Cost-Effective Fabrication Of An All-Ceramic Screw-Retained Implant Crown

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Purpose

Implant-supported dental restorations show excellent long-term success rates for indications ranging from single tooth gaps to edentulism. However, a significant number of patients so far could not benefit from implant treatment due to their limited financial resources. With the advent of reliable low-cost implant systems, cost effective and functionally adequate restorations have become possible. It is the goal of this paper to present a clinical case where a screw-retained single implant crown was utilized for reestablishing function and esthetic harmony in a young patient.

Methods

Following vertical fracture of an endodontically treated upper right first premolar, a dental implant was inserted following a bone-driven surgical approach. While cost-intensive hard tissue augmentation procedures were avoided, soft tissue manipulation during the provisional restorative phase was utilized for establishing a reasonable emergence profile. Considering the esthetic demands of the patient, a screw-retained implant crown was fabricated based on a titanium cylinder. Following a full-contour wax-up of the crown and subsequent cut-back, a substructure was milled from zirconia ceramic, veneered with feldspathic porcelain and bonded to the metal cylinder. With the implant being placed in a palatal position, the crown could be inserted with the screw access hole being located outside the esthetically relevant zone.

Clinical implications

It was possible to restore the patient's function and esthetics using the approach presented. The patient was immediately satisfied with the result achieved and tries to maintain it by scheduling regular recall visits. In patients with reasonable expectations, cost-effective treatment approaches utilizing low-cost implant systems and a minimal number of prosthetic components may successfully be utilized for fabricating implant-supported restorations.

References

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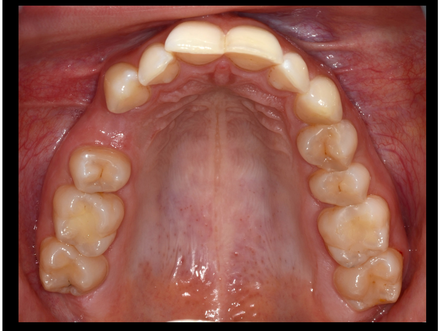
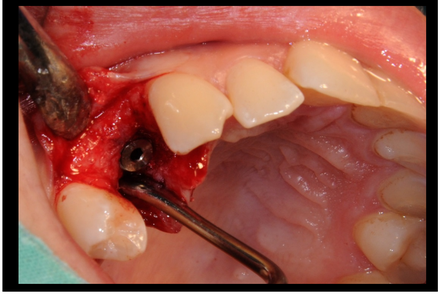
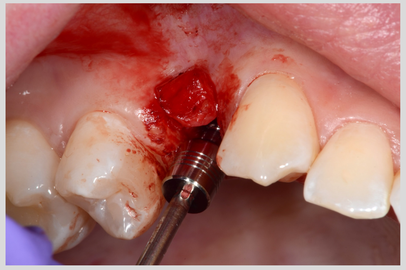
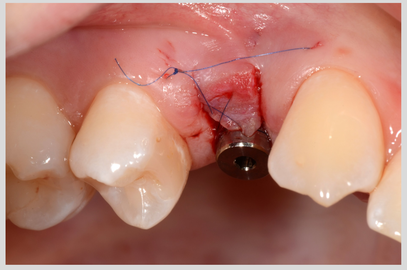
Implant Placement

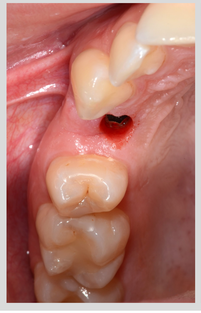


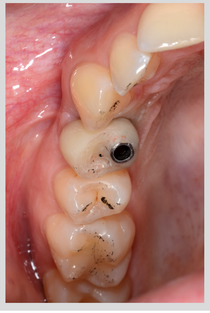


Provisional Restoration

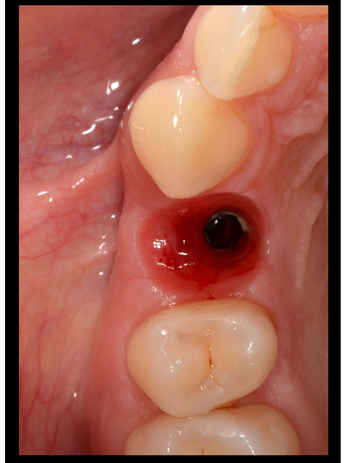


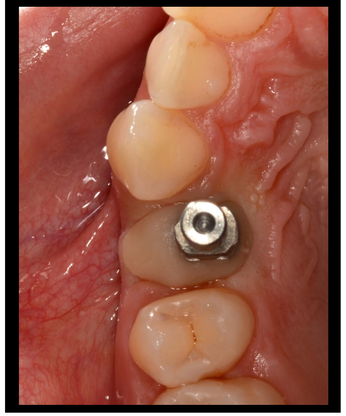




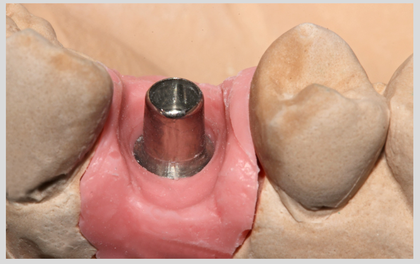


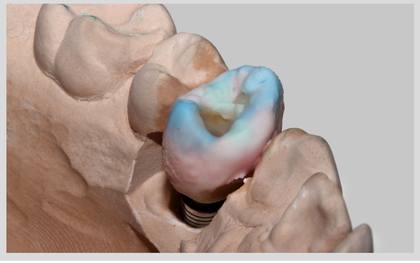
Impression





Laboratory Phase





Final Restoration

Clinical Situation