

Prosthodontic Rehabilitation of Flabby Ridge Using Two Different Impression Techniques- A Case Report

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ABSTRACT

Flabby ridge is an excessive movable fibrous tissue, usually affecting the maxillary and mandibular edentulous ridges. It is a typical finding frequently observed in the maxillary anterior region. It usually occurs when natural teeth oppose an edentulous ridge or in long-term denture wearers. The management of flabby ridges includes surgical intervention, implant-retained prostheses, and conventional dentures fabricated using the modified impression technique. This case report depicts prosthodontic rehabilitation of patients with flabby ridges with two different impression modalities.

Key words: Impression Techniques, Flabby Ridge, Complete Denture Impressions

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Introduction

Retention and support are two pillars of a successful complete denture.¹ The secondary impression should replicate the entire denture-bearing area and should be made to establish retention, stability, and support.^{2,3} Replacement of alveolar bone by hyperplastic tissue is known as a flabby ridge. Excessive movable tissue” is flabby tissue as defined by GPT9.⁴ It can be seen in either of the arches but commonly associated with the anterior region of both the arches. The reported prevalence has varied, but has demonstrated in up to 24% of edentulous maxillae and 5% edentulous mandible. Loss

of peripheral seal is also because of masticatory forces followed by hyperplastic denture bearing tissue. Forces exerted during impression making can result in distortion of the hyperplastic tissue and it should be managed properly by implication of special impression technique. Many special techniques have been proposed to overcome this situation.⁵

This article presents case reports for prosthodontic rehabilitation of patients with flabby ridges with two different impression modalities.

Case report

Case 1: A 50-year-old female patient reported to the Department of Prosthodontics and crown & bridge, Himachal dental college, Sundernagar with a chief complaint of a loose denture. On examination, flabby tissue from left 1st premolar to right canine tooth region was seen in the maxillary arch.

Three options were explained to the patient for treatment of fibrous flabby tissue namely surgical removal, implant-retained prosthesis, and conventional technique with specialized impression technique. After discussing the indications, contraindications, advantages & disadvantages of all the three techniques, the patient agreed to the conventional technique, and the treatment planning was done accordingly. The primary impression for the maxillary arch was recorded in irreversible hydrocolloid and mandibular in impression compound and the primary cast was poured in dental plaster type II. A special tray was fabricated using a double spacer over the flabby tissue area and mid palatine raphe region. Sectional Border moulding was done with a green stick impression compound.

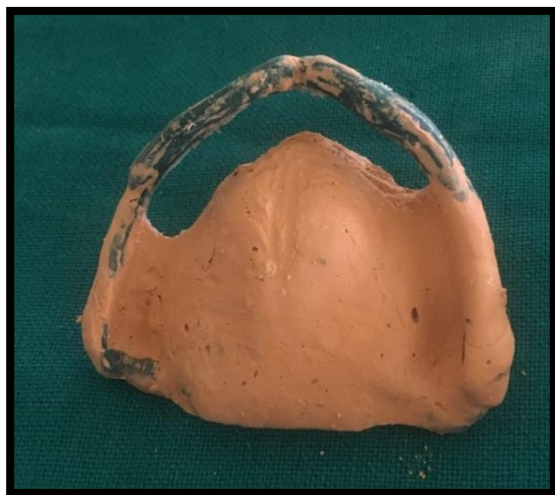


Figure 1a



Figure 1b



Figure 1c

Wax Spacer was removed, relief holes were made and an impression was made with zinc oxide eugenol paste. Impression from the flabby tissue region was removed with the help of a bp blade and the tray was trimmed from the flabby tissue region using round bur {fig1a}. Impression plaster was mixed and the tray was placed in the mouth. With the help of a syringe, impression plaster was injected onto the flabby tissue region avoiding voids {fig1b}. after setting, the impression was

removed from the mouth {fig1c}. The master cast was poured after applying separator over impression plaster. The denture was fabricated using the conventional method providing satisfaction to the patient.

Case 2: A 65-year-old male patient reported to the department of prosthodontics and crown and bridge, Himachal dental college, Sundernagar with a chief complaint of a loose denture in the upper and lower jaw. On intraoral examination, it was found a completely edentulous upper arch with flabby tissue in canine to canine region {figure 4} and partially edentulous mandibular arch. Three options were explained to the patient for treatment of fibrous flabby tissue namely surgical removal, implant-retained prosthesis, and conventional technique with specialized impression technique. After discussing the indications, contraindications, advantages & disadvantages of all the three techniques, the patient opted for the conventional technique, and the treatment planning was done accordingly. The primary impression for the maxillary arch was recorded in reversible impression compound using admixed technique and mandibular in irreversible hydrocolloid and the primary cast was poured in dental plaster type II. Window impression technique (two trays) for maxillary ridge described by Filler was considered. The first tray for the maxillary arch was fabricated along with acrylic projections, one on either side, in the premolar region {figure2a}, and then, the second maxillary tray was fabricated with guiding holes so that it could be keyed onto the first tray; this second tray was fabricated with an aluminum mesh so that the light body material could be easily injected to record the

tissue with minimal displacement {figure2b}. A handle was constructed over this second tray for ease of handling.



Figure 2a

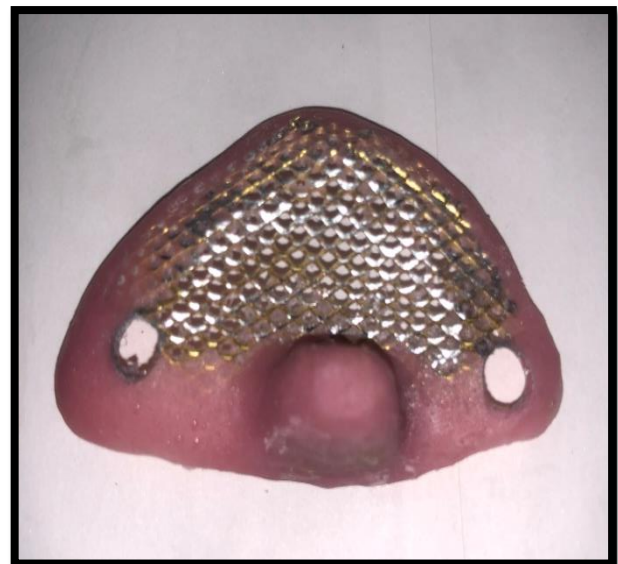


Figure 2b



Figure 2c



Figure 2e



Figure 2d



Figure 2f

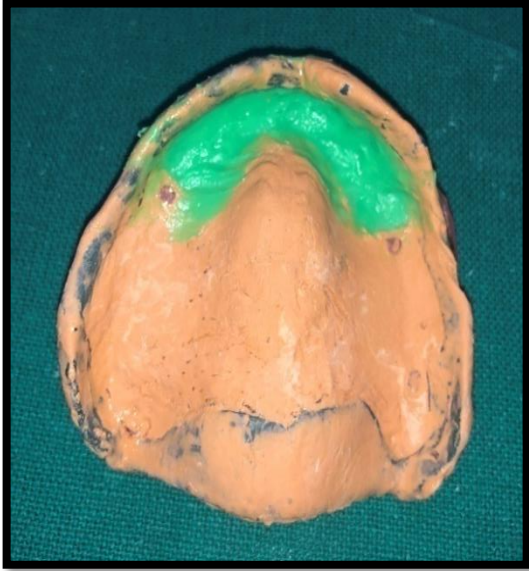


Figure 2g

Maxillary border molding was done using the first tray, using a green stick impression compound {Figure 2c}. After border molding, the wax spacer was removed from the tray, and relief holes were drilled in the tray. Impression was made using zinc oxide eugenol paste {figure 2d}. Impression from the flabby tissue region was removed with the help of the BP blade and the tray was trimmed from the flabby tissue region {figure 2e} using straight handpiece micromotor. The second tray with aluminum mesh was placed over the first tray, and light body polyvinyl siloxane was injected into the mesh {figure 2f}. Light body polyvinyl siloxane was used as the final impression material for the second impression as it causes minimal displacement of tissues. Both trays were removed together after the impression material had polymerized {figure 2g}. The master cast was poured. Maxillary complete denture and mandibular tooth supported overdenture was fabricated. The patient was satisfied and happy.

Discussion

Dentures fabricated with a conventional technique for flabby ridge always compromise in retention and stability of the denture. In order to overcome this, Special impression techniques are introduced.⁵ Hyperplastic tissue, which may replace bone of the ridge, is incompatible with the demand for healthy denture supporting tissues and should be excised.⁶ The main aim of the prosthodontic therapy should be “conservation of what remains, rather than the meticulous replacement of what has been lost.”

Tissue distortion and its displacement are the two main factors that have to be kept in mind before any impression procedure is carried out in relation to flabby tissue. Standard mucocompressive technique for impression making leads to unstable and unretentive dentures in flabby ridge whereas in selective pressure technique for impression results in retentive and stable dentures.⁵

In 1964, Liddlelow described a technique whereby two separate impression materials were used in a custom tray (plaster of Paris over a flabby ridge and zinc oxide eugenol over the normal tissues).⁷

The filler used two custom trays for recording flabby tissues, one tray consisting of windows, which forms the latticework for cold-cure resin, as well as trays that consisted of numerous escape holes. Both trays were keyed together. He also advocated the use of two different impression materials to record a flabby tissue with minimal pressure. The modification made to the described technique was that the second tray was designed with an aluminum mesh and a handle;

consequently, light body polyvinyl siloxane (injected through the mesh) would flow and adapt to the tissue without distorting them. The advantage of this modification is that the tissue was recorded in the most mucostatic form with the reproduction of very fine details.⁸

Conclusion

The success of the complete denture is governed by the proper diagnosis and treatment planning. Accurate diagnosis and execution of a suitable technique for denture fabrication will help recording the displaceable/firm tissue in an undisplaced and undistorted manner. Some modifications are done in impression making techniques for recording flabby tissue and they lead to the more retentive and stable denture.⁶

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