

# Clinical Consideration for Recovering Aesthetic Complications due to Implant Treatment

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## Introduction

In aesthetic implant treatment, exposure of the implant body is a major problem both aesthetically and pathologically. In this presentation, we will report the details of the aesthetic recovery we performed on the exposed implant site.

## Case Summary

The patient was 45 years female had chief complaining of implant exposure and aesthetic problem due to gingival recession of #9<sup>1)</sup> (Fig. 1). The patient's dental history included extraction of tooth number 9 and implant treatment approximately 2 years ago. At that time, tooth number 8 was placed subgingivally as a residual root, and a zirconia crown connecting teeth number 8 and number 9 was delivered (Fig. 2a, b).

Figure. 2a: Periapical 2b: Panoramic view

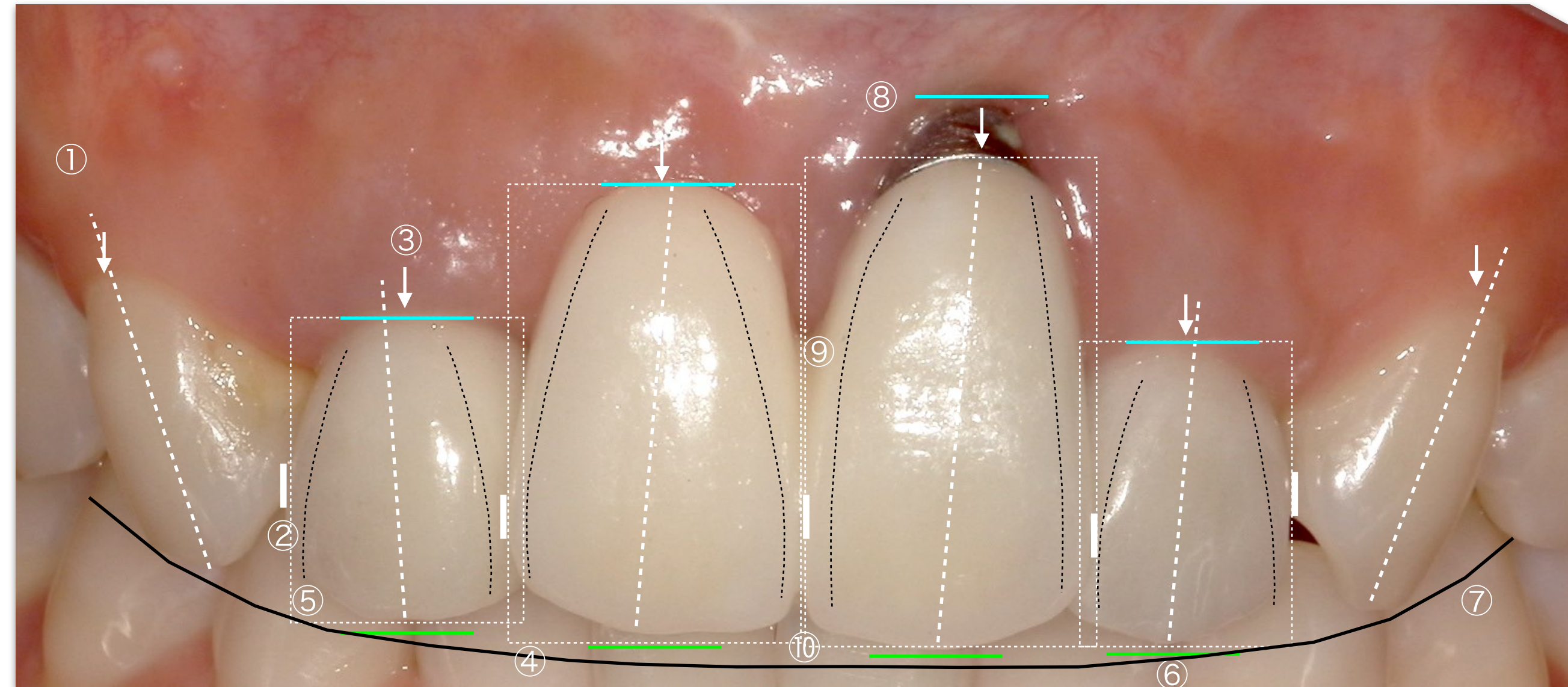
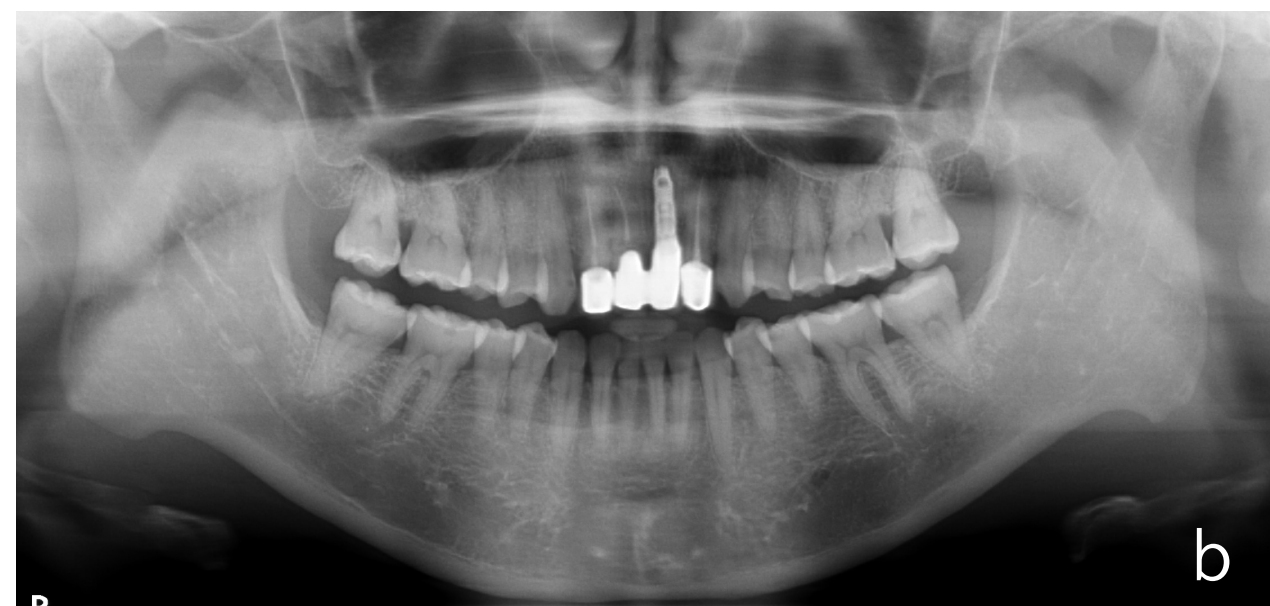


Figure. 1 :Anterior Esthetic Checklist

Four points in the checklist for aesthetic anterior implants were not particularly achieved.

- |                       |                     |                  |              |
|-----------------------|---------------------|------------------|--------------|
| ①-Tooth Axis          | ④-Tooth Proportions | ⑦-Smile Line     | ⑩-Embrasures |
| ②-Interdental Contact | ⑤-Line Angles       | ⑧-Gingival Level |              |
| ③-Zenith Position     | ⑥-Incisal Edges     | ⑨-Papillae       |              |

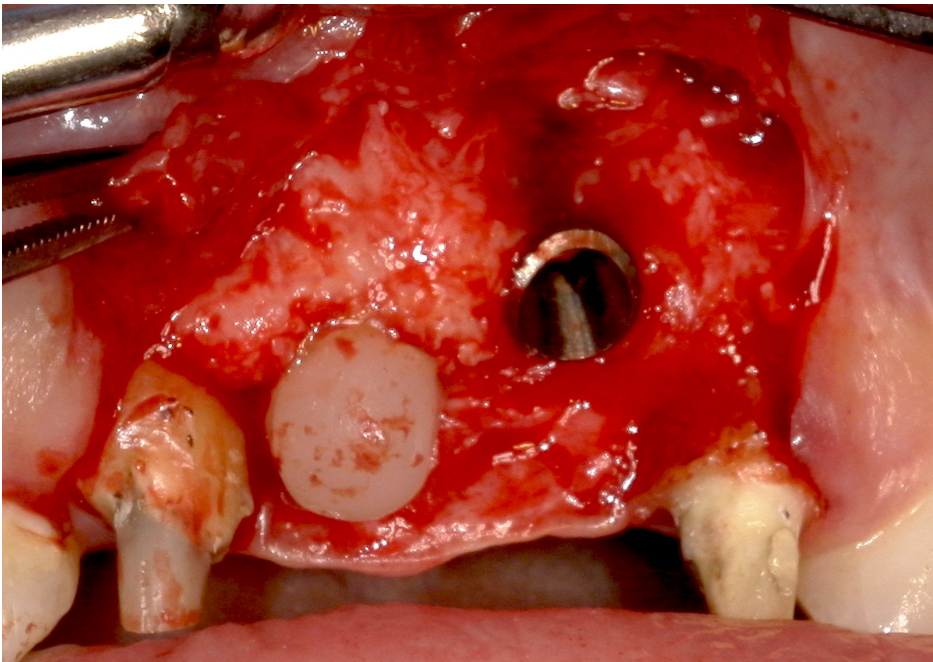
1) Belser UC et. al Outcome evaluation of early placed maxillary anterior single-tooth implants using objective esthetic criteria: a cross-sectional, retrospective study in 45 patients with a 2- to 4-year follow-up using pink and white esthetic scores J Periodontol 2009

Diagnosis

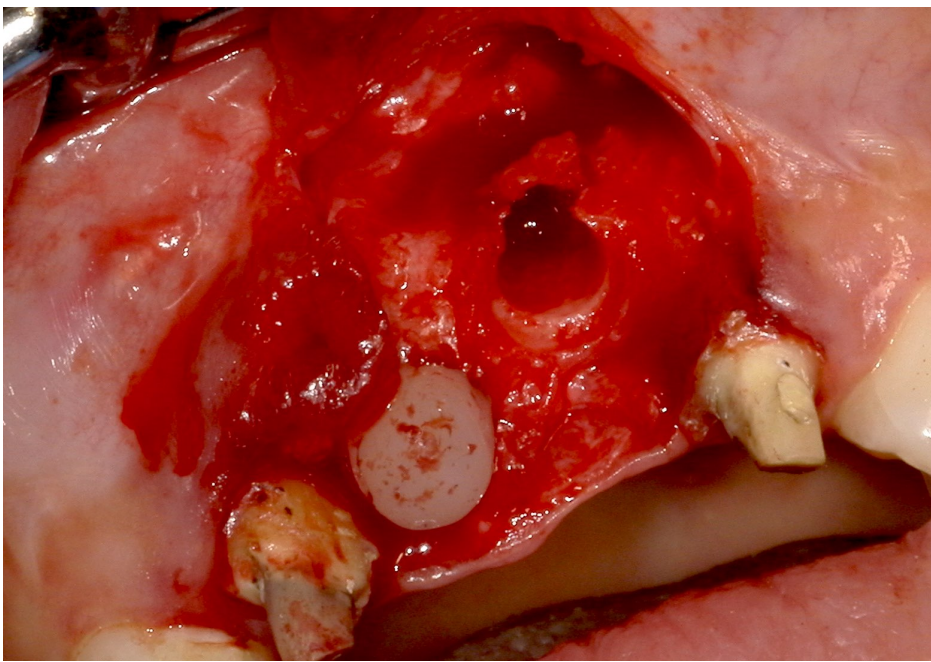
Implant #9 showed exposure of the implant body, inflammation of the surrounding tissues, and bone resorption. The implant was placed at a labial angle, with the abutment close to #10. The remaining root of #8 was amputated and positioned to limit bone resorption. The prostheses #7- 10 with the including implants were not esthetic prosthesis.

Treatment Procedure

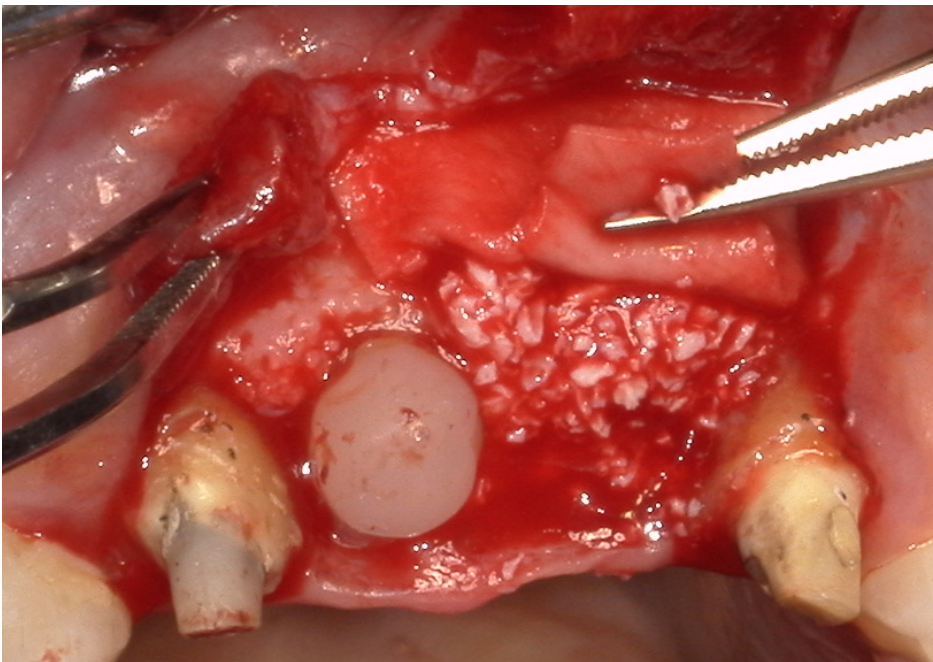
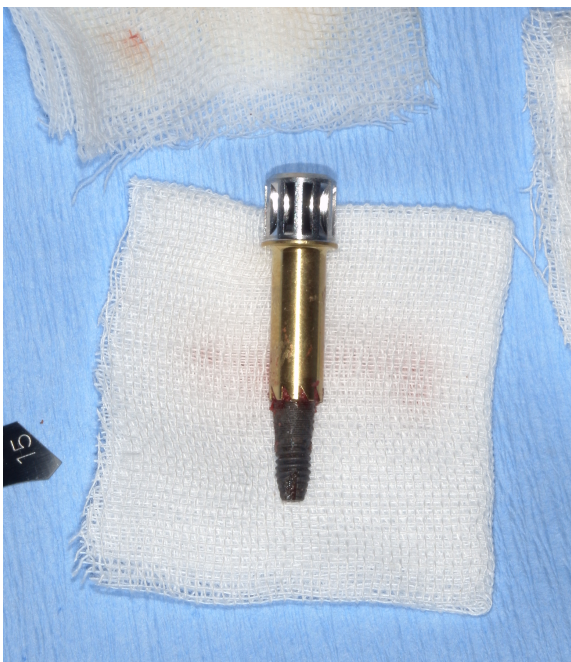
Step 1 : #8 temporary fiber core and #9 Implant removal and GBR



#8 temporary fiber core



#9 implant removal



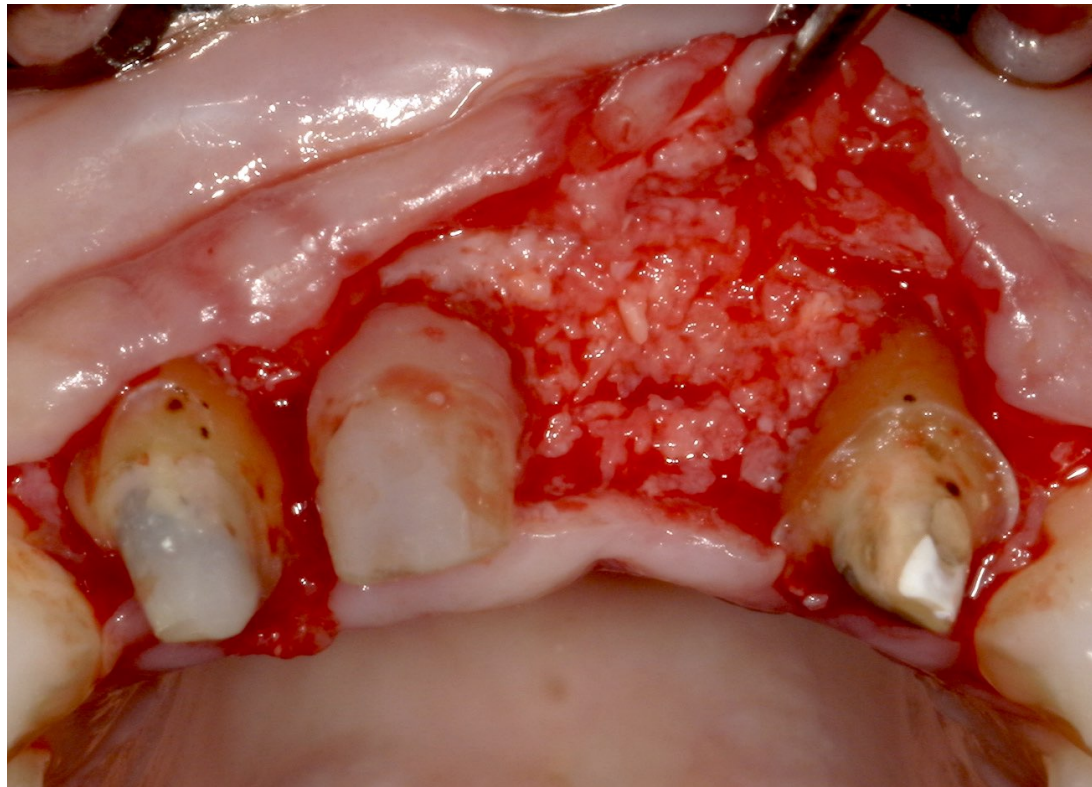
GBR using BiOss and collagen membrane



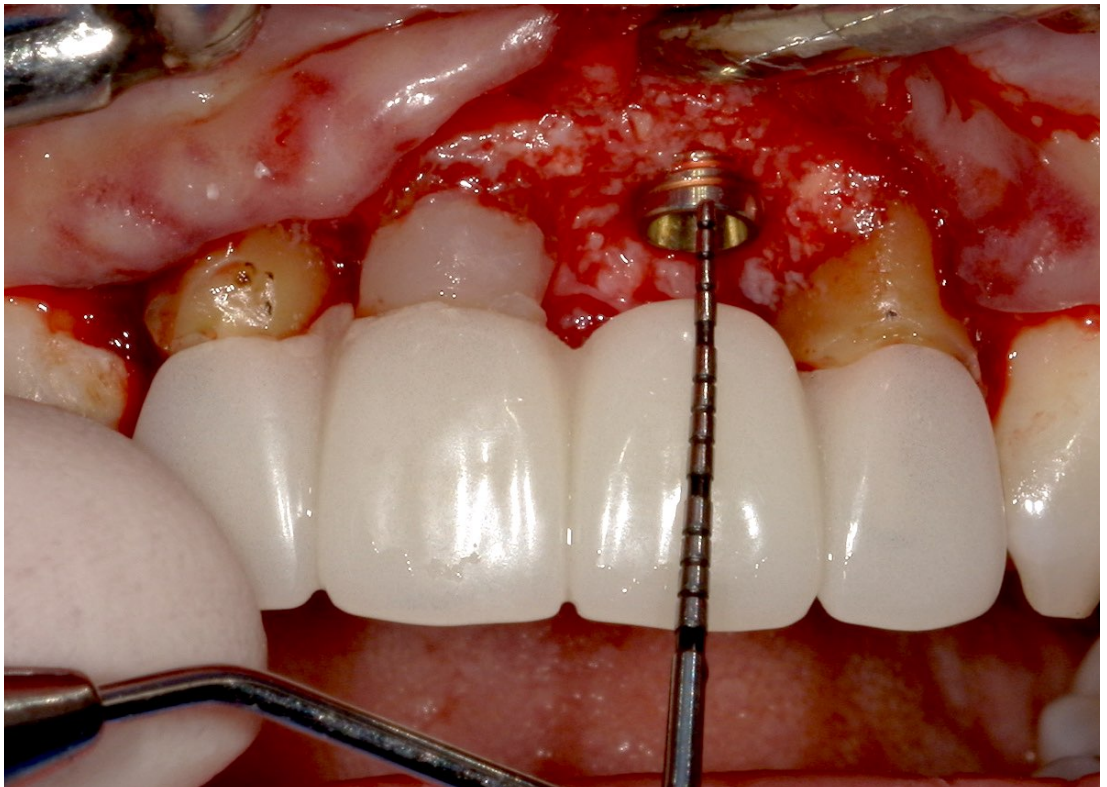
Post 1 month



Step 2: #9 Implant placement and Provisional adjustment



Post 6 month



#9 implant placement

Allowing sufficient healing time allows bone and soft tissue volume to be gained.

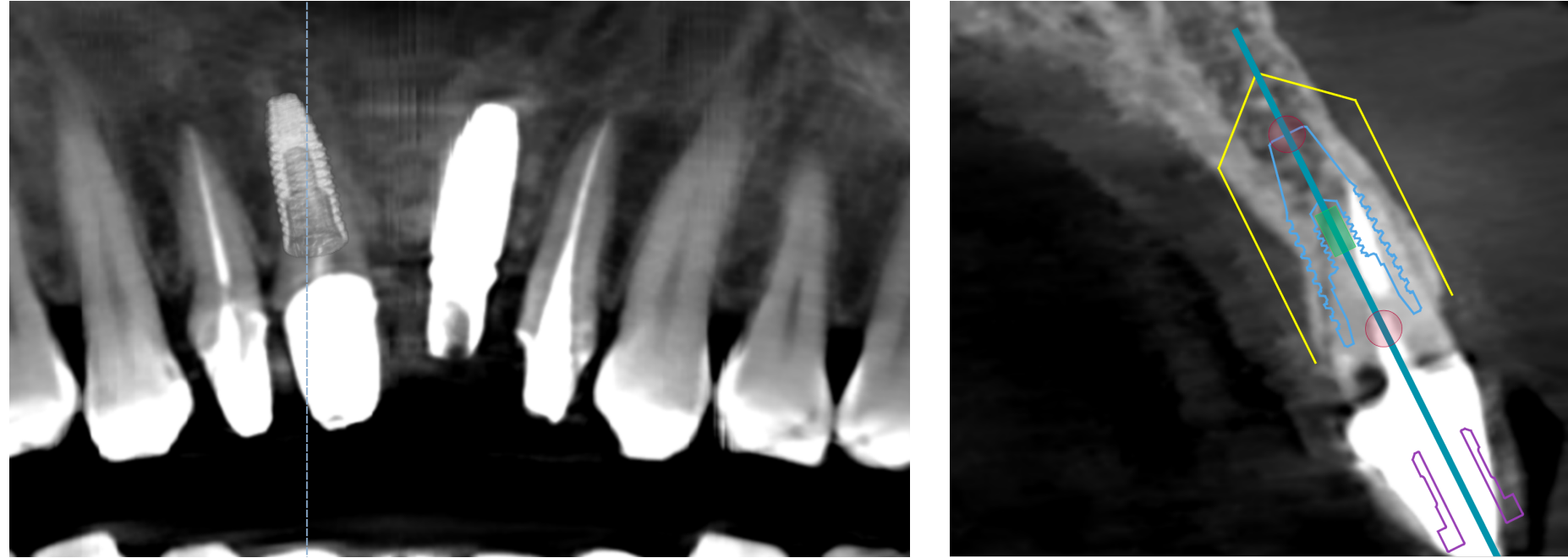


Post 4 month Screw retaining provisional crown



The aesthetic crown profile of #9 clarifies the position of the implant #8.

### Step 3: #8 Extraction and Immediate implant placement



Diagnosis of implant placement ideal position using computer simulation

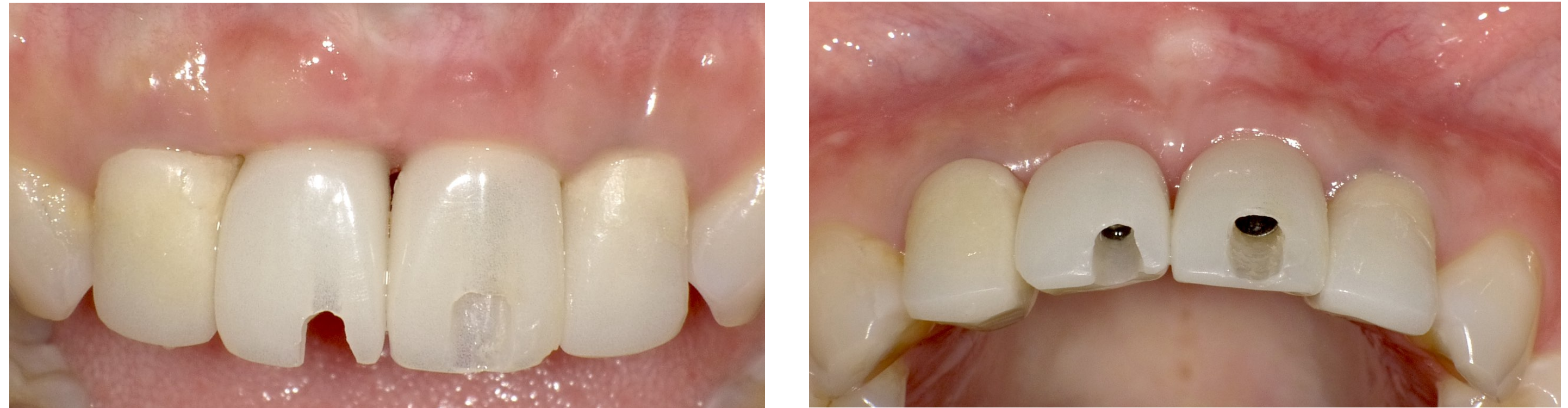


#8 X-ray after implant placement

It is difficult to place two implants in the ideal position consecutively<sup>2)</sup>. Therefore, implant #8 was placed based on the crown profile of implant #9.

2)H J. A. Meijer et. al Dental implant treatment for two adjacent missing teeth in the esthetic region. A systematic review and 10-year results of a prospective comparative pilot study. Clinical and Experimental Dental Research 2023.

### Step 4: Construction of an aesthetic profile for implants and natural teeth



The screw-retained implant provisional will be harmonized with the natural teeth.

The harmony of the provisional emergence profile, contact point position, and gingival line is important<sup>3)</sup>.



It is important to improve inflammation at the implant trans-gingival area and to achieve harmony between the four anterior teeth.

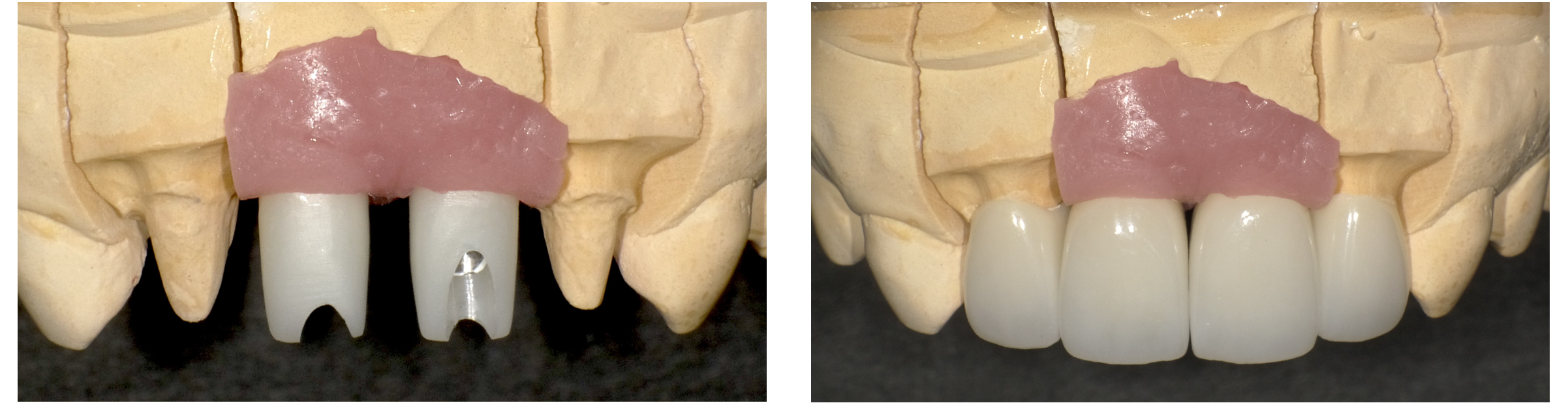
3)W C Martin et. al The influence of restorative procedures on esthetic outcomes in implant dentistry: a systematic review Int J Oral Maxillofac Implants 2014

Step 5: Impression for final prosthesis fabrication



Impressions of natural teeth and implants for final prosthesis fabrication

Step 6: Custom abutment and zirconia crown were fabricated



The implant superstructure was cement-retained, and a zirconia layering crown was fabricated



A resin frame was fabricated to clarify the zirconia crown shape



The final zirconia superstructure was delivered.



Preoperative view

- A detailed diagnosis of the esthetic problem must be made according to the esthetic check list.
- Bone and soft tissue loss due to implant removal and tooth extraction must be anticipated.
- In the esthetic recovery case, treatment procedures must be separated and take a time aesthetic results.
- Adjustment of the provisional restoration is essential to allow for the building up of the surrounding tissue.