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Research Article

RESTORING SMILES WITH CONVENTIONAL IMMEDIATE DENTURE: A CASE REPORT

Ishan Kadam., Premraj Jadhav., Milind Limaye., Parisha Patil and Pradeep Taide

Department of Prosthodontics Crown & Bridge, Yogita Dental College and Hospital

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ABSTRACT

There has been plethora of options which are available for the replacement of missing teeth depending upon the existing condition. In today's world of social activeness, patients are not willing for even a short time of edentulism. They demand for an immediate replacement of missing teeth for aesthetics as well as function. Replacement of teeth by implants or by conventional acrylic dentures, immediate replacement of teeth has its own difficulty. Inspite of the difficulties involved immediate denture is always an conventional and promising answer for replacing lost dentition. The prosthodontist as well as the patient need to understand the treatment protocol, cooperation and the limitations of the immediate denture therapy. The aim of this clinical report was to describe the fabrication of immediate denture in a patient with hopeless existing dentition.

INTRODUCTION

Complete denture rehabilitation is considered the most common treatment for edentulous patients. Together with the improvement of osseo integrated implant rehabilitation, the number of studies evaluating complete dentures has increased[1,2]. Furthermore, assessment of quality of life and patient satisfaction indicate the importance of this kind of treatment as a viable alternative in accordance with the current rehabilitation context.[3]

As we all know, it is attributed that tooth loss leads to numerous consequences for the patient, such as problems with speech, poor chewing, 4 and loss of facial aesthetics[5-6]. Besides the physical aspect, poor oral health can trigger emotional or behavioural changes in patients, damaging their self-esteem and quality of life.[7]

An edentulous state often causes psychic as well as somatic repercussions which may be violent or mild. In the modern world of business stress and social obligations many dental patients who must become edentulous can no longer submit to the custom of waiting 6 to 10 weeks or longer without restorations while their gums heal. The use of immediate complete dentures meets this challenge fully and promotes the preservation of ridges. They are the best solution of modern dentistry for too busy individuals with too loose teeth. Sculptured treatment planning and partial edentulous plus meticulous clinical performances aided by careful use of tissue conditioners will virtually ensure a predictable treatment outcome for most immediate dentures.

Glossary of prosthodontic terms-9 defines immediate dentures "as any fixed or removable dental prosthesis fabricated for placement immediately following the removal of a natural tooth teeth."

There are other types of immediate denture based on similar philosophy but variant in their type of fabrication and uses. These are interim immediate denture, transitional denture, additive or convertible dentures.

Interim denture: fixed or removable dental prosthesis, or maxillofacial prosthesis, designed to enhance aesthetics, stabilization, and or function for a limited period of time, after which it is to be replaced by a definitive dental or maxillofacial prosthesis;

Additive or Convertible denture: Is a partial denture to which teeth are added one to two at a time until it finally serves as a temporary complete denture. This is very adequate when the patient loses his teeth in a gradual manner.

***Transitional denture*:** a removable partial denture serving as an interim prosthesis to which artificial teeth will be added as natural teeth are lost and that will be replaced after post extraction tissue changes have occurred. A transitional denture

Corresponding author:* **Ishan Kadam
Department of Prosthodontics Crown & Bridge, Yogita Dental College and Hospital

may become an interim complete denture when all of the natural teeth have been removed from the dental arch.

Immediate dentures cannot be given in all conditions, hence comprehensive medical and dental history, radaiographic evaluation, diagnosis, case selection, and treatment planning is important for a successful outcome. Hence various authors have discussed about requirements, indications and contraindications of immediate dentures.

Requirements of an Immediate Complete Denture

1. Compatibility with the oral environment.
2. Restoration of masticatory efficiency within limits.
3. Function in harmony with the activity necessary in speech, respiration and deglutition.
4. Aesthetic acceptability.
5. Preservation of tissues that remain.[8]

Indications for Immediate Dentures

1. Patients who are socially active
2. Patient who wish to retain their natural appearance
3. Patients who are philosophical and understand the scope of treatment modality.
4. Patients who can afford multiple visits.[9-10]

Contraindications for Immediate Dentures

1. Patient is cannot afford time for appointment
2. Patients who are financially underpriviledged
3. Indifferent patients who cannot understand the effort of the dentist for the treatment
4. Patients with extensive bone loss
5. Patient is debilitated conditions
6. Systemic conditions which may preclude multiple extractions
7. Patients with emotionally disturbed or diminished mental capacity.[8]

Advantages of Immediate Dentures

1. Patient does not have to suffer through edentulous period
2. Reduced pain and swelling
3. Acts as a bandage to control haemorrhage
4. Promotes rapid healing
5. Current esthetics retained in dentures
6. Patient adapts rapidly
7. Vertical dimension of occlusion, jaw relationship, and face height can be maintained.
8. Apperence is minimally affected since circum-oral support, muscle tone are maintained
9. Good speech and appearance are retained
10. Patient does not develop undesirable habits and is more cooperative emotionally
11. Provides for minimum social interruptions and maximum psychological advantages.

Disadvantages of immediate dentures

1. The anterior ridge undercut may interrupt in accurately capturing a posteriorly located undercut i.e. important for retention.
2. Presence of different number of remaining teeth at different locations frequently leads to incorrect centric occlusion position. An occlusal adjustment or even selective pre-treatment extractions may be needed to record a accurate centric relation record.
3. The dentist inability to try-in the prosthetic teeth in advance precludes knowledge of what the denture will really look like on the day of insertion.
4. More chair time, additional appointments and therefore increased costs are unavoidable.

CASE REPORT

A 45 year old female patient came to the department of prosthodontics of yogita dental college and hospital with a complaint of inability to chew food, poor appearance and mobility of teeth in front region of the lower jaw. The patient presented no significant medical history or temporomandibularjoint disease. The patient presented with a dental history of extraction of multiple maxillary and mandibularposterior teeth 10-12 years ago. The patient had replaced the mandibular posterior and anterior teeth by a removable partial denture 2 years ago in a private dental clinic. The expectation of the patient from the prosthesis was noted down. A detailed clinical examination revealed grade II and grade III mobility of remaining natural. Hence the fabrication of conventional cast partial denture prosthesis was impossible.

Fig no. 1 Pre-operative frontal view

Fig no 2 Pre-operative lateral view

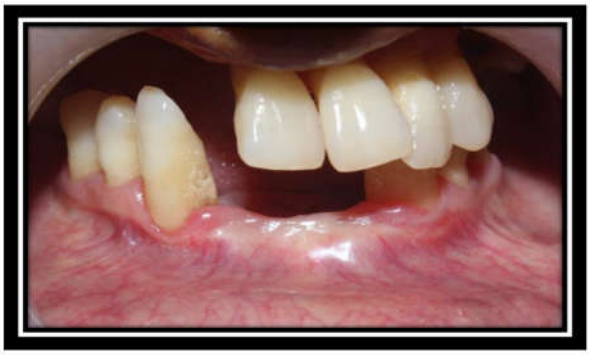


Fig no 3 Pre-operative intraoral view

On detailed examination it was reviled that flabby tissue was present in mandibular anterior edentulous area from 33-43 region with inadequate vestibular depth [Fig no.3]. Hence pre-prosthetic phase was planned which consisted of vestibuloplasty in mandibular anterior region with removal of flabby tissue. Clinical examination and radiographic assessment also revealed an unrestored mouth with generalized severe chronic periodontitis of the remaining teeth [Fig no. 5]. The prognosis was considered as hopeless. The patient was advised extraction of all her teeth due to failing dentition and fabrication of interim immediate denture was planned.

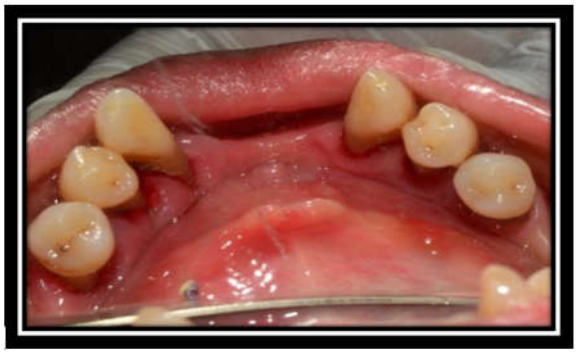


Fig no. 4 Pre-operative intraoral view-

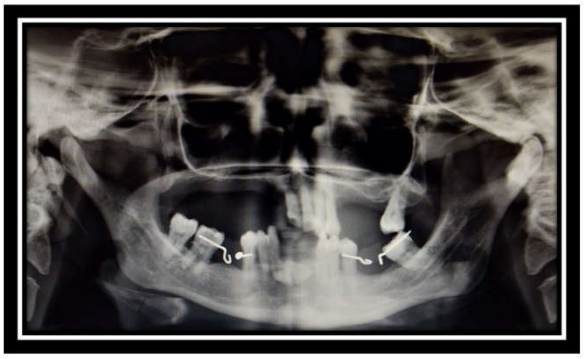


Fig no 5 Orthopantogram

The patient, signed the informed consent, accepted the treatment plan for an interim immediate denture. The patient was advised for extraction the remaining posterior teeth until the healing of the vestibuloplasty could occur [Fig no. 6-8].

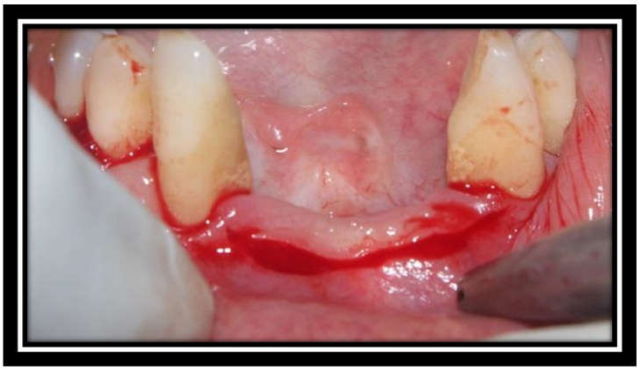


Fig no. 6 Incision For Vestibuloplasty

Extra oral and intra oral photographs of the patient were made. Extra oral photographs included profile and frontal view [Fig no. 1,2]. Intra oral photographs of maxilla and mandible were made with special care of anterior teeth which helps in shade selection[Fig no. 3-4]. The existing vertical dimension at rest and occlusion were recorded and noted down.

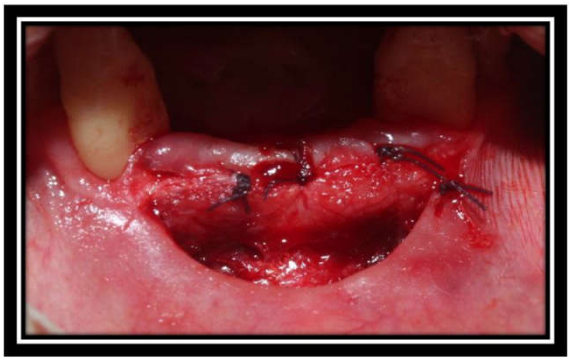


Fig no. 7 Vestibuloplasty

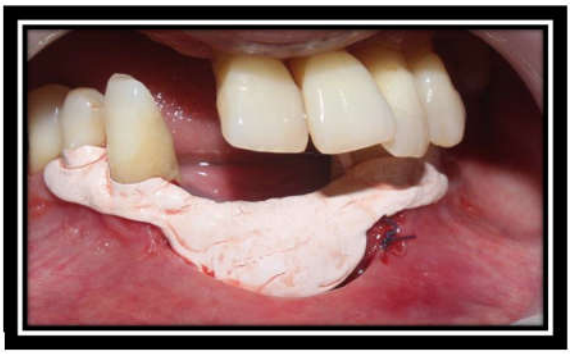


Fig no.8 Immediate Post-Opterative View After Vestibuloplasty

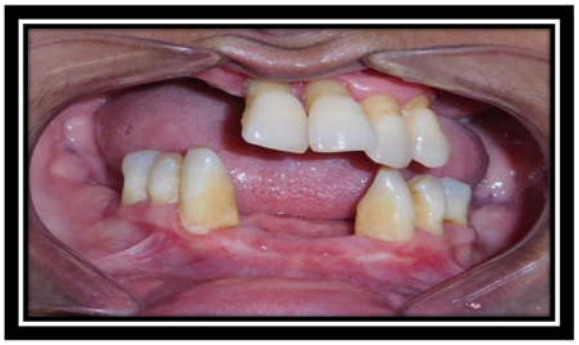


Fig no.9 Intra Oral View after Complete Healing

The primary impression was made with irreversible hydrocolloid impression material (Zhermack, Tropalgin, Italy). The cast was poured in Type III dental stone (DUTT STONE, Mumbai, Maharashtra, India). The wax spacer (Deeptidental product, Ratnagiri, Maharashtra, India) of 2 sheet thickness onan edentulous area was adapted. The custom tray was fabricated with VLC tray material (Vocco, Profibase VLC sheets). Border molding was done, the wax spacer was removed, relief holes were made, tray adhesive was applied, and final impression was made with light bodied condensation silicone impression material (Zhermack, Zeta plus, Italy) [Fig no. 11]. Temporary denture base was made on maxillary cast using auto polymerizing acrylic resin and occlusion rims were constructed. Jaw relations were recorded. Casts were mounted [Fig no. 12]. Posterior teeth arrangement was done. Posterior try-in was done to evaluate the jaw relations recorded [Fig no. 13-14].

Modification of cast at the intended area is a very critical step in the fabrication of an immediate denture. The teeth to be extracted were scraped on the cast using BP blade. It was scrapped in such a way that 2mm of the cast from the attached gingiva was removed.

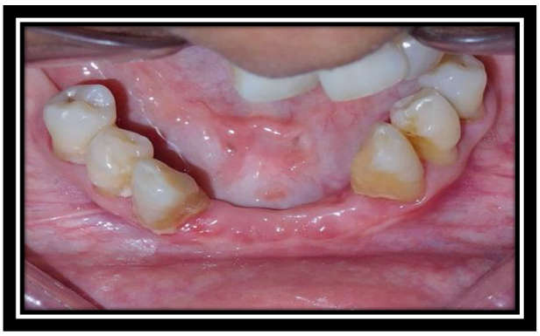


Fig no.10 Intra Oral View after Complete Healing

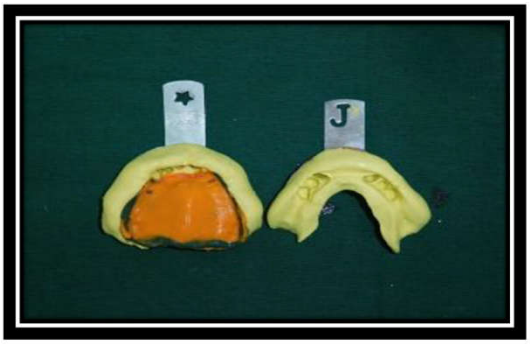


Fig no.11 Impressions

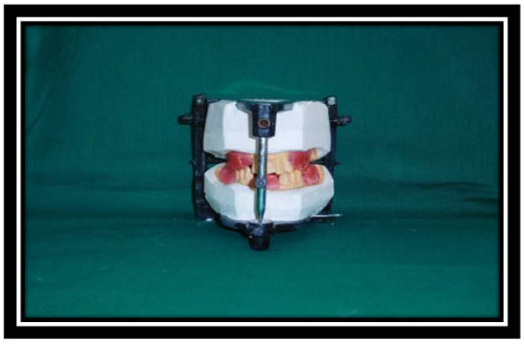


Fig no.12 Jaw Relations and Articulation

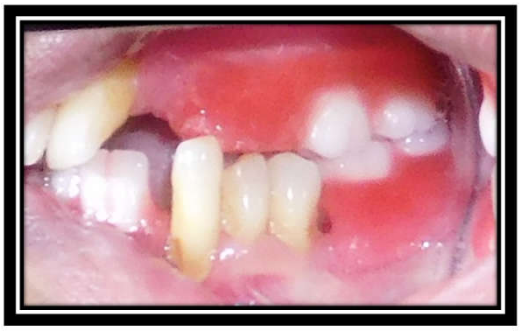


Fig no.13 Posterior Try in Right Lateral

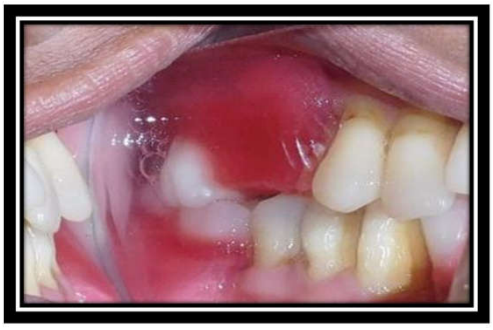


Fig No.14 Posterior Try In Left Lateral

This was done to compensate for the shrinkage of soft tissues post extraction. All the undercuts and sharp margins were rounded off on the cast. Teeth selection was done before extraction keeping in mind the shade, shape and size of the teeth to be extracted, to mimic them as far as possible. The remaining teeth arrangement was done for all dentition [Fig no. 15]. The denture was fabricated before the extraction of all remaining teeth. All the teeth were extracted under local anaesthesia without any complications and sutures were placed across the extraction socket [Fig no. 16,17].

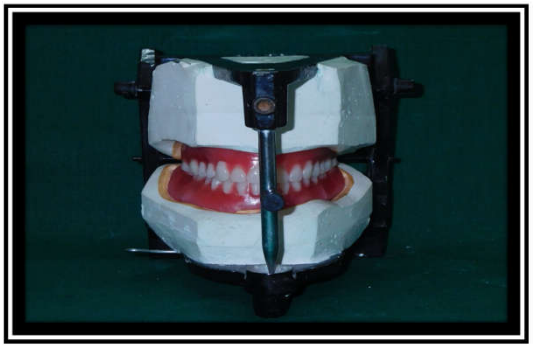
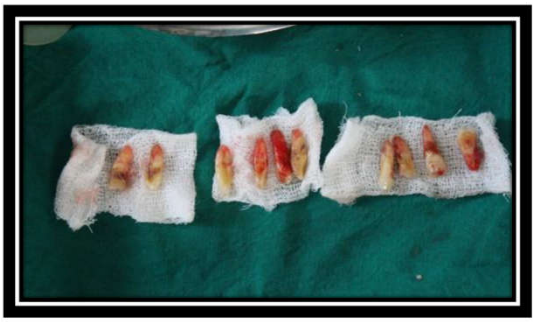


Fig No 15 Complete teeth arrangement



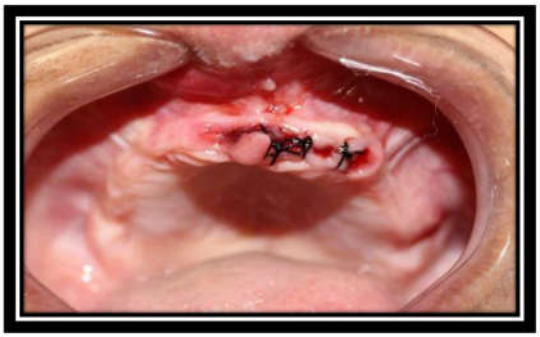


Fig No.16, 17 Intraoral view post extraction

Any bony spicule, if present, was removed with rongeur forceps and ridge form was maintained. The denture was inserted on the same appointment [Fig no. 19].. Occlusion was evaluated using articulating paper and premature contacts in the denture were removed. Care was taken to maintain the original vertical dimension [Fig no. 20,21]. Post insertion instructions were given and the patient was recalled after 24 hours for follow-up. Patient was instructed to have soft diet and not to remove the denture for 24hours. This aids in stabilization of the blood clot which is formed. On 24 hour recall follow-up appointment, patient did not show any discomfort while chewing and speaking. The patient was then asked to continue the use of immediate denture and was rescheduled after a 7 days for further check-up.

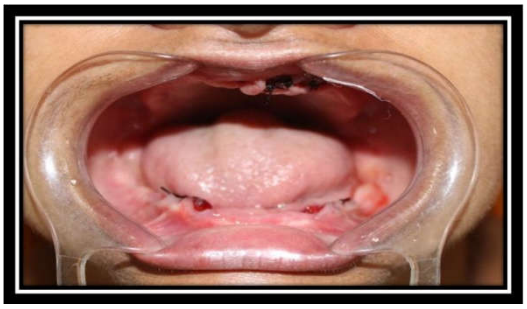


Fig No 18 lateral view post extraction

Fig No.19 immediate denture insertion

Fig No.20 Lateral view after denture insertion.

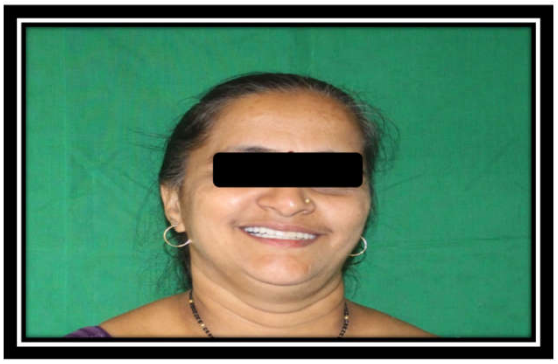


Fig No.21 Happy patient with aesthetics retained in immediate denture.

After 1 week sutures were removed and healing was found to be satisfactory. Patient was happy with the immediate denture and its performance during mastication. The immediate denture met the patient's expectations. Patient was kept on regular recall appointments to improve the fit of denture upon healing.

DISCUSSION

Conventional immediate dentures are one of the very satisfying treatment option for a failing dentition. The patient is benefited with improved physiological satisfaction, confidence, comfort, along with continued dental esthetics. The dentist is also satisfied by providing a very acceptable treatment to the patients.[11-12]

Interim immediate dentures are more challenging since one of the important steps in denture fabrication i.e. anterior try-in is not possible. The appearance of the patient is dependent on anatomic factors, clinician's experience, and his knowledge and its implementation in various conditions. The patient may or may not be completely satisfied with the appearance and fit of the conventional immediate denture on the day of insertion itself. Hence, the patient's mental attitude, their understanding of pros and cons, cooperation and acceptability of the treatment also plays a major role in its success. Philosophical patients are the best candidates for conventional immediate.[13-14]

Thus, it is always important to explain the limitations of these procedures prior to starting the treatment. The conventional immediate denture was successful in meeting the patients expectations. The retention and stability at the day of insertion was good and also the patient was able to maintain satisfactory oral hygiene.

CONCLUSION

In immediate denture service, the primary responsibility of the prosthodontist is to see to it that by the time his service is completed, his patients have become and will remain contended denture wearers. They should be completely conscious of the many advantages of their immediate dentures at the same time, the patients should be fully cognizant of the shortcomings of dentures accepting a patient for this type of service is one of the greatest responsibilities any dentist can assume because immediate denture patients are about to enter a new phase of life. They have varying degrees of fear and trepidation especially if they are emotional and discriminating patients, such as those many of us must serve.

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