

A systematic approach for Tooth supported over denture: A clinical Report

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Abstract: Extraction of teeth is followed by continuous ridge resorption and poor denture foundation. Loss of periodontal receptors responsible for improper masticatory function and inaccurate jaw movements. Retention of few remaining teeth will preserve alveolar bone and preserve periodontal receptors. This case report describes a systematic approach to treat a patient with tooth supported overdenture.

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I. Introduction:

Several longitudinal studies have shown that the complete natural teeth removal and the long-term wearing of complete dentures results in a marked resorption of the residual alveolar ridges.^{1,2} With overdentures, on the other hand, there is a decrease in the progressive resorption of the residual alveolar ridges.^{3,4} Preservation of natural teeth leads to preservation of periodontal mechanoreceptor thus there is increase in masticatory performance, and has a psychological benefits. Therefore, overdentures can be used as a preventive measure to maintain severely compromised teeth and have become a predictable treatment alternative to complete dentures.

II. Case Report

A 65 years old female patient reported to Department of Prosthodontics & Crown & Bridge for rehabilitation of missing teeth (Fig 1).



Fig 1: Pretreatment intraoral photograph

After evaluation of the patient's attitude and prognosis of remaining teeth, complete denture for the maxillary arch and tooth supported overdenture for the mandibular arch was planned. Diagnostic mounting was done to assess vertical space available for selection of attachment (Fig 2).



Fig 2: Diagnostic mounting to assess available vertical space for overdenture attachment selection

Quinlivian type of stud attachments of small size on both mandibular canine was planned. Copings of both canine and first premolar were planned to connect. Connecting the root surfaces has several mechanical advantages. Inclined loads may be resolved into a more axial direction and there will be a marked resistance to loads with a lateral or rotational component.⁵ Intentional root canal treatment was done in both mandibular canine and premolars of right and left side. After root canal treatment teeth were reduced to dome shape and 2-3 mm in vertical height. Post space preparation was done and impression was taken (Fig 3).



Fig 3: Impression of mandibular arch alongwith post space

Pattern for the post and coping was made with indirect technique and stud attachments were attached after surveying the path of insertion (Fig 4).



Fig 4: Wax pattern fabrication

Copings were cemented into the patient's mouth (Fig 5) and primary impressions were taken with impression compound for maxillary arch (Fig 6) and with alginate for mandibular arch (Fig 7).



Fig 5: Coping cementation



Fig 6: Maxillary Primary Impression**Fig 7: Mandibular Primary Impression**

For the final impression of the mandibular arch border molding was done with putty and impression was taken with light body (Fig 8). Final impression of the maxillary arch was done with conventional technique (Fig 9).

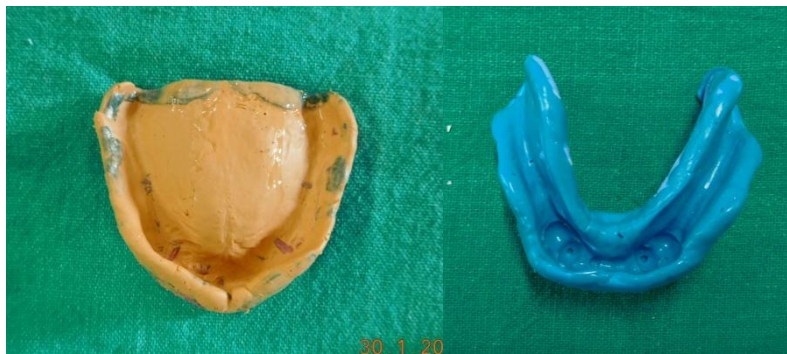


Fig 8: Maxillary Final Impression

Fig 9: Mandibular final impression

Jaw relation was taken and try in was done. After try in verification flasking and packing of the denture was done. After finishing and polishing denture were inserted in the mouth and area of the denture corresponding to attachment was relieved and female housing was attached with denture with the help of cold cure resin (Fig 10). Denture were inserted into patient's mouth (Fig 11).



Fig 10: Mandibular denture with female housing



Fig 11: Denture insertion

III. Discussion

The bone loss of the alveolar process after tooth extraction occurs with great individual variation, impossible to predict at the time of extraction. The simplest way to prevent the bone loss is to avoid extraction of all teeth. To keep a few teeth for a tooth or root-supported overdenture has been shown to substantially reduce the bone loss. Tooth supported overdentures provide excellent long-term success and survival, including patient satisfaction, improved oral functions and oral health related quality of life.⁶

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