

FABRICATION OF A MONOLITHIC LITHIUM-DISILICATE ABUTMENT CROWN: A CASE REPORT

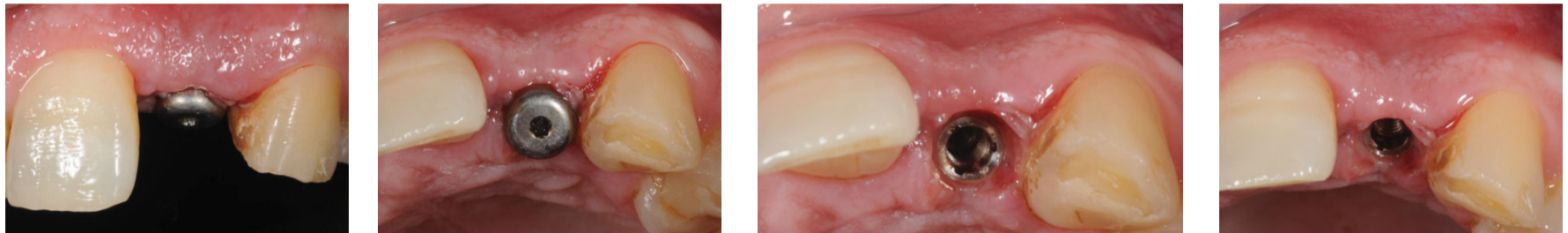
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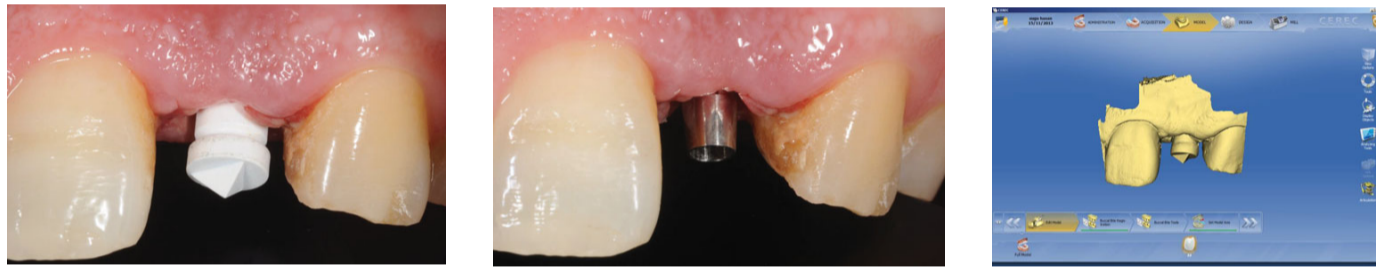
Objectives

Prosthodontic treatment requires appropriate functionality, precision, and esthetics. Porcelain-fused-to-metal crowns and all-ceramic restorations have been widely used in prosthodontics, especially for esthetic purposes. In these treatment methods, the precision of the prosthesis depends on the proficiency of the dental technician. Errors may occur during the fabrication process and can reduce the accuracy of the prosthesis and affect its marginal and internal fit. Thus, there has been a growing need to solve the problems associated with manual fabrication of prostheses and to produce consistent and high-quality prostheses. As a result, automated computer-aided design/computer-aided manufacturing (CAD/CAM) technology has been applied to dentistry. To obtain a natural emergence profile and optical characteristics in anterior implant supported crowns by fabricating individually designed and digitally fabricated lithium-disilicate abutment crowns without the need of intra-oral cementation procedures.

Materials and Methods



One-stage surgery with a bone level implant (Camlog; diameter: 3.8 mm and height: 11 mm) was conducted on a patient with a maxillary left lateral incisor congenital absence.



After a healing period of 16 weeks, a titanium base (Camlog Titanium base CAD/CAM) was placed on the implant and a digital impression was obtained (Cerec Bluecam AC, Sirona).



Due to the appropriate vestibulo-palatal position of the implant, screw hole of the abutment could be positioned on the palatal surface of the crown.



Therefore, a single piece abutment crown was designed and manufactured from a lithium-disilicate CAD/CAM block (e.max CAD abutment solutions, A16, MO, Ivoclar Vivadent) (Cerec MCXL, Sirona).



Following the crystallization procedures, the ceramic part was stained, glazed and luted on the titanium base using an opaque self-cure resin cement (Multilink hybrid abutment cement, Ivoclar Vivadent).



The margin line was mechanically polished and the abutment crown was placed and torqued with 35Ncm. The patient was followed-up for gingival contour and papillae formation for 36 months without any complaints.

Conclusion

Screw-retained monolithic abutment crown revealed successful gingival contour and health together with optimum esthetic optical properties.