

REVIEW

Quick Response Code



doi: 10.5866/3.4.742

## Modified Impression Technique For Flabby Maxillary Ridge

Chittaranjan<sup>1</sup>, Suchita T<sup>2</sup>, Sudhir N<sup>3</sup>, Bharat M<sup>4</sup>

Department of Prosthodontics and Implantology,  
Kamineni Institute of Dental Sciences,  
Marketpally.

Professor and H.O.D<sup>1</sup>  
Reader<sup>2</sup>  
Professor<sup>3</sup>  
Post Graduate Student<sup>4</sup>

### Article Info

Received: July 11, 2011

Review Completed: August, 13, 2011

Accepted: September, 14, 2011

Available Online: January, 2012

© NAD, 2012 - All rights reserved

### ABSTRACT:

Dentures are designed to replace missing teeth and associated structures. Flabby or hyperplastic tissue of alveolar ridges cause numerable problems for fabrication of a stable and retentive denture. Major problem arises during impression making; masticatory forces displace the mobile denture bearing tissues leading to loss of peripheral seal and perpetuate tissue inflammation. This paper tries to present a case report of one the impression making techniques for edentulous patients with flabby alveolar ridges.

*Key words: Hyperplatic tissue, modified impression technique, window technique.*

### INTRODUCTION

Complete edentulism is one of the most common cases encountered in our day to day practice. With the advances in the medical treatment the life of the individual is prolonged, as a result the dentist / prosthodontist is encountered with many more elderly patients. one of the most common associated condition with these elderly patients is complete edentulism. some of the elderly patients may present with situations like excessively resorbed ridges, flabby tissues etc.,. The so called flabby ridges develop when the hyperplastic soft tissues replaces alveolar bone and is a common finding in the upper anterior region of long-term denture wearer.

Masticatory forces can displace this mobile denture bearing tissue leading to altered denture positioning and loss of peripheral seal. Forces exerted during the act of impression making can result distortion of the mobile tissues. The resulting stability of the denture can be poor and both function and appearance can be heavily compromised<sup>1</sup>.

To overcome these problems the methods suggested are

1. Surgical removal of fibrous tissue prior to conventional prosthodontics
2. Implant retained fixed or removable prosthodontics
3. Conventional prosthodontics without surgical intervention

This paper tries to discuss a case of complete edentulism with flabby ridges treated through conventional prosthodontics without surgical intervention

### CASE REPORT:

A female patient of about 70 years reported to the Department of Prosthodontics, Kamineni Institute of Dental Sciences, with a chief complaint of ill-fitting maxillary denture and need for a new mandibular denture. On intra oral examination the salient features of combination syndrome were observed. The maxillary arch was completely edentulous with hyperplastic tissue in the premaxillary area, while the mandibular arch was

Email for correspondence:  
prosthoranjan@yahoo.com

completely edentulous. The past dental history of the patient revealed the patient has been using a maxillary complete denture against a mandibular distal extension partial denture with natural lower anterior teeth. The lower anterior teeth were extracted few months before the patient reported to the department. Systemic examination revealed no abnormality but for mild but controlled diabetes. The flabby tissue could be attributed to combination syndrome that existed before extraction of the natural lower anterior teeth. The treatment planning involved the following steps:

Tissue rest was advised for a week by instructing the patient to leave the dentures in the hospital.

Recalled after one week, only the inflammatory component has resolved but the hyperplastic tissue over the premaxillary region remained the same.

Patient was unwilling towards surgical treatment and her age with diabetes was a factor in deciding to go for a conventional prosthodontic treatment without any surgical intervention. A major consideration of treating flabby tissues is impression making, two theories have been suggested for impression making:

- Mucodisplacive impression technique, with the aim of compressing the loose flabby tissue to allow functional support from it by replicating the contour of the ridge during compression by occlusal forces.
- Mucostatic impression technique, which aims to achieve support from the other firm areas of the arch and maximizes retention.

At present, the published evidence does not clearly support the superiority of either of these techniques over the other. The following techniques have been described.

- One part impression technique (Selective perforation tray)<sup>2</sup>
- Controlled lateral pressure technique<sup>3-4</sup>
- Palatal splinting using a two-part tray system<sup>5</sup>
- Selective composition flaming<sup>5</sup>
- Two part impression technique: Mucostatic and mucodisplacive combination<sup>6</sup>

To treat this case of flabby ridges (fig 1) we have opted for the two part impression technique: Mucostatic and mucodisplacive combination technique to achieve maximum retention from the other firm areas of the maxillary arch.

In this case the preliminary impression was done with a mucostatic material that is alginate.

The displaceable tissue is marked and transferred to the cast.

A close fitting cold-cured acrylic base is constructed so that the flabby ridge area is left uncovered (fig 2).

Appropriate border correction was then carried out before an impression of the firm, supported mucosa is recorded in zinc oxide-eugenol or medium-bodied silicone (fig 3).

An impression of the displaceable mucosa was then recorded by applying or syringing a thin mix of impression plaster or light-bodied silicone (fig 4,5). The latter having preferential use in cases involving undercut. Modification of the special tray after the more viscous impression material has been used to record the whole of the denture bearing area (including the displaceable area) previously described by McCord and Grant, could conceivably cause a degree of distortion in adjacent areas.

The design of this modified special tray can vary from a completely uncovered section of the arch to a window overlying the unsupported mucosa. In the fibrous anterior maxilla, modification of the handle position is often required. A rim handle design has the benefit of aiding prevention of unset impression material falling to the back of the mouth when the patient is supine. The advantage of a window design means that the appropriate border correction can be undertaken and checked around the entire sulcus before the second stage of the impression is completed.

## DISCUSSION:

The basic objectives of complete denture prosthodontics are the restoration of function, facial appearance and the maintenance of the patient's health<sup>7</sup>. However, epidemiological studies of the edentulous population has shown that most patients with complete dentures have pathologic tissue

changes that require treatment and these changes have little relation to a patient's perception of denture success or personal oral health status<sup>8</sup>.

The success of a new denture requires the support of healthy tissues. Any soft tissue or hard tissue changes should be minimized before any changes are made and the definitive treatment should be guided towards preservation of oral tissues. A comprehensive clinical examination and accurate dental history are essential to identify problems and take necessary corrective action. Recovery of abused tissue requires tissue rest, tissue conditioning and if not successful requires surgical intervention<sup>9</sup>.

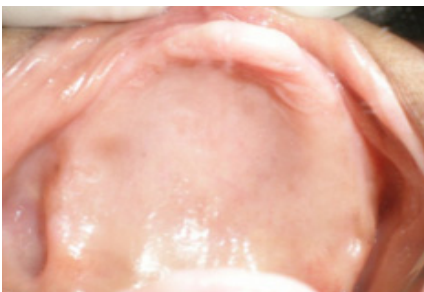
### CONCLUSION:

Fibrous ridges pose a prosthodontic challenge for the achievement of stable and retentive dental prostheses. Emphasis should be laid on non-surgical management followed by modified prosthodontics procedures to achieve desired results. Surgical management and implant retained prostheses may not be most suitable treatment option for many patients. When considering conventional postodontics, there are a variety of impression techniques available to address the problems caused by the unsupported tissue during denture construction. one should be aware of these methods

and materials that can be used to overcome the challenges encountered in making a stable, retentive, comfortable and long lasting dental prostheses.

### REFERENCES:

1. A review of prosthodontic management of fibrous Ridges R. W. I. Crawford and A. D. Walmsley, British Dental Journal Volume 199 NO. 11 DEC 10 2005,715-719.
2. Lamb D J. Problems and solutions in complete denture prosthodontics. London: Quintessence,1999, pp 57-60.
3. Grant A A, Heath J R, McCord J F. Complete prosthodontics: problems, diagnosis and management. pp 90-92. London: Wolfe, 1994.
4. Allen P F, McCarthy S. Complete dentures: from planning to problem solving London: Quintessence, 2003, pp 48-51.
5. Osborne J. Two impression methods for mobile fibrous ridges. Br Dent J 1964; **117**: 392-394.
6. Devlin H. A method for recording an impression for a patient with a fibrous maxillary alveolar ridge. Quint Int 1985; **6**: 395-397.
7. Sheldon Winkler. Essentials of complete denture prosthodontics. Second edition, Delhi, A.I.T. B.S.;2009.p.xiii.
8. Comprehensive complete denture rehabilitation, a way to achieve recovery of abused tissue: A case report Bhusal DS, Joshi S, Shakya S, Journal of Nepal Dental Association (2010), Vol. 11, No. 1, Jan.-Jun., 59-62
9. Dando WE, Barker WS. Tissue conditioning. Clinical Update 2000; **22(5)**:11-12.



**Fig1.** Maxillary arch showing hyperplastic tissue in premaxillary region



**Fig2.** Custom Tray After Border Molding  
Custom Tray With Window



**Fig3.** FINAL IMPRESSION



**Fig4.** Recoding Mobile Tissue in Imprsson  
Plaster



**Fig 5.** Completed Impression



**Fig6.** Pre-op

**Fig7.** Post-op