



## An Overdenture with Access Post – A Case Report

### KEYWORDS

Over Denture, edentulism, Access Post, Prosthetic Rehabilitation

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### ABSTRACT

*Partial or complete Edentulism is a common finding among the elderly population. As the teeth are lost it leads to a gradual loss of the alveolar bone due to disuse atrophy. A method to prevent this is by salvaging the remaining teeth and fabricating a prosthesis over the roots of the remaining teeth. This is done with the help of an overdenture. This Case Report shows the fabrication on a overdenture with an access post and ball attachments.*

### Introduction

The lack of proprioception and higher levels of residual ridge resorption are a common finding in patients who wear complete dentures. An alternative to this is providing the patient with a removable prosthesis such as an overdenture. Overdenture is a prosthesis that covers and rests on one or more remaining natural teeth, roots of natural teeth, and/or dental implants.<sup>1</sup>

Compared to the conventional tooth supported overdenture, Implant supported overdenture also provides the additional support, retention and preserves the alveolar bone but the proprioception is not maintained. Moreover for implant supported overdenture to be successful other factors are also important like bone condition, loading condition, design of the prosthesis, patient's habits etc. So wherever possible natural teeth can be preserved to utilize the advantages that overdenture offers over the conventional denture and at reduced cost from that of implant supported overdenture.<sup>4</sup>

There are various types of overdentures which can be used in tooth supported cases. They are as follows :

**Overdentures without coping :** The tooth is treated endodontically and reduced to gingival level and overdentures are made over it.

**Overdentures with cast coping :** Dome shaped tooth reduction is done with finish lines for fabrication of cast coping.

**Overdentures incorporating some form of attachments :** Where the tooth is treated endodontically and attachments in the form of posts are given on the tooth. It can be done with or without coping.

In this case report , overdentures with attachment without cast coping was used (EDS access post overdenture). This attachment utilizes keeper and cap system that allows for quick and easy nylon cap insert replacement, while utilizing

the **EDS** Access Post Overdenture thick wall, hollow tube system. When worn, this cap insert may easily be removed, requiring only seconds for replacement, thereby considerably shortening chair time.<sup>3</sup>

### Indications:

Adequate interarch space for the attachment.  
Single rooted teeth with one canal  
Straight root canals

### Case Report

A 64 year old male patient reported to Deptt. of Prosthodontics , for replacement of missing teeth. Only anterior teeth were present in the upper arch whereas 34 and 43 were present in the lower arch.

Teeth loss was due decay and mobility and negligence of oral hygiene. Intraoral radiographs revealed adequate bone support for both the teeth. It was decided to retain both the teeth to serve as overdenture abutment. Diagnostic jaw relation was made and mounted on an articulator to evaluate the inter-arch distance for accommodation of the components. The treatment plan was to make a removable prosthesis for the upper arch and an access post overdenture for the lower arch. The patient was explained about the treatment and an informed consent of the patient was taken before the start of the treatment.



**Figure 1 : Preoperative view**

### Treatment Procedure

The treatment procedure was divided into three phases :

Phase 1: Oral Prophylaxis

Phase 2: Endodontic treatment

Phase 3 : Prosthodontic Rehabilitation

After Phase 1 and 2, Phase 3 treatment was carried out.

Tooth number 34 and 43 were reduced to gingival level in a dome shaped form. Post space preparation was done using EVD system drills.

The access post was cemented with GIC ( Figure 2).



**Figure 2 : Cemented access post**

Preliminary impressions of the upper and lower arch were made in irreversible hydrocolloid and cast was poured.

On the primary cast special tray was fabricated and border moulding was done. A final impression was made with monophase for both the arches and master cast was poured.

Jaw relation and try in procedures were done.

After verification in the try in stage final dentures were processed.

Rubber bands were placed to cover the height of contour of the ball of post. The nylon female caps were placed on ball of post.

Marking paste was placed on the cap and denture was seated over the post with nylon caps.

Denture was removed, relieved in the area of marking paste to make space for nylon cap.

Pink cold cure acrylic resin was placed in the relieved area.

Denture was seated and patient was instructed to close in centric relation.

After resin was set, denture was removed with pick up attachment cap housed in the intaglio surface of the denture. Rubber bands were removed & flash was trimmed (Figure 3).

Additional relief was provided at the marginal gingival area to prevent soreness of tissues.

Upper and lower dentures were inserted in the mouth. ( Figure 4).



**Figure 3 : Denture with Nylon caps**



**Figure 4 : Post operative view**

A one week and one month post- insertion follow up was done. The patient had no problems related to functioning of the denture.

### Discussion

The overdenture option is a great benefit to the patient as there is better proprioception, residual ridge resorption is lesser, the dentures have better retention and stability, the mental satisfaction of the patient that he still has natural teeth and the ability to remove and clean the prosthesis. The drawbacks include increased level of manual dexterity required in the aged population to remove and replace the prosthesis, increased cost of treatment that many elderly cannot afford and the increased number of appointments which are required. The further disadvantage includes the thinning of the inner surface of the acrylic to incorporate the nylon caps, this was done in the canine region which is close to the midline of the mandibular denture base and fracture in this region can be common seen if reinforcing is not done adequately.

Access Post retained overdentures have an added advantage over other types overdentures –

1. Simplicity, predictability and retreat ability.
2. Thick walled, hollow tube design
3. Ball and socket attachment which allows rotation of the denture.
4. Stabilizing flanges.
5. Undercuts of shank.<sup>2</sup>

### Conclusion

An overdenture with an access post is a viable option for patients with good manual dexterity. It allows good seating of the prosthesis and slight movement around the ball attachments and also provides for proprioception to the patient. The overdenture with access post is a cost effective option for patient with few remaining natural teeth who are motivated to save them.

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