

Prosthodontic management of flabby ridge- A case report.

Srijoni Mondal¹, Sanjit Lal Das², Shambaditya Pahari³

¹Post-graduate trainee, Department of Prosthodontics and Crown & Bridge, Haldia Institute of Dental Sciences and Research, West Bengal, India.

²Head of the Department, Department of Prosthodontics and Crown & Bridge, Haldia Institute of Dental Sciences and Research, West Bengal, India.

³Professor, Department of Prosthodontics and Crown & Bridge, Haldia Institute of Dental Sciences and Research, West Bengal, India.

Abstract

Flabby ridge, which consists of displaceable tissues, commonly seen in day-to-day clinical practice mostly involve the maxillary or mandibular alveolar ridges. Patients with long standing edentulism are mostly affected, and frequently found in the maxillary anterior region. Management for the same should be undertaken as stability, support, and retention may be jeopardize because of these ridges. Surgical removal and/or augmentation can be done for correction including special impression techniques, equal dispersal of masticatory loads and implant as a supporting measure. “Window technique” for impression of fibrous tissue is a very useful special impression technique. The objective of this case report is to represent a modified form of window technique using double spacers for impression making of flabby tissues in maxillary anterior crestal region by using readily available materials in day to day clinical practice.

Key words: Flabby ridge, hyperplastic tissue, window technique.

Address of correspondence: Dr. Srijoni Mondal, 7/3/10, Priyanath Ghosh Lane, Howrah- 711104.

Email address: - srjnmndl@gmail.com **Phone no:** 9830831828. **DOI:** 10.5281/zenodo.7491041

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Introduction

Primary goal of complete denture prosthetics is to restore the aesthetics, minimizing discomfort and maintaining proper function of lost dental and supporting structures by their replacement.^[1] When the edentulous maxillary arch are opposed by natural mandibular dentition in the anterior region, mandibular teeth cause damage to the edentulous area as whole occlusal force is concentrated in this region. This leads to severe bone loss and hyperplastic tissue formation, causing development of flabby ridges, which consists of superficial areas of mobile soft tissue.^[2] Ellsworth Kelly in 1972 described this condition as “combination syndrome” which can be found in patients wearing denture for a longer period of time which may be due to trauma from denture bases or the result of unplanned and/or uncontrolled dental extractions.^[3] Prevalence

rate shows a variable result of flabby ridges as high as 24% in edentulous maxillae compared to 5% in edentulous mandibles.^[2] Forces employed on tray while recording impression can result in deformation of flabby displaceable tissue which may jeopardise the peripheral seal. Special impression techniques are used to manage “flabby ridges” so that retention, stability and support of denture are not compromised. This article confers a case report for management of flabby ridges using window technique.

Case Report:

A male patient of 56 years reported our institute, complaining of difficulty in chewing due to missing teeth. Clinical examination revealed a zone of flabby tissue which extends over maxillary inter-canine region (Figure 1). A special impression procedure, Zafarullah Khan technique

(window technique) was employed for this patient. Irreversible hydrocolloid (Algitex Alginate impression material, DPI) was used for maxillary primary impression and primary cast was poured. Proper adaptation of spacer was done over the maxillary primary cast. Double spacer was adapted over the flabby tissue region (Figure 2). The special tray was modified by creating a window over the flabby ridge (Figure 3). Border moulding was done using low-fusing green stick compound. Then the wax spacer was removed before recording the impression. Then the final impression was recorded by using zinc oxide eugenol impression paste. This impression covered whole area of the edentulous space without the flabby region which was painted with impression plaster. A pinch of salt was added to impression plaster to accelerate the setting reaction. After the impression plaster has set, impression tray was taken out of the mouth (Figure 4). Pouring of master cast was done using dental stone after putting in a soap solution as separating medium over the impression plaster. The denture was processed following conventional method with flabby tissue properly recorded (Figure 5).

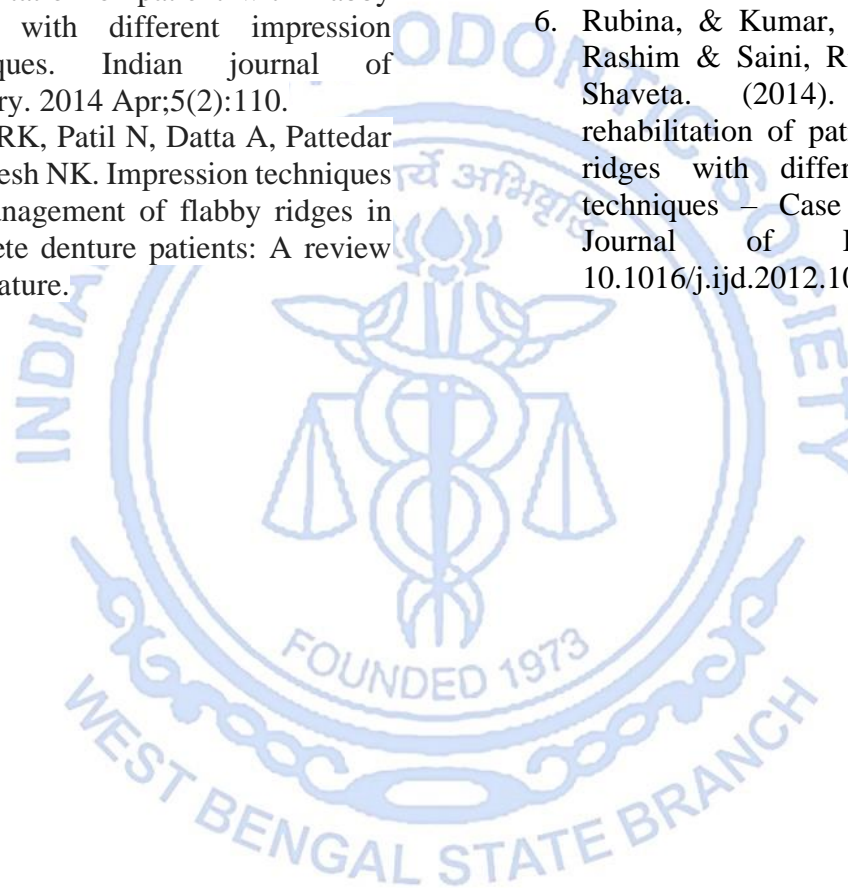
Discussion:

Flabby ridges, a common characteristic of combination syndrome, can be found in the edentulous maxillary anterior region opposed by dentulous mandible. Maintaining the stability of a denture becomes challenging in presence of fibrous hyperplastic “flabby ridges” as this tends to get displaced under occlusal loads. This in turn results in poor support, which leads to compromised retention due to improper peripheral seal. MacEntee quoted, “support for the complete dentures is significantly compromised if the flabby ridge has more than 2 mm displacement under pressure”.^[1] Various

techniques proposed by different authors for treating patients with flabby ridges include-surgical removal, modified impression techniques, or by implant supporting fixed or removable prosthesis.^[4] Though surgical removal of fibrous tissue will result in a firm ridge, stability of the denture will be compromised as there is elimination of vestibular area.^[5] Invasive procedures include conventional surgery done by scalpel or administering a sclerosing agent before fabrication of complete denture prosthesis. Another method which can be used for elimination of flabby ridge is ridge augmentation. However surgical method will cause increase in the thickness of denture base material and omit load bearing soft tissues, which in turn results in trauma to the underlying tissues. Although in implant prosthesis, support is provided solely by the underlying bone, it is costly and time-consuming procedure with multiple post-surgical complications. Traditional prosthodontic procedures such as special impression techniques and distribution of masticatory loads are regularly employed methods in the management of flabby ridges.^[6] To allow minimum amount of tissue displacement during impression making, numerous impression procedures have been put forward in the literature such as muco-compressive, muco-static and selective pressure impression techniques. For recording flabby tissues using muco-static impression technique, we can use double spacers, relief holes, and/or a window tray technique. Flabby tissues are more prone to get shifted during recording of impression and again rebound to its primary form due to their resiliency. Same fact occurs with denture also. So customised treatment protocols should be followed in order to achieve the functional and aesthetic requirements.

References:

1. Labban N. Management of the flabby ridge using a modified window technique and polyvinylsiloxane impression material. *The Saudi Dental Journal*. 2018 Jan 1;30(1):89-93.
2. Bansal R, Kumar M, Garg R, Saini R, Kaushala S. Prosthodontic rehabilitation of patient with flabby ridges with different impression techniques. *Indian journal of dentistry*. 2014 Apr;5(2):110.
3. Singh RK, Patil N, Datta A, Pattedar A, Billesh NK. Impression techniques for management of flabby ridges in complete denture patients: A review of literature.
4. Pai UY, Reddy VS, Hosi RN. A single step impression technique of flabby ridges using monophasic polyvinylsiloxane material: a case report. *Case reports in dentistry*. 2014 Apr 27;2014.
5. Sajani R, Ranukumari A. Impression Techniques for effective management of flabby ridge-An overview. *Journal of scientific dentistry*. 2012 Dec 1;2(2):29-33.
6. Rubina, & Kumar, Manjit & Garg, Rashim & Saini, Rishi & Kaushal, Shaveta. (2014). Prosthodontic rehabilitation of patient with flabby ridges with different impression techniques – Case reports. *Indian Journal of Dentistry*. 5. 10.1016/j.ijd.2012.10.007.



FIGURES



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5