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IP Annals of Prosthodontics and Restorative Dentistry

Journal homepage: <https://www.aprd.in/>

## Case Report

# Mandible Implant overdenture – A case report

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### ARTICLE INFO

#### Article history:

Received 25-10-2021

Accepted 17-11-2021

Available online 10-12-2021

#### Keywords:

Implant  
Replacement  
Denture

### ABSTRACT

Implant overdentures have ended up being one of the most incredible elective choices in prosthetic recovery of different instances of edentulism. They fulfill the patient's expectations, work on personal satisfaction with their drawn out workableness and unsurprising results. Throughout the long term, critical progressions have occurred in the embed frameworks and the strategies for connections. This paper depicts a case report in which a totally edentulous patient was restored with implant overdenture in mandible and a total denture replacement in the maxilla

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## 1. Introduction

The change from dentulous to edentulous state presents various difficulties to the patient just as the clinician. Bone resorption particularly in mandible is a significant factor to be considered during restoration. Conventional removable prostheses need ceaseless changes. Implant borne prostheses have demonstrated to be a powerful option as they have numerous advantageous impacts like protection of bone volume, further developed maintenance, solidness, capacity, proprioception and solace. By setting implants in the edentulous mandible and along these lines stacking them, bone resorption can be restricted as light irritative stimuli lead to changes in bone architecture, shape and volume coming about in subperiosteal development.<sup>1</sup>

This is upheld by Wolff's law, which expresses that an adjustment of capacity prompts an adjustment of design.<sup>2</sup> The decreased level of rotational opportunity of overdenture reduces the powers applied on the distal piece of the mandible while as yet having mucosal help. Feine and

Carlsson pushed the 2-implant held overdenture as the norm of care for the edentulous mandible in an agreement meeting held in 2002.<sup>3-5</sup> Implant overdenture (IOD) is likewise a savvy treatment choice when contrasted with implant fixed prostheses. They offer facial help, are moderately easy to build, can reestablish both dental and alveolar tissues and are esthetically more satisfactory. This case report portrays bit by bit method for manufacture of implant over denture replacement with ball and socket housings for an edentulous mandible and a maxillary complete denture.

## 2. Case Report

A 50 year old female reported to the department of Prosthodontics with numerous missing teeth in maxilla and mandible. Remaining teeth had serious periodontal disease. Patient had no past experience of any removable dental replacement. Patient was screened by a convention that considered his overall wellbeing and treatment prospects. The maxillary ridge was positive for complete dental replacement construction (Figure 1a). Preoperative radiographs showed serious bone misfortune and

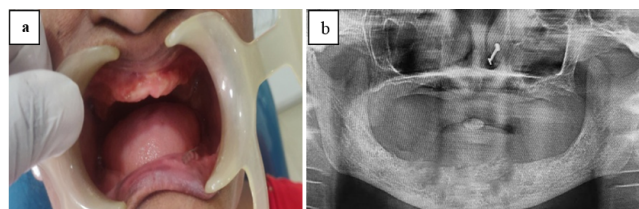
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inadequacy in stature and width in mandible (Figure 1b). He was educated with regards to the implant based treatment methodologies that could be followed

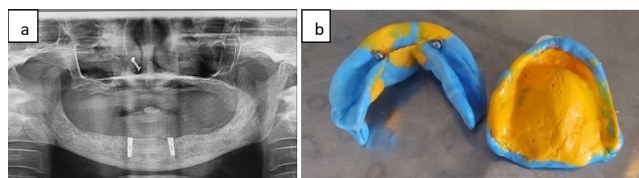
Subsequent to getting consent from the patient, it was chosen to get every one of the teeth extracted and supplant them with a regular complete dental replacement in the maxillary and a two embed implant overdenture in the mandibular jaw. Impressions were made and jaw relations were recorded.

Systematic teeth arrangement was done at proper vertical measurement to access helpful vertical space for a housings.



**Fig. 1:** a: Pre-operative intra oral; b: Pre-operative orthopantomogram

A surgical guide was created from the diagnostic set up. Four weeks after extraction, two (ADIN) Implants, 3.75 mm in diameter and 10 mm long) were set at B and D positions adhering to guideline convention (Figure 2a). Following fourteen days, patient was given finished complete dentures. The tissue surface of mandibular denture was relieved and relined using temporary soft denture liner



**Fig. 2:** a: Post-operative orthopantomogram; b: Impressions of maxilla and mandible

Following 4 months after healing, second stage a surgical procedure was completed and gingival formers were placed. Following fourteen days, for the mandibular arch A custom perforated tray was made. Open tray impressions was made on mandible using An elastic base impression was made in polyvinyl siloxane (addition type) (Figure 2b). implant analogs were attached to the impression copings and the impression was poured in stone. An autopolymerizing acrylic record base was manufactured and settled over the gingival formers with the assistance of light body expansion silicone material. Maxillary cast was mounted on the Hanau's Wide View Articulator with face bow move. The mandibular cast was then mounted on the articulator in centric relation. Teeth setting was completed and pursued for patient endorsement. Retentive metal housings were consolidated by an indirect technique. For this, after

dewaxing, ball projection analogs were joined to the cast. Metal housings with retentive rings were put over analogs and denture was processed. Denture finishing and polishing were done in a regular manner. The prosthesis was given to patient and patient was instructed about the care of prosthesis and recall schedule



**Fig. 3:** a: Centric Relation; b: Try in; c: Patient with final prosthesis

### 3. Discussion

Implant overdentures give a decent chance to dental specialists to work on the personal satisfaction and oral health of the patient<sup>6</sup>. The biting efficiency with implant overdenture is worked on by practically 20% contrasted than a complete denture.<sup>6-8</sup> The essential indication for a mandibular implant overdenture is issues frequently found with mandibular dentures, such as lack of retention or stability, decrease in function, difficulty in speech, tissue sensitivity, and soft tissue abrasion.

Number of Implants consolidated are to be chosen by explicit clinical and individual requirements of the patient<sup>8</sup>. For this situation, two implants in mandibular prosthesis was planned thinking about physical jaw anatomy, patient's assumptions, and the expense factor. The decision of connection relies on the maintenance required, jaw structures, interridge distance, overlying mucosa, oral capacity, and patient consistence for recall. Single connections have following advantages<sup>9</sup>: Less expensive, Less lab work and Easier to maintenance.<sup>9</sup>

### 4. Conclusion

Restoration of the edentulous mandible is a test. Among various treatment choices, an Implant overdenture is a basic, savvy arrangement in the restoration of the edentulous mandible. In spite of inescapable acknowledgment of this treatment, a few contentions actually exist with respect to the plan of the overdenture, determination of the fitting connection framework, and the most ideal procedures for the overdenture creation. Clinicians and dental experts need to cling to sound plan standards like straightforwardness in creation, simplicity of support and fix and cost control

### 5. Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

## 6. Source of Funding

None.

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**Cite this article:** Kumar CA, Gugloth G, Yadav BY. Mandible Implant overdenture – A case report. *IP Ann Prosthodont Restor Dent* 2021;7(4):217-219.