Management of Flabby Ridge: A Case Report

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INTRODUCTION

Complete denture prosthodontics will remain an important part of dental education and practice. It is important to restore every edentulous mouth with complete denture for functions and esthetics. The performance of a complete denture is often a reflection of its support and retention. A master impression for a complete denture should record the entire functional denture-bearing area to ensure maximum support, retention and stability for the denture during use. There are cases where it is difficult to restore the mouth with conventional technique. The flabby ridge or movable tissues are frequently seen in maxillary anterior ridge when the edentulous maxilla is opposed by natural teeth in the mandibular anterior region. This is due to the unplanned extraction or loss of maxillary teeth first leads to resorption of alveolar bone in anterior part of maxilla results in hyperplastic tissue which is usually movable and displacable. Kelly in 1972 reported that mandibular anterior teeth cause trauma to maxillary anterior ridge as all occlusal forces are directed on to this area. This results in loss of bone from the anterior maxilla with subsequent fibrous tissue hyperplasia. The mucosa is highly movable and loosely attached to underlying peristium of the bone. The prevalence of flabby ridges is found to be 24% in the edentulous maxilla and 4% in the mandible. A variety of techniques have been suggested to circumvent the difficulty of making a denture to rest on a flabby ridge. It has been stated that while the flabby ridge may provide poor retention for a denture, it is better than no ridge as could occur following surgical excision of the flabby tissues. A multitude of impression techniques have been suggested in the past to help record a suitable impression of a flabby denture-bearing area. When considering these, it is important to realise that all impressions for complete dentures could be categorised in three ways:

1. The mucostatic technique (nondisplacev),
2. The mucocompressive technique (displacev),
3. The selective pressure impression technique where some denture bearing tissues are displaced and others are not.

A mucostatic impression technique records the un-displaced denture bearing areas at rest. As the resultant denture is more closely adapted to the underlying tissues at rest, it is theoretically more retentive. However, occlusal forces will not be evenly distributed across the underlying denture bearing area. In contrast, a mucocompressive impression technique compresses the underlying tissues in a manner similar to the way in which the resultant denture will compress the underlying tissues. In this fashion, the resultant occlusal forces will be more evenly distributed across the denture bearing tissues. While there is much speculation in the dental literature regarding the most suitable impression technique for a complete denture, there is no evidence to indicate that one technique produces better long term results than the other. In practice, most impression techniques for conventional dentures could effectively be considered 'selective pressure' techniques. If close-fitting custom trays and high viscosity impression materials are used, the soft tissues at the vibrating line on the palate are compressed, while the tightly bound mucosa on the hard palate is not. The conventional prosthodontic management of flabby ridges involves recording the flabby tissues in a minimally displaced form while the rest of the tissues are recorded in functional form.

CASE REPORT

A 59 year old male patient reported to the Department of Prosthodontics, Institute of dental sciences, Bareilly, Uttar Pradesh requesting for a set of new dentures. The patient was wearing ill fitting denture for the past 3 years. On asking the extraction sequence it was found that the mandibular anteriors were the last teeth which were extracted. On examining the previous dentures founds to be loosed. There is difficulty in eating and speaking with his old dentures. No relevant medical history was reported. On examination it was found that there
was an area of flabby tissue in the maxillary anterior region extending from the canine region from one side to the other and blanching of the tissues was seen when pressure was applied with the end of the mouth mirror. The mandibular edentulous ridge was also resorbed. A treatment plan of fabricating a complete denture with the modification in the impression technique to achieve minimum displacement of denture during function and maximum retention and stability. It was decided to use the Window impression technique for the maxilla.

Primary impressions were made in irreversible hydrocolloid (Zelgan, Dentsply, India) to record the tissues in a minimally displaced form. Custom trays were fabricated in auto polymerizing resin (Pyrax, India) with a spacer of 1mm thickness. The border are trimmed and a space of 2mm is created between sulcus and tray extension. Border molding was carried out for the maxillary arch in the usual manner with greenstick compound (DPI Pinnacle, Tracing Sticks Dental Products of India,Ltd). The impression was made with zinc oxide eugenol paste. The displaceable tissue was marked intraorally with indelible pencil and this marking was transferred on to the final impression. A window was cut in the impression through the impression tray exactly corresponding to the area of the flabby tissues in the anterior maxilla. The impression was placed in the mouth and light body polyvinyl siloxane (Aquisil, Dentsply Caulk, U.S.A) was syringed on to the flabby tissues exposed through the window and the maxillary impression was completed. Now this impression is beaded, boxed and poured properly.

DISCUSSION

For patients with flabby ridges, when dentures are fabricated using the conventional impression techniques the patient often complaints of 'looseness' of the dentures. This is because the flabby tissues recoil when recorded in a displaced form and dislodge the dentures. This problem is circumvented in the described impression technique by recording the flabby area in minimally displaced form and the rest of the tissues in functional form. The basic objectives of complete denture prosthodontics are the restoration of function, facial appearance and the maintenance of the patient's health. It is essential that the mouth is in an optimal state of health prior to commencing prosthetic treatment and failure to achieve this may well produce an unsatisfactory treatment result. Managing a patient with flabby maxillary ridge is a challenging problem. The main approaches to the management of the flabby ridge are:-

- Mild to moderate flabby ridges can be managed by home massages and medications.
- Severe cases will require surgical intervention.

The surgical intervention in the form of fibrous tissue removal or placement of implant retained prosthesis causes their own disadvantages of medical condition of elderly patients, shallow ridge, treatment time, cost, etc. A conventional prosthodontic solution may avoid problems associated with surgery.

As stated by DeVan, 'Our objective should be the perpetual preservation of what remains rather than meticulous restoration of what is missing', hence in these series of clinical reports we opted for a palliative approach. In all three cases, the design of modified custom tray varied from a completely uncovered section of the arch to a window overlying the displaceable tissue.

CONCLUSION

This article describes a simple technique for making wash impression of highly displaceable maxillary anterior ridge with low viscosity polyvinyl siloxane and zinc oxide eugenol impression material. The choice of impression materials and design of the custom tray used for making final impression to reduce the pressure on the displaceable tissue is very important. The materials used are easily available and routinely used in general dental practice. The technique does not require additional clinical visits compared to fabrication of a conventional complete denture. The time required for the specialized impression technique is not excessive. This technique can be readily completed by the general dental practitioner in his/her dental clinic and can successfully manage such type of patients.

REFERENCES


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LIST OF PHOTOGRAPHS

Fig 1: Flabby ridge marked in mouth

Fig 2: Marking transferred on secondary impression

Fig 3: Window is cut at flabby portion

Fig 4: Impression with light body made

Fig 5: Post insertion photographs