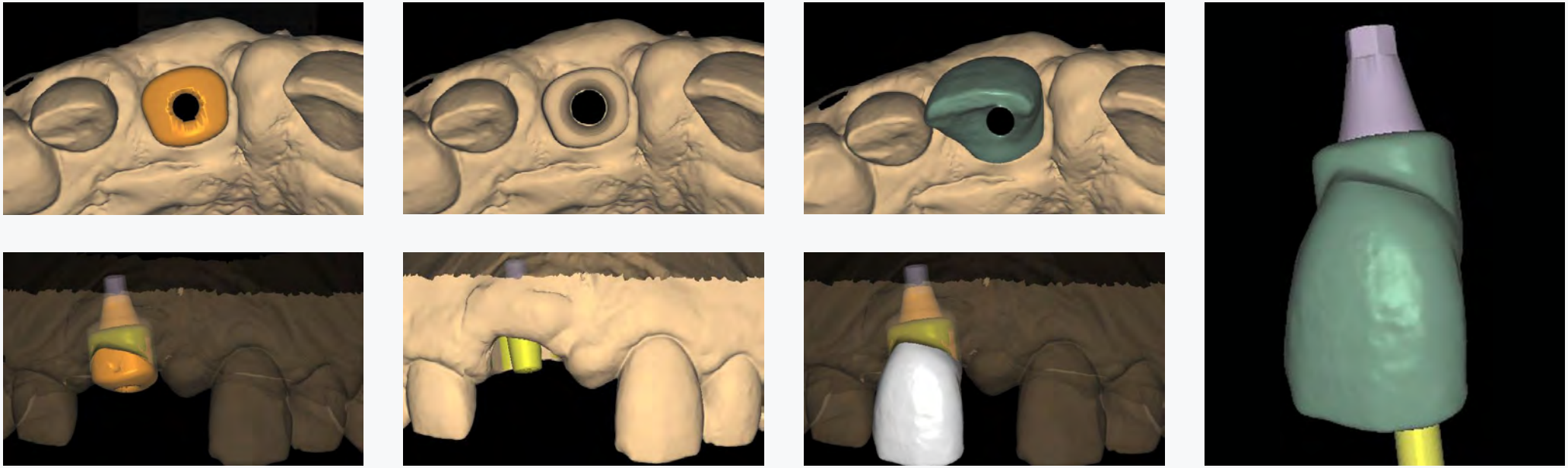

FIG. 7A-G *Case A: final crown design.*

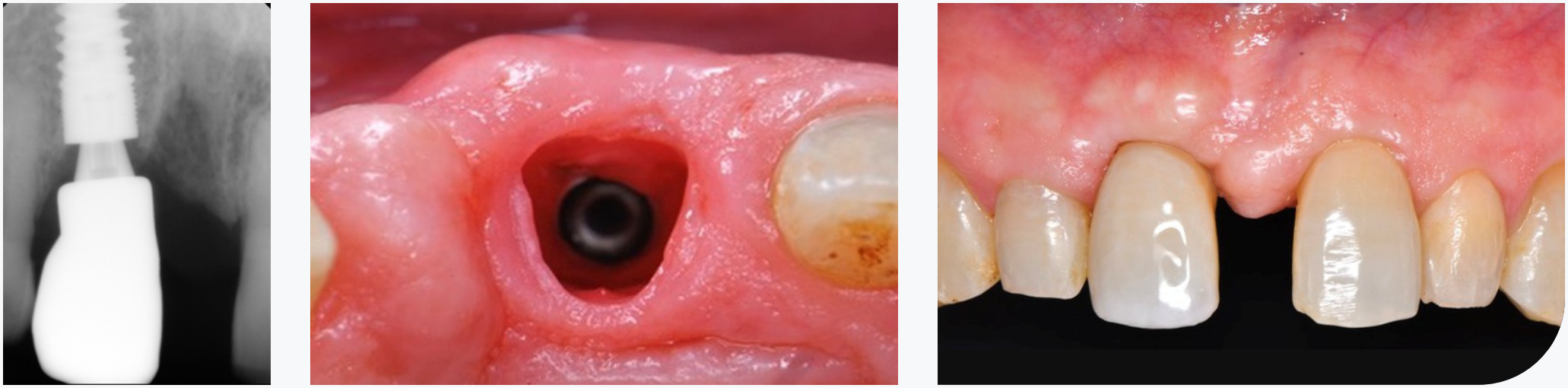

FIG. 8A-C *Case A: final restauration.*

CASE B

PATIENT:
61-year-old male

CONDITION:
Tooth 21 was to be extracted as it was periodontally compromised

MOBILITY:
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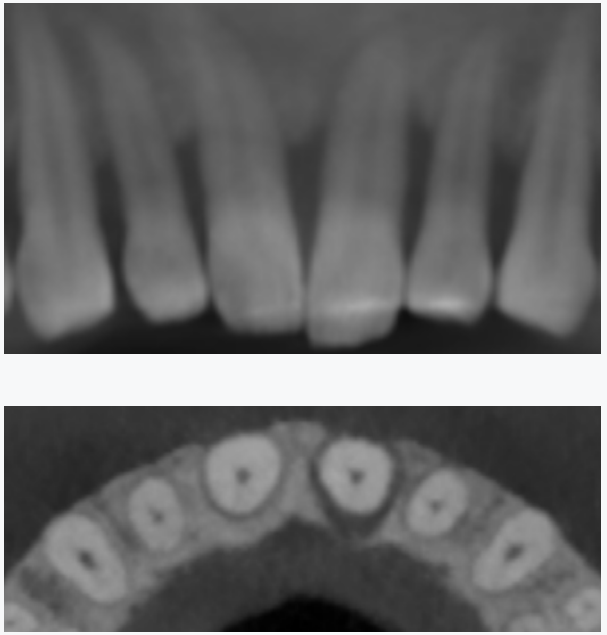

FIG. 1 *Case B: initial situation.*

FIG. 2 *Case B: Tooth extraction.*

FIG. 3 *Case B: try-in coded abutmen.*

FIG. 4 *Case B: iPhysio in place.*

“Central to this approach was the utilization of the LYRA ETK Iphysio® coded abutment, an innovative solution offering several biomechanical and biological advantages.”

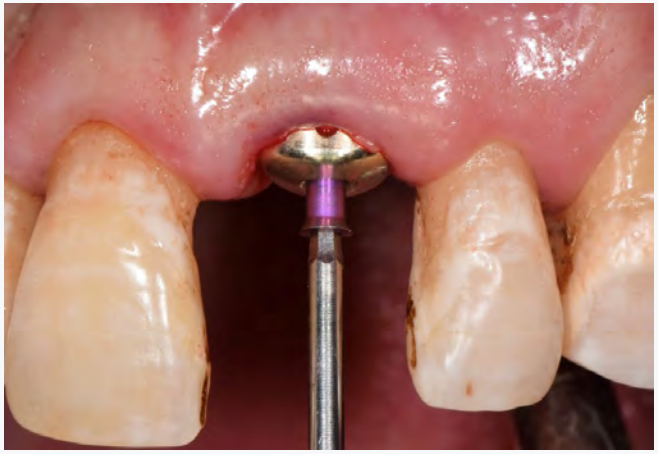





FIG.5A-I *Case B: provisionalization. A part of the natural tooth relined and used as a provisional*

FIG. 6A, B *Case B: healing.*

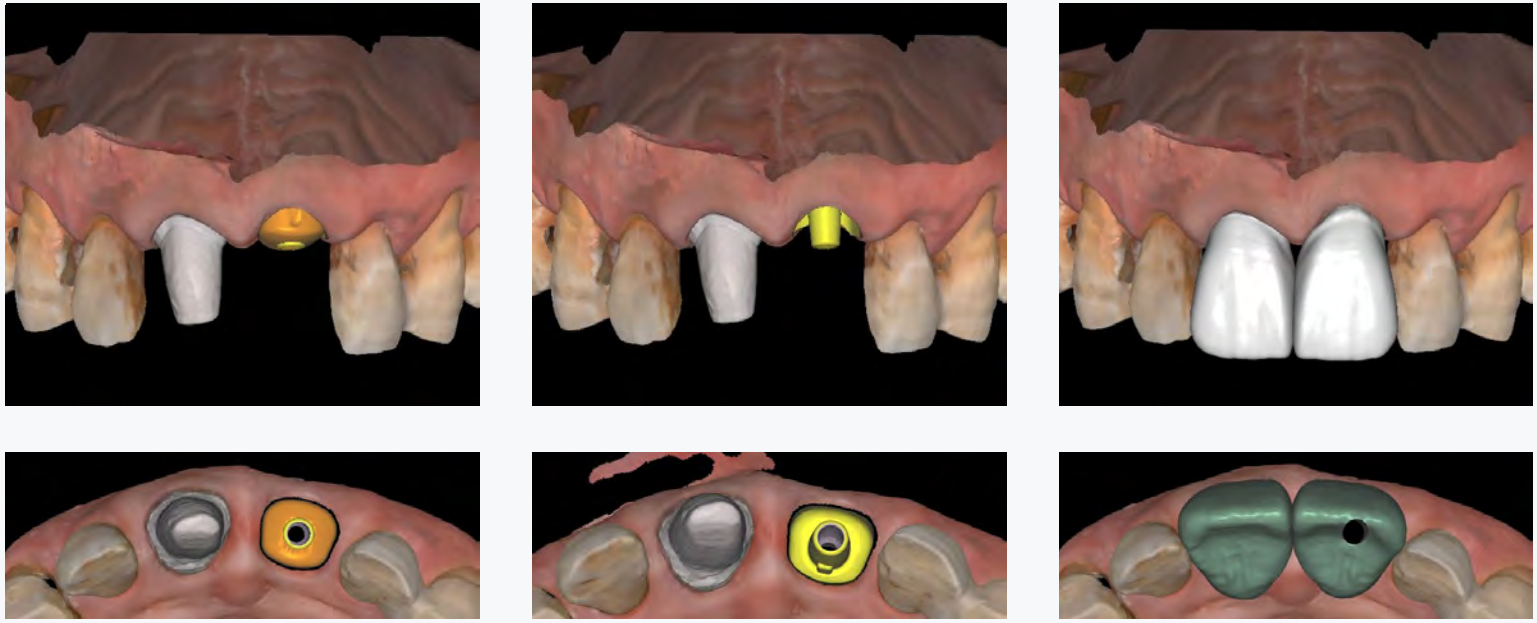

FIG. 7A-F *Case B: final crown design.*

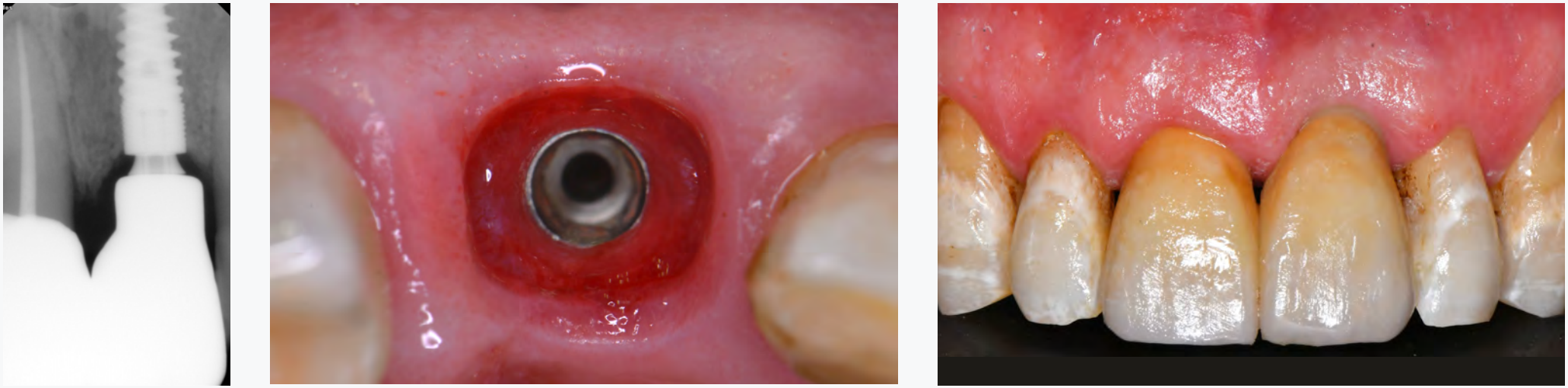

FIG. 8A-C *Case B: final restauration.*

CASE C

PATIENT:
59-year-old male

CONDITION:
Tooth 11 was to be extracted as it was fractured longitudinally and showed acute infection

MOBILITY:
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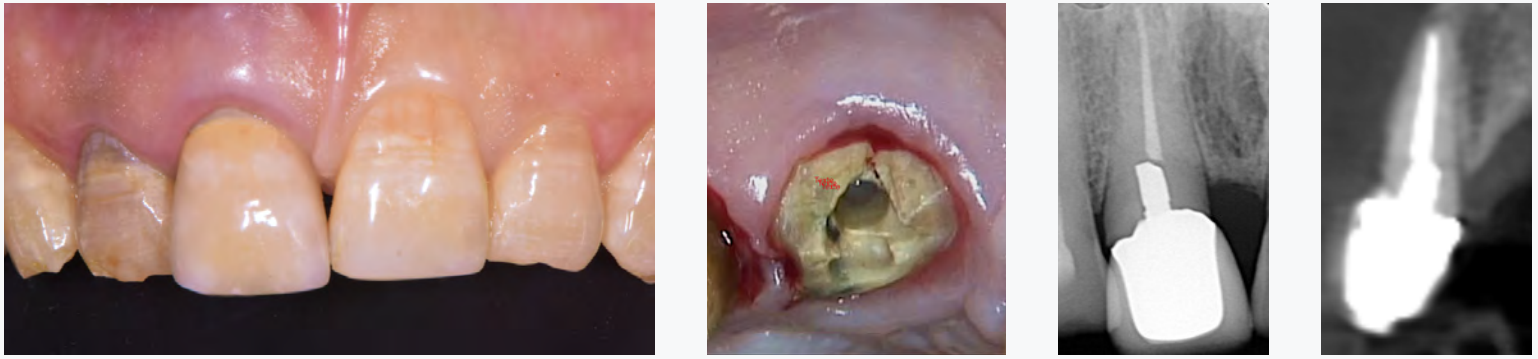


FIG. 1A-C *Case C: initial situation.*

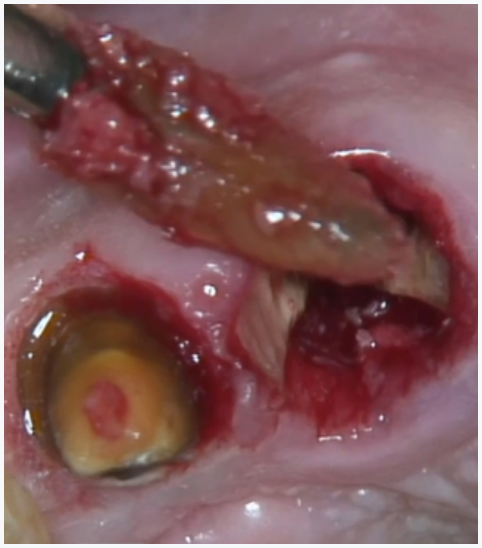


FIG. 2 *Case C: Tooth extraction.*

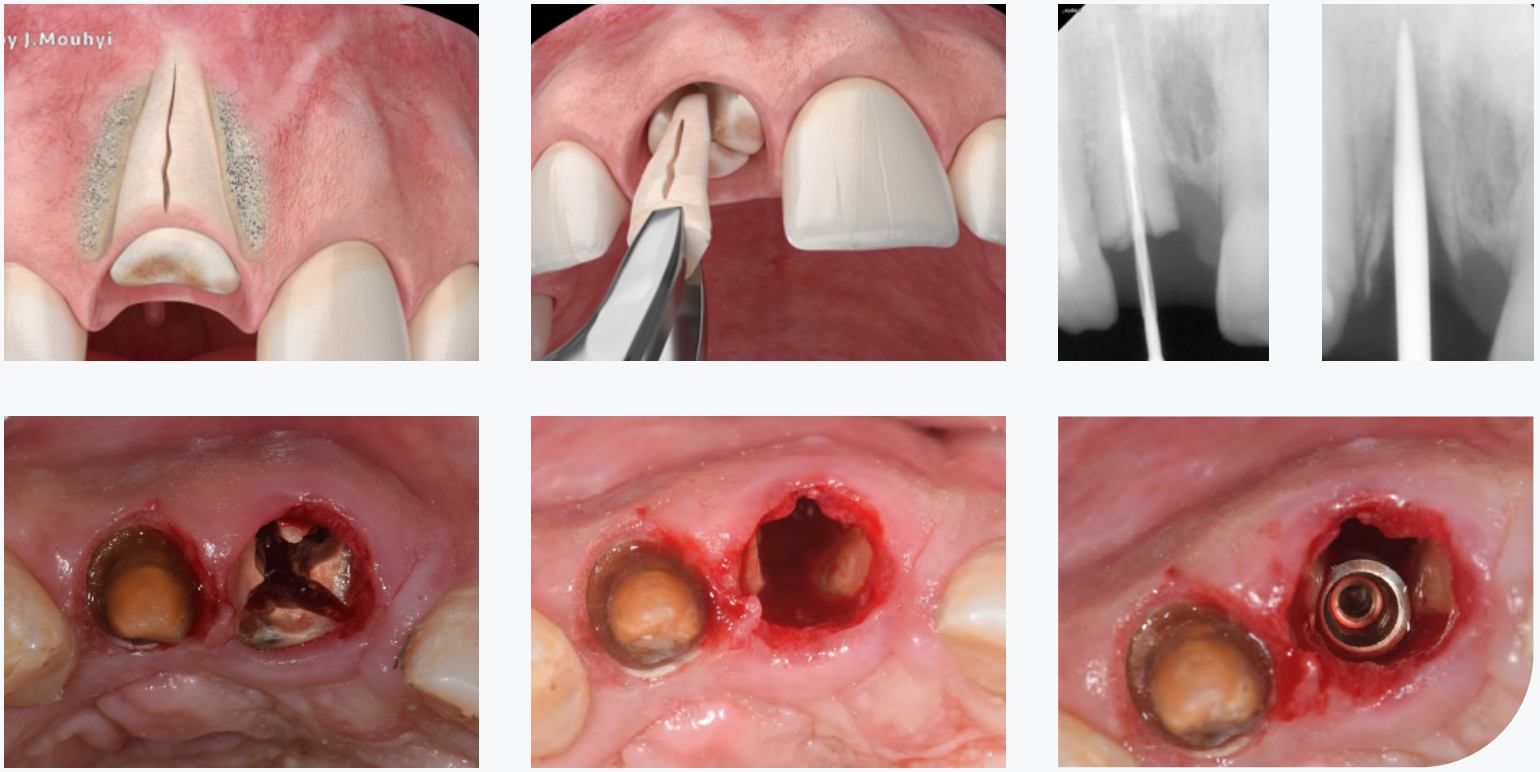
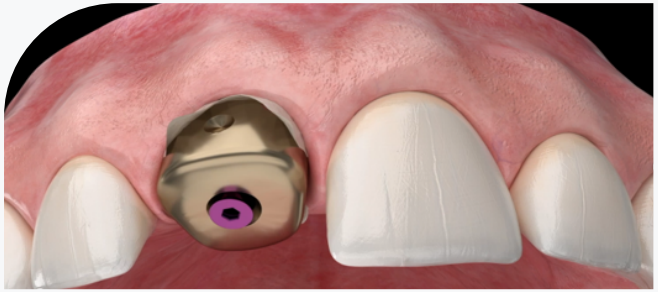
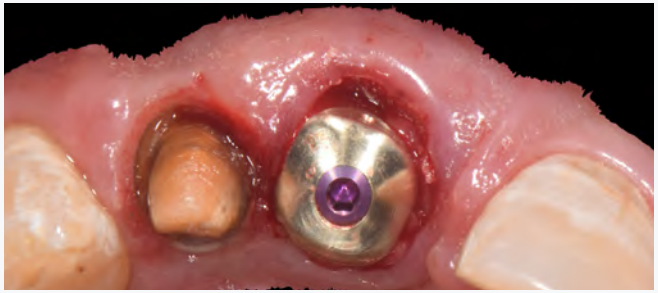


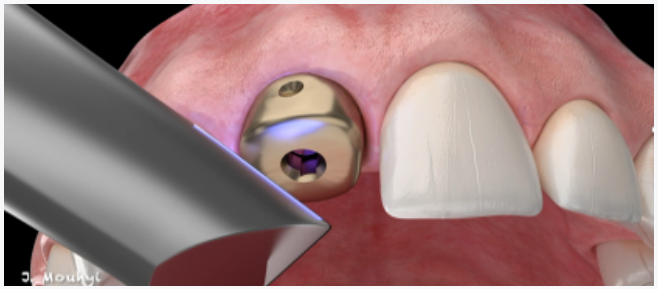
FIG. 3A-F *Case C: a double socket shield technic was performed maintaining the mesial and distal parts of the root to support the papili.*

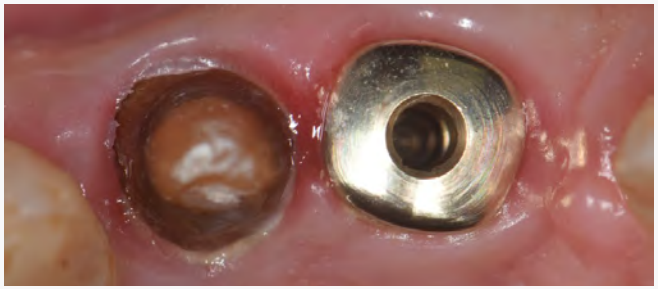




"The abutment's design closely replicates the natural tooth emergence, facilitating optimal peri-implant soft tissue contouring."

FIG. 4A-E *Case C: iPhysio in place (A, B) & provisionalization (C-E).*





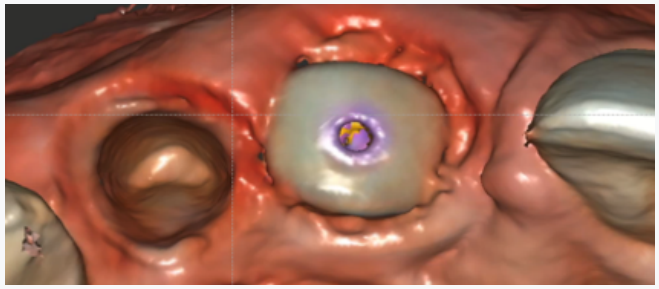


FIG. 5A-C *Case C: healing.*

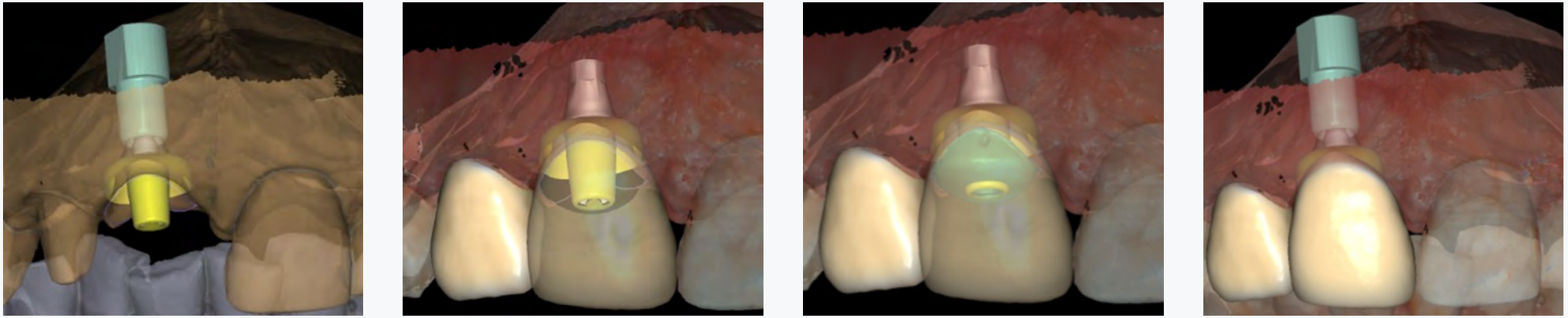


FIG. 6A-D *Case C: final crown design.*

FIG. 7A-C *Case C: final restauration.*

Final Comparison

FIG. Y *Final smile comparison.*