Customised aesthetics for provisional profile prosthesis with ceramage gum

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Case Presentation
A 61-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 XRAY (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:

1) 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)

2) Phase 2 Provisional full arch bridge fabrication (Fig 8 - 19)

Preparation cast with a diagnostic 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, Cerelison Bond 1 was applied and left for 10 seconds to prime the surface, followed by application of Cerelison 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 1. Pre-operative Fixed Dental Prosthesis with Acrylic Gingival Veneer
Fig 2. Pre-operative without AGV
Fig 3. Acrylic Gingival Veneer AGV
Fig 4. Extraoral smile with FDP in place
Fig 5. Concave facial profile
Fig 6. Pre-operative without 9-unit FDPs
Fig 7. Pre-operative Panoramic XRAY
Fig 8. Full-contour waxing was made according to teeth proportion and position.
Fig 9. Prepared cast and Diagnostic cast were scanned and transformed into STL file.
Fig 10. Two sets of STL data were super-imposed and sent for milling.
Fig 11. Milled Full-contour PMMA bridge
Fig 12. cutback was made to create gingival space for pink composite layering.
Fig 13. Cerelison Bond 1 and 2 (CRB1 and CRB2) were applied to bond the Ceramage pink composite.
Fig 14. Ceramage GUM Opaque (GUM O) was applied to mask the color of PMMA.
Fig 15. Ceramage GUM Dark (GUM-D) was applied on the attached gingiva area to the buccal flange.
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was applied to mask the color of PRIMA (Fig 14). GUM-D (GUM Dark) was applied on the intaglio surface. The provisional bridge was delivered to the patient’s mouth. All surfaces were fine-polished. A final high-luster polishing (Fig 19) was performed by the cotton buff to achieve the final aesthetic result.

Phase 3
Flapless guided-surgery with immediate loading protocol

The questionable teeth (13, 24 and 25) were extracted under local anesthesia. The surgical guide was secured in place on the maxillary arch with two anchor pins. (Figs. 21) Flapless surgery was performed using Nobel Active surgical template. All implants were placed according to the pre-operative planning (Fig 22). Suture was removed after surgery 14 days. A provisional profile prosthesis was fabricated after implant bone integration.

Conclusion
When treatment planning for restored maxilla, it is important to consider a holistic approach which includes replacement of missing teeth, restoration of significant segments of missing alveolar bone and soft tissue contours to achieve optimal aesthetics. This case helps to showcase the benefits of using a provisional profile prosthesis fabricated with CERAMAGE Gum Colors to help improve extra-oral soft tissue profile and vascular alveolar mucosa.

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A Lotus of references can be obtained from the publisher.