Customised aesthetics for provisional profile prosthesis with ceramage gum

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Case Presentation
A 64-year-old Thai female presented with loosening 9-unit fixed dental prostheses (FDPs). Her chief complaint concerned her loose and unpleasing front teeth with unsatisfactory removable gingiva. The initial clinical examination revealed a long-span Porcelain-Fused-to-Metal (PFM) FDPs of teeth 14-25 fixed with temporary cement since 2009 at private hospital (Fig 1,2). The patient had maxillary hard and soft tissue defects associated with alveolar ridge resorption and loss of lip support. Removable Acrylic Gingival Veneer (AGV) (Fig 3.) was used to cover those FDPs in order to improve extra-oral soft tissue profile (Fig 4.). Without AGV, the patient has concave profile (Fig 5.). FDPs were removed to evaluate the existing abutments condition (Fig 6.). Abutment teeth 13,24,25 had first degree mobility. Panoramic XRAV (Fig 7.) revealed that tooth 25 had cast post and core with vertical root fracture. Tooth 25 was endodontically treated with a periapical lesion. After thorough diagnosis and analysis, the treatment plan was presented to the patient with the following phased treatment approach:

- **Phase 1:** Aesthetic evaluation
- **Phase 2:** Provisional full arch bridge fabrication

**Phase 1**
Aesthetic evaluation
Aesthetic analysis was performed with evaluation of the smile line, incisal profile, length and proportion. Diagnostic wax-up was fabricated according to the aesthetic evaluation. (Fig 8)

**Phase 2**
Provisional full arch bridge fabrication
(Fig. 8 - 19)
Preparation cast with a diagnostic wax-up cast was sent to a local laboratory for scanning and transforming into STL (Stereolithography) digital impression file. (Fig 8,9.) Two sets of STL impressions were super-imposed in the software in order to subtract the overlapping data. This process was done in order to transform the diagnostic wax-up into the STL digital impression. Consequently, the STL data was sent to the laboratory for milling. (Fig 10.) A monochromatic milled PMMA temporary bridge was fabricated in a local laboratory and returned to the dentist for composite layering. (Fig 11.) Gingival cutback was made to create sufficient gingival space for pink composite layering. (Fig 12.) Prior to composite layering CeraResin Bond 1 was applied and left for 10 seconds to prime the surface, followed by application of CeraResin Bond 2 for 10 seconds and light cured for 20 seconds. (Fig 13.) Ceramage Indirect Composite gingival shade GUM-O (GUM Opaque) was applied to mask the color of PMMA. (Fig 14.)
was applied to mask the color of PRIMA (Fig 14). GUM-D (GUM Dark) was applied on the intaglio surface of the provisional bridge (Fig. 23) Post-operative panoramic X-ray revealed that implants were placed according to the pre-operative planning (Fig. 23) Suture was removed after surgery 14 days. A final profile prosthesis will be fabricated after implant osseointegration.

Conclusion
When treatment planning for restorations of the missing alveolar bone and teeth, restoration of significant segments of missing alveolar bone and soft tissue contours to achieve optimal aesthetics. This case helps to illustrate the benefits of using a provisional profile prosthesis fabricated with CRANIGAL Gum Colors to help improve extra-oral soft tissue profile and vascular alveolar mucosa mimicking the mucogingival junction and vascular alveolar mucosa.

Contouring, Finishing and Polishing of temporary restoration
Meticulous finishing and polishing of the restoration is a crucial step to achieving the desired aesthetics. Dura-Clean stone was used to contour the macro anatomical details while the Robot Carbide Fissure Bur was used to shape the interproximal and papilla areas. The course silicone points, followed by Dura-Polishing paste Al2O3 with a medium strong brush was used to finish and polish the restoration. Dura-Finish D1A diamond polishing paste was applied with a fine brush followed by the cotton buff to achieve the final high-luster polishing (Fig 9).

Phase 3
Flapless guided-surgery with immediate loading protocol
The questionable teeth (13, 23 and 25) were extracted under local anesthetics. The surgical site was secured in place on the maxillary arch with two anchor pins (Fig 20). Flapless surgery was performed using guided tissue punch. Sequential drilling were made according to the manufacturer’s protocol. All implants were placed through the surgical template and all implants were torqued 35 Ncm to ensure primary stability. The extraction socket were filled with small particle Xenograft Bio-Oss (Geistlich) and covered with resorbable collagen plug (Collar plug, Zimmer Incotec). Straight and angle multi-unit abutments were sealed and torqued 35 Ncm on each implants (Fig 23).

The existing provisional bridge was utilized for converting to a provisional screw-retained prosthesis. An immediate loading protocol was utilized. Metal temporary abutments were connected on each implant. Provisional full arch bridge was perforated to match the position of the metal temporary abutments, placed in their correct position and OVD, metal temporary abutments, placed foratted to match the position of the existing provisional bridge. The existing provisional bridge was removed after surgery 14 days. A final profile prosthesis will be fabricated after implant osseointegration.

Fig. 16. Ceramage GUM Light (GUM-L) was applied in order to imitate the free gingival area.

Fig. 17. Ceramage Flowable GUM Red (F-GUM-R) and White (F-W) were applied to mimic the mucogingival junction and vascular alveolar mucosa.

Fig. 18. Ceramage GUM translucent (GUM-T) was applied to reproduce the reddish translucent gingiva areas.

Fig. 19. Completed Provisional Profile Prosthesis with gingival aesthetics that mimic nauture.

Fig. 20. A surgically-guided with fully-guided sleeves.

Fig. 21. Fully-guided surgery was performed using Nobel Active.

Fig. 22. Post-operative panoramic X¬RAY.

Fig. 23. Post-operative occlusal view.

Fig. 24. Post-operative frontal view.

Fig. 25. Post-operative smile with provisional profile prosthesis.

Fig. 26. Post-operative smile with provisional profile prosthesis.

Fig. 27. Post-operative smile with provisional profile prosthesis.

Fig. 28. Post-operative smile with provisional profile prosthesis.

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Fig. 26. Post-operative smile with provisional profile prosthesis.

Fig. 27. Post-operative smile with provisional profile prosthesis.

Fig. 28. Post-operative smile with provisional profile prosthesis.

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