

Bar Connector Retained Overdenture: A Superior Mode of Rehabilitation of Partially Edentulous Arch: A Case Report

Abstract

Introduction: The modality of treatment for partial edentulousness was to provide an partial denture or convert them into completely edentulous situation followed by a complete denture but due to the intervention of attachments in modern prosthodontics has led to the improved the success of the prosthesis by providing enhanced retention, stability and longevity of the prosthesis.

Key Words

Retention; stability; overdentures; connector

Sidhartha SP Behera¹, Dr Prakash Nidawani², Dr K S Chandrababu³, Dr G Kartheek⁴

¹Assistant Professor, Department of Prosthodontics, KIMS Dental College, Amalapuram, Andhra Pradesh, India

²Professor & Head, Department of Prosthodontics, Navodaya Dental College & Hospital, Raichur, Karnataka, India

³Assistant Professor, Department of Conservative & Endodontics, KIMS Dental College, Amalapuram, Andhra Pradesh, India

⁴Assistant Professor, Department of Oral Pathology, KIMS Dental College, Amalapuram, Andhra Pradesh, India

INTRODUCTION

Rehabilitation of a partially edentulous patient can be established using a wide range of prosthetic treatment options depending upon the clinical need and demand, restoration of the lost tooth structure can be achieved by using conventional removable partial denture, overdenture, fixed partial denture or dental implants.^[1] Patient satisfaction is often based on esthetics, retention of prosthesis, placement of appropriate attachment may positively enhance clinical success of prosthesis. An over denture is defined as a removable partial or complete denture that covers and rests on one or more remaining natural teeth, roots, and/or dental implants.^[2] The earlier modality of treatment of partial edentulousness with reduced number of teeth was to render them completely edentulous and provide them a complete denture or an over denture with support of remaining natural teeth. The goal of preserving roots are to prevent alveolar bone resorption, provide better load transmission, maintain sensory feedback and achieve better stability of denture with emphasis on psychological aspect of not being completely edentulous.^[3]

OBJECTIVE

To report a clinical case of oral rehabilitation of a partially edentulous mandibular arch using tooth supported overdentures and attachments.

CASE REPORT

A 45 year old female patient was presented to Department Of Prosthodontics Including Crown & Bridge & Oral Implantology, KIMS Dental College Amalapuram with few natural teeth remaining in both the arches; clinical and radiographic examination revealed the periodontal health of the abutment teeth (Fig. 1), extraction of grossly decayed teeth, root stumps & restoration of carious teeth were done followed by a removable partial denture for upper arch and a bar connector retained overdenture for lower arch, the various treatment modalities for this case are, placement of implants, fabrication of conventional removable partial denture, bar connector retained overdenture.

TREATMENT PROCEDURE

A conventional removable partial denture was fabricated for the maxillary arch. In the mandibular arch endodontic treatment, post and core build up was done for the abutment teeth, and the teeth were prepared to receive full coverage porcelain fused to metal restorations. A cast partial denture was fabricated for replacement of the posterior teeth. Occlusal rests and seats were prepared on 33, 35, 44, 45; lingual bar was the major connector.

DISCUSSION

According to Dr Muller de van "the preservation of that which remains is of utmost importance and not



Fig. 1: Preoperative OPG



Fig. 2: Metal try in



Fig. 3: Bar connector



Fig. 4: Intraoral view of prosthesis



Fig. 5: Post operative

meticulous replacement of that which has been lost. The aim of preservation of the tooth structure is to prevent alveolar bone resorption, provide better load transmission, maintenance of sensory feedback, better stability of denture with emphasis on psychological aspect of not being completely edentulous. Edentulism leads to an acknowledged impairment of oral function with both aesthetic and psychological changes. Patients who are originally adaptive wearing complete denture may become maladaptive with time, due to ongoing residual ridge resorption, physiological intra-oral changes and the development of altered muscular patterns.^[4,5] The use of tooth supported overdentures has improved outcomes for partial edentulous patients compared with conventional dentures which include reduced residual ridge resorption, improved retention and support of the prosthesis resulting in better quality of life, function, chewing, nutritional status and general health. The combination of rests and splinting on

the abutment teeth significantly and consistently improve stress distribution.^[6]

CONCLUSION

The use of bar permits the treatment of the edentulous ridge stabilizing the cast partial denture and eliminating rotational movement around the attachment. This decreases the unfavorable load on the abutment teeth and maintains long term health of the abutment.

REFERENCES

1. Siegfried MH, Alexander S, Friedrich G, Manfred GW, Hans-Peter W. Mandibular two-implant telescopic overdentures-10-year clinical and radio graphical results. *Clin Oral Implant Res* 2004;15:560-9.
2. Batenburg RH, Meijer HJ, Raghoobar GM, Vissink A. Treatment concept for mandibular overdentures supported by endosseous implants: a literature review. *Int J Oral Maxillofac Implant* 1998;13:539-45.
3. Abraham PA, Koka P, Murugesan K, Vasanthakumar M. Telescopic Overdenture

Supported by a Combination of Tooth and an Implant: A Clinical Report. *J Indian Prosthodont Soc* 2010;10(4):230-3.

4. Crum RJ, Rooney GE Jr. Alveolar bone loss in overdentures: a five-year study. *J Prosthet Dent* 1978;40:610-3.
5. Zarb GA, Mericske-Stern R. Clinical protocol for treatment with implant-supported overdentures. In: Zarb GA, Bolender CL (eds) *Prosthodontic treatment for edentulous patients*, 12th edn. St Louis, CV Mosby and CO, 2004; p. 498-509.
6. Berg T, Caputo AA. Load transfer by a maxillary distal-extension removable partial denture with cap and ring extracoronal attachments. *J Prosthet Dent* 1992;68:784-9.