



FULL MOUTH REHABILITATION WITH MAXILLARY FIXED PARTIAL DENTURE AND MANDIBULAR IMPLANT SUPPORTED OVERDENTURE

Dental Science

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ABSTRACT

Esthetically and functionally successful prosthetic rehabilitation requires careful attention and meticulous treatment planning . Rehabilitation of patient with single edentulous arch is a challenging job when the other arch has all teeth present . This case report describes 56 years old female , who had completely edentulous mandibular jaw and severe wear of maxillary dentition .A two stage implant placement protocol was planned for the lower arch followed by implant supported over denture and crown preparation for the upper arch followed by fixed partial denture.

KEYWORDS

implant supported over denture, fixed partial denture, prosthetic rehabilitation

INTRODUCTION :

Wear and tear of occlusal surfaces of teeth keeps on happening throughout life . Excessive occlusal wear can lead to occlusal disharmony, pulp trauma , esthetic disfigurement and impaired function . Tooth wear can be classified as attrition , abrasion , erosion depending upon the cause .

Continued bone loss in edentulous patients causes a great challenge in prosthetic rehabilitation by conventional denture. Retention has been a most problematic area for mandibular complete denture when compared to maxillary complete denture . osseointegrated dental implants have been proven as a successful treatment modality while prescribing prosthodontic service to an edentulous patient. Treatment modalities for edentulous mandible include (1) implant supported fixed partial denture (2) implant retained overdenture (3) implant supported overdenture .

This article describes combination treatment modalities for patient due to presence of natural teeth (severe wear) in the maxillary arch and completely edentulous mandibular arch .

Case report

A 56 years old female patient reported to the department for replacement of missing teeth . Patient had history of tobacco chewing since 7 years .On oral examination we found missing 34,35,36,37,44,45,46,47 in the mandibular arch with a characteristic wear pattern in the maxillary arch . The teeth present in the mandibular arch were periodontally compromised with periapical pathology at the apex in the radiographs .The systemic condition of the patient was clinically satisfactory .

Patient was informed about the need for extraction of mobile teeth and the advantages and disadvantages of various prosthetic treatment modalities. It was planned to retain the periodontally sound teeth and extract remaining followed by fixed partial denture for the maxillary arch and implant supported overdenture for the mandibular arch .

Endodontic treatment was completed for full upper arch teeth and extractions of the lower teeth were performed. Which was followed by placement of implant with bone remodeling in the lower arch was done in 33 and 43 region. After 7 days of implant placement patient was recalled for suture removal. Healing was assessed. After 10 day, primary impression for the lower jaw was made using impression compound and the cast was poured using plaster of paris. An autopolymerizing acrylic custom tray was prepared with a wax spacer over the cast for the final impression recording . Border moulding (tray compound) was performed and final impression was made using Zinc oxide Eugenol. Master cast was poured using type 3 dental stone . Denture base and occlusal rim were made. Jaw relation recording was done by recording centric at existing vertical height.

After that crown preparation of the maxillary arch were performed.

Facebow transfer was performed and accordingly the lower cast was mounted in centric relation . Provisional restorations were fabricated for the prepared upper teeth and final impression was made by placing retraction cord using polyvinylsiloxane material . Metal copings were fabricated for the upper arch and teeth arrangement for the lower arch was done and checked in patients mouth for proper fit of copings. After the trial porcelain fused metal crowns were fabricated for upper arch , Bisque trial was done and crowns were cemented and repeat trial for lower denture was done to rectify the centric of patient . Denture was been acrylicised . Ball attachments were placed in the implants and by direct technique metal housings were transferred in the denture .

DISCUSSION

Implant supporting the overdenture can be splinted with a bar or an implant connection can be attained with individual connector: ball or stud attachment and magnets. There are no statistically significant difference in implant failure between the various attachment approaches . The bar attachment needs more vertical space to accommodate the attachment ,whereas individual implants require lesser space. As the interocclusal distance was less ball attachments were placed. Bilateral balanced occlusion is the choice of occlusal scheme in lower implant supported overdenture and upper natural teeth . As it provides all centric and eccentric occlusal movements and improves denture stability ,especially during parafunction .

CONCLUSION :

Full mouth rehabilitation is a treatment modality which not only focuses on esthetics and functional aspect of the dentition but also improves upon the health of the whole stomatognathic system .

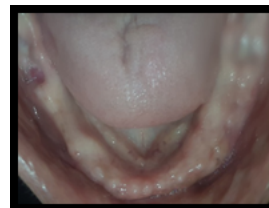


Fig. 1 Preoperative (before implant placement)



fig. 2 Peizo Instrument for Bone Remodeling



Fig. 3 Bone Remodeling

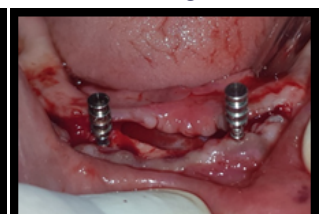


fig. 4 Paralleling pins

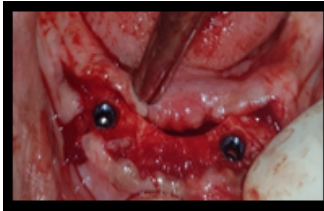


Fig.5 Implant Placement

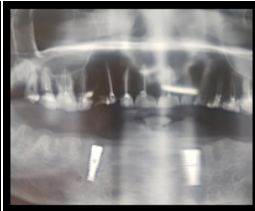


Fig. 6 Post Operative Radiograph



Fig. 19 upper crown cementation and lower tryin



Fig. 20



Fig.7 Frontal View (preoperative)



Fig.8 Preoperative (palatal view)



Fig. 21



Fig. 22 Ball Attachments



Fig.9 Primary Impression



Fig. 10 Primary Cast



Fig. 23 Prosthesis



Fig.11 Border Moulding



fig. 12 Final mpression



Fig. 24 Preoperative Photograph



Fig. 25 Postoperative Photograph

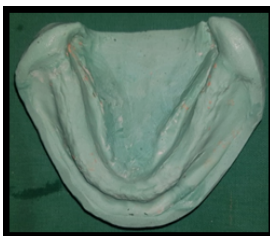


Fig 13. Master Cast

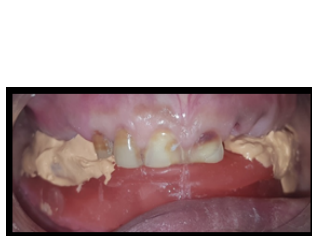


Fig14. Jaw Relation



Fig. 15 Crown Preparation

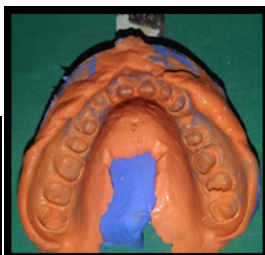


Fig. 16 Final Impression



Fig. 17 Coping Trial



Fig. 18 Try In

REFERENCES :

1. Weigl P. Implant prosthodontics: What next?. QuintessenceInt 2003;34:653-69.
2. Hobkirk JA, et al. Color atlas and text of dental and maxillofacial implantology. Wolfe Company; Mosby;1995. p. 35.
3. Turner KA, Missirlian DM: Restoration of the extremely worn dentition. J Prosthet Dent 1984;52:467-474