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MANAGEMENT OF FLABBY RIDGE WITH A SIMPLIFIED TWO TRAY WINDOW TECHNIQUE USING POLYVINYL SILOXANE IMPRESSION MATERIAL

Prosthodontics

Dr. Lakshmi Sunil T* Post Graduate Student,Post graduate student, Department of Prosthodontics, The Oxford Dental College and Hospitals, Bangalore. *Corresponding Author

Dr. Nagabhairava Ravikumar Professor, Department of Prosthodontics, The Oxford Dental College and Hospitals, Bangalore

Dr. Malathi Dayalan Professor And Head of The Department, Department of Prosthodontics, The Oxford Dental College and Hospitals, Bangalore

ABSTRACT

A flabby ridge is a mobile hyperplastic soft tissue that replaces the alveolar bone and can affect both maxillary and mandibular alveolar ridge. It is commonly found as a result of combination syndrome and in long term denture wearers. These mobile tissues will get displaced during impression making procedures which results in loss of stability, support and retention of the prosthesis. Hence the management of flabby tissue starting from the impression procedure is important for the predictable success of the complete denture prosthesis. This paper presents a case report for managing flabby ridge with a simplified two tray technique using polyvinylsiloxane impression material.

KEYWORDS

flabby ridge, two tray technique, polyvinyl siloxane, impression technique

INTRODUCTION

A flabby ridge is a fibrous mobile hyperplastic soft tissue replacing the alveolar bone and is usually found in long term edentulous patients. The prevalence of flabby ridge is reported to be 24% in edentulous maxilla and 5% in edentulous mandible.[1]

During impression making procedures the forces exerted can result in displacement of these mobile tissues. This makes fabrication of conventional complete denture challenging in such cases. Hence appropriate impression techniques have to be adopted in order to obtain a well fitting prosthesis with good stability and support.

Flabby ridge can be managed by surgical excision of the fibrous tissue prior to prosthesis fabrication, conventional prosthesis without any surgical intervention or by implant retained prosthesis.[1,2]

Flabby ridge is often associated with combination syndrome, first described by Kelly in 1972. It is also seen in patients wearing ill fitting prosthesis for a longer period of time.[3,4] In literature several impression techniques have been put forward for the management of flabby tissue without displacing it and providing adequate support.

CASE REPORT:

A 48 year old male patient reported to the department of Prosthodontics, The Oxford dental college and hospital with the chief complaint of missing teeth in the upper and lower arch. On intra oral examination it was found out that the maxillary arch had a flabby tissue with respect to the anterior region. [Figure 1]. Tissue blanching was seen upon application of pressure indicating fibrous hyperplastic tissue.

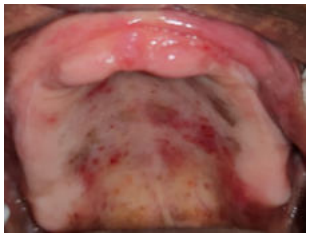

Figure1: Maxillary anterior flabby ridge

Primary impression of the maxillary ridge was made with irreversible hydrocolloid and mandibular ridge with impression compound. The impression was poured with type II gypsum to obtain the primary casts. Custom tray was fabricated on these primary casts.

The flabby ridge area was identified in the patient's mouth and was transferred to the maxillary primary cast. Special tray was fabricated after adapting two layers of wax spacer on the flabby ridge area and a single layer of wax spacer on the rest of the cast. [figure:2]

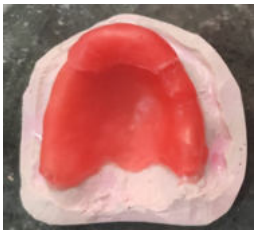

Figure 2: Maxillary cast with spacer

The maxillary and mandibular custom tray was fabricated using cold cure acrylic resin in the conventional manner. [Figure 3]

Figure 3: Maxillary and mandibular custom tray

The flabby tissue area was marked on the maxillary custom tray and a second custom tray was fabricated over the conventional custom tray. [Figure 4] A rectangular shaped ramp was made on the centre of the custom tray with a 'v' shaped groove in the centre and additional small vertical grooves on either side of it. This helps in holding the second tray on to the conventional custom tray and also for the proper orientation of the second tray. Ramps were made on either side of the custom tray in order to stabilize the tray with fingers during impression making procedure. The second tray was fabricated after applying petroleum jelly over the first tray.

Figure 4: Dual custom tray

The conventional custom tray was used to do border moulding using low fusing modelling plastic impression compound. Once the border moulding is done the flabby tissue area was marked on the custom tray and wass trimmed off creating a window taking care not to disturb the borders. [Figure 6]

Figure 6: Window prepared on the custom tray

After the window preparation, tray adhesive was applied on to both the trays and the conventional custom tray with the prepared window was used to make the secondary impression using polyvinyl siloxane impression material. [Figure 7]

Figure 7: Secondary impression

Then the second tray was also loaded with polyvinyl siloxane impression material and was carefully placed over the first tray in order to record the flabby tissue without distorting it. [Figure 8]

Figure 8: Second tray used to record the flabby tissue

After 3-5 minutes both the trays were removed from the patient's mouth together as a single piece and the impression was evaluated carefully. [Figure 9] The grooves made on the ramp of the first tray helped in holding both the trays together while the impression was being removed from the mouth.

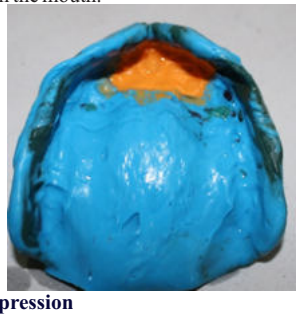

Figure 9: Final impression

The impression was poured with type III dental stone to obtain the master cast. [Figure 10] Temporary denture base and occlusal rims was fabricated over the master cast and maxillomandibular relationship was recorded. Teeth arrangement and try in of the denture was done. A liquid supported maxillary and a conventional mandibular final denture was fabricated and was delivered to the patient. [Figure 11]

Figure 11: Liquid supporter maxillary denture

DISCUSSION

Kelly in 1972 described the 'combination syndrome', when mandibular anterior dentulous area is opposing maxillary edentulism. It is characterized by alveolar resorption and hyperplastic mobile soft tissue in the maxillary anterior region. The commonly encountered problem with flabby ridge is that if the flabby tissue is compressed during impression it will tend to recoil and dislodge the final denture. Hence the impression made in such cases should compress the remaining normal tissues but should not displace the flabby tissue to obtain good stability, support and retention.5 In 1964 'Liddlelow' described a technique where plaster of paris was used to record the flabby area and zinc oxide eugenol impression material in the remaining portion in a custom tray. In 1964 'Osborne' described a technique where two separate impression trays and materials were used to record the flabby and remaining portion. This technique was modified by 'Devlin' in 1985 where a locating rod was placed between the trays to correctly orient the two trays. In 1986 'Watson' described the window impression technique where a mucocompressive impression is made first with custom tray and zinc oxide eugenol and then a low viscosity plaster of paris is painted onto the flabby tissues through the window.6 The technique presented here do not require any extra clinical steps and is less time consuming. The other treatment modalities of such scenario is excision and implants. The main drawback for surgical excision is that it is not feasible in elderly patients and patients with compromised medical history. Excision also may result in a shallow ridge with poor retention and stability.dental implant placement may be questionable in ridges that are excessively resorbed or in patients with compromised medical history. Hence a noninvasive approach which can provide a successful prosthesis is preferred.5 In flabby ridge cases the final denture should also be able to withstand the masticatory forces and a liquid supported denture with a flexible tissue surface can reduce the trauma and stress concentration on the underlying tissues.7

CONCLUSION

Even though many impression techniques have been proposed for the management of flabby tissue most of them are time consuming and cumbersome. The impression technique has to be minimally displacive and should be comfortable to both patient and the dentist. The use of light body polyvinyl siloxane impression material will also minimize the compression of soft tissues. The simplified dual tray technique described in this paper can be used effectively and is relatively easy to fabricate and is less time consuming.

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