Case Report

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Rehabilitation of Failing Dentition with Immediate Complete Denture Prosthesis: A Case Report

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ABSTRACT

Background: The immediate complete denture is an acceptable method for rehabilitation of the patient with the failing dentition. Although it is a very challenging treatment for both the patient and the dentist. This is not only important for the psychology of the patient but also helps to preserve their natural appearance as the prosthesis is fabricated even before the removal of the teeth and is inserted immediately after the extractions. The purpose of this case report was to describe the fabrication of interim immediate denture in a patient with hopeless existing dentition and the satisfaction obtained with soft relining materials.

Keywords: Immediate denture, dental prosthesis, vertical dimension, interim immediate denture.

INTRODUCTION

An immediate denture is defined as a complete or removable partial denture constructed for insertion immediately following the removal of natural teeth. An immediate denture can replace 1-16 teeth in either the maxillary or the mandibular arch or in both arches.[1] According to Rahn and Heartwell, the immediate complete denture should satisfy the following requirements: (1) Compatibility with the surrounding oral environment, (2) restoration of masticatory efficiency within limits, (3) harmony with the functions of speech, respiration, and deglutition, (4) esthetic acceptability, and (5) preservation of the remaining hard and soft tissue support.[2] Immediate dentures have become an important necessity to prevent distress, anxiety and embarrassment to many people.[3] Looking from the patient's point of view, the main advantages are the preservation of the person's appearance and social mobility.[4] Despite these advantages interim immediate dentures are more challenging and require more chair side time than conventional complete dentures because it is difficult to record impressions and jaw relations.[5] Frequent relining, rebasing, refinement of occlusion, etc. are required during healing phase which makes it more expensive as compared to conventional complete denture.[6] There are some contraindications to immediate dentures, such as cardiac, endocrine, blood disturbances, slow healing potential, acute periapical or periodontal diseases, extensive bone loss, or emotional disturbances, mental incapacity, indifferent and unappreciative patients.[1,7] The purpose of this report was to describe a technique for fabrication of an interim immediate denture by preserving patient original information in form of phonetics, esthetics, facial height and vertical dimension.

CASE REPORT

A 56 year-old female patient reported to the Department of Prosthodontics and Implantology

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with a chief complaint of pain and inability to chew food due to teeth mobility.

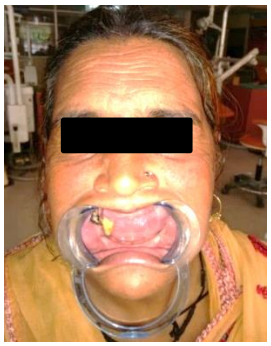

Fig 1: Pre-operative view.

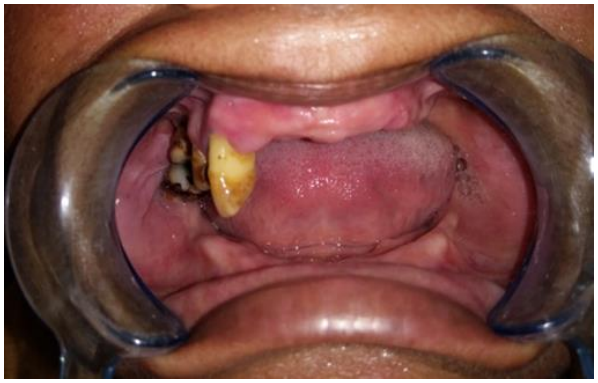

Fig 2: Intraoral view.

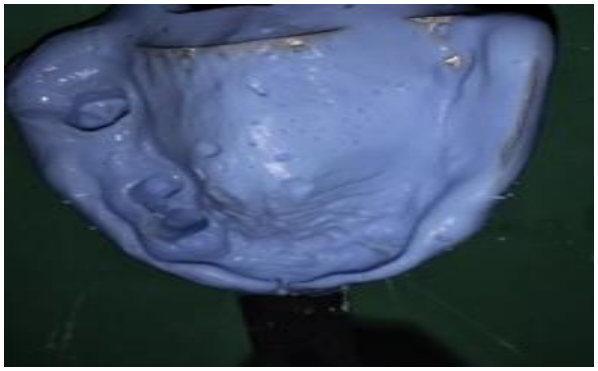

Fig 3: Impression made.

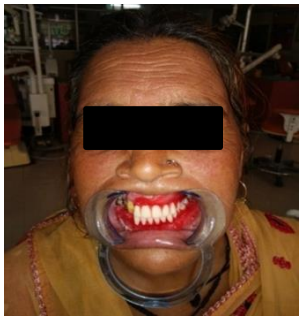

Fig 4: Jaw relation and try in done.

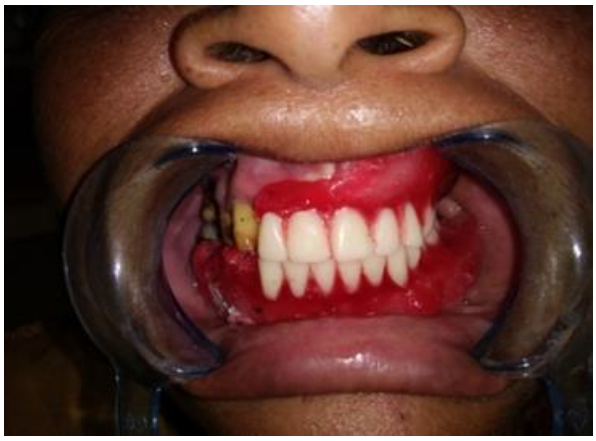

Fig 5: Frontal view of try in.

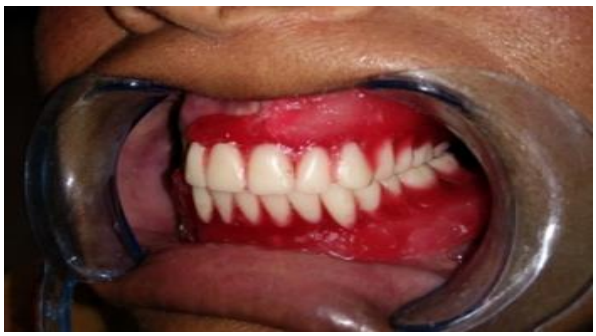

Fig 6: Lateral view of try in.

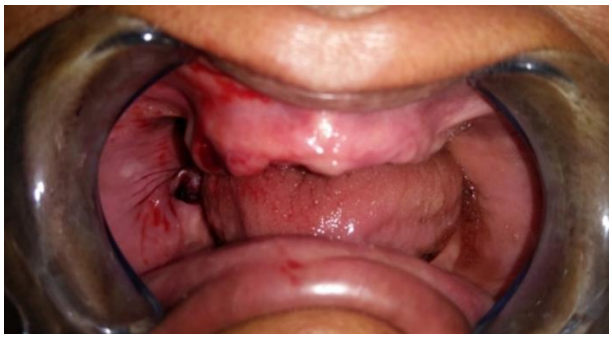

Fig 7: Extraction socket wrt 13 14 47.

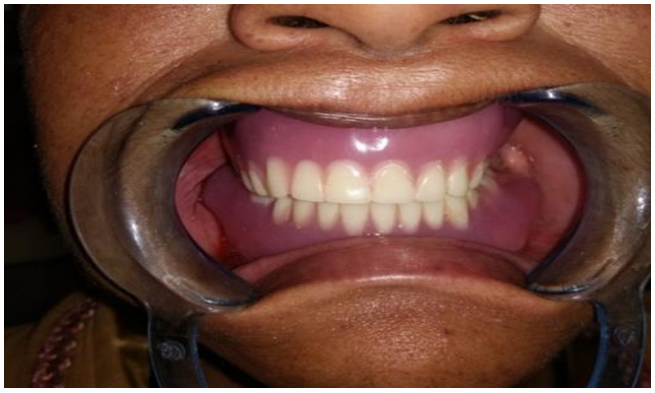

Fig 8: Interim complete denture delivered.

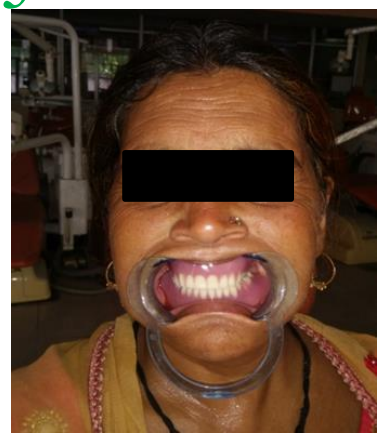

Fig 9: Post-operative view.

Intra-oral examination unveiled presence of right canine, first pre-molar and second molar in existing maxillary arch and right second molar in mandibular arch. These remaining natural teeth had poor prognosis due to grade II mobility and positive percussion test (Fig. 1). Treatment plan framed was interim immediate complete denture for both the arches respectively. The procedure followed for this was: Firstly, the primary impression was made with irreversible hydrocolloid impression material (Fig.3) and the cast was poured in Type-III dental stone. Then the wax spacer of two sheet thickness on an edentulous area and one sheet thickness on the dentulous area was adapted. The custom tray was fabricated with VLC tray material. After this border molding was done, the wax spacer was removed, relief holes were made, tray adhesive was applied, and final impression was made with medium-bodied and light-bodied addition silicone impression material. Finally the jaw relations were recorded, casts were mounted on the articulator and teeth arrangement was done (Fig.4). Then the trial was done (Fig.5 and Fig.6). After that the remaining teeth arrangement was done for all dentition by knocking out the teeth from the cast alternatively. Modification of cast at the intended area is very critical in the fabrication of an immediate denture. Three markings were scribed on the facial surface of the cast dividing it into cervical, middle, and apical thirds. The denture was fabricated before the extraction of all remaining teeth. All the teeth were extracted wrt 13 14 47 under local anaesthesia (Fig.7). Lastly the denture was inserted in the patient's mouth on the same day [Fig.8&9]. Post insertion instructions were given and the patient was recalled after 24 h. Follow-up was done on weekly basis. After 3 months following healing of the residual ridge, conventional complete denture was fabricated.

DISCUSSION

Interim immediate dentures are very satisfying and good treatment modality for both patient and dentists as they get the benefits of improved confidence, comfort, and continued esthetics but they are more challenging to make because try-in is not possible beforehand.[6] Sometimes on the day of insertion the patient may not be completely satisfied with the final appearance and fit of the denture. So philosophical patients are the best for this treatment modality to become successful.[1] The conventional type of complete denture was not appropriate for this patient as she was not willing for multiple visits for the extraction and wanted all the teeth to be replaced immediately because she do not want to be without teeth even for one day so we decided to go for an interim immediate denture as it was fulfilling all of her requirements. In conventional immediate denture careful evaluation of the vertical dimension of occlusion, centric relation and the placement of the teeth are made as these are the most important and essential factors for the success of the treatment.[8] The actual OVD should not be modified but it should be preserved as it is a well-known fact that the maintenance of the original OVD and centric relation is the basic fundamental for the success of this treatment.[9] Gooya et al suggested to carefully select artificial teeth with the same cuspal inclination which helps to match cuspal inclination with anterior and posterior guidance and make an acceptable occlusal scheme.[10] The initial retention and stability were good and also the patient was able to maintain satisfactory oral hygiene and had no complaints regarding its esthetic and function. The intaglio surface should be inspected properly before inserting the denture into patient's mouth and all sharp spots should be eliminated with the help of a bur.[3,1] The patient is asked to keep the denture in the mouth for the first 24 hours due to post-extraction edema that can cause difficulty in placing the denture back in the mouth and also advised not to remove the denture for the first 3 or 4 days. Then, the denture should be taken out of the mouth for 4–8 hours a day.[3,11] Instructions about oral hygiene and denture hygiene were given to the patient. After complete healing of ridge, conventional complete denture was fabricated for

the patient. Although there are limitations to an immediate denture but the final outcome is usually positive in terms of esthetics as most importantly it spares the patient from the inconvenience and distress of being seen in public in edentulous state.[12,13]

CONCLUSION

The advantage of immediate denture is to allow the patients to continue all their activities without being in edentulous state can be very demanding and challenging, as there is no try-in appointment and these limitations should be kept in mind by both the patient and the dentist. The success of immediate dentures depends on correct the diagnosis, detailed treatment planning, and precisely executed fabrication procedures. Timely relining of the immediate complete denture with soft liners can improve its fit and reduce the period of the adaptation with the new denture.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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