



Case Report

Volume 17 Issue 3 - March 2024  
DOI: 10.19080/ADOH.2024.17.555961

Adv Dent & Oral Health

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# A Case Report of Full Mouth Rehabilitation with All-on-6 Dental Implants- A Boon to Geriatric Patients



**Dr. Sourav Sarkar\***

Consultant Oral & Maxillofacial Surgeon, Assistant Professor, SRIMS & Sanaka Hospital, India

**Submission:** February 19, 2024; **Published:** March 04, 2024

**\*Corresponding author:** Sourav Sarkar, Consultant Oral & Maxillofacial Surgeon, Assistant Professor, SRIMS & Sanaka Hospital, India

## Abstract

Full-arch rehabilitation, a term used by many practitioners, has become a popular restorative option in dental settings. The objective of full mouth rehabilitation is not only the reconstruction and restoration of the worn-out dentition but also the maintenance of the health of the entire stomatognathic system. Some patients simply cannot wear removable dentures at all. Their quality of life is hampered. For such patients, an implant-supported removable or fixed prosthesis is the only hope. Implant prosthesis has the ability to restore normal function, aesthetic, speech, and comfort of such patients. This paper presents a case report on implant-supported fixed prosthesis used for full mouth rehabilitation, which gives an overview on the approach and steps involved in such treatment procedure to the dental practitioner.

**Keywords:** Fixed Prosthesis; Implants; Full Mouth Rehabilitation; All-on- 6

## Introduction

Full mouth rehabilitation is defined as the restoration of the form and function of the masticatory apparatus to as nearly a normal condition as possible [1] (GPT-8). In some patients due to physiological and psychological problems, it is difficult to restore the function, aesthetic, and comfort of the patients. The introduction of implants has improved the quality of life for edentulous patients [2-4]. The placement of dental implants is a well-documented treatment for edentulism. Nowadays implant-supported removable, as well as fixed prosthesis has become an integral part of modern dentistry. Advantages of using implants are increased retention, increased chewing ability, and also easy access to oral hygiene procedures [5,6]. For implant-supported fixed prosthesis following factors are important-

- i. Quality of host site
- ii. Quantity of host bone
- iii. Number of implants
- iv. Desire of patient
- v. Generosity of patients smile line

Success rate of implant supported fixed prosthesis are high with relatively low post operative complications [4].

## Case Report

A 65 years old male patient reported to the department seeking fixed permanent teeth. Oral examination was carried out, upper and lower arches were partially edentulous with generalised periodontitis of the remaining dentition. The patient had already tried to use 2/3sets of removable partial dentures, but he was not satisfied with the fit of the denture and complained of difficulty in mastication (Figure 1a,b). Patient medical history was insignificant otherwise. After examination, a provisional plan for implant-supported fixed denture of both the arches was given to the patient. A cone beam computed tomography (CBCT) was done which showed sufficient bone quantity and quality in maxillary and the mandibular arches for implant placement. Based on the patient's economic status, All-On- Six Implant supported hybrid denture prosthesis was planned for the arch depending upon the availability of bone. The treatment was carried out in three phases: -

- i. **PHASE 1-** A full mouth oral prophylaxis was carried out. This was supplemented by brief antibiotic therapy to control the existing periodontal infection. The patient was recalled after a week for surgical phase.

ii. **PHASE 2-** Extraction of the remaining teeth with immediate implant placement was carried out in two appointments arch wise. The surgery was performed with the patient under local anesthesia with 2% lignocaine and 1:100,000 adrenaline. Surveyor was used for the exact parallelism of implants. The implants were left submerged to allow the patient to wear removable prostheses (Figure 2a). Appropriate antibiotics and analgesics were prescribed. Post operative healing was uneventful. After 3 weeks of implant placement, a temporary removal complete denture was fabricated and provided to the patient.

iii. **PHASE 3-** After 3 months, the radiographic evaluation showed stable bone levels around all implants (Figure 2b). Once the evidence of osseointegration was established the prothetic phase is initiated by exposing the implants from the gingiva and placement of healing abutments with their respective multi-unit attachments. Then after 5 days of gingival healing, the healing abutments are removed. Appropriate impression copings are selected and fitted. These copings were splinted together intraorally to provide greater rigidity and possibly greater accuracy (Figure 3a). Then the open tray is impression is made using rubber base material (Figure 3b).



(a)



(b)

Figure 1: (a) Preoperative clinical picture with removable partial denture. (b) Preoperative OPG.

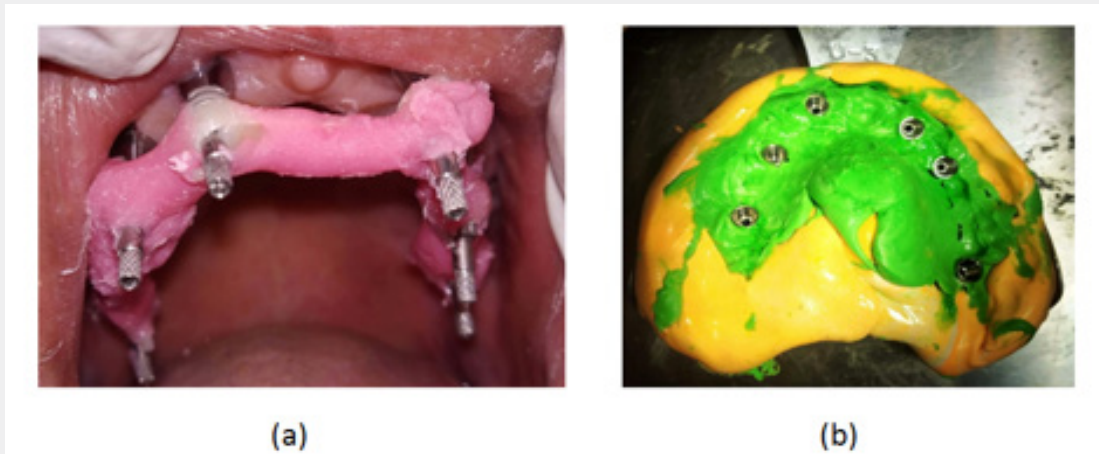


(a)



(b)

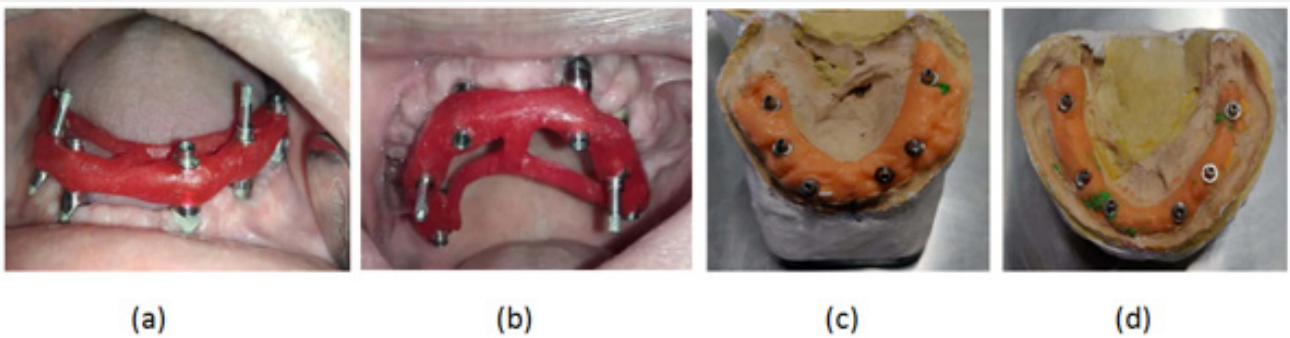
Figure 2: (a) Intra-operative picture after extraction and implant placement. (b) 3-months post-operative



**Figure 3:** (a) Impression copings were fixed with the implants and splinted together intraorally. (b) Open tray impression was made using silicone impression material.

In the next appointment, jig trial was taken to ensure proper transfer of implant position from the patient's ridge to the model (Figure 4a-d). VDO of the patient was recorded with the wax

occlusal rims over Co-Cr framework followed by teeth occlusion trial (Figure 5a,b). Finally, the screw retained hybrid acrylic denture was delivered to the patient (Figure 6a,b).

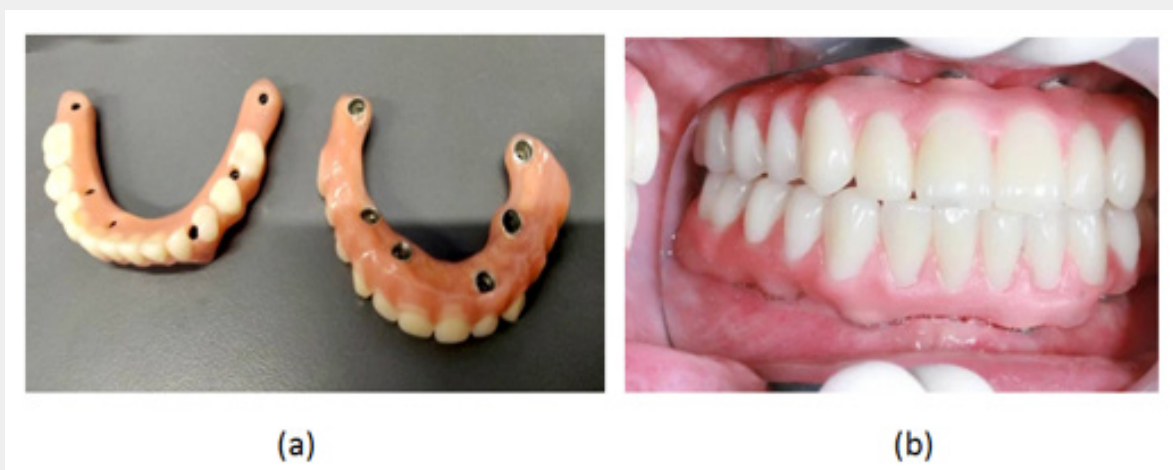


**Figure 4:** (a) & (b) Intraoral Jig trial of both arches. (c) & (d) Model fabrication after Jig trial.



**Figure 5:** (a) Teeth occlusion trail. (b) Co-Cr framework.





**Figure 6:** Fabricated upper and lower hybrid denture. (b) intra oral picture with the screw retained denture.

### Discussion

Traditionally complete denture is the only treatment for a completely edentulous patient. Most of the patients are facing difficulties in adapting their prosthesis. It disturbs patient's social well-being. Implant-supported prosthesis plays an important role to restore the patient with the highest predictable results. As a result of continued research, treatment planning, implant designs, materials and techniques, predictable success is now a reality for the rehabilitation of many challenging clinical situations.

### Conclusion

Correct patient selection and accurate implant planning are keys for success in implant rehabilitation. Periodic clinical assessment of implant prosthesis and surrounding tissue is critical for successful prognosis of implants. With the help of fixed implant prosthesis, a dental practitioner is able to deliver desired outcomes to the edentulous patients. In the present case report, the patient was fully satisfied with the treatment outcome compared to his previous conventional denture.

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DOI: [10.19080/ADOH.2024.17.555961](https://doi.org/10.19080/ADOH.2024.17.555961)

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