"Case Report"
Modification on Window Technique in Full Edentulous Patient with Hyperplasia

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Abstract

Complete denture is often used by patients that have edentulism. However, a long-term denture wearers commonly showed the hyperplastic growth of tissue called hyperplasia. This condition will present some difficulties for impression and retention. A 77 year old male patient reported to the RSGM UMY with a loose-fitting denture. He has been using it for 10 years.

His old denture has suction cup on the palatal which no longer retentive and stable. The clinical examination showed the maxillary and mandibular complete edentulous ridge with flabby ridge area in the maxillary and mandibular anterior region. Patient is given treatment complete denture with acrylic resin material. In this case, window technique is used as the impression technique for a flabby ridge. Denture-induced hyperplasia is a condition of enlarged of fibrous tissue that could leads to poor denture retention, support, and stability. In the presence of hyperplasia, fabrication of as stable denture can be very arduous challenge. Special impression technique, like window technique frequently used on a case with flabby ridge. Window technique is a technique which use medium body impression material for the un-displaceable tissue whereas the flabby tissue impressed by using light body elastomer impression that must be freed from pressure. In patient with flabby ridge or hyperplasia due to denture, fabrication of impression need special technique like window technique which can be proven to ensure a final impression of the flabby ridge to improve denture stability, retention, support, and patient comfort.

Keywords: complete denture; hyperplasia; flabby ridge; window technique

INTRODUCTION

Edentulism is an edentulous condition or the loss of all the teeth in mouth(1). Edentulism is debilitating and irreversible condition and depicted as the last marker of disease for oral health(2).

Edentulism are caused by many factors with the main factors are microbes and genetics which could impact on individuals. Edentulism can also be caused by iatrogenic or traumatic factors. Low level of income and education, poor oral hygiene, and derivation of general health are correlated with the condition of full tooth loss(1). Edentulism can directly leading to impairment, functional limitations, physical, psychological and social disability, and handicap (2).

Using dentures over a long period of time oftenly showed hyperplastic growth of tissue or can be called as flabby ridge(3). Flabby ridge can be explained as a mobile soft tissue which is located on the superficial aspect of the alveolar ridge(4). The presence of flabby ridge can affect the success of dentures due to inadequate support making the dentures unstable(5).

Several methods can be used to manage edentulous cases with flabby ridge. Surgical method like removal of flabby ridge using scalpel can be done, however, using this method can lead to increasing the bulk of denture and eliminating stress absorbing soft tissue causing underlying tissue's trauma(4). To do surgical method, the health of the patient must be taken into consideration. Geriatric patients, who often experiencing edentulism, due to chronic medical conditions are contra-indicated for surgical procedures(6). Conventional method like special impression technique are more frequently used on cases like this.
Window tray technique used by making a custom tray with an opening in the flabby ridges area then the tray is filled using polyvinyl siloxane elastomeric impression material.(4).

This case report will discuss the use of window impression technique on patient with edentulous and gingival hyperplasia.

CASE REPORT

A 77 years old male patient-reported to the RSGM Universitas Muhammadiyah Yogyakarta with a complaint of uncomfortable denture on lower jaw and wanted to have new pair of dentures. He has been using his denture since 10 years ago. The denture felt uncomfortable because it was broken and get fixed by patient using hard glue. On the palatal side of the denture, suction cup were used.

The patient had his denture made by “tukang gigi”. He cleanses his denture by running it underwater at night before he sleep. Past medical history suggested patient are not on any routine medication nor hospitalized within the last 1 year. The parents of the patient are not suspected of having a history of systemic disease. Patient was moderately built, blood pressure and respiratory were under normal limits.

Intraoral examination revealed full edentulous on upper and lower jaw with antero-posterior ridge on maxilla high and low on mandibula. There are flabby ridges on the anterior region of the maxillary and mandibular arches with approximate 2cms wide and not painful when palpated. There is also well defined circular punched epithelial indentation measuring 2x2cms approximately resembling a suction cup. The diagnosis of this case is Full Edentulous and hyperplasia on anterior maxilla and mandibula.

CASE MANAGEMENT

The treatment plan was given new fabrication of denture using window technique for the flabby ridge. At the first visit, the study model was made by using irreversible hydrocolloid impression material, which is alginate, and using perforated stock tray no. 2 with muco-static technique and then the impression is filled by using type III gypsum stone. The cast then sent to the lab. On the cast, using indelible pencil, was marked on a flabby ridge area. Custom tray was made in the lab and fabricated using auto polymerizing resin.
On the second visit, a tray was tried on the patient to see the fitness so there is still space for the impression material placement. The tray was also checked in the mouth to verify if the flabby ridges are visible through the opening part. Border molding was done on individual custom tray by applying green compound wax around the edges. Using a medium body elastomer applied on the tray to impress the whole area while the window or the opening part are not inserted yet. Waited for several minutes, then apply light body elastomer on window part and using very gentle pressure on the flabby ridge area.

Rest all steps of complete denture fabrication were done according to the conventional procedure.

DISCUSSION

Flabby ridges, which can be described as “combination syndrome” can be found in patients wearing denture for a longer period of time, which also can make the denture to become unstable. To maintain the stability of denture can become quiet challenging because of the presence of fibrous hyperplastic “flabby ridges” (7). This excessive soft tissue can lead to poor denture retention, support, and stability (8). In several cases, pain can also be felt as the mucosa stressed and often gets in between the denture and spinous alveolar ridge (5).

Several managements of flabby tissue are presented. First is surgical removal of the tissue. This procedure can be challenging and extensive. In several studies, it is said that removal of the flabby ridge doesn’t make sure the stability and retention of the denture. Other consideration is geriatric patients which the health of patients must be confirmed good for surgery (6). Other conventional prosthodontics technique can be used, like using window impression technique.

A window impression technique was proposed to minimize the movement of flabby ridge during the impression making. Window was made on the tray over the flabby ridge and used impression plaster for the flabby ridge and zinc oxide eugenol
impression paste for the healthy denture bearing area(4). In this case, a light body elastomer is used for a flabby ridge, while using medium body elastomer for other areas. Selective pressure was used with this technique, to put very gentle to no pressure on flabby ridges. Using low viscosity impression material can record impression along with the peripheral seal and displaceable tissues(4). Using window techniques for flabby tissues is possibly the greatest way to make sure that there are very little to no pressure to impressed the flabby ridges area. The window technique has advantage of allowing the flabby tissue to recoil back to its position as it crucial to record flabby tissues in rest state, even if there is some pressure applied(8).

CONCLUSION
Flabby ridges or hyperplastic growth of tissues commonly happen in patients who use dentures for a long period of time. Several techniques have been presented, and window techniques can be one of the choices due to consideration of the treatment without invasive procedure and combining impression technique and balancing the occlusal load.

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The responsibility for the content and any remaining errors remains exclusively with the authors.

REFERENCES