



INSTANTANEOUS DENTURE BANDAGE – A CASE REPORT

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ABSTRACT Patients usually have a discomfort for a tooth extraction because for a period of edentulousness for replacement of teeth. Nowadays as the time is moving faster, patients need immediate replacement of teeth after extraction. This immediate denture brings a static solution for this type of patients because, this denture is delivered immediately soon after extraction of the teeth on the same day. This immediate denture also acts a surgical splint to control haemorrhage and also promotes healing acting as a bandage. It helps to maintain the normal function and also maintain the aesthetics to avoid the period of edentulousness. This case report describes the detailed fabrication of interim immediate maxillary complete denture opposing conventional mandibular complete denture maintaining patients function and aesthetics.

KEYWORDS : Immediate Denture, Single Immediate Complete Denture

INTRODUCTION:

Immediate denture is any fixed or removable dental prosthesis fabricated for placement, immediately following the removal of a natural dentition. Patients with blood disorders, delayed wound healing, significant bone loss, emotional disturbances or intellectual disabilities may not be suitable for immediate dentures. Immediate complete dentures often work well, especially in patients with well-formed ridges. Immediate complete dentures replicate the features of the existing teeth and establish the vertical dimension. It acts as a bandage to control bleeding and promote wound healing. It also prevents trauma caused by food, tongue and opposing teeth. A complete prosthesis immediately allows the patient to retain its function and aesthetics to avoid the period of complete tooth loss and social embarrassment. This case report presents the multiple mobile maxillary teeth replaced with immediate maxillary complete denture opposing mandibular conventional complete denture.

CASE HISTORY:

A 45-year-old female patient presented with the complaint of difficulty in eating food and poor facial appearance of the teeth. There was no evident medical history. On intra oral examination, teeth present are 21,11,12,13,14,15 with grade II mobility and was diagnosed as chronic generalized periodontitis in maxillary arch (Figure 1a) and completely edentulous mandibular arch (Figure 1b). Hence the treatment plan was developed with the objective of restoring the oral health by maintaining the function and aesthetics². Radiographic findings revealed bone loss extending up to the middle third of the root in all teeth. The treatment plan was complete extraction of maxillary arch followed by immediate maxillary complete denture and mandibular complete denture. Diagnostic impressions were taken in maxillary and mandibular arch. Border moulding and secondary impression was made with polyvinyl siloxane light body in both maxillary and mandibular arch.



Figure 1 :
Figure 1(a). Intraoral View – Maxillary Arch
Figure 1(b). Intraoral View – Mandibular Arch

Face bow transfer was done (Figure 2a). As there is no maintained vertical dimension in the patient, vertical dimension at rest was recorded further vertical dimension at occlusion was calculated. Occlusal rims are adjusted to the desired vertical dimension at occlusion further bite registration was recorded in centric relation (Figure 2b). Articulation and teeth arrangement was done. Waxed denture was inserted in the patient's mouth and checked for function, speech and aesthetics (Figure 2d). The step is further proceeded after the patient is satisfied with the appearance of the trial denture. The cast was modified for the preparation of surgical template. Modified Kelly's cast modification method was done following the rule of third (Figure 2d). The purpose of cast modification was to provide a good approximation of the denture immediately after extraction. The cast was finally prepared for the fabrication of surgical template (Figure 2e). Heat-cure clear acrylic was used for fabrication of the surgical template as it clearly helps the surgeon to reduce the blanching spots during alveoloplasty. (Figure 2f). The surgical template was immersed in 10% glutaraldehyde for 24 hrs prior surgery.

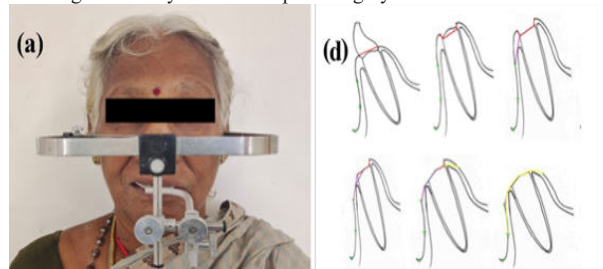




Figure 2
Figure 2(a). Face Bow Transfer, Figure 2(b). Bite Registration, Figure 2(c). Wax Try in, Figure 2(d). Steps in Cast Modification, Figure 2(e). Cast Modification, Figure 2(f). Surgical Template

After the surgical template preparation, the final teeth arrangement is done and the denture is waxed up and processed with heat cure resin. The processed denture was trimmed, finished and polished before surgery. Initially placement of surgical template was done to observe the blanching spots. Additionally, alveoloplasty was further done to reduce the blanching spots.

Suturing was done (Figure 3a) and final adaptation of surgical template reveals no blanching spots (Figure 3b). Soon after the surgery, the maxillary and mandibular dentures were inserted. Denture extensions and occlusions were checked and minor adjustments were done. Post denture insertion instructions were explained to the patient and the denture was delivered to the patient (Figure 3c). Following the insertion of the immediate maxillary complete denture, detailed post-operative instructions were given to the patient (Figure 3d). During the 6 months follow-up period, the fit and occlusion of both the maxillary complete immediate denture and the mandibular conventional immediate denture were maintained as needed. This ensured patient's satisfaction in terms of aesthetics, function and comfort.



Figure 3
Figure 3(a). Post extraction suturing, Figure 3(b). Final placement of surgical template, Figure 3(c). Post Denture Insertion, Figure 3(d). Post Operative – Extra Oral Photograph

DISCUSSION:

Although implant treatment is often successful, there are still situations where implants are contraindicated³. In such situations, other treatment options should be selected. In addition to avoiding periods of complete edentulousness, immediate dentures offer more advantages over traditional dentures that are created months after tooth extraction. A denture base helps protect the extraction socket and also acts as a bandage to promote healing.

Chloe and Marie-Violaine reported a modified impression technique, using light body silicone over the mobile tooth and remaining areas are recorded with irreversible hydrocolloid to fill the undercut easily so that it avoids discomfort during impression making⁴. Bedrossian et al reported a protocol to develop the vertical dimension and anterior – posterior teeth arrangement of maxillary immediate complete denture so that the dentists can adjust the vertical dimension easily⁵. In the present clinical report, as there is no vertical dimension at occlusion, it is easy to fabricate the denture, by easily calculating the vertical dimension at occlusion from vertical dimension at rest using Silverman's closest speaking space.

Michael and Barsoum reported the duration required for the ridge to become stable following extraction of immediate dentures and concluded that the denture would be suitable for relining after six months of insertion⁶. St George et al reported that the dentist must preserve as much bone as possible in the undercut areas for proving retention⁷.

CONCLUSION:

In the era of implant and immediate implant treatment, these immediate complete dentures should still be considered as important treatment modality as they provide instant esthetics and function to the patient after extraction of all the natural teeth and also act as a bandage to protect the tissues and reduce bleeding. Most importantly they provide psychological support to the patient at the time of this debilitating loss. However, the fabrication of immediate denture can be challenging because this type of denture treatment is time consuming. Dentists should thoroughly evaluate the treatment plan and should be well versed in both laboratory and clinical procedures used for denture construction.

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