Management of Flabby Maxillary Anterior Ridge: A Case Report

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ABSTRACT

A flabby ridge occurs by replacing bone with connective fibrous tissues and is most commonly found in the anterior maxillary ridge. Flabby tissues present a challenging clinical scenario for the clinician. Making an accurate impression of these tissues is crucial for producing a prosthesis that fits well. In this case report, an open tray approach is used on a patient who has completely edentulous maxillary arch with flabby tissue in anterior region.

Key words: Flabby tissue; Hypermobile tissues; Special impression technique; Window technique.

INTRODUCTION

Flabby ridge is excessive mobile tissue which becomes displaceable due to fibrous tissue deposition.[1] It is most commonly seen in maxillary and mandibular anterior alveolar ridge. According to the study, 5% of the edentate mandibles and 24% of the edentate maxillae are reported to have flabby ridges.[2] Fabrication of denture in the presence of such displaceable tissue compromises its stability, retention and support when the masticatory forces displaces the mobile and flabby denture bearing tissue due to loss of peripheral seal.[1] So to overcome such problems, management of a flabby ridge is done mainly by three approaches: (1) surgical removal of fibrous tissue prior to conventional prosthodontics, (2) implant retained prosthesis which may be fixed or removable, (3) conventional prosthodontics without surgical intervention.[3,4] As the surgical removal of the flabby tissue increases the bulk of denture material and also eliminates stress absorbing soft tissues thus leading to trauma of the underlying tissues.[3] A poor ridge is better than no ridge, which could be a sequel to surgical excision of the flabby tissues.[5] For implant retained prosthesis, they take the support from the underlying bone hence minimal or no support is needed from the tissue area. In terms of patient economics and time taken for the completion of procedure, the implant supported prosthesis has its drawbacks.[6] Forces exerted during impression making can result in distortion of the mobile tissue.[3] If the flabby tissue is compressed during conventional impression making it will later tend to recoil and dislodge the overlying denture.[7] Therefore conventional prosthodontics with modification in impression techniques seems to be good alternatives to all the management options. In the literature, many impression techniques have been proposed to help overcome this difficulty.[8] Liddlelow described a technique in which two separate materials are used in a custom tray.[4] Osborne in 1964 presented an impression method with two different materials as well as two different custom trays used separately for flabby ridge and normal tissues.[5] Bansal, *et*

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al. in 2014 made impression of flabby tissue by creating a window in the custom tray over the flabby tissues anteriorly where they used impression plaster and used zinc-oxide-eugenol impression paste for the healthy denture bearing area following the famous Zafarullah Khan technique.[9]

The aim of this study is to obtain complete dentures with increased stability in presence of flabby ridges, by applying the window technique which is a mucostatic technique for the flabby tissues.

METHOD

65 year old female came to Department of Prosthodontics with chief complaint of all teeth missing since 6 months. The primary reason for loss of teeth was due to periodontal disease. On eliciting patient past denture history, it was found that patient had been wearing an old ill fitting removable partial denture replacing 11, 21 for esthetics purpose for 18 years and after loss of all teeth also, she was continuing the use of same denture for esthetic purpose and was able to retain it in place(*Fig.1*). On evaluation of systemic health of the patient, she did not have any major medical illness or history of prior hospitalisation. On intra oral examination, edentulous maxillary arch with displaceable anterior ridge was observed (*Fig. 2*). Initially a conservative management of flabby tissue was planned. She was asked to discontinue the use of denture and was also asked to massage the flabby tissue. Follow up was scheduled after 1 week. On examination there was no change in flabby tissue. So a surgical option for removal of flabby tissue was recommended to patient to which she denied. Therefore planning was done to provide the patient with complete dentures on maxillary and mandibular arch with modified impression technique in upper arch. A window technique using mucostatic impression material i.e. dental plaster on the flabby ridge was considered for this case.

Primary impression made with irreversible hydrocolloid i.e. alginate using stock metal perforated tray. A cast was poured with dental stone and anterior flabby area was marked followed by fabrication of custom tray. A special custom tray was fabricated by providing window in a flabby region.(*Fig.3*) Border moulding was performed using green stick compound, followed by final impression made with zinc oxide eugenol (DPI impression paste) over healthy ridge.(*Fig.4*)

The impression was reseated on patient's mouth and thin viscous mix of dental plaster was painted directly over the tissue followed by a layer of gauze on top of it and continued until the layer became continuous with the surface of tray (*Fig5*). After the dental plaster was set it was removed from the patient's mouth. This way the mobile tissue over this area was recorded without compression.

Master cast was made and the denture was fabricated over the master cast with adequate relief given in the flabby tissue region with modelling wax. The denture was delivered to the patient (*Fig.6*).

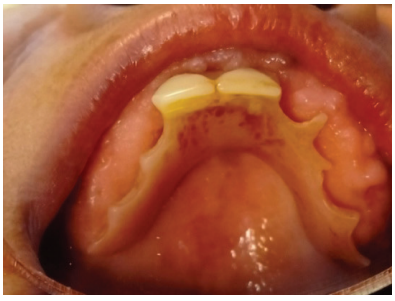

Figure 1

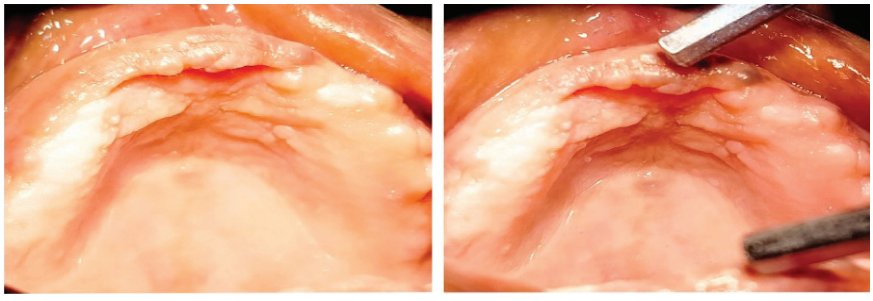

Figure 2

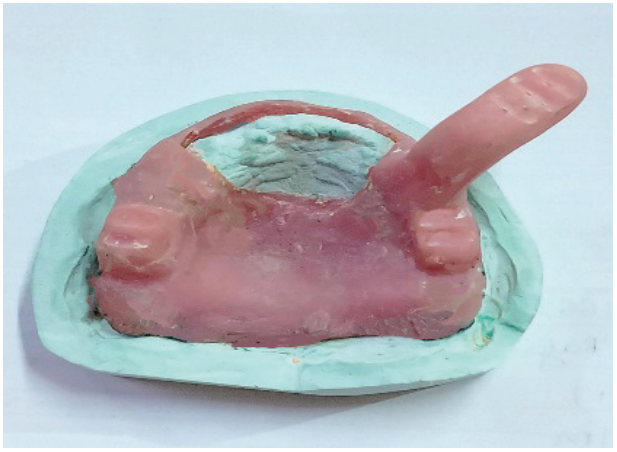

Figure 3

Figure 4

Figure 5

Figure 6

DISCUSSION

Surgical excision of flabby tissue is one of the treatment options. But, however, in majority of the cases it reduces the sulcus depth and arises a need of vestibuloplasty or ridge augmentation.[10] The surgical intervention in the form of fibrous tissue removal or placement of implant retained prosthesis causes their own disadvantages of medical condition of elderly patients, shallow ridge, treatment time, cost etc. A conventional prosthodontic solution may avoid problems associated with surgery.[11] Conservative management with modification in impression technique is a feasible and non-invasive option.[12] For these type of cases, a selective pressure or a minimally displacive impression technique should be chosen.[13]

This case reports highlights the use of mucostatic impression technique on the flabby ridge and conventional selective pressure technique on healthy denture bearing area. When flabby tissues are recorded with mucocompressive technique there might be good stability as tissue are compressed and are able to record the underlying contour but has poor retention because tissue rebounds and causes denture to raise at rest. Also recording tissue in mucocompressive technique might lead to residual ridge resorption. Thus this technique allows flabby tissues to be recorded in mucostatic technique as compared to healthy tissues which are recorded in selective pressure technique. The impression technique can be accomplished relatively quickly and this

technique uses the material which is readily available and cost effective as well.

CONCLUSION

Presence of highly displaceable denture bearing tissue presents a difficulty in complete denture fabrication; with modified impression techniques these ridges can be managed effectively by conventional prosthodontics without any additional clinical visits and additional costs.

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