

PROSTHETIC MANAGEMENT OF FLABBY RIDGE USING DIFFERENT IMPRESSION TECHNIQUES

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ABSTRACT

Flabby ridge is a common problem for edentulous maxilla. Here the hyperplastic fibrous tissue replaces the alveolar bone. This mobile tissue undergoes distortion by the force exerted during impression making can adversely affects the retention, stability and support of the prosthesis and the patient complains of looseness of the denture.

So for the management of this problem adequate measures have to be taken.

This paper presents three case reports for prosthodontic rehabilitation of patient with flabby ridge using different impression techniques.

KEY WORDS

Flabby ridge, Window technique, Perforated custom tray, Dual tray technique

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INTRODUCTION

The glossary of prosthodontics terms defines flabby tissue as excessive mobile tissue. It generally occurs when an edentulous ridge opposes remaining natural teeth. This is mostly seen in the anterior region of maxilla and is usually associated with the features of combination syndrome. With the loss of bone, a flabby hyperplastic connective tissue makes up the ridge. The flabby ridge provides insufficient support and stability to the prosthesis. Due to displacement of tissue leading to change in denture position which hamper the function and esthetics as well.¹ Therefore it becomes challenging for the prosthodontist to construct denture over flabby ridges. The occurrence rate of flabby ridge is 5% in mandible and it is upto 24% of the edentulous maxilla.² Main cause for occurrence of flabby ridge is old loose denture such as loose ill-fitting dentures as well as dentures with wrong centric relation and traumatic occlusion. So many treatment modalities are suggested for those cases include surgical excision of flabby tissue, implant-supported dentures or conventional prosthesis without surgical intervention.³

Impression is a challenge in flabby ridge as the hypermobile tissues are get displaced during impression making and return to their undistorted form at rest and making fit of prosthesis questionable. Which results in loss of retention, stability, support and gross occlusal disharmony of the prosthesis.⁴ So to achieve successful denture in such cases require the impression procedure to be done meticulously. Several impression techniques have been introduced to overcome this problems.

CASE REPORT 1

A 45 year old male patient came to our department with problem of maxillary fractured complete denture. On thorough oral examination it was revealed that patient had completely edentulous maxillary and mandibular arch and flabby ridge is present extending from premolar region from one side to another (Fig 1). It was planned to provide a new denture to the patient. Different treatment options were explained to the patient.

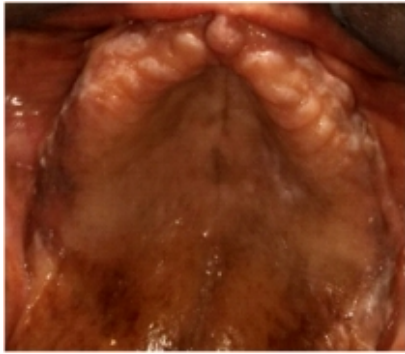


Fig :1- Edentulous maxillary arch



Fig:2- Window created in special tray



Fig:3 : Completed impression



Fig: 4- Final denture

Patient opted for conventional maxillary and mandibular complete denture without surgical intervention. A treatment plan of fabricating a maxillary complete denture with the modification in the impression technique to achieve minimum displacement of the denture during function and maximum retention and stability was decided. So, it was planned to use window impression technique (Zafarullah Khan technique). The steps which were followed are discussed below: Maxillary preliminary impression was made with irreversible hydrocolloid (DPI algitex, alginate impression material) to record the tissue in minimally displaced form. primary cast was fabricated with dental plaster. Extension of flabby area was marked in maxillary primary cast. Proper wax spacer was adapted such that there were four tissue stops to stabilize the tray in maxillary arch. Special tray was fabricated using auto-polymerizing acrylic resin (DPI-RR Cold Cure). Two posterior handles were made in the special tray. Window was created in special tray in flabby ridge area (Fig:2). This was done using round and fissure vulcanite bur. Special tray was trimmed 2 mm short from sulcus. Border moulding was performed with the help of low fusing impression compound (Dental Kerr impression compound). After that, spacer was removed and impression was made in zinc oxide eugenol impression paste (DPI Impression paste). Excess material over the window was cut-off with sharp blade and tray was placed in maxillary arch. Impression plaster was painted over the window using painting brush. The impression plaster was allowed to set(Fig: 3). After setting, impression was removed and separating medium was applied to the

plaster. After that beading, boxing and pouring of impression was done. Subsequently, conventional treatment procedures were followed to complete denture prosthesis (Fig-4)

CASE REPORT 2:

A 58 year aged female patient came to our department with difficulty in mastication. History revealed that patient had edentulous maxillary arch for 2 years and recently extracted her mandibular teeth. Intra oral examination revealed that patient had flabby tissue in maxillary arch extending from canine of one side to the other side (Fig:5). Different treatment options were given to the patient. Patient opted for conventional maxillary and mandibular complete denture without surgical intervention. It was planned to make impression by selective perforation tray. The following steps were followed:

Preliminary impression of maxillary arch was made with irreversible hydrocolloid (DPI algitex, alginate impression material) and the impression was poured with dental plaster. Flabby ridge area was marked in the cast. Modelling wax was adapted over the cast and one additional layer of wax was placed in flabby ridge area to provide extra relief (Fig:6). Special tray was fabricated using auto-polymerizing acrylic resin (DPI-RR Cold Cure). Special tray was trimmed 2 mm short from sulcus. Border moulding was performed with the help of low fusing impression compound (Dental Kerr impression compound). Wax spacer was removed and multiple holes were drilled



Fig:5- Edentulous maxillary arch

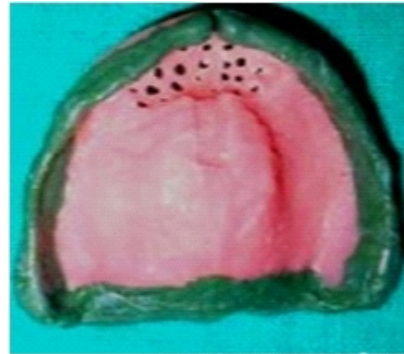


Fig:6 Perforated custom tray

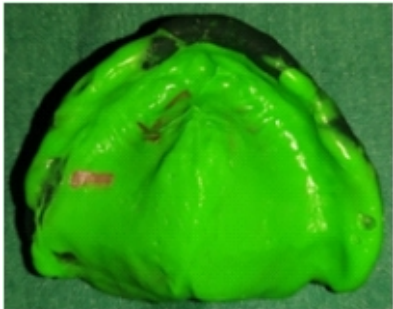


Fig: 7- Completed final impression



Fig:8- Completed denture

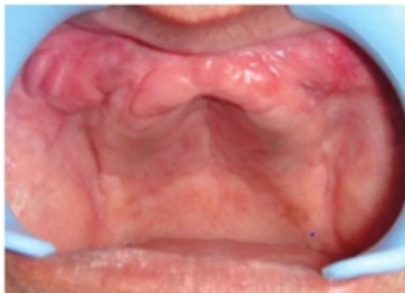


Fig:9- Edentulous maxillary arch



Fig:10- Spacer adapted on flabby tissue



Fig:11- Palatal tray fabricated



Fig:12- Second special tray placed over palatal tray

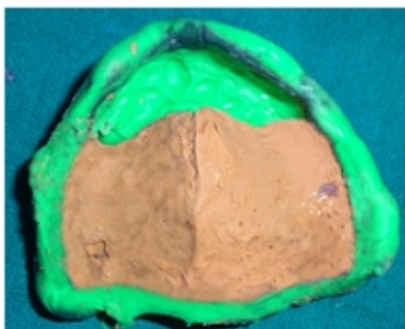


Fig:13: Completed impression



Fig:14: Patient wearing Complete denture

in special tray in the flabby ridge area (Fig:6). Tray adhesive(Extreme Tray Adhesive, Medicept Dental) was applied. A final impression was made using light body polyvinyl siloxane impression material (Aquasil Dentsply)(Fig:7). Subsequently, conventional treatment procedures were followed to complete denture prosthesis (Fig:8)

CASE REPORT 3

A 48 year old female patient came to our department with loose maxillary complete denture. On intraoral examination it was revealed that flabby ridge present in maxillary arch extending from one side of canine to other side of canine region (Fig:9). It was planned to make impression by dual tray technique (Osborne, 1964).

Preliminary impression of maxillary arch was made with irreversible hydrocolloid (DPI algitex, alginate impression material) and the impression was poured with dental plaster. Modelling wax was adapted as spacer over the cast (Fig:10). A palatal tray was fabricated using auto-polymerizing acrylic resin (DPI-RR Cold Cure) (Fig:11). A guidance rod was attached in the centre of palatal tray. A second special tray was fabricated using auto-polymerizing acrylic resin (DPI-RR Cold Cure). It covered the whole denture bearing area. A hole was made in the special tray and it was seated over the palatal tray(Fig:12). At first impression was made with palatal tray using zinc oxide eugenol impression paste. Once this was set, second special tray with light body polyvinyl siloxane impression material (Aquasil Dentsply) inserted and it was placed on palatal tray. The guidance rod guided the second special tray to seat in right direction. Then tray adhesive (Extreme Tray Adhesive, Medicept Dental)was applied and impression was taken and cast was poured (Fig:13). Subsequently, conventional treatment procedures were followed to complete denture prosthesis (Fig:14)

DISCUSSION

Treatment of flabby ridge can be done successfully with proper planning, either with prosthodontic approach alone or along with surgical procedure. But Surgical approach can not be done always if sufficient bone height is not present because it might reduce the sulcus depth which requires vestibuloplasty. However surgical procedures brought some complications and needs longer time to heal.⁵ So while managing it nonsurgically, the difficulty arises with conventional impression techniques used to record such flabby tissues which often results in nonretentive and unstable dentures. To avoid these problems several methods have been introduced in the literature for making proper impression of flabby ridge. Magnusson et al described a technique where two impression

materials are used in a custom tray, using zinc oxide and eugenol over the normal tissues and impression plaster over the flabby area.⁶ Crawford et al mentioned an impression technique where two trays are fabricated and impression is recorded with two different materials and is then oriented intra orally.⁷ Another impression technique was described by Osborne.⁸ Zafrulla Khan et al described the window technique of impression for flabby ridge management.⁹ These case reports discuss the different impression technique to minimally displace the flabby tissue and recording it in its undistorted form. This favours the health of oral tissues along with providing adequate retention, stability and support for the prosthesis.

CONCLUSION

Flabby tissue poses a difficult situation while rehabilitation of completely edentulous patients. Surgical excision and implant supported prosthesis may not be the most appropriate treatment option for many patients because of medical illness or high expense. So, if the nonsurgical plan is opted, incorporation of few modification in the impression technique can overcome the problems and flabby ridge can be treated effectively in the dental clinic.

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