

Modification of Existing Fixed Metallo-ceramic Screw Retained Implant Prostheses to Improve the Esthetics: A Case Report



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INTRODUCTION

The success in implant dentistry in esthetic zone is determined by the inconspicuous results obtained with the final prosthesis¹. This can be achieved with quite certainty in partially edentulous patients by obtaining direction from the adjacent dentition and manipulating the soft tissue for better emergence profile². However, obtaining better outcome is troublesome in completely edentulous patients in which pattern of alveolar bone loss in particular affects inter arch relationship and other associated morphological changes. Thus, final prosthesis not only warrants restoration of missing teeth but also additional support for the lips to compensate for the severe hard and soft tissue loss. This can be achieved with the appropriate planning, placement and inclination of implants according to the planned prosthesis but this is not always true as position and inclination of implants might differ due to various surgical and anatomical factors resulting in reevaluation of the planned prosthesis after implant placement³. At times, the decision for final prosthesis needs to be reconsidered even after delivery of the final prosthesis; this is due to differences in outcome and expectations.

CASE REPORT

A 54 years old diabetic female with upper and lower fixed-fixed implant supported prosthesis presented to the dental clinic in Aga Khan University with the complain that appearance of her teeth gave her an older look and she felt as if her upper lip had sunken inside. Upon detailed clinical and radiological examination, it was seen that the patient had full mouth upper and lower implant supported screw retained porcelain fused to metal prosthesis (Fig. 1). Prostheses were supported with four implants in each arch and fabricated in mutually protected occlusion with class 1 incisal relationship. The profile view of the patient showed orthognathic profile with straight relationship between upper and lower jaw but the patient was concerned about the straight profile and was seemed to be engrossed in having a convex profile with more

protruded upper jaw. Since the prosthesis was screw retained it could easily be removed and replaced with the desired prosthesis. The patient was more anxious about her appearance and wanted to have procumbent upper lip, this was further confirmed by patient's previous photographic record that showed protruded upper anterior teeth. So, the replacement of both upper and lower prostheses was advised with the suitable prostheses bulkier enough to provide additional support to soft tissues. After detailed discussion and explanation, she opted for this treatment option.

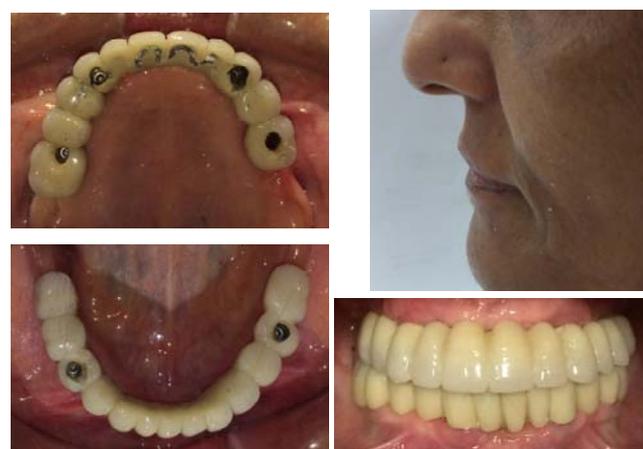


Fig. (1). Initial presentation of patient.

CASE MANAGEMENT

Before initiating, the procedure was discussed again with the patient and informed consent was taken. Alginate impressions were taken before dismantling the prostheses to form a vacuum form stent. Prior to the formation of stent, minor alterations were made on the gypsum cast which was then used to form vacuum form suction down stent in the in-office laboratory. Upper and lower prostheses were removed by unscrewing abutment screws which were then replaced by Zimmer dental temporary plastic abutments (Fig. 2). Earlier fabricated vacuum form stent was then placed in mouth and marked for openings for plastic abutment screw. Block out material was placed in cylinders of plastic

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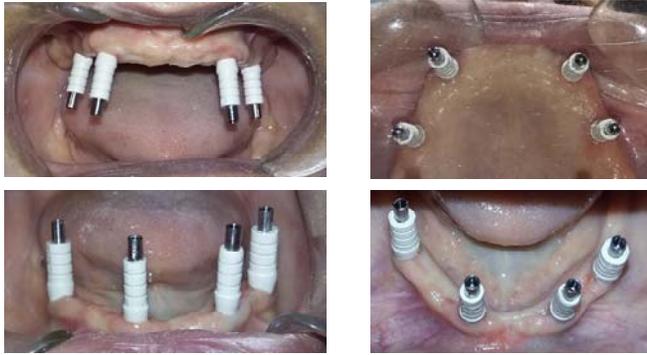


Fig. (2). Disassembly of prostheses and placement of plastic abutments.



Fig. (3). Using vacuum form stent for fabrication of temporaries.



Fig. (4). Metal trial and bisque stage.

abutments to prevent temporary crown material from covering the screw channel. Lubricating material was placed on gingiva to prevent the impact of setting temperature, temporary crown and bridge (bis-acryl composite INTEGRITY Dentsply Caulk, Milford, DE, USA) material was poured in the stent and was seated in the patient's mouth. Once the material was in rubbery stage, excess material was carved away and when the provisional material was fully set, it was taken out by removing screws from the plastic abutments. Minor discrepancies left were filled with addition of temporary material and provisional bridges thus formed were carefully trimmed for excess material. Occlusion



Fig. (5). Postoperative photographs.

was adjusted and both upper and lower provisional bridges were then polished and placed in patient's mouth (Fig. 3). Since marginal fit for PFM bridges were appropriate, it was planned to use the same metal framework and new ceramic work over it. Bisque trial was done for both bridges in which adjustment of occlusion and esthetic improvements were carried out to increase the pout of lips by adding more ceramic on the cervical area of front teeth and by increasing the over jet (Fig. 4). Incisal show was also increased thus giving the patient her desired esthetics. When the patient is fully satisfied with the esthetics the final prosthesis were delivered to the patient (Fig. 5).

DISCUSSION

This case report outlines a comprehensive treatment philosophy that can be used to enhance the esthetic results for patients who are not pleased with their previous treatment outcome. Clinical guidelines for esthetic outcomes are questionable as esthetics is a subjective perception that varies among different individuals and even cultures^{4,5}. This should be kept in mind while planning for smile makeover. The goal of the treatment should not be the provision of ideal occlusion and appearance in terms of dental professionals but also the appearance that is acceptable for the patient⁶. Thus, interaction among dentist, dental technician and importantly patients is essential for suitable end result⁷. Diagnostic wax up, photographs and other digital resources should be used to show the outcome of treatment to the patient before proceeding towards the final treatment. It will enable the patient to make expectations accordingly.

In our case, we were fortunate that the final implant supported prostheses were screw retained that enabled us to completely retrieve the prosthesis. We made necessary changes on temporary bridges as needed by the patient and after patient's full acceptance to the esthetic outcome we, then, transferred the desired esthetics to the final PFM prosthesis.

CONCLUSIONS

Option for screw retained implant prosthesis should be employed in cases with questionable esthetics so that relevant changes can be made according to the patient's desire and treatment plans should be more directed by the patient.

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