

Implant-Supported over Denture: A Case Report

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ABSTRACT

Implant-supported overdentures are widely used in the rehabilitation of completely edentulous patients due to their superior retention, stability, and functional efficiency compared with conventional complete dentures. These prostheses are retained by dental implants placed within the jawbone and can be connected using various attachment systems such as ball, bar, locator, or magnetic attachments. Implant-supported overdentures improve mastication, speech, comfort, esthetics, and patient confidence while also reducing residual ridge resorption. The mandibular overdenture supported by two implants is considered a predictable and cost-effective treatment option with high long-term success rates. Careful diagnosis, treatment planning, surgical placement, and regular maintenance are essential for successful outcomes. Overall, implant-supported overdentures significantly enhance the oral health-related quality of life of edentulous patients and have become an important treatment modality in modern prosthodontics.

INTRODUCTION

Edentulism significantly affects quality of life, and conventional mandibular complete dentures often show poor retention and stability due to anatomical and functional limitations. Implant-supported overdentures retained by attachments such as ball, bar, locator, or magnetic systems provide improved retention, stability, function, and patient satisfaction^[1,2]. Evidence demonstrates that implant-supported overdentures provide superior retention, stability, masticatory efficiency, and patient satisfaction compared to conventional dentures. Systematic reviews and consensus statements support their added value^[3], rehabilitation of totally edentulous patients with implant supported overdentures has emerged as a reliable treatment modality^[3,4]

Mandibular implant-supported overdentures are a widely accepted treatment modality for rehabilitating completely edentulous patients, offering superior retention and stability compared to conventional dentures. The use of two implants in the mandibular region is considered a standard of care, significantly improving function, comfort, and patient satisfaction.^[5]

CASE DESCRIPTION

A 57-year-old female patient reported to the Department of Prosthodontics with the chief complaint of difficulty in mastication and poor retention of the mandibular denture. The patient had been completely edentulous for several years and was dissatisfied with the previously worn removable prosthesis. The medical history was non-contributory, and no contraindications for implant therapy were identified.

Intraoral examination revealed completely edentulous maxillary and mandibular arches with moderate ridge resorption (**Figure 2**). The maxillary arch demonstrated adequate ridge form favorable for conventional complete denture fabrication, whereas the mandibular arch showed reduced denture-bearing area with compromised retention and stability. The oral mucosa appeared healthy without any signs of inflammation or pathology.

Panoramic radiographic and CBCT evaluations demonstrated sufficient bone height and width in the mandibular region for implant placement. No pathological abnormalities or anatomical limitations were identified. Based on the clinical and radiographic findings, a treatment plan consisting of a mandibular implant-supported overdenture opposing a conventional maxillary complete denture was formulated.

Under local anesthesia, a crestal incision (**Figure 3**) was made and a full-thickness mucoperiosteal flap was elevated in the mandibular arch (**Figure 4**). Sequential osteotomy preparation was performed, paralleling pins were placed to check the parallelism (**Figure 5**) and implants were placed in the mandibular region with satisfactory primary stability (**Figure 6**). Cover screws were secured, and the surgical site was sutured (**Figure 7**). Healing was uneventful during the osseointegration period. A radiographic evaluation was then carried out to assess implant positioning and the status of healing (**Figure 8**).

Following successful osseointegration, second-stage surgery was performed, and healing abutments were placed to promote soft tissue healing and emergence profile development (**Figure 9**). Housings were subsequently positioned over the abutments to ensure proper seating and an appropriate path of insertion for the prosthesis (**Figure 10**).

An impression was made to precisely record the implant positions (**Figure 11**) and a master cast was then fabricated. Jaw relation records were obtained (**Figure 12**) and the trial denture (**Figure 13**) was evaluated.

DISCUSSION

Traditional complete dentures were once the most common treatment modality for edentulous patients. However, the introduction of implant-supported overdentures has replaced them as a superior treatment option for oral rehabilitation. Proper case selection plays a crucial role in enhancing the success and long-term prognosis of implant-supported overdenture therapy¹

Implant-supported overdentures are a predictable and cost-effective treatment option for edentulous patients, providing improved retention, stability, masticatory efficiency, esthetics, and patient comfort.²

In the present case, implants were strategically positioned in the mandibular arch to ensure adequate support and optimal stress distribution, after second stage surgery, housings were placed onto the abutments, of all attachments, ball attachments provided favorable results when fewer implants are used, in cases with more than two implants bar or locator attachments demonstrate better outcomes.^[3,4,5] The opposing maxillary arch was rehabilitated with a conventional complete denture.

Implant supported overdentures are comparatively economical and are particularly advantageous in patients with excessive interocclusal space or loss of lip support, where they help prevent esthetic and phonetic complications.



Figure - 1



Figure - 2



Figure - 3

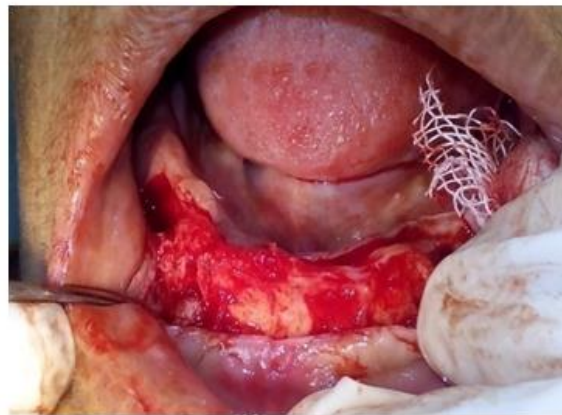


Figure -4



Figure - 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10

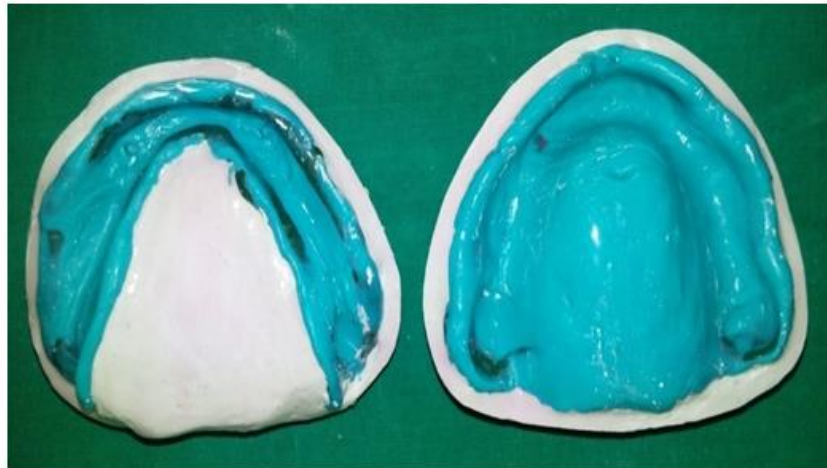


Figure - 11



Figure - 12



Figure - 13 |



Figure - 14



Figure - 15



Figure - 16

REFERENCES

1. Jill J. Shah, Divya Mehta, Darshalkumar D. Panchal, Siddhant Kulmendra Taneja, & Dr. Anuj Vasantray Mansata. (2022). Implant Supported Overdenture - A Review: Implant Supported Overdenture - A Review. National Journal of Integrated Research in Medicine, 13(1):115–122.
2. Martínez-Lage-Azorín JF, Segura-Andrés G, Faus-López J, Agustín Panadero R. Rehabilitation with implant-supported overdentures in total edentulous patients: a review. J Clin Exp Dent. 2013;5(5):e267-272.
3. Van de Winkel T, Heijens L, Listl S, Meijer G. What is the evidence on the added value of implant-supported overdentures? A review. Clin Implant Dent Relat Res. 2021;23(4):644-656.

4. Chaware SH, Thakkar ST. A systematic review and meta-analysis of the attachments used in implant-supported overdentures. J Indian Prosthodont Soc 2020;20:255-268
5. Sutariya PV, Shah HM, Patel SD, Upadhyay HH, Pathan MR, Shah RP. Mandibular implant-supported overdenture: A systematic review and meta-analysis for optimum selection of attachment system. J Indian Prosthodont Soc 2021;21:317-327.