



CASE REPORT

Full Mouth Rehabilitation by Implant Supported Fixed Prosthesis – A Case Report

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ABSTRACT

A dental prosthesis is designed to replace missing teeth and surrounding tissue in order to improve speech, appearance, and function. Oral rehabilitation of an edentulous patient poses a great challenge to the dentist. Prosthetic rehabilitation of patients with conventional complete denture sometimes results in impaired oral function and speech. Implant-supported prosthesis fulfills the esthetic and functional demand of these patients. Implants are the most viable treatment option for an edentulous patient. The purpose of this study is to present a case report on full-mouth rehabilitation with implant supported fixed prosthesis in maxillary and mandibular arches.

Keywords: Dental implants, Full-mouth rehabilitation, Implant-supported fixed prosthesis

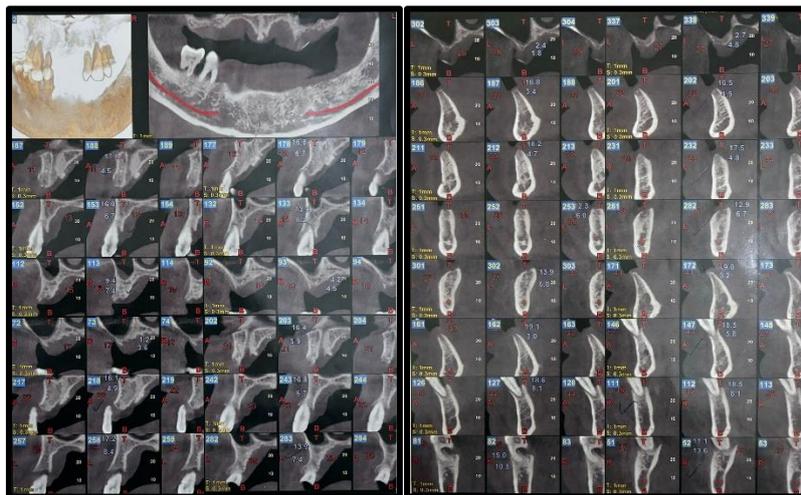
INTRODUCTION

Edentulism is a negative health consequence that can affect quality of life of patient. Edentulism is associated with impaired esthetics and oral function. Previously conventional complete denture was the preferred treatment modality for these patients. But because of physiological and psychological problems many patients wearing complete denture found difficulty in adapting to their prosthesis. Implant supported removable and fixed prosthesis is an alternative treatment option for these patients. Dental implant is defined as a prosthetic device made of alloplastic materials implanted into the oral tissues beneath the mucosal and/or periosteal layer and on or within the bone to provide retention and support for a fixed

or removable dental prosthesis^[1](GPT- 9). Dental implants provide a long-term solution for lost or loose teeth, an alternative to wearing dentures, and a chance to regain confidence with a stable and functioning smile. The literature describes a wide range of options for the treatment of completely edentulous patients such as conventional dentures or implant supported fixed or removable prosthesis^[5]. However, few patients are not comfortable with the removable prosthesis. In such cases Implant supported fixed prosthesis is a great treatment modality with high success rate.

CASE REPORT

A 60-year-old male patient reported to the Department of Prosthodontics, Crown and Bridge, and Oral Implantology at Dasmesh Institute of Research and Dental Sciences, Faridkot, with chief complaint of multiple missing and mobile teeth in both upper and lower tooth region and wanted replacement with fixed prosthesis. Intra-oral examination revealed missing teeth w.r.t 11,15,16,17,21,26,27,31,32,33,34,35,36,37,41,42; grossly decayed 25; grade II mobility w.r.t 12,13,14,22,23,24,45; grade III mobility w.r.t.43,44,46,47. Patient was educated and motivated regarding implant supported fixed prosthesis. With the patient's consent immediate implant placement following extraction of remaining teeth was planned. Patient was advised to undergo routine blood investigations, Cone Beam Computed Tomography (CBCT scan, NEWTOM) of both jaws. Implant sites were selected based on CBCT scan.



CBCT SCAN



PRE-OPERATIVE INTRA-ORAL VIEW

SURGICAL PHASE

First stage surgery- Patient's consent was taken prior to surgical procedure. Under Local anesthesia 2% Lignocaine with 1:80000 Adrenaline(Xicaine,India);extraction of remaining

teeth was done followed by placement of six maxillary implants and six mandibular implants (Superline, DENTIUM, South Korea). Primary stability was checked and coverscrews were placed. Primary closure of surgical site was achieved with interrupted sutures (3-0 Black silk Braided Suture Mersilk, ETHICON) and pressure pack was given. (Fig. 1,2) Post operative OPG was done (Fig. 3) Patient was given standard postoperative instructions regarding diet, oral hygiene and medication. Amoxicillin 500mg (CIPLA, India) thrice daily for five days and combination of Diclofenac potassium 50mg with Paracetamol 325mg (CIPLA, India) twice daily for 5 days were prescribed. Patient was asked to report after one week and sutures were removed.



Fig.1- Implant placement was done in maxillary and Mandibular arch

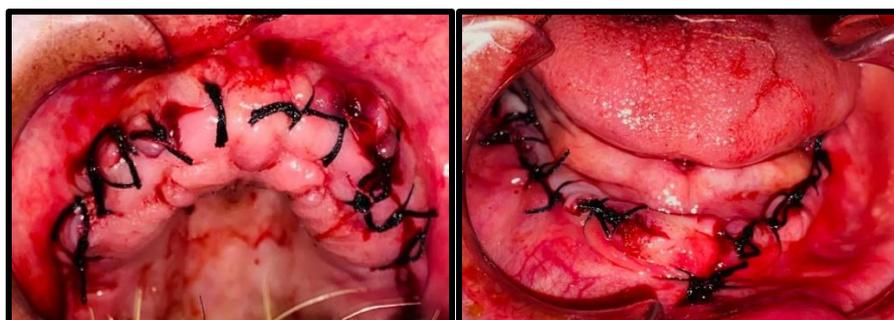


Fig.2- Sutures placed



Fig.3 - Post operative OPG

Second stage surgery- Patient was recalled after 3 months for second stage surgery. The implant site was exposed and coverscrews were replaced with healing caps/gingival formers. (Fig. 4).



Fig. 4- Healing abutments were placed

Prosthetic phase- Patient was recalled after 1week for abutment selection. Abutments were selected. Healing abutments were removed from fixture and replaced with selected abutments and were tightened. Abutment milling was done(**Fig. 5**).Access holes were blocked with PTFE tape before impression making.



Fig. 5 - Abutments milled & access holes were blocked before making impression

Single step putty wash impression was made with Poly-vinyl siloxane addition silicone material (WALDENT, India).(**Fig. 6**)



Fig. 6 –Single step putty wash impression was made

Occlusal rims were fabricated for jaw relation. Face-bow transfer was done and centric relation recorded.Casts were mounted on semi-adjustable articulator (Hanau Wide-View II)(**Fig 7**).



Fig 7- Casts mounted on semi-adjustable articulator

Wax up was done and casted with Ni-Cr alloy.Ni-Cr metal framework was tried in patient's mouth and was found satisfactory(**Fig. 8**). Inter-occlusal record (VPS based bite registration material O-bite) was made with metal trial in place. Shade selection was done (A2) using VITA classic shade-guideand ceramic buildup (VITA VACUMAT 6000MP) was carried out accordingly. After that bisque trial was done. Selective grinding was done in patient's mouth followed by glazing of prosthesis.



Fig. 8 –Metal trial was done

Before cementation of definitive prosthesis, occlusion was again verified and abutments were blocked with PTFE tape.PFM bridges were cement on to abutments using Zinc phosphate cement(**Fig. 9**).Excess cement was removed from gingival sulcus and all the interproximal areas.



Fig. 9- Final cementation

Post delivery instructions regarding maintenance of oral hygiene and prosthesis were given.

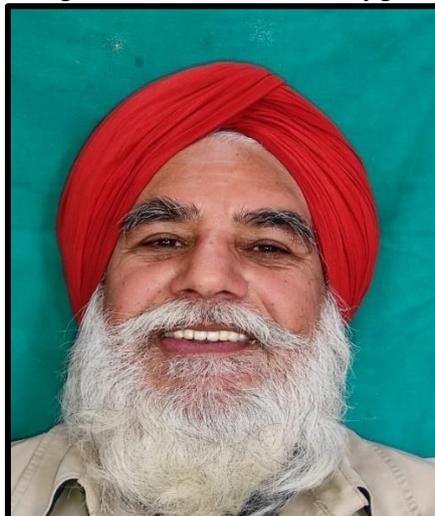


Fig. 10-Post operative

DISCUSSION

Full mouth rehabilitation with implant-supported fixed prosthesis is a comprehensive dental treatment aimed at restoring the function, aesthetics, and health of a patient's entire mouth using dental implants as the foundation for fixed prosthetic restorations. This approach is often considered in cases where a patient has multiple missing or compromised teeth, significant dental issues, or wishes to achieve a complete smile makeover. Overall, full mouth rehabilitation with implant-supported fixed prosthesis can be a life-changing treatment option for patients seeking to restore their smile and regain confidence in their dental function and appearance. Collaboration between the patient and prosthodontist is essential to achieving optimal outcomes and ensuring long-term success.

CONCLUSION

For successful full mouth rehabilitation with implant supported prosthesis, appropriate diagnosis and treatment planning is very important. However, skill of prosthodontist and assurance from patient for maintaining excellent oral hygiene also plays a key role for long term success of implant supported fixed prosthesis.

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