



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2018; 4(6): 134-136
www.allresearchjournal.com
Received: 22-04-2018
Accepted: 23-05-2018

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Full mouth rehabilitation of patient with aggressive periodontitis: Case report

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Abstract

Barker (1861) reported first use of Overdentures to the American Dental Convention. An overdenture is a removable dental prosthesis that covers and rests on one or more remaining natural teeth, the roots of natural teeth, and/or dental implants. The implants or modified natural teeth provide for additional support, stability; and retention of the overdenture than the edentulous ridges alone can provide. This article presents tooth supported conventional over denture opposing all ceramic fixed prosthesis–case report.

Keywords: Periodontitis, dental, tooth-supported

Introduction

Overdentures also known as Hybrid dentures or tooth-supported complete dentures. Retaining natural teeth as abutments for dentures can considerably reduce the progress of residual ridge resorption. Multiple abutments can be used for this purpose. Even abutments which are coronally modified or restored can be used. Endodontic treatment is usually done for most cases. The stress concentration can be shared between the denture bearing areas and the abutments. These over dentures can reduce the impact of residual ridge resorption, loss of occlusal stability, loss of aesthetics and compromised mastication.

Indications

1. For patients who face the loss of remaining natural adult dentition. Therefore, younger the patient greater the indication
2. Patients with badly worn out dentition
3. Cleft palate cases
4. For congenital anomalies like Microdontia, in selected partial anodontia cases. Amelogenesis imperfecta and Dentinogenesis Imperfecta
5. Denture for patients with maxillofacial trauma.

Contraindications

1. Uncooperative and under motivated patients
2. Mentally and physically handicapped patients for whom good oral hygiene is difficult to maintain
3. When a patient cannot afford ^[1].

Case Report

Forty years old male patient reported to my clinic with complain of severely mobile teeth and she desired to extract and replace them. He was diagnosed as aggressive periodontitis; four months back and had difficulty in chewing due to mobile teeth. Extra-oral examination revealed a fatigue face. Tempero mandibular joints examination revealed nothing abnormal. Intraoral examination revealed dentulous maxillary and mandibular arches. In the maxillary arch all teeth were grade III mobile except 14, 21 and 24 which were grade I mobile whereas in the mandibular arch teeth 31, 32,33,35,36, 41 and 42 were grade III mobile. Radiographic examinations showed severe bone loss in respect to all clinically grade III mobile teeth and also impacted 48. (Figure 1)

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Treatment plan was extractions of grade III mobile teeth, endodontically treat all remaining teeth. Maxillary teeth 14, 21 and 24 were reduced to overdenture abutments. Metal copings were cemented over the abutments on next visit (Figure 2). On subsequent visits an overdenture with metal mesh was fabricated where denture teeth were arranged in accordance to glass plate relation (Figure 3). After denture insertion; mandibular teeth were reduced for all ceramic prosthesis (Figure 4). After lower prosthesis cementation necessary occlusal adjustments were done (Figure 5). 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].



Fig 1: OPG shows generalized severe bone loss



Fig 2: Metal copings on overdenture abutments



Fig 3: Overdenture with meta mesh impregnated



Fig 4: Lower teeth are reduced after endodontic treatment



Fig 5: Pretreatment and Post treatment front profile

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].

There are two types of tooth supported Overdentures namely

- Tooth supported conventional complete overdenture.
- Tooth supported immediate insertion complete overdenture.

Heartwell's classified based on the method of abutment preparation

1. Coping
2. Non-coping - with simple tooth modification
3. Attachments
4. Submerged vital roots: Effective in preserving alveolar bone [7]

Miller [8] in his study concluded that alveolar bone resorption depends upon three variables which are

1. The character of the bone.
2. The health of the individual.
3. The amount of trauma to which the structures are subjected.

Overdenture helps reduce shrinkage of surrounding bone and reduces pressure on the alveolar ridge. In case of overdenture prosthesis, proprioception is maintained [9], there is the presence of directional sensitivity; dimensional discrimination; canine response and tactile sensitivity [10]. The average threshold of sensitivity to a load was found to be 10 times as great in denture wearers as in dentulous patients [11, 12]. Rissin *et al.* in 1978 compared masticatory performance in patients with natural dentition, complete denture and over denture. They found that the over-denture patients had a chewing efficiency one-third higher than the complete denture patients [13].

Conclusion

A tooth supported Overdenture is very much at the forefront as the treatment modality incorporating Preventive Prosthodontics concepts to the core. Let's not forget our basics rather reinvigorate them and make them a regular part of our clinical practice. The over denture has innumerable advantages and applications compared with conventional complete denture. The success depends upon proper case selection with critical monitoring of various steps involved.

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