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Case Report **Prosthodontics**

A Novel Approach of Prosthodontic Management of Flabby Tissue in Maxillary Anterior Region: A Case Report

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Abstract

A fibrous which is also called as hyperplastic ridge is a superficial area of mobile soft tissue affecting the maxillary or mandibular alveolar ridges. It develops when alveolar bone gets replaced by hyperplastic soft tissue and is a common finding particularly in the upper anterior region seen in long term denture wearers. Masticatory forces often displace this mobile denture-bearing tissue, which leads to altered denture positioning and loss of peripheral seal. Forces exerted during the act of impression making results in distortion of the mobile tissue. Unless it is managed appropriately by special impression techniques, such 'flabby ridges' adversely affect the support, retention and stability of complete dentures. This paper presents prosthodontic management of a patient with flabby ridges with special impression technique.

Keywords: Flabby ridge, Mucostatic Impression technique, Retention, Peripheral seal.

INTRODUCTION

A flabby ridge or fibrous ridge which is also called as hyperplastic ridge is a soft tissue present on superficial aspect affecting the maxillary or mandibular alveolar ridges. Most predominant site of flabby tissue is found to be in maxillary anterior region as already explained by Kelly in combination syndrome [1]. Prevalence of flabby tissue in maxillary arch is higher (24%) as compared to edentate mandibles (5%) [2, 3]. Unplanned extractions may also lead to flabby tissue [4].

Retention, support and stability of a complete denture depend on firm foundation tissue. Since, the foundation tissue is not very firm in case of hyperplastic tissue, so different impression techniques have been proposed to attain the stability in the literature. These techniques includes Jone D Walter Technique, Splint Method by Allan Mack, One Part Impression Technique, Controlled Lateral Pressure Technique, Palatal Splinting using two plate system by Osborne, Selective Composition Flaming, Window Technique, Spacer Guided Differential Pressure Technique[5].

Amongst these, Window technique which is also known as the Zafrullah Khan technique is the oldest and most commonly used technique. The present article discusses the prosthodontic rehabilitation of a patient with flabby tissue with modification of Zafrullah khan technique.

CASE REPORT

A 60 year-old-male patient reported to the Department of Prosthodontics and Crown and Bridge with the chief complaint of loose dentures which falls often during speaking. On examination, flabby tissue in the maxillary anterior region extending from canine to canine region was found (Fig 1). On taking history, the patient complained of having a loose and ill fitting maxillary denture which was made 1year back.

Fabrication of new complete dentures was planned for the patient with recording of flabby tissue in undisplaced condition using Modified Window Technique.

PROCEDURE

The maxillary and mandibular preliminary impression was made using impression compound (Y

Dent, Mumbai, India) and the primary cast was poured with Type II gypsum product (Kalabhai Kalrock, Vadodara, Gujarat).

Special Custom tray Fabrication

Special tray was fabricated by using double spacer over the flabby tissue area and in the region of mid palatine raphe. The tray was fabricated using self cure acrylic resin (DPI) in the usual manner except in the area of flabby tissue which was not covered. Afterwards thermoplastic sheet (3A Medes Easy-vac, Korea) was adapted over the special tray on primary cast. Two handles were made using the self cure acrylic resin and adapted on either side of the tray (Fig 2).

Final Impression

After checking the proper tray extensions, thermoplastic tray extensions were kept short of custom tray so that border molding can be done with green stick compound. Border molding was done in conventional manner using green stick impression compound (DPI Pinnacle, Jaipur, India). Spacer wax was removed and impression was made with medium body elastomeric impression material (Elite HD+, Zhermack, Germany).

The tray was then removed from the mouth and impression material was removed in the region of flabby tissue using a blade. Relief holes were made and tray was loaded in this region of flabby tissue with light body elastomeric impression material (Elite HD+ light body, Zhermack, Germany) to record flabby tissue (Fig 3).

Beading and boxing of the final impression was done using plaster pumice method and master cast was poured with Type III Gypsum product. Jaw relation was recorded and mounted on a semi adjustable articulator. Teeth arrangement was done and try-in was assessed for esthetics, phonetics and retention.

The denture was fabricated by compression moulding technique with heat cure resin material and it had good retention and stability with proper recording of flabby tissue (Fig 4A, B).

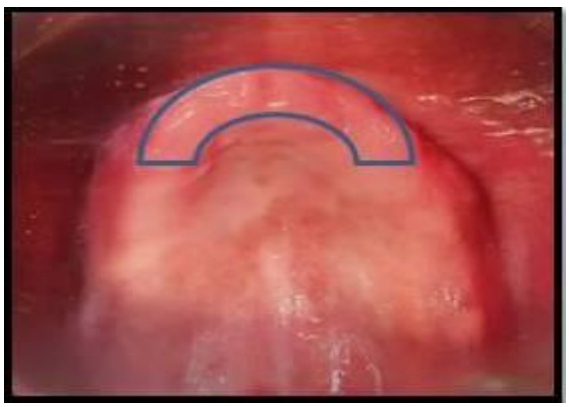

Fig-1: Intra-oral view of maxillary arch showing flabby tissue

Fig-2: Special Custom tray fabrication

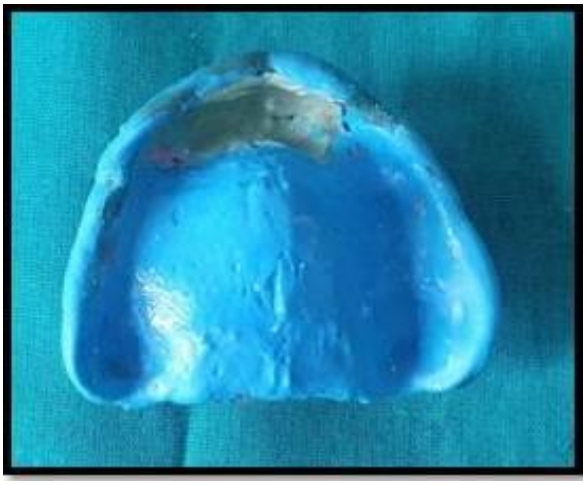

Fig-3: Final impression in custom tray

Fig-4: 4A Extra-oral pre-operative view. 4B- Extra-oral post-operative view

DISCUSSION

Management of flabby ridge includes surgical excision followed by prosthodontic management provided the bone is available underneath. The contributing factors for success of surgical excision include age, general health, dental history, motivation and personality of patient [6]. Desjardins and Tolman gave the solution of injecting sclerosing agents to make the tissue firm but this procedure has its own disadvantages [7].

A flabby ridge has been a critical prosthodontic challenge for the achievement of a stable and retentive dental prosthesis. An accurate impression of the edentulous ridge and functional sulcus is critical to the provision of a stable and retentive denture. Flabby ridges when recorded using a conventional method are compressed during impression. The elastic recoil of flabby fibrous soft tissue during function results in instability and loss of denture retention and dislodgement.

A hole, window or relief is provided to allow selective pressure and minimum pressure to reduce hydraulic pressure in the flabby region. A window technique was used for impression of flabby ridge using a close fitting custom tray with a window in Zafrallah technique [8]. In the window technique, it has been proposed to record the impression along with the peripheral seal followed by preparation of window and recording of displaceable tissues with a low viscosity impression material (impression plaster). In addition PVS materials are preferred by clinicians as they are available in different viscosities suitable for mucostatic and muco-compressive flabby ridge impressions.

Others have suggested using two separate custom trays: one for flabby tissue and another for normal tissue and then related intra-orally. A common clinical challenge in aforementioned window technique is the difficulty in uniform application and control of low viscous impression material on flabby tissues due to gravitational forces and different dental chair positions (maxillary arch).

In present technique, medium body polyvinylsiloxane (PVS) was used to record the supporting tissue and flabby tissue was recorded in light body consistency of PVS. Multiple relief holes were also provided to record the flabby tissue in undisplaced position. The advantage of this technique is that it records the area of flabby tissue in a non compressive and non displaced state which prevents the dislodgement of the denture due to flabby tissue rebounding. Other advantages include that transparent thermoplastic sheet allows the clinician to visualize the pressure on flabby tissue and also it contains the low viscosity material within the thermoplastic sheet.

CONCLUSION

Managing a patient with flabby maxillary ridge can be a challenging problem. Mucostatic techniques may not make the best use of the available tissue support and movement of the denture base relative to the support tissues may be a problem. The use of selective pressure or minimally displaced impression techniques should help to overcome some of these limitations. With modified impression techniques, these ridges can be managed effectively without any additional clinical visits as compared to patients with normal edentulous ridges.

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