

MANAGEMENT OF LAX TISSUE TO IMPROVE POSSESSION BY LYNCH TECHNIQUE

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ABSTRACT

The treatment procedures for compromised edentulous ridges in a conventional manner are a very difficult task. To fulfil patient desire such as function and aesthetics the procedure need to be modified. This case report describes one of the impression techniques for completely edentulous patient with localized hyperplastic ridges.

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INTRODUCTION

The compromised ridges can be atrophic ridge, flabby ridge, knife edge ridge and abused ridges¹. Residual ridge resorption is a complex biophysical process, it is a common occurrence following extraction of teeth and the rate of ridge resorption is faster during the first year and at a slower rate as year passes. The impression techniques play a key role for the compromised ridges and a master impression should record the entire functional denture bearing area to ensure maximum support, retention and stability for the denture during use². For flabby ridges the alveolar mucosa over the ridges is with unusual thickness and mobility. It is thick in some area from 2-4mm. The mucosa has no bone support when the mucosa is more than 4mm in some area and if the atrophy of alveolar mucosa is rapid. It can be associated with either of the arches but commonly seen in anterior part and tubers of maxilla. Flabby ridges if present may give rise to complaints of pain or looseness when the denture rests on them. The superficial area of mobile soft tissue replaces the alveolar bone due to its resorption and the mobile soft tissue gets displaced due to masticatory force leading to loss of peripheral seal³. This type of ridges must be properly managed with impression techniques otherwise it adversely affects retention, stability and support of complete denture.

The conventional impression techniques compress the flabby ridge and later tend to recoil and dislodge the overlying denture.

There are impression principles such as mucostatic impression technique which achieves support from the other firm areas of denture bearing area for maximum retention⁴. Mucocompressive technique which compress the loose floppy tissue to obtain functional support from it and to replicate the contour of the ridges during compression of occlusal forces. The prevalence is about 24% of edentulous maxilla and 5% of edentulous mandible in both jaws most frequently in anterior region⁵.

Case report

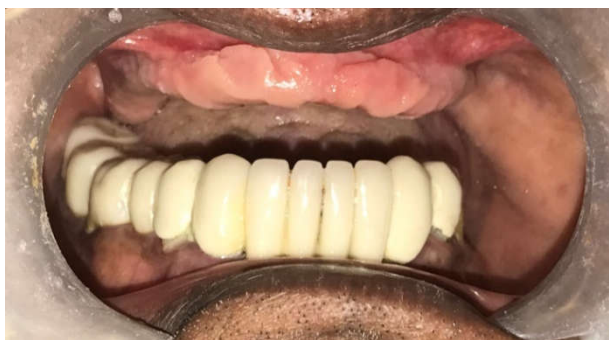
A 62 years patient reported with the chief complaint of discomfort in the upper anterior region and is already a denture wearer since 10 years. Patient is diabetic and is on medication. On examination It was observed edentulous maxilla, restorative rehabilitation done on mandibular teeth with missing molars on 3rd quadrant (figure 1 & 2).



Flabby tissue **Figure 1**

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Pre operative view **Figure 2**

Flabby tissue was observed on the anterior maxilla and the patient demand was to enhance the function, relive the discomfort and prefers new set of denture as the upper denture was ill-fitting. So, it was decided to fabricate a new denture and satisfy patients' needs. As patient was not willing for surficial excision of flabby tissue followed by conventional technique. So, we decided to fabricate a denture with modification in impression technique.

An alginate impression was made and cast was poured. 3mm spacer wax was adapted on the cast and custom tray was fabricated (figure-3).



Spacer Design **Figure 3**



Perforations in Flabby area **Figure 4**

On the special tray the area which records the flabby tissue was perforated. Heavy bodied addition curing polyvinyl siloxane material was applied on the tray associated with normal tissue and impression was made (figure-4). Once set it was removed from the mouth and the excess material which flowed to the area of flabby tissue on the special tray was removed using a scalpel. Heavy bodied impression material was applied to the periphery of the tray and border moulded in

a usual manner. Once the material was set it was removed from the mouth and the custom tray associated with the flabby area was then filled with light bodied polyvinyl siloxane impression material (figure-5). A wash of light bodied polyvinyl siloxane impression material was placed over the heavy bodied material that had compressed the normal tissue. The obtained final impression was poured and master cast was obtained (figure-6). Record base and occlusion rims were fabricated for the maxilla. An impression was made for partially edentulous mandible and block of wax was added to the missing edentulous area. Next jaw relation was done (figure-7) and occlusal bite was registered for arrangement of teeth. Try in procedure (figure-8) was carried out and the denture was processed (figure-9&10).



Secondary impression **Figure 5**



Master cast **Figure 6**



Jaw relation **Figure 7**



Try-in **Figure 8**



Insertion **Figure 9**



Post-operative view **Figure 10**

DISCUSSION

The objective of complete denture therapy is restoration of function; enhance aesthetics and maintenance of patient health. If the tissue presents unstable and undesirable denture base foundation it is a challenging task to the clinician to manage this flabby tissue. The treatment regime begins with the elimination of the cause and start the recovery progress. The treatment approach can be surgical excision of flabby tissue followed by conventional dentures or implant retained prosthesis; removable or fixed conventional prosthodontics without surgical intervention.

Surgical excision of flabby tissue followed by denture fabrication on the firm immobile tissue enhances stability and can be one of the treatment options and the patient was not willing for this type of approach. The use of dental implants is also not without difficulty. The use of bone grafts and implant placement for this type the prognosis would be questionable. Therefore the patients for a various reasons such as clinical, medical and financial are unsuited for dental implant treatment.

A treatment was completed for this flabby tissue ridge following Lynche and Allen technique. Then impression technique which will compress the non-flabby tissue to obtain support and at the same time will not displace flabby tissue providing a good peripheral seal. If the flabby tissue is compressed during conventional procedure it will tend to recoil and dislodge the resulting denture. Other techniques: 1) one part impression technique (Selective perforated tray): used when degree of mucosal displacement is minimal. Primary impression made with alginate and final impression is made using impression plaster or low viscosity silicone. 2) Palatal splitting using a two tray system: 1964 Osborne, palatal impression was made with ZOE and for 2nd tray material used was silicone 3) Selective pressure flame: it is a mucocompressive technique without displacement. The primary impression is made with alginate or impression

plaster. The special tray is constructed and the material overlying firm denture bearing area is softened with a flame before tray is seated under heavy force attempts to replicate functional force and functional impression is made with ZOE. 4) Two part impression technique: Mucostatic and mucocompressive combined described by Osborne. Primary impression is made and special tray is constructed with flabby tissue uncovered. Border moulding done and impression of firm supported mucosa is recorded with ZOE paste or medium bodied silicone. Impression of displaced area recorded by impression plaster or light bodied silicone. Rim handle design also plays a role⁶.

Few authors stated that excision of flabby tissue is contraindicated where little or no alveolar bone remains. The prognosis is questionable if bone augmentation is done. There is also other school of thoughts that retaining this fibrous tissue provides a cushioning effect and reduces trauma to the underlying bone but after removal the retention is adversely affected because of decrease in sulcus depth and also increase the bulk of the denture base which increases the weight of the prosthesis. It is argued that for conventional prosthodontics retaining a tissue and providing a substantial retention for denture base is more desirable than no ridge at all⁷. Implant placement in maxilla are not as successful when placed in mandible as the implant in maxilla which has a higher prevalence of flabby ridge. The success rate for implant placement in maxilla is low as 75.5% and this could be due to low density and diminished alveolar volume and questionable prognosis with bone augmentation procedure.

Lynche and Allen technique is one of the impression techniques for flabby tissue cases and it provides a good peripheral seal by not displacing the lax tissue and it derives support from non-displaceable tissue. The patient was satisfied and happy with the single complete denture fabricated by this approach.

CONCLUSION

A sound knowledge and operator skill is mandatory for choosing for choosing an impression technique for successful restoration.

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