

Revisiting Hypermobile Mucosa In Edentulous Foundation - Pathology And Management

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Abstract: The poor quality denture bearing area like markedly resorbed ridges and flabby tissues...Displaceable, or 'flabby ridges', present a scrupulous difficulty and may give rise to complaints of pain or looseness relating to a complete denture that rests on them. Surgical intervention, most of the time may not be a viable options. This article describes a technique for making a definitive impression for highly displaceable residual ridges. The choice of the impression materials, as well as the design of the impression tray, focuses on preventing distortion of the displaceable residual ridges during impression making. thus resulting in stable and retentive denture along with other qualities.

Keywords- Flabby Ridge, Hypermobile Tissues, Impression Technique.

I. Introduction

The performance of a complete denture is often a expression of its most important qualities i.e. stability, support and retention¹. A perfectly made denture will not only replaces the missing oral tissues but also helps in proper functioning. With the advancing age the and long term wearing of ill dentures results in bone resorption specially in anterior maxillary edentulous foundation. This results in poor quality denture bearing area like excessively resorbed ridges and flabby tissues...Displaceable, or 'flabby ridges', present a particular difficulty and may give rise to complaints of pain or looseness relating to a complete denture that rests on them².

Published studies indicate that the prevalence of flabby ridges can vary, occurring in up to 24% of edentate maxillae and in 5% of edentate mandibles^{3,4}. improper treatment planning and unplanned extraction many a times result in condition called combination syndrome which also has a feature where mucosa in pre-maxillary area becomes flabby.

Pathology

Fibrous' or 'flabby' ridge is a superficial area of mobile soft tissue affecting the edentulous foundations. It develops when hyperplastic soft tissue replaces the alveolar bone due to its resorption and is a common finding, particularly in the upper anterior region of long-term denture wearers. Masticatory forces can displace this mobile denture-bearing tissue, leading to altered denture positioning and loss of peripheral seal. Microscopic features include the hyperplasia of the basal cell layer. The underlying connective tissue stroma consists of mature fibrous connective tissue mainly chronic inflammatory cells.

Management

Eventually the aim is to make denture stable. Various options available for this are-

1. Surgical removal of hyper plastic tissues followed by fabrication of conventional complete denture (CCD).
2. Implant supported complete denture
3. CCD with modified impression technique without surgical intervention.

Many times the surgical intervention was not the choice because either patient was not affirmative or his age and health was not reminiscent of surgery. Thus first two options mostly accomplish less preference and above all , the cost factor involved in implant, makes it a less viable option to patients.

Impression making in case of flabby tissues requires special procedure because forces exerted during this act can result in distortion of the mobile tissue. Thus resulting instability affects both function and appearance negatively.

II. Case Report

A male patient of about 65 years reported to clinic with a difficulty in eating food. His maxillary denture was ill-fitting and loose. He got his remaining lower front teeth extracted five months back. Systemic examination gave no significant history. No gross asymmetry detected in extraoral examination.

Intra oral examination revealed completely edentulous maxillary and mandibular arch with hyperplastic tissue in pre-maxillary area and resorption in the posterior maxillary edentulous ridge (fig.1). Thus portraying a picture of combination syndrome. The mucosa appears reddish and inflamed. Flabby tissue in pre maxillary area were hyper mobile and were compressed under denture resulting in its instability.

Radiographic examination supported the clinical findings, showing resorption in pre-maxilla, bulbous tuberosity and resorbed posterior maxillary ridge.

After thorough examination and critical evaluation various treatment options suggested and discussed with the patient. Owing to the low cost and no surgical involvement patient opted for CCD with modified impression technique without surgical intervention. Thus after his verbal and written consent treatment was started.

Treatment course of action

At the outset denture removal was done to allow tissue rest. Patient was recalled after one week and examined again. Inflammation was resolved but hyperplastic tissues over the pre-maxillary region remained same.

Primary impression of maxillary and mandibular arches were made in alginate and impression compound respectively (fig.2). On the primary cast, displaceable tissues were marked and a special tray with self cure acrylic was constructed so that flabby ridge area left uncovered. Border areas of the special tray were adjusted and border molding was carried out to record the peripheral tissue.

Following this the impression of firm, supported mucosa was made in Zinc oxide eugenol (fig.3-a). An impression of displaceable mucosa was then recorded by painting a thin mix of impression plaster (fig.3-b & fig.3-c). After complete setting, it was removed carefully along with the tray. Now the impression judged critically for tissue recording, voids and any discrepancy (fig.4). Once found satisfactory a thin layer of separating media (cold mold seal) was applied on the impression plaster and master cast was poured in type III gypsum product.

Following this, the Jaw relation along with face bow was recorded and teeth were arranged in balanced occlusion. During try-in, (fig.5) the waxed up dentures were assessed thoroughly and after patient's approval it was processed, finished and polished. At the time of denture insertion along with all the factors, stability was judged critically (fig.6). Patient was instructed in detail about dentures use and maintenance and recalled at regular interval for assessment (fig.7-a & fig.7-b).

During recall visit, the dentures were assessed for retention, support, stability, mastication, speech, esthetics etc. There were no sign of any tissue trauma, dislodgement and occlusal problems. This justifies the success of treatment.

III. Discussion

Making a definitive impression of an edentulous foundation can be challenging when the residual ridges present with less-than-ideal conditions, especially when there is minimal bone height, unfavorable residual ridge morphology, and/or highly displaceable as in the presented case.

Several Techniques For Management Of Flabby Ridge Are

- a) One part impression technique (Selective perforation tray)⁵
- b) Controlled lateral pressure technique^{6,7}
- c) Palatal splinting using a two-part tray system⁸
- d) Selective composition flaming⁸
- e) Two part impression technique: Mucostatic and Mucodisplacive combination⁹

Here in this case report two part impression technique was utilized via modification of the custom tray of the maxillary cast. By making window over the flabby section helped in recording the hypermobile tissue in their normal undisplaced anatomical form and other areas in their supportive form. This basically resulted in fabrication of the denture which does not exert excessive pressure over the already resorbed area instead the load is taken by the supportive areas of maxillary foundation. A special care had been taken while making

secondary impression because in this step some displacement of hypermobile tissues occurs no matter how carefully is made.

All the factors were duly respected and necessary steps were taken to develop a complete denture which fulfills the entire requirement. The proof that denture fabricated with steps described in the article was successful was the satisfaction of the patient expressed during the recall visits.

IV. Figures



Fig.1- Maxillary And Mandibular Edentulous Ridges (Flabby Tissue In The Pre-Maxillary Area)



Fig.2- Maxillary And Mandibular Primary Impression In Alginate And Impression Compound Respectively

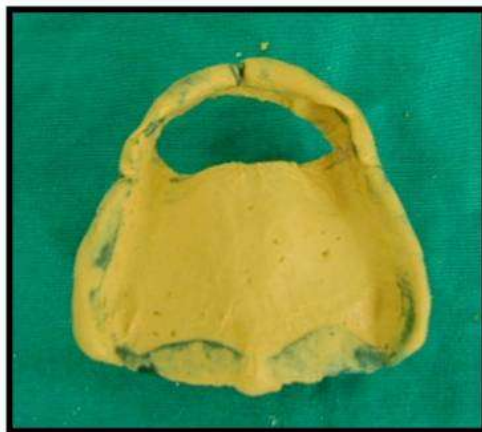


Fig.3-a- Maxillary Partial Final Impression- With Modified Impression Tray



Fig.3-b- Maxillary Modified Impression Tray With Window Over Flabby Tissues



Fig.3-c- Impression Plaster Painted Over The Flabby Tissues



Fig.4- Complete Maxillary And Mandibular Final Impressions



Fig.5- Try-In



Fig.6- Denture Insertion



Fig.7-a- Pre-Operative Frontal View

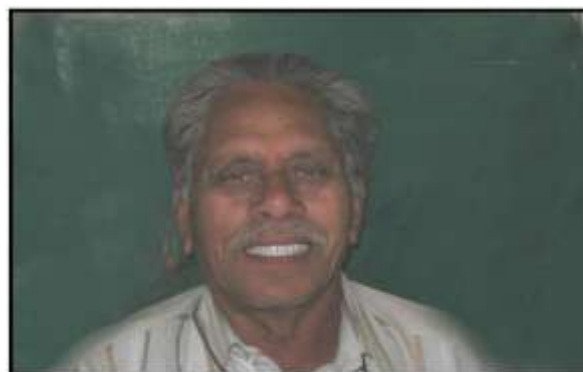


Fig.7-b- Post-Operative Frontal View

V. Conclusion

Fibrous ridges pose a prosthodontic challenge for the achievement of stable and retentive dental prostheses. Emphasis has moved away from surgical removal of the fibrous tissue. When considering conventional prosthodontics, a special care and attention is needed during recording of the tissue details. In this case report the displaceable tissues were recorded with mucostatic impression material and other areas in normal impression material. This helped in achieving the properly retentive and stable denture which provides the ultimate satisfaction to patient.

References

- [1] Fenlon MR, Sherriff M, Walter JD. Comparison of patients' appreciation of 500 complete dentures and clinical assessment of quality. *Eur J Prosthodont Rest Dent* 1999; 7: 11–14.
- [2] Basker RM, Davenport JC. *Prosthetic treatment of the edentulous patient*. 4th edn. Oxford: Blackwell, 2002.
- [3] Carlsson GE. Clinical morbidity and sequelae of treatment with complete dentures. *J Prosthet Dent* 1998; 79: 17–23.
- [4] Xie Q, Nähri TO, Nevalainen JM *et al*. Oral status and prosthetic factors related to residual ridge resorption in elderly subjects. *Int J Prosthodont* 1997; 55: 306–313.
- [5] Lamb D J. *Problems and solutions in complete denture prosthodontics*. London: Quintessence, 1999, pp 57-60.
- [6] Grant A A, Heath J R, McCord J F. *Complete prosthodontics: problems, diagnosis and management*. pp 90-92. London: Wolfe, 1994.
- [7] Allen P F, McCarthy S. *Complete dentures: from planning to problem solving* London: Quintessence, 2003, pp 48-51.
- [8] Osborne J. Two impression methods for mobile fibrous ridges. *Br Dent J* 1964; **117**: 392-394.
- [9] Devlin H. A method for recording an impression for a patient with a fibrous maxillary alveolar ridge. *Quint Int* 1985; **6**: 395-397.