

# A Case Report of Paired Approach to Soft and Hard Tissue Complex for Mandibular Anterior Immediate Implant Placement: 5 Years Follow-Up

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Fig. 1a Concept of Paired Approach



Fig. 1b Connective tissue graft for the soft tissue section

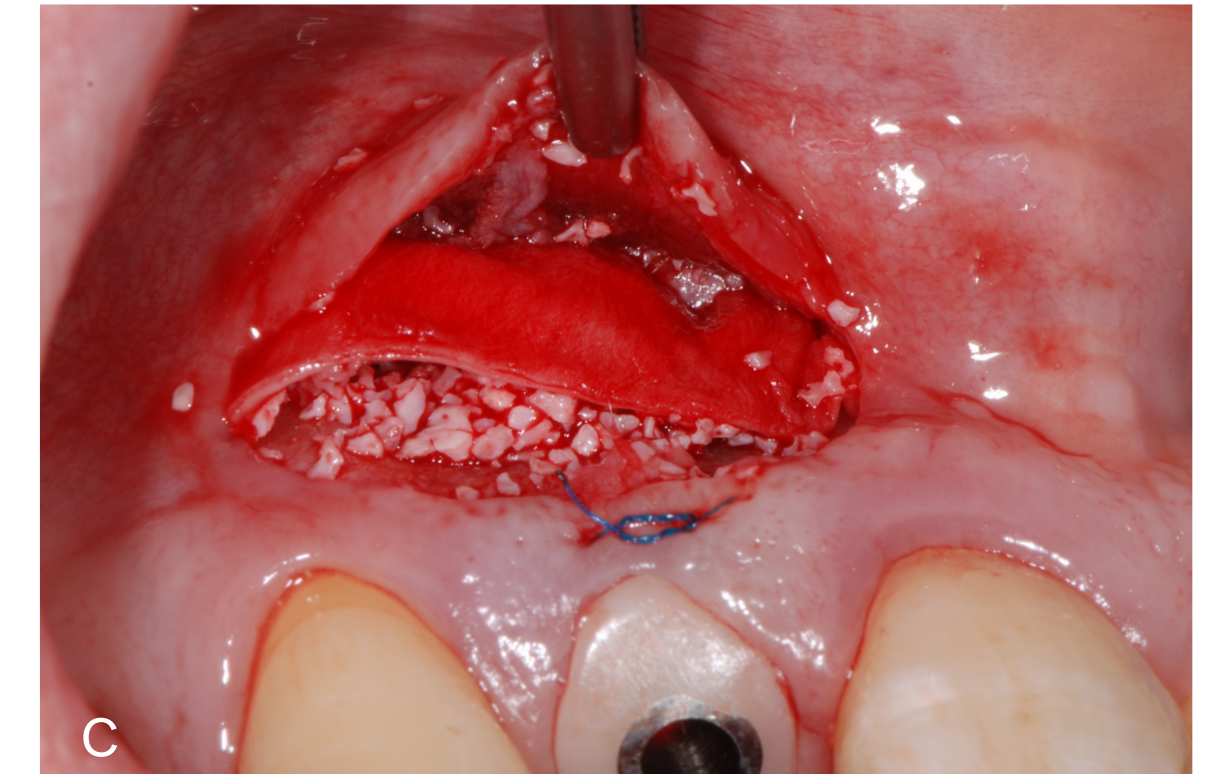


Fig. 1c Bone grafts and resorbable membrane for the hard tissue section

## Introduction:

Immediate implant placement is an established protocol when appropriate patient selection criteria are met. However, challenges can arise due to buccal bone concavity, potentially leading to bone fenestration despite the apical engagement of the implant with the bone. This study presents a 5-year follow-up on the application of Paired Approach (Fig.1 a-c) to address this specific challenge for immediate implant placement in the mandibular anterior area.



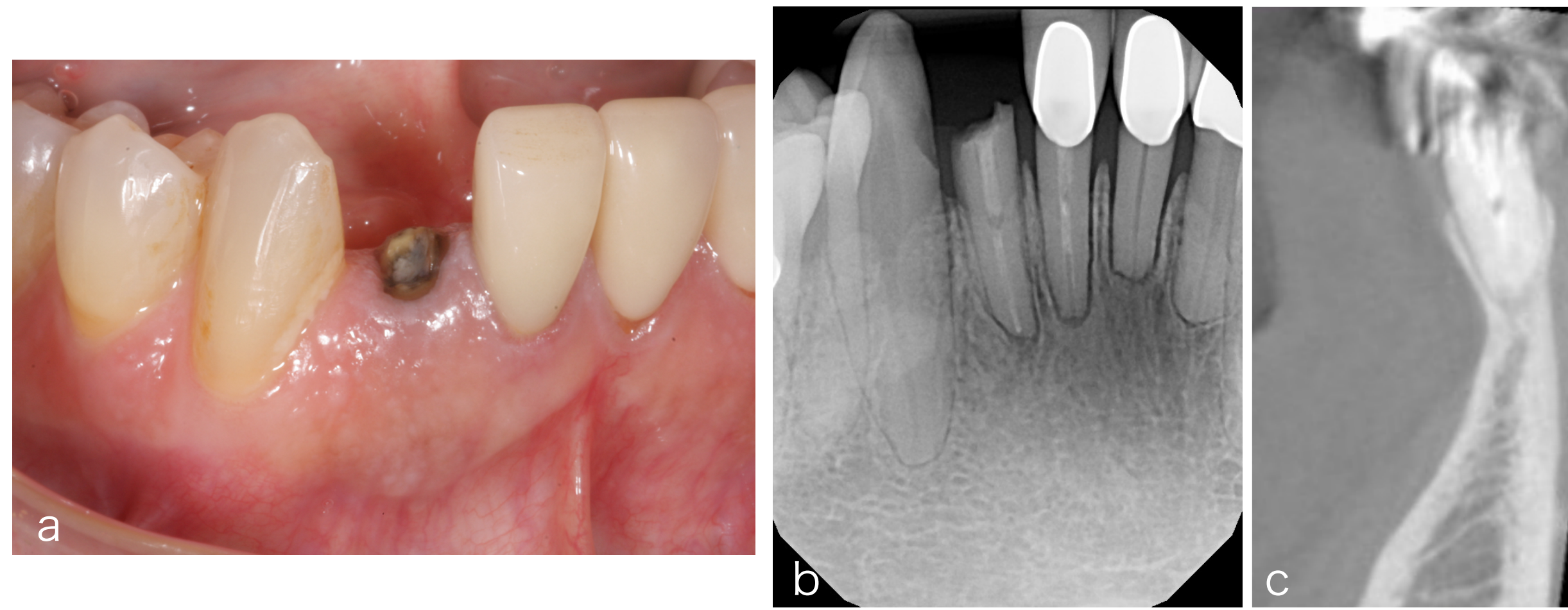


Fig. 2 Non-restorable tooth #26

(a) Clinical facial view (b) PA radiograph (c) CBCT scan sagittal view showing the narrowest faciolingual bone width as approximately 3.7 mm with buccal bone concavity.

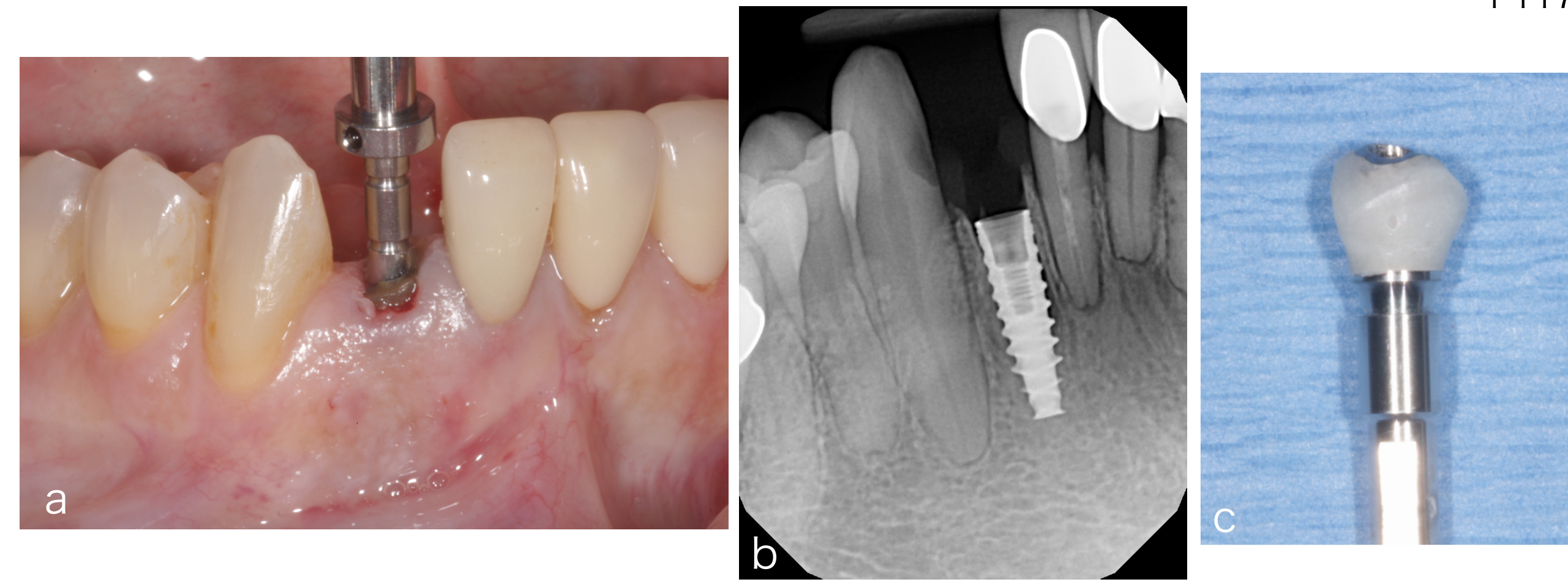


Fig. 3

(a) Extraction and osteotomy site preparation  
(b) Immediate implant placement  
(c) Custom healing abutment

## Methods:

The case involved a patient with a non-restorable mandibular right lateral incisor. A pre-operative CBCT scan revealed the presence of intact bony walls surrounding the tooth but with buccal bone concavity. (Fig. 2 a-c) The tooth was extracted via minimally invasive techniques, followed by immediate implant placement (NobelActive 3.0 x 11.5 mm, Noble Biocare). The gap between the buccal bone and the implant was filled with bone substitutes (Creos Xenogain, Nobel Biocare). A custom healing abutment was used to preserve the interproximal soft tissue contour. (Fig.3 a-c) The Paired Approach was employed to address both soft and hard tissue zones.



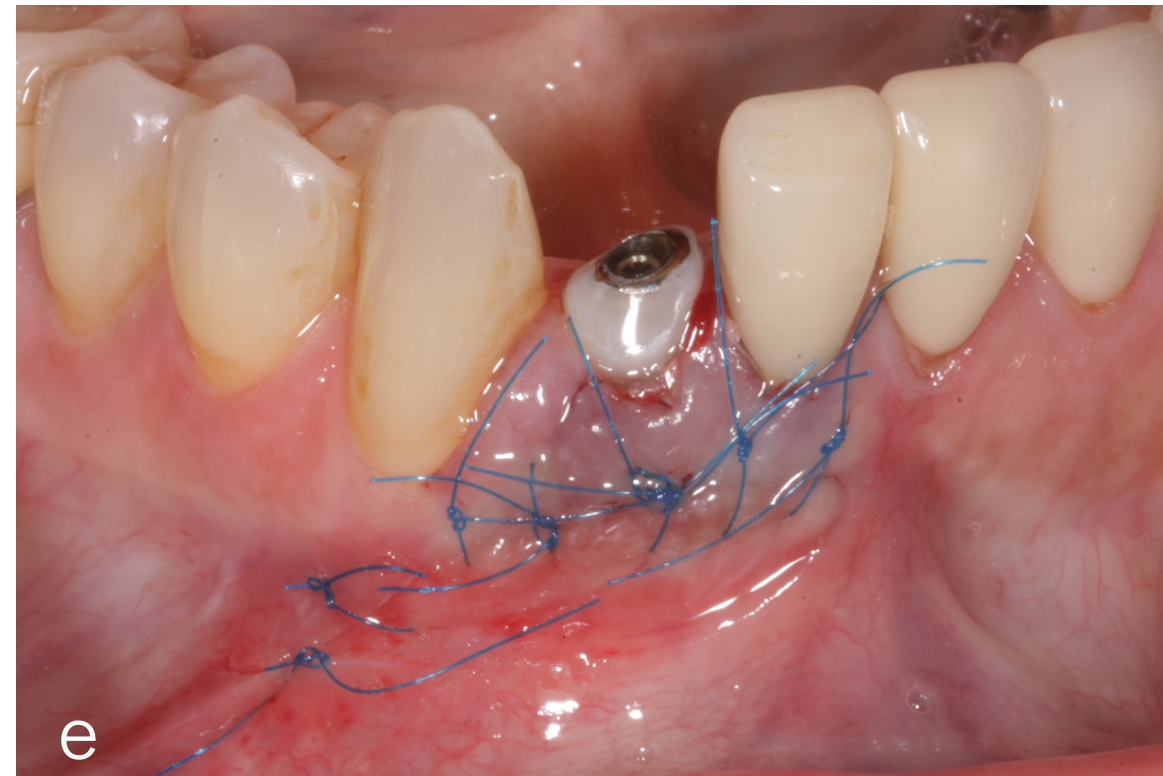
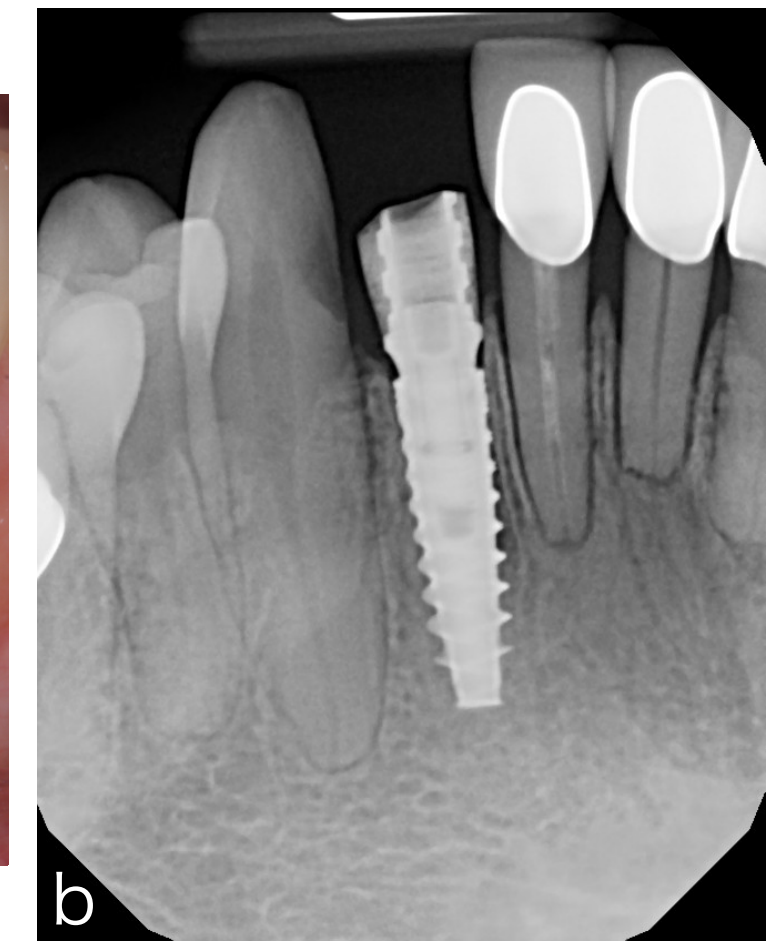


Fig. 3d Paired Approach

Fig. 3e Primary closure after placement of bone grafts and membrane

Fig. 4 Healing 3 months after surgery

(a) Clinical facial view (b) PA radiograph (c) CBCT scan sagittal view showing facial bone thickness of 1.3 mm, 3.5 mm, and 4.1 mm at the coronal, middle, and apical 1/3, respectively.

## Methods:

Initially, the soft tissue section was prepared with a partial thickness dissection. The soft tissue was separated from the crestal bone, leaving the periosteal intact on the bone, and a connective tissue graft was inserted. Subsequently, the hard tissue section was treated. A semilunar type incision was placed at about 4 mm from the tissue margin, then a full-thickness flap was elevated. The bone surface was decorticated, and bone substitutes and a resorbable collagen membrane were placed (Creos Xenogain and Xenoprotect, Nobel Biocare). (Fig. 3 d and e) Three months later, osseointegration and bone level was evaluated. (Fig. 4 a-c) The implant was restored with a cement-retained implant-supported restoration.



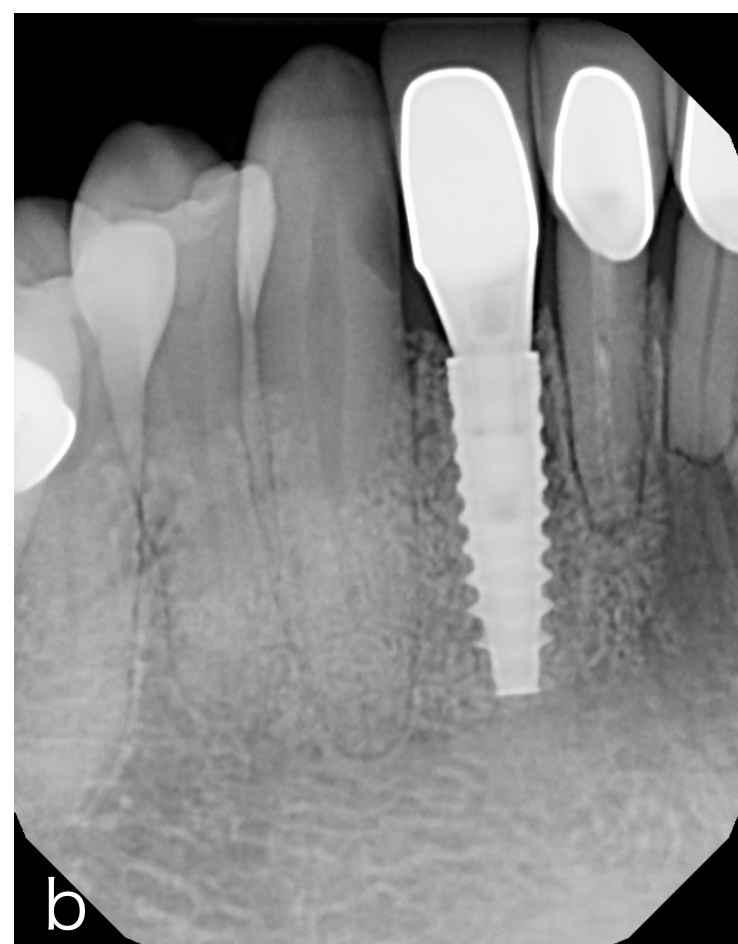


Fig. 5 Two-years follow-up  
(a) Clinical outcome (b) Stable mesial and distal bone level (c) Facial bone thickness of 1.3 mm, 3.0 mm, and 4.0 mm at the coronal, middle, and apical 1/3, respectively.

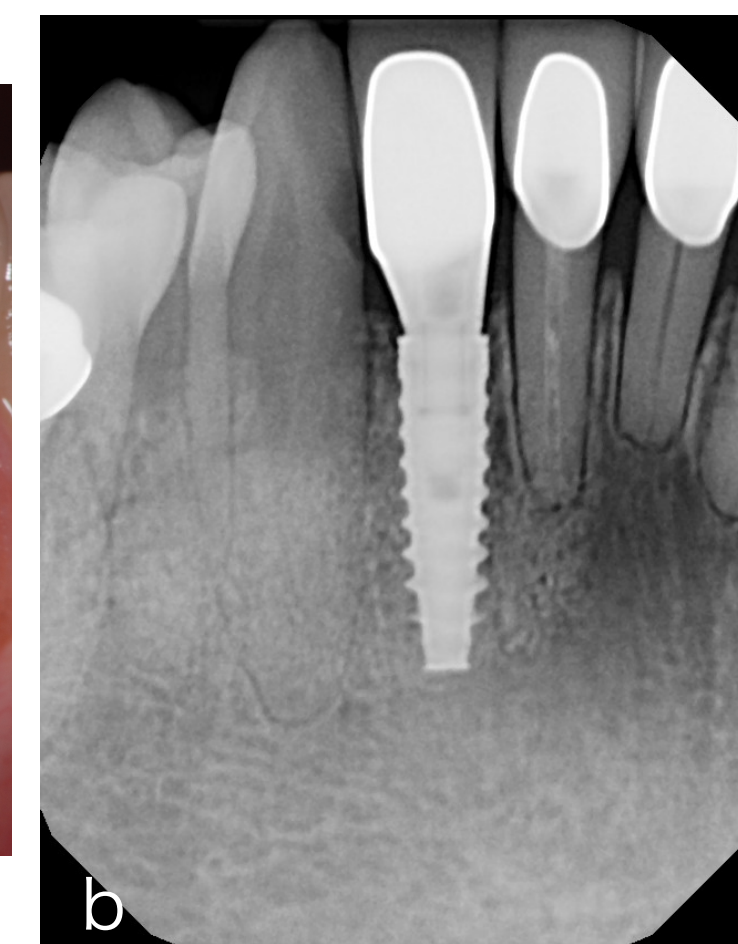


Fig. 6 Five-years follow-up  
(a) Clinical outcome (b) Stable mesial and distal bone level (c) Facial bone thickness of 1.4 mm, 3.0 mm, and 4.5 mm at the coronal, middle, and apical 1/3, respectively.

## Results:

The implant was followed up for 5 years after its placement. (Fig. 5 and 6 a-c) No sign of tissue inflammation was detected on the peri-implant tissue with shallow probing depths.

Approximately 4 to 5 mm wide keratinized tissue is seen on the facial aspect of the implant. CBCT scans showed 3 to 4 mm buccal bone thickness in the hard tissue section.

## Conclusion:

The proposed Paired Approach appears to be a promising technique to approach the buccal aspect of immediate anterior implants. It successfully maintained peri-implant health on the immediately placed implant and buccal bone thickness over a 5-year period.

## References:

1. M. Katafuchi, Paired Approach to Soft and Hard Tissue Complex for Anterior Immediate Implant Placement, Young Clinicians' Session, Academy of Osseointegration 36th Annual Virtual Meeting. March 12-14, 2021
2. Cl Evian et al. Therapeutic management for immediate implant placement in sites with periapical deficiencies where coronal bone is present: technique and case report. Int J Oral Maxillofac Implants. 2006 May-Jun;21(3):476-80.