

Removable Partial Dentures With Metal Anteriors: A U-turn On Esthetics

Abstract

The reduction in partial edentulism that has occurred due to successful preventive procedures and the predictable use of osseointegrated implants has reduced the need for removable partial dentures[1]. However, for a variety of reasons, many patients can continue to benefit from partial denture therapy and these patients deserve the best esthetic result possible. The primary esthetic objection to removable partial denture therapy is the unsightly display of the clasp assemblies. This article describes a strategy that can be used by the discriminating clinician to eliminate the display of the clasp assembly and incorporate metal anterior teeth in acrylic denture bases to provide an esthetic and functional removable prosthesis.

Key Words

Putty index, Metal anteriors, Wax replicas

Case Report

A 55 year old female reported to the Department of Prosthodontics crown and bridge and implantology with the chief complaint of difficulty in chewing food. The patient was partially dentulous with few metal crowns and remaining root stumps in the anterior region(Fig 1).

The patient wanted a partial denture with features that astonished us. The patient requested a denture without clasps and with metal teeth in the anterior region. The patient also asked to preserve a few remaining root stumps in the anterior region as the patient was fearing extraction of teeth. The challenge was accepted and a partial denture fulfilling all the requirements of the patient was delivered successfully to the patient

Methodology

A primary impression of the patient was made with alginate and diagnostic casts obtained. A 0.5 mm thickness wax spacer was adapted on the primary cast and a special tray was fabricated using autopolymerising acrylic resin.



Fig 1 : Preoperative Intraoral View

The root stumps were made to flush with the mucosa before making final impression.

Border moulding was done and a dual impression was made with zinc oxide eugenol impression paste. The pick up impression was made with alginate impression material. The impression was poured in type IV dental stone to obtain the master cast.

Jaw relations were recorded and the try in was done with complete teeth arrangement using acrylic teeth. After having ensured, the patient satisfied with the arrangement of teeth a putty index (Polyvinylsiloxane; addition silicone. 3M ESPE) was fabricated on acrylic anteriors arranged on the articulator. The putty index was used for fabrication of the wax pattern of the anterior teeth by pouring molten wax (blue inlay wax; Bego) in the index. The wax replicas so obtained were then subjected to investing and casting procedures. The crowns were cast using cobalt chromium alloy. The crowns were sandblasted and finished using abrasive stones and polished using a rubber disk.

The metal crowns were replaced for acrylic anteriors arranged on the articulator and again a try in was done. To fulfill the requirement of a claspless dentures a flange was extended in the anterior region. The undercut in this region was utilized for retention. After the patient was satisfied with esthetics the

¹ Shinu Gupta

² Ashima Gupta

¹ Senior Lecturer, Dept. Of Prosthodontics
Swami Devi Dyal Dental College

² Senior Lecturer, Dept. Of Prosthodontics
Yamuna Institute Of Dental Sciences Yamunanagar

Address For Correspondence:

Dr. Shinu Gupta

3066 Sector 35 D Chandigarh

Submission : 10th August 2013

Accepted : 5th July 2015

Quick Response Code



trial dentures were subjected to flasking and processing using heat cure acrylic resin (DPI). The dentures so obtained possessed metal anteriors and acrylic tooth coloured posteriors different from the conventional RPD (Fig 2). The dentures were finished and polished and delivered to the patient successfully (Fig 3,5).

A golden coloured crystal was put on the right canine of the upper denture to add on to the esthetics of the patient and



Fig 2 : Acrylic Dentures With Metal Teeth



Fig 3 : Postoperative Intraoral View



Fig 4 : Canine With Dental Jewellery



Fig 5 : Postoperative Extraoral View

impart her a shining smile(Fig 4).

Discussion

The article describes the fabrication of an unconventional removable partial denture with metal anteriors and acrylic tooth coloured posterior teeth . This was in contrast to the usual patient demands where preference is given to the metal posteriors and tooth coloured anteriors. RPD design is the responsibility of the

dentist. This removable partial denture was given with the primary aim of fulfilling all the patient demands. A clinician's skill lies in the ability to pay meticulous attention to each demand of the patient and achieve them with perfection and satisfaction.

A clasplless denture was given to the patient by extending a flange of the denture in the anterior region perforating it in the region of existing teeth in the mouth. The undercut in this region was utilized to gain significant retention.

Retention holes were made in the palatal aspects of the metal crowns fabricated to be incorporated in the denture for acrylic retention. The putty index so fabricated gave an exact replica of the acrylic teeth in wax which helped to achieve the same arrangement as during the first try in thereby resulting in patient satisfaction. A difficult aspect of the case was the demand of the patient of giving the prosthesis over the root stumps, hence the root stumps were made to flush with the mucosa to create maximum space for the arrangement of the teeth.

Conclusion

Several options, including the use of RPD, are available for the treatment of partial edentulism. Patient expectations need to be established before treatment,

as components of the RPD can be visible and may not be acceptable to the patient.

In view of the importance of aesthetics it varies among different patients^[2]. The definition of esthetics for one may not be same for the other. Hence clinician should consider the options of unconventional RPDs which could satisfy each individual with excellent function and comfort.

References

1. Donovan TE, Derbabian K, et al, Esthetic considerations in removable prosthodontics. *J Esthet Rest Dent* 13:241-53,2001
2. KhanSB, Aesthetic clasp design for Removable partial dentures: A literature review *SADJ* June 2005 ,Vol. 60 no 5 pp 190–194
3. Beaumont, AJ. An Overview of Esthetics with RPDs. *Quintessence Int* 2002; 33:747-755.
4. Mazurat, NM. Mazurat, RD. Discuss Before Fabricating: Communicating the Realities of Partial Denture Therapy. Part I: Patient Expectations. *J Can Dent Assoc* 2003; 69:90-94.

Source of Support : Nil, Conflict of Interest : None declared