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Review Article

Rooted or Replaced? Comparative Insights into Tooth- and Implant-Supported Overdentures with Case Series

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ABSTRACT

Objective: This review aims to provide a comparative analysis of tooth-supported and implant-supported overdentures, focusing on clinical, biomechanical, functional, and patient-centred outcomes. In addition to summarizing current literature, the review integrates illustrative clinical case series to contextualize decision-making in prosthodontic practice.

Methods: A comprehensive review of peer-reviewed literature was conducted, examining outcomes associated with both overdenture modalities. Clinical cases were selected to represent common scenarios encountered in prosthodontics and to demonstrate the practical application of treatment principles. These cases were evaluated alongside published evidence to highlight indications, techniques, and patient-centered considerations.

Results: Implant-supported overdentures (ISODs) consistently demonstrated superior retention, masticatory efficiency, and patient satisfaction, particularly in cases of advanced ridge resorption. Tooth-supported overdentures (TSODs), on the other hand, preserved proprioception, maintained alveolar bone via retained roots, and served as a cost-effective, minimally invasive alternative. The included case series highlighted real-world scenarios where each modality was selected based on anatomical, systemic, and psychological factors. Attachment systems—ball, locator, bar, and magnets—were also discussed for their role in prosthetic function and maintenance.

Conclusion: The integrated case series supports the conclusion that both TSODs and ISODs play vital roles in edentulous rehabilitation. While ISODs provide enhanced functional outcomes, TSODs remain valuable for medically compromised patients or those seeking non-surgical solutions. Treatment success hinges on individualized case selection, informed consent, and long-term maintenance protocols. This review emphasizes the necessity of a patient-specific, evidence-informed approach to overdenture therapy in modern prosthodontics.

Keywords: attachment systems, edentulism, implant-supported overdenture, overdentures, prosthodontics, tooth-supported overdenture

INTRODUCTION

Edentulism remains a significant challenge in prosthodontics, particularly due to its implications for masticatory efficiency, psychological health, nutrition, and overall quality of life [1]. The rehabilitation of completely edentulous patients has evolved from conventional complete dentures to more advanced solutions such as tooth-supported overdentures (TSODs) and implant-supported overdentures (ISODs), which provide enhanced support, retention, and patient satisfaction.

According to GPT-10, an overdenture is defined as any removable dental prosthesis that covers and rests on one or more remaining natural teeth, the roots of natural teeth, and/or dental implants; a dental prosthesis that covers and is partially supported by natural teeth, natural tooth roots, and/or dental implants [2]. The primary goal of this treatment modality is to preserve remaining oral structures for as long as clinically feasible. The strategic retention of roots or placement of implants offers biomechanical, biological, and psychological benefits that are well-documented in literature [3].

While tooth-supported overdentures offer advantages such as preservation of proprioception, reduced alveolar bone resorption, and psychological benefits of retaining natural dentition, they are limited by the condition of the remaining teeth, the need for endodontic treatment, and caries susceptibility. On the other hand, implant-supported overdentures have become increasingly popular due to their superior retention, stability, and long-term success—especially in severely resorbed ridges—but they require surgical intervention, incur higher costs, and may demand more extensive post-insertion maintenance [3].

In terms of functional efficiency, both TSODs and ISODs have demonstrated improvements over conventional dentures in parameters such as bite force, chewing efficiency, and patient satisfaction. However, literature varies in identifying which method is superior, and selection often depends on individualized factors including anatomy, systemic health, patient expectations, and financial considerations [5].

A well-informed prosthodontist must balance multiple factors—including preservation of oral structures, long-term durability of the prosthesis, potential complications, and patient-centered outcomes—when deciding on the most suitable overdenture treatment. Although the use of dental implants has become more common in modern prosthodontics, preserving natural teeth or roots for overdenture support remains a reliable, conservative option that can offer significant benefits, especially for patients with health issues or financial limitations [6].

Despite the growing body of research, there is still no scholarly consensus regarding the superiority of tooth-supported versus implant-supported overdentures in diverse clinical scenarios. Many studies examine one modality in isolation, resulting in fragmented evidence that does not adequately guide comparative decision-making [7].

Furthermore, available reviews often prioritize survival rates or biomechanical parameters, while underreporting crucial patient-centered outcomes such as quality of life, psychological adaptation, treatment cost, and long-term maintenance requirements. This selective emphasis limits their relevance to holistic, evidence-informed clinical practice [8].

Another important gap is the limited integration of real-world case experiences, which illustrate how prosthodontists adapt evidence to patient-specific variables such as systemic health, anatomical limitations, and patient expectations. Such contextual insights are rarely synthesized within conventional reviews [8].

Therefore, a resource that not only consolidates available evidence but also contextualizes it through practical case series is essential. The present narrative review addresses this gap by critically comparing TSODs and ISODs, highlighting their relative merits, limitations, and indications, while integrating illustrative cases to ground the discussion in clinical reality. This combined approach provides a more comprehensive framework for postgraduate trainees and clinicians seeking to optimize patient-centered prosthodontic rehabilitation.

Main Points

- Tooth- and implant-supported overdentures offer distinct clinical and functional advantages.
- This article presents a comparative overview with supportive literature and illustrative case series.
- Prosthodontic planning plays a critical role in long-term success of both approaches.
- Clinical decision-making should balance anatomical, functional, and patient-specific factors.

Comparative Review of Overdenture Modalities

Tooth-Supported Overdentures (TSODs)

Tooth-supported overdentures rely on retained natural roots or abutment teeth to support and retain the prosthesis. These retainers confer several biomechanical, biological, psychological, and economic advantages, particularly in elderly or partially edentulous patients. The preservation of alveolar bone is a principal benefit, as retained roots provide physiological stimulation via the periodontal ligament, thereby mitigating residual ridge resorption. Additionally, the periodontal ligament facilitates proprioceptive feedback and enhanced neuromuscular control, enabling improved regulation of masticatory forces compared to implant-supported prostheses [9,10].

Economically, TSODs avoid the cost-intensive surgical interventions associated with implants, rendering them a more feasible option for medically compromised or geriatric patients [6]. The conservative, minimally invasive nature of TSODs preserves oral structures, offers reversibility, and serves effectively as a transitional prosthesis. Psychologically, preservation of natural dentition contributes to the maintenance of patient identity and reduces the adverse emotional impact commonly associated with tooth loss [11].

Nonetheless, TSODs present notable limitations. The abutment teeth are vulnerable to carious lesions and periodontal disease, particularly in patients with suboptimal oral hygiene, leading to potential root caries and abutment failure. Endodontic treatment and prosthetic coverage with metal copings or attachments are frequently required, increasing clinical complexity and cost relative to conventional dentures [12]. Moreover, retention provided by tooth abutments is generally inferior to osseointegrated implants; attachment wear and vertical height limitations may compromise prosthesis stability. Regular maintenance, including clinical evaluations and fluoride therapy, is essential to prevent complications [13].

Implant-Supported Overdentures (ISODs)

Implant-supported overdentures, notably the two-implant mandibular overdenture, are widely recognized as the standard of care in edentulous patients, attributable to their superior clinical outcomes and patient satisfaction. Implants provide enhanced prosthesis retention and stability through rigid anchorage, significantly reducing displacement during function and improving patient confidence. Functional loading of implants preserves alveolar bone height, particularly in the anterior mandible, attenuating ridge resorption [14].

Functionally, ISODs have demonstrated improved masticatory efficiency, evidenced by increased bite force, favorable electromyographic (EMG) activity, and optimized chewing cycles relative to TSODs. Patient-reported outcomes indicate enhanced comfort, phonetics, esthetics, and psychological well-being, especially in cases of advanced ridge resorption or inadequate conventional denture retention. Modern attachment systems—locator, ball, bar, and magnet—afford prosthetic flexibility tailored to retention, hygiene, and maintenance requirements [15].

However, ISODs entail surgical intervention with inherent risks, contraindicating their use in patients with bleeding disorders, bisphosphonate therapy, radiation exposure, or systemic comorbidities. The higher initial cost and extended treatment duration, inclusive of surgical, prosthetic, and laboratory phases, are additional considerations [16]. The absence of the periodontal ligament in implants results in diminished proprioceptive feedback, necessitating patient adaptation. Furthermore, technical complications such as attachment wear, loosening, peri-implantitis, and mechanical failures require ongoing maintenance [14].

Clinical Case Selection Criteria: Tooth-Supported vs. Implant-Supported Overdentures

The decision to rehabilitate a patient with either a tooth-supported or implant-supported overdenture must be rooted in a thorough clinical examination, patient-specific needs, systemic and local considerations, and long-term prognosis. Both treatment modalities have well-established indications and contraindications, which are critical to the success and longevity of the prosthesis (Table 1) [10,14,16-18].

Tooth-supported overdentures are especially beneficial in cases of xerostomia, history of head and neck radiotherapy, or patients on bisphosphonate therapy who are at risk of osteonecrosis. Implant-retained overdentures are especially advantageous for patients dissatisfied with conventional dentures, those with high esthetic demands, or where ridge anatomy precludes stable denture wear [19].

Table 2 outlines the different attachment systems available for overdentures, emphasizing how their unique features influence case selection.

Table 1. Factors Influencing Case Selection [110,14,16,18]

Factors	Tooth-Supported Overdenture (TSOD)	Implant-Supported Overdenture (ISOD)
Medical status	Favorable for medically compromised or elderly patients	Requires good systemic health for surgery and healing
Anatomical status	Presence of strategic, restorable teeth	Adequate bone volume and quality needed for implant placement
Patient finances	Economical (lower initial cost)	Higher initial cost but potentially less maintenance long-term
Patient motivation	Requires high motivation for hygiene and recalls	Also requires motivation for hygiene, though caries risk is lower
Prosthesis stability needs	Moderate to good (based on attachment)	Excellent
Time frame	Faster (no healing delay)	Requires healing and integration time
Indications	• Elderly or medically compromised patients where surgery is contraindicated. • Patients with residual teeth but poor tolerance to partial dentures. • Cases requiring preservation of alveolar ridge height in esthetic zones. • Transition therapy before full edentulism or implant placement.	• Edentulous mandible or maxilla with poor denture retention/stability. • Severe ridge resorption. • Patients seeking improved mastication and esthetics. • Dissatisfaction with conventional complete dentures.
Contraindications	• Poor oral hygiene and non-compliant patients. • High caries risk. • Insufficient interarch space for copings/attachments. • Severely compromised or mobile abutments.	• Poor bone quality without grafting options. • Bleeding disorders, uncontrolled diabetes, immune suppression. • Smokers or bruxers (relative contraindication). • Psychological unwillingness for surgical intervention.
Ideal Abutment Characteristics / Ideal Patient Profile	• **Periodontally stable** teeth with at least 50% bone support. • **Minimal mobility** (Grade I or less). • **Endodontically restorable** (preferably single-rooted teeth). • **Evenly distributed** across the arch (e.g., bilateral canines or premolars). • **Favorable crown-root ratio** after decoronation	• Healthy or well-controlled systemic condition (ASA I or II). • Adequate bone in the interforaminal region (for 2-implant mandibular ISOD). • Good oral hygiene and motivation. • Ability to afford initial surgical/prosthetic investment.

Table 2. Attachment Systems and Their Influence on Selection [12,20,21,22]

Attachment Type	Best Used In	Features
Ball attachments	TSODs and ISODs	Simple, cost-effective; suited for limited interarch space
Bar attachments	ISODs (4 or more implants)	High retention, ideal for maxilla; needs parallelism, more space
Locator attachments	ISODs (commonly 2-implants)	Self-aligning, easy maintenance; popular choice for mandibular cases
Magnets	TSODs and ISODs (limited force application)	Low retention, suited for elderly or special needs patients
Telescopic crowns	Advanced TSODs or ISODs	Excellent parallelism; technique-sensitive and costlier

CASE SERIES

CASE 1 – Tooth Supported Over Denture

A 57-year-old female patient named Vijay Laxmi reported to the Department of Prosthodontics with the chief complaint of missing teeth in both the upper and lower arches, causing difficulty in chewing. Intraoral examination revealed that only the mandibular canines (33 and 43) were present bilaterally, and the patient was unwilling to have these teeth extracted. An orthopantomogram (OPG) (Figure 1) was taken to assess bone support, periodontal health, and rule out root stumps. Both canines were found to be vital with no significant pathology. Given the patient's preference to retain her natural teeth and the good prognosis of the canines, (Figure 2A) a tooth-supported overdenture was considered the most conservative and beneficial option to preserve proprioception and alveolar bone. The patient was informed of the procedure, and consent was obtained. The patient's vertical dimension was deemed adequate to support an overdenture with short copings. Considering this, single-visit root canal treatment (RCT) was performed on teeth 33 and 43, followed by crown preparation for metal coping. Primary impressions were made using alginate, and diagnostic casts were mounted on a non-adjustable articulator. After intentional RCT, the canines were prepared with a tapered round-end diamond point and a chamfer finish line (Figure 2B). Impressions for metal copings were made with additional silicone (putty and light body), and the copings were fabricated, checked for fit intraorally, and cemented with glass ionomer cement (3 M Ketac Cem GIC Luting Cement) (Figure 2C,2D). Primary impressions of both arches were again taken with alginate, and special trays were fabricated with self-cure acrylic resin, incorporating a double spacer over the abutment teeth. Border molding was performed with low-fusing compound (green stick), and final impressions were made with light-body addition silicone for both maxillary and mandibular arches. Master casts were poured using Type IV gypsum. Record bases were fabricated, applying a separating medium and covering the copings with wax. Occlusal rims were made, and jaw relations were recorded. Teeth arrangement was carried out and evaluated intraorally for phonetics, vertical and centric relation, and esthetics. The vertical dimension and occlusal contacts were verified, and after patient approval, the final denture was processed using heat-cured acrylic resin, cured, polished, and inserted (Figure 3). Clear post-insertion instructions regarding denture and abutment care were given. The patient was recalled after 24 hours for adjustments and scheduled for periodic follow-up visits.

Figure 1. Preoperative OPG (CASE 1)

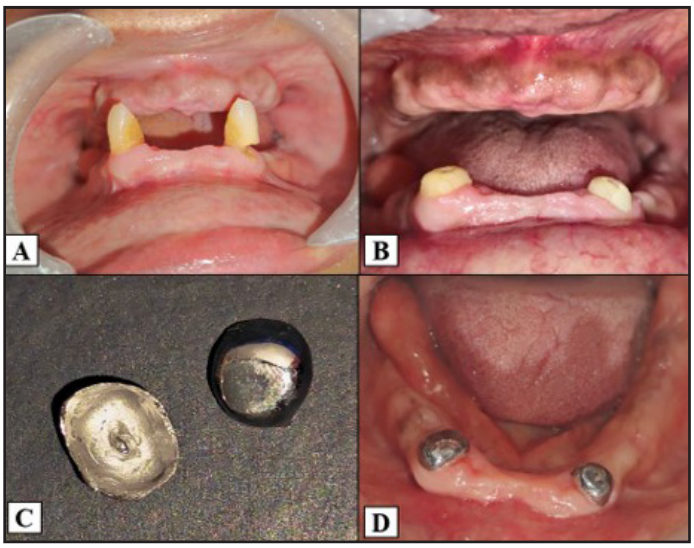

Figure 2.A: Intraoral preoperative view; **B:** Tooth preparation for short copings; **C:** Metal copings; **D:** Copings luted concerning 33 and 43

CASE 2 – Implant-Supported Overdenture

A 50-year-old female patient, Neelam, reported to the Department of Prosthodontics with the chief complaint of complete edentulousness in both arches and dissatisfaction with the looseness and instability of her mandibular complete denture.

Clinical examination confirmed a completely edentulous maxillary and mandibular arch (Figure 4A). A Cone Beam Computed Tomography (CBCT) scan revealed a resorbed mandibular ridge, classified as Class II according to Wical and Swope, indicating limited bone width and height in the anterior mandible.

Figure 3. Extraoral Views: Preoperative and Postoperative

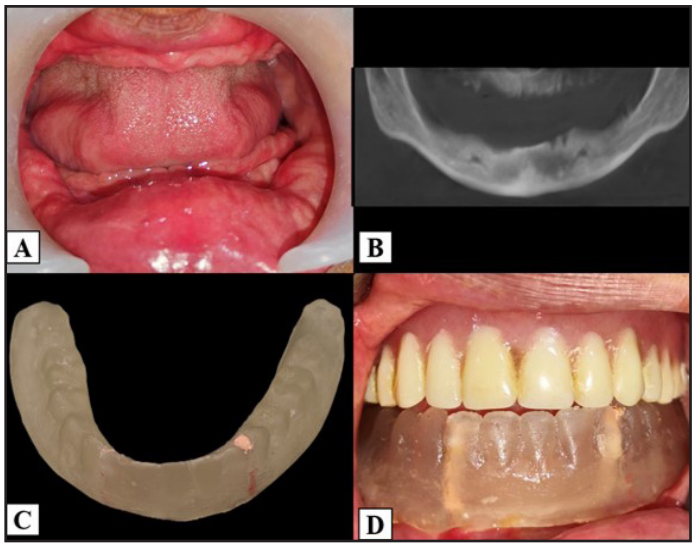

Figure 4: Preoperative intraoral view; **B:** Preoperative radiograph; **C:** Surgical stent fabricated; **D:** Intraoral view before implant placement with stent in position.

Given the compromised ridge anatomy and poor retention of the mandibular denture, a two-implant-supported mandibular overdenture with ball attachments was planned to enhance retention, stability, and patient satisfaction.

Given the patient's dissatisfaction with conventional dentures and the presence of sufficient bone for minimally invasive implant placement with augmentation, an implant-supported overdenture was considered a predictable and effective treatment option. Ball attachments were selected for their simplicity, cost-effectiveness, and ease of maintenance.

A conventional maxillary and mandibular denture was first fabricated to restore esthetics and occlusion. After successful adaptation and functional evaluation, the mandibular denture was duplicated to create a radiographic and surgical stent (Figure 4C). Osteotomy sites in the canine regions were marked on the stent and filled with radiopaque gutta-percha for precise planning and intraoral guidance during surgery.

Under local anesthesia, the surgical stent was used to guide implant site preparation. Due to limited bone width in the anterior mandible, a ridge split technique was performed. Two endosseous implants (diameter 3.3 mm × length 8 mm) were placed in the mandibular canine regions (Figure 5). Bone grafting was performed using Bio-Oss (Geistlich) to enhance ridge volume. A healing period of four months was observed to allow for osseointegration and tissue maturation.

After the healing period, second-stage surgery was performed. Ball abutments were attached to the implants (Figure 6A). The mandibular denture was relieved at the corresponding areas to accommodate the attachments. After a 15-day healing interval, metal housings (female components) were placed over the ball abutments.

To protect the soft tissues during the chairside reline procedure, rubber dam pieces were adapted around the abutments (Figure 6B). Self-cure acrylic resin was applied into the relieved areas of the mandibular denture, which was then seated intraorally, guiding the patient to close in centric occlusion. After polymerization, the denture was finished, polished, and reinserted (Figure 7).

The treatment significantly improved retention, stability, and masticatory efficiency. Occlusion, fit, and patient comfort were re-evaluated. Post-insertion instructions regarding hygiene and attachment maintenance were given. The patient was scheduled for periodic follow-up visits to monitor peri-implant tissues and assess attachment wear.

CASE 3 - Implant-Supported Overdenture

A 60-year-old female patient, Susheela, presented with a completely edentulous maxillary arch and a partially edentulous mandibular arch. She expressed dissatisfaction with her masticatory function and desired replacement of all missing teeth. Intraoral examination revealed the presence of teeth 33, 34, and 35 in the mandibular arch. A Cone Beam

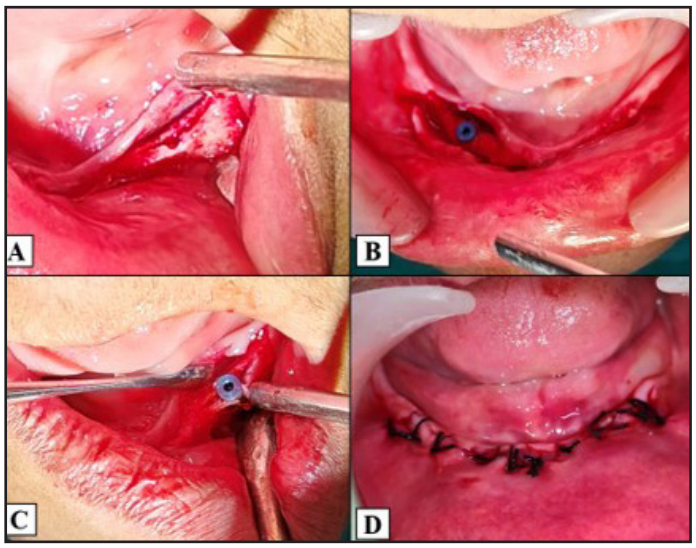

Figure 5.A: Ridge split in 33 region; **B:** Implant placement in 43 region; **C:** Implant placement in 33 region; **D:** Suture placed post-implant placement

Figure 7. Extraoral Views: Preoperative and Postoperative

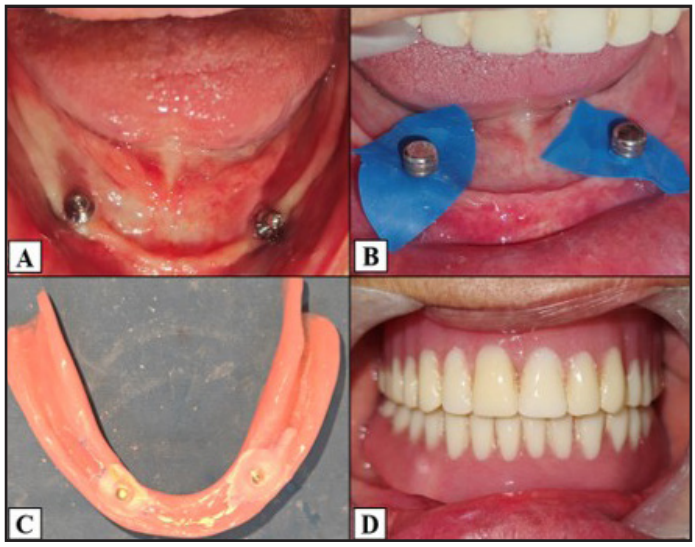

Figure 6A: Ball attachment**. B:** Rubber dam placed over housing intraorally**. C:** Intaglio surface of mandibular implant overdenture. **D:** Postoperative intraoral view.

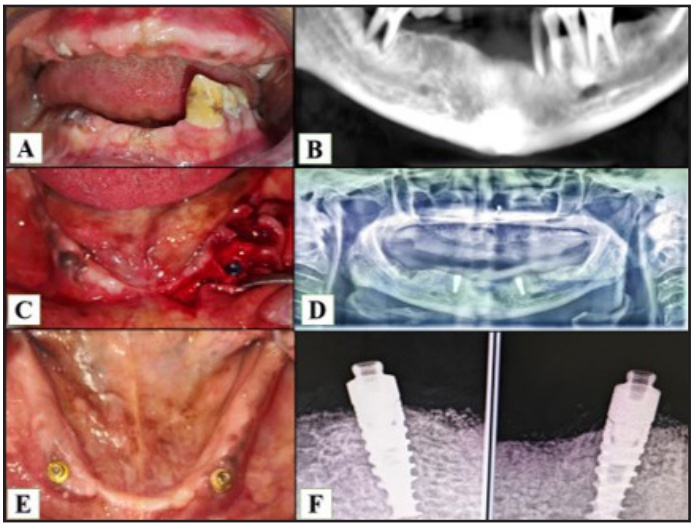

Figure 8.A: Preoperative intraoral view; **B:** Preoperative radiograph**; C:** Implant placement in 33 region**; D:** Postoperative OPG**; E:** Ball attachment**; F:** RVG after placement of ball attachment.

Computed Tomography (CBCT) scan was performed to assess bone quantity and quality for implant placement (Figure 8). The remaining mandibular teeth exhibited moderate mobility and compromised periodontal status. Considering the poor prognosis of the remaining teeth and the patient's desire for a fixed-feeling but removable solution, a mandibular implant-supported overdenture with ball attachments was proposed. The maxillary arch was planned for a conventional complete denture. Although some mandibular teeth were present, their periodontal condition was unfavorable for long-term use as overdenture abutments. Hence, extraction followed by implant placement was considered a more predictable and durable solution. Implant-supported overdentures offer enhanced stability and function, especially in patients seeking improved prosthesis retention. During the initial surgical visit, teeth 33, 34, and 35 were extracted. In the same session, two endosseous implants (3.3 mm × 11.5 mm, Alpha Bio) were placed in regions 33 and 43 using a flap technique under local anesthesia.

Primary closure was achieved, and the patient was instructed on post-operative care. A healing period of three months was observed for osseointegration. After three months, second-stage surgery was performed, and healing abutments were placed. Conventional complete dentures were fabricated for both arches. Ball abutments were then connected to the mandibular implants. The mandibular denture was relieved in the implant regions, and metal housings (female components) were incorporated using self-cure acrylic resin. To protect the surrounding soft tissues during the intraoral polymerization, rubber dam pieces were placed around the abutments. The denture was seated in centric occlusion until the resin set, then removed, trimmed, polished, and reinserted (Figure 9). The incorporation of ball attachments significantly improved denture retention and patient satisfaction. Occlusion and comfort were verified. Post-insertion care instructions were provided, and the patient was scheduled for regular follow-up visits to monitor peri-implant health and attachment maintenance.

Figure 9. Extraoral Views: Preoperative and Postoperative

DISCUSSION

In this case series, three different clinical scenarios illustrate the individualized approach required in planning overdenture treatment. In Case 1, the bilateral presence of healthy mandibular canines provided an ideal foundation for a tooth-supported overdenture (TSOD). This conservative, cost-effective solution preserved proprioception and alveolar bone while avoiding surgical intervention. In contrast, Case 3 involved a partially edentulous mandible with only unilateral teeth remaining (33, 34, and 35), all of which were deemed non-restorable due to poor periodontal health. Consequently, these teeth were extracted, and an implant-supported overdenture (ISOD) with ball attachments was planned to restore function and retention. Case 2 presented a completely edentulous mandible with a severely resorbed ridge. Given the lack of natural abutments and reduced bone height and width, a ridge split procedure followed by implant placement was performed, and an ISOD was delivered to enhance prosthesis stability.

These cases collectively underscore the importance of evaluating key parameters—including the number and condition of residual teeth, alveolar ridge morphology, and patient-specific factors such as expectations, systemic health, and financial considerations—before selecting an overdenture modality. The treatment strategy must be tailored not only to the clinical findings but also to the long-term prognosis of the supporting structures, with the ultimate goal of optimizing function, comfort, and patient satisfaction.

The longstanding debate in prosthodontics between preserving natural teeth to support overdentures (TSOD) and replacing them with implants (ISOD) involves a complex interplay of anatomical, systemic, psychosocial, and financial considerations. Evaluating these two modalities from clinical and scientific perspectives reveals distinct advantages and limitations that influence treatment planning.

Biomechanically, implant-supported overdentures demonstrate superior performance in edentulous arches, particularly those with compromised ridge anatomy. A systematic review by Kumar et al. [17] (2022) highlighted that ISODs exhibit significantly greater maximum bite force and enhanced chewing efficiency compared to TSODs, primarily due to improved prosthesis stability and reduced displacement during mastication.

For instance, a meta-analysis by Sutariya et al. [23] (2021) reported that mandibular implant-supported overdentures demonstrated a mean increase in maximum bite force of approximately 15–20 N compared with tooth-supported counterparts, with statistically significant improvements in masticatory efficiency. Similarly, Kumar et al. [17] (2022) found that patients rehabilitated with ISODs achieved nearly double the chewing efficiency scores compared to those with conventional dentures, and 30–40% higher values relative to TSODs. Long-term follow-up studies have also shown survival rates exceeding 95% for mandibular ISODs at 10 years, whereas tooth-supported overdentures display a broader survival range (70–85% at 10 years) depending on abutment condition and maintenance compliance [19]. These

data underscore that while both modalities improve function compared to conventional dentures, ISODs demonstrate superior biomechanical performance with consistent statistical support.

Despite these findings, tooth-supported overdentures retain an important advantage: the preservation of proprioceptive feedback through the periodontal ligament, which facilitates a more physiologic bite pattern. This neurosensory benefit is especially critical in elderly patients with diminished neuromuscular control, where fine regulation of occlusal forces can help prevent trauma and improve function. Thus, while ISODs offer biomechanical superiority in terms of force generation and stability, TSODs remain advantageous when neuromuscular feedback, cost constraints, and minimally invasive approaches are prioritized [12].

The choice of attachment systems further differentiates the two approaches. Research by Sutariya et al. [23] (2021) demonstrated that in implant-supported overdentures, bar attachments provide the highest retention but require adequate interarch space and precise implant alignment. Locator attachments have gained popularity due to their balance of retention, ease of maintenance, and patient adaptability. Ball attachments, though simpler, tend to exhibit increased wear and reduced long-term retention. Conversely, TSODs frequently employ telescopic crowns or cast copings with ball or magnet attachments, which afford moderate retention but are sensitive to abutment mobility and periodontal health. The functional movement of natural abutments in TSODs can compromise the durability of retention systems, particularly if oral hygiene is suboptimal [24]. Collectively, these findings suggest that while ISODs provide more predictable and durable retention, TSODs can achieve functional success with diligent maintenance and proper case selection [22,25].

From a biomechanical standpoint, the choice of attachment system significantly influences stress distribution, prosthesis longevity, and abutment health. Bar attachments, while providing superior retention and cross-arch stabilization, can concentrate stresses on supporting implants and require adequate interarch space for hygiene access. Locator attachments distribute occlusal loads more evenly and are associated with lower wear rates, but periodic replacement of nylon inserts is necessary to maintain retention. Ball attachments offer simplicity and cost-effectiveness, yet they exhibit higher wear of matrices and may transmit greater lateral forces to abutments, particularly under parafunctional loading. Magnet attachments exert minimal vertical retention forces and are advantageous in patients with limited interarch clearance, but their lower retentive strength restricts use to carefully selected cases [26].

From a biological standpoint, both modalities present distinct complications. Klotz et al. [19] (2021) reported that although implant failures in ISODs are relatively infrequent, biological complications such as peri-implant mucositis and peri-implantitis occur with greater incidence compared to TSODs. Conversely, TSODs are more prone to caries, root fractures, and periodontal breakdown, particularly when abutment hygiene and fluoride regimens are inadequate. Leong et al. [12] (2024) emphasized the necessity for lifelong recall programs, meticulous hygiene, and regular monitoring in TSOD patients, especially when precision attachments or post-core restorations are involved. Therefore, while TSODs require vigilant maintenance to mitigate carious and periodontal risks, ISODs demand careful management of peri-implant tissues, particularly in high-risk groups such as smokers and diabetics [27].

Patient-centered outcomes reveal a nuanced balance between the two approaches. ISODs consistently achieve high levels of patient satisfaction related to retention, esthetics, phonetics, and masticatory function [25,28]. The improved stability and comfort afforded by implants reduce social embarrassment and expand dietary options, positively influencing quality of life. Nonetheless, TSODs confer psychological benefits through preservation of natural dentition, which helps maintain patient identity and emotional well-being [29,30]. This is particularly relevant in elderly or medically compromised individuals who prefer to avoid surgical procedures [27]. Additionally, TSODs can function as transitional prostheses when implants are contraindicated or planned for future placement [31,32]. In summary, ISODs are generally favored for functional and lifestyle satisfaction, whereas TSODs are valued for their conservative nature, proprioceptive advantage, and emotional acceptance of partial edentulism.

While this review and case series provide valuable comparative insights into tooth-supported and implant-supported overdentures, certain aspects such as the limited number of clinical cases and absence of long-term follow-up data were not explicitly addressed. Future studies with larger sample sizes and extended observation periods would help validate and strengthen the clinical applicability of these findings.

CONCLUSION

The choice between a tooth-supported and an implant-supported overdenture remains a vital consideration in prosthodontic rehabilitation. Both modalities present distinct advantages and limitations, and the decision must be patient-specific, guided by anatomical, functional, medical, psychological, and economic factors.

Tooth-supported overdentures offer a biologically conservative, cost-effective solution that retains proprioception, minimizes surgical risk, and preserves alveolar bone, especially in patients with strategic abutments and good periodontal support. However, their long-term success is maintenance-sensitive, requiring strict hygiene, endodontic care, and careful prosthetic design.

Implant-supported overdentures, by contrast, provide superior prosthesis retention, stability, masticatory performance, and esthetic satisfaction. They are particularly beneficial in patients with severely resorbed ridges or poor denture tolerance. However, they demand surgical intervention, financial investment, and long-term commitment to peri-implant hygiene and follow-up.

These clinical cases exemplify how evidence-based planning can successfully guide overdenture selection, integrating patient expectations with biomechanical and prosthetic principles. As prosthodontic techniques and materials continue to evolve, both TSODs and ISODs will remain essential tools, each with valuable roles in delivering personalized, functional, and patient-centered care.

Ultimately, the real question is not *"Which option is better?"*—it is *"Which solution best fits this patient, at this point in their journey, with their unique anatomy, needs, and circumstances?"*

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Dr. Sumit Singh Phukela - Literature Review, Design, Conception

Dr. Jaiveer Yadav - Critical Review, Data Collection and/or Processing, Supervision

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