



## Short Communication

# Tooth supported overdenture – Makes life easy

Devi Parameswari<sup>1\*</sup>, Pinky A<sup>1</sup>, H Annapoorni<sup>1</sup>, Nadana Merlin Daya<sup>1</sup>

<sup>1</sup>Dept. of Prosthodontics, Meenakshi Ammal Dental College and Hospital, Chennai, Tamil Nadu, India

Received: 25-04-2025; Accepted 29-05-2025; Available Online: 20-06-2025

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: [reprint@ipinnovative.com](mailto:reprint@ipinnovative.com)

## 1. Introduction

Edentulism can harm the patient's mental attitude as it affects their aesthetics and masticatory efficiency. The transfer of all occlusal stresses from the teeth to the oral mucosa is the main cause of the progressive loss of residual alveolar bone seen in those who wear conventional complete dentures. Thus, it is essential to preserve the remaining natural teeth, which can help reduce residual bone resorption, improve the retention and stability of the denture, enhance masticatory function, provide proprioception, and offer psychological benefits to the patient.<sup>1,3</sup>

DeVan asserts that "carefully replacing what is missing is less important than the constant preservation of what remains." But overdentures should not be used as an alternative for a fixed or removable partial denture. They are indicated for the patient normally considered for full-mouth extraction because of caries or advanced periodontal disease.<sup>2,3</sup>

Overdenture is a removable dental prosthesis which covers and rests on one or more natural teeth, the roots of natural teeth and /or dental implants; a dental prosthesis that covers and is partially supported by natural teeth, tooth roots, and/or dental implants. It is also called as an overlay denture, overlay prosthesis or superimposed prosthesis. (GPT-9)

Abutments for retained teeth that have undergone coronal modification or restoration are commonly created endodontically and utilised as overdenture abutments. The types of tooth supported overdentures based on the method of abutment preparation are:

1. Non-coping; 2) Coping: short and long; 3) Attachments: intracoronal and extracoronal; and 4) Submerged vital roots.<sup>1,4</sup>

Maintenance of good oral hygiene to prevent caries and periodontal diseases, encroachment of the vertical dimension due to the bulk of the overdenture and additional costs of the abutment and denture base modifications etc. can be listed as certain disadvantages of the tooth-supported overdentures. Although an implant-retained overdenture is an option, it is occasionally not feasible for financial or bone-related reasons.<sup>5</sup>

This paper presents a tooth-supported overdenture case where esthetics and function was restored without the complete extraction of lower teeth.

## 2. Discussion

The primary complaint of a 52-year-old male patient who came to the prosthodontics department was that he had trouble chewing because his lower teeth were present. No pertinent medical history was found. The mandibular left and right canines were the only lower teeth missing, according to an intraoral examination (**Figure 1**). Both canines had long roots and sufficient bone support, according to radiographic analysis.

\*Corresponding author: Devi Parameswari  
Email: [drdevi.prostho@madch.edu.in](mailto:drdevi.prostho@madch.edu.in)



**Figure 1:** Intraoral image (frontal view)



**Figure 5:** Master imprint



**Figure 2:** Occlusal view of prepared right and left mandibular canines.



**Figure 6:** Denture made using heat cure acrylic resin (Acryln H) – intaglio surface



**Figure 3:** Pick-up impression was created using Zhermack Elite HD+, a light-bodied rubber base impression substance



**Figure 7:** Denture made using heat cure acrylic resin (Acryln H) – occlusal surface



**Figure 4:** Co-Cr metal copings using a ball attachment (Rhein 33)

The patient was offered a variety of prosthetic rehabilitation therapy choices, including either keeping the remaining teeth for tooth-supported overdentures or extracting them and then replacing them with traditional complete dentures or an implant-retained prosthesis. Because of the longer treatment period, additional surgical procedures, and related costs, the patient decided against choosing an implant-retained prosthesis. Therefore, it was intended to create a tooth-supported overdenture with

additional coronal attachments while keeping the remaining natural teeth.

To ascertain the approximate vertical dimension of occlusion, preliminary casts were created and wax rims were manufactured for the jaw relationship. The available inter-arch space was evaluated with the aid of the diagnostic articulation and was determined to be sufficient.

The right and left mandibular canines had intentional endodontic therapy, and they were prepared in a dome-shaped contour that was about 3–4 mm above the gingival margin. (**Figure 2**) A 23 gauge orthodontic wire was put into the prepared post space, and a pick-up impression was made using Zhermack Elite HD+, a light-bodied rubber base impression substance. (**Figure 3**)

In the lab, special attachments were made and fastened to the Co-Cr metal copings using a ball attachment (Rhein 33). The patient's mouth was used to test the fit of these coping mechanisms. Glass ionomer luting cement was then used to lute them to the abutment teeth. (**Figure 4**)

After block out, a unique tray was constructed on the cast using an alginate impression of the mandibular arch. Traditional methods were used for border moulding, and Zherback Elite HD+, a light-bodied rubber base material, was used to create the master imprint. (**Figure 5**)

Jaw relation was captured using wax-rimmed record bases. After the teeth were arranged, the trial was examined. Following appropriate waxing, heat-cured acrylic resin (Acryln H) was used to manufacture the denture (**Figure 6**, **Figure 7**)

Speech, stability, and retention were assessed after the denture was placed. The patient received post-insertion instructions. A periodic review was conducted.

### 3. Conclusion

With the rise in life expectancy and edentulism among the geriatric population, tooth-supported overdentures offer a practical, cost-effective alternative to implants and fixed prostheses.<sup>1,2</sup> In order to provide additional stability and retention for the prosthesis, this case report examines a perfect example of fabricating a tooth-supported overdenture while keeping the remaining, healthy natural teeth. A well-designed overdenture supported by teeth improves oral health-related quality of life and increases patient satisfaction.<sup>1,3,5</sup>

### 4. Conflict of Interest

None.

### 5. Source of Funding

None.

### References

1. Leong JZ, Beh YH, Ho TK. Tooth-Supported Overdentures Revisited. *Cureus*. 2024;16(1):e53184.
2. Kaur M, Bansal S, Kaur K. Tooth Supported Mandibular Single Overdenture: A Case Report. *Eur J Dent Oral Health*. 2023;4(5):6–9.
3. Kumar V, Gupta S, Krishnan Y, Vishnoi L. Tooth supported overdenture-A preventive approach in prosthodontics. *Int J Oral Health Dent*. 2018;4(3):184–7.
4. Satyendra K, Kumar D, Legha VS, Arun Kumar KV. Specially designed tooth supported mandibular overdenture with enhanced retention. *Med J Armed Forces India*. 2015;71(Suppl 2):S546–8.
5. Chen L, Xie Q, Feng H, Lin Y, Li J. The masticatory efficiency of mandibular implant-supported overdentures as compared with tooth-supported overdentures and complete dentures. *J Oral Implantol*. 2002;28(5):238–43.

**Cite this article:** Parameswari D, Pinky A, Annapoorni H, Daya NM. Tooth supported overdenture – Makes life easy. *IP Ann Prosthodont Restor Dent*. 2025;11(2):189-191.