

MANDIBULAR OVERDENTURE: A CASE REPORT

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Abstract

Overdentures have many advantages in comparison to conventional complete denture. Overdentures preserve the alveolar ridge. This paper reports the clinical and technical steps in fabricating an overdenture.

Key words: Overdenture, overlay denture, overlay prosthesis.

Introduction

The "Glossary of Prosthodontic Terms" defines an overdenture as "any removable dental prosthesis that covers and rests on one or more remaining natural teeth, the roots of natural teeth, and/or dental implants; a dental prosthesis that covers and is partially supported by natural teeth, natural tooth roots, and/or dental implants. ___ called also overlay denture, overlay prosthesis, superimposed prosthesis.¹

Case Report

Thirty years old female patient reported to the department of Prosthodontics with complain of missing teeth and she desired to replace them. She lost her most of the teeth due to aggressive periodontitis, four months back and had difficulty in chewing due to missing teeth.



Figure 1: - Pre-operative frontal view

Extra-oral examination revealed loss of facial height. Temporomandibular joints examination revealed nothing abnormal. (figure 1 & 2)

Intraoral examination revealed partially edentulous maxillary and mandibular arches. In the maxillary arch teeth 23,24,25 were present whereas in the mandibular arch teeth 43,44 were remaining and were reduced upto gingival level. (figure 3)



Figure 2: - Pre-operative profile view



Figure 3: - Pre-operative intraoral view

On thorough assessment of radiographs maxillary left canine, first and second premolars (23,24,25) were mandibular right canine and first premolar (43,44) were found to have good alveolar bone support. It was planned to retain them. It was planned to use the maxillary teeth as abutments for conventional denture whereas the mandibular

teeth as abutments for overdenture, after intentional endodontic therapy.

After the endodontic therapy of 43,44, primary impressions of the maxillary & mandibular arches were made using irreversible hydrocolloid impression material. The casts were obtained by pouring dental stone in the impressions. Custom impression trays were fabricated. Border molding was done and secondary impressions were made using zinc oxide eugenol (ZOE) impression paste. Jaw relation registration was done. Selection as well as arrangement of teeth was done (figure 4a, 4b, 4c).

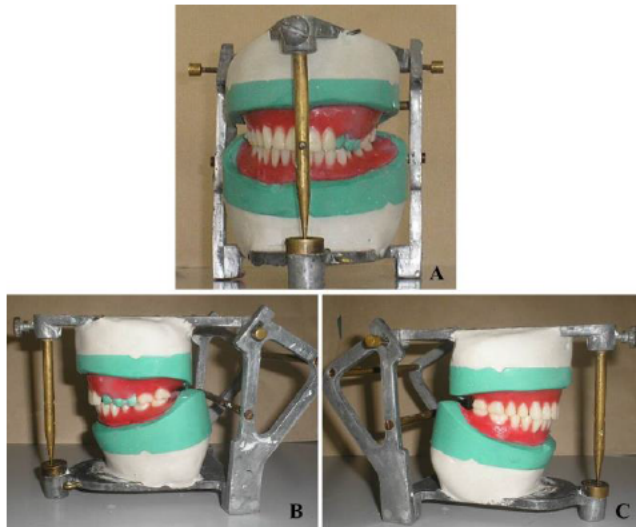


Figure 4: - a) Arrangement of teeth; b) Arrangement of teeth: Left Lateral view; c) Arrangement of teeth: Right Lateral view

Clinical try-in of properly waxed-up trial dentures was done (figure 5).



Figure 5: - Final try-in

Maxillary denture and mandibular overdenture were processed and laboratory remounting was done and dentures were finished and polished. Dentures immediately improved the aesthetics due to proper lip support (figure 6 and 7)



Figure 6: - Post-operative frontal view



Figure 7: - Post-operative profile view

Necessary occlusal adjustments were done. At the recall visit the overdenture was removed carefully and tissues were thoroughly checked for any redness, ulcer etc. Instructions regarding eating, speaking, denture cleanliness were given to the patient.²

Discussion

The loose and unstable lower complete denture is one of the most common problems faced by denture patients.^{3,4}

Overdentures can definitely overcome these problems as retention of teeth or tooth roots in the alveolar bone can improve bone maintenance around them. Bone maintenance is the most significant advantage of a tooth-borne mandibular complete overdenture treatment because the maintenance of bone volume and vertical height can produce improved prosthesis retention and stability.^{2,5,6}

The retained roots that support overdentures preserve bone and minimize the downward and forward settling of a denture, which otherwise occurs with alveolar bone resorption.⁷

Overdentures with roots are more stable, and patients can chew better than with dentures supported on residual alveolar bone and mucosal tissue alone. A complete denture with flange contours can restore tissue and appearance. The conventional tooth-supported overdenture concept continues to be an accepted treatment modality and has now been adapted to implants.⁸

Overdentures provide better function than complete dentures through a variety of parameters, such as improved biting force and chewing efficiency and increased speed of controlled mandibular movement.⁹

Conclusion

Over denture is an excellent viable treatment alternative. Emphasis must be placed on proper patient selection, patient motivation, basic Prosthodontic principles and detailed program of home care instruction & frequent recall. Teeth previously considered hopeless can now be used successfully as an aid in denture retention.

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