INDIAN JOURNAL OF DENTAL ADVANCEMENTS
Journal homepage: www.nacd.in

CASE REPORT

Modified flange complete denture for labially inclined premaxilla

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Article Info
Received: March 11, 2010
Review Completed: March 20, 2010
Accepted: March 27, 2010
Available Online: August, 2010
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ABSTRACT:

This case report describes a non surgical treatment option for construction of complete denture in a patient with a labially inclined pre maxilla and an accompanying severe labial undercut causing excessive fullness on wearing complete denture. The labial flanges of the denture were modified in order to decrease the fullness on wearing dentures.

Key words: ***Modified labial flanges, labially inclined premaxilla, labial undercut***

INTRODUCTION

Fabrication of complete denture in patient can be a challenge when the intra oral or extra oral conditions are less than ideal. Some abnormal conditions that exists in the edentulous patient can be corrected surgically, prior to construction of dentures, to enable the patient to function more successfully following prosthetic restoration. Overall goals of reconstructive, preprosthetic surgery are to provide an environment for prosthesis that would restore function, be stable, aid retention, preserve associated structures and satisfy esthetics.[1]

However use of surgical aid is not always possible. The major obstacle for preprosthetic surgery is getting patients consent. Patient has to be made aware that the surgical procedure will be helpful for future denture wearing[2]. This is not always possible as many patient are not comfortable with idea of surgery. Patient selection has to be carefully done for surgical procedures and this should be done by keeping long term benefits in mind than short term benefits. The purpose of pre-prosthetic surgery is to restore or create conditions which permit the construction of a prosthesis fulfilling the specified requirements. It must be planned and performed in such a way as to leave the tissues in a suitable condition. Pre-prosthetic surgery is only of value if a better prosthesis can be constructed as a consequence.[3]

One such clinical condition which may pose a problem in denture insertion and may even affect the denture esthetics is a labially inclined pre maxilla and an accompanying severe labial undercut. Excessively prominent ridge is more commonly seen in maxilla than in mandible. Removal of the minimum amount of bone necessary to eliminate the undercut, while at the same time avoiding the loss of bony cortical plate can be done for such conditions in order to improve the environment for denture construction[3]. However alveoloplasty should be performed only when there is a definite indication for the procedure as this procedure affects the quantity of denture foundation and therefore denture stability[4]. It may result in a narrowed crest in alveolar ridge area leading to a less desirable area of support and an area that may resorb more rapidly.

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This case report gives a non surgical procedure to improve denture esthetics in a patient with labially inclined pre maxilla and an accompanying severe labial undercut resulting in excessive fullness of lips on wearing denture.

CASE REPORT

A 48 year old female patient reported to the Department of Prosthodontics, Goa Dental College & Hospital requesting fabrication of a set of new dentures. The patient had been edentulous for the past 5 years and had a set of complete denture made previously. The patient complained that the previous dentures were unesthetic as they made her mouth appear fuller. On extra oral examination patient had ovoid face, class 1 profile, normal muscle tone and normal lip length. Intra oral examination showed that patient had a U shaped arch with rounded crest. Patient had labially inclined pre maxilla and an accompanying severe labial undercut along with a class II labial frenum attachment.

Patient was not interested in any surgical procedure hence alveoloplasty followed by fabrication of new set of dentures had to be ruled out. Keeping patients demand into consideration it was decided to use a non-surgical treatment option of fabricating new set of denture with modified labial flanges. Since the primary concern of the patient was esthetics, it was decided to modify the labial flanges such that denture base in this area occupied only the border area and supported the teeth.

After recording the clinical findings and noting the patients expectations patient was explained the available treatment options. Patients previous dentures were used to perform border molding using low fusing compound and secondary impressions were made using zinc oxide eugenol impression paste(Dental product of India company). The secondary impressions were cast in dental stone. Due to presence of prominent labial undercut,care had to be taken during impression making procedures and the path of insertion had to be modified to allow easy placement and removal of impressions.

Autopolymerizing resin base plates were fabricated. For the maxillary rim the labial flange was trimmed and wax rims were made. Vertical and horizontal jaw relations were recorded. Since the patient was happy with the teeth shape size and color used in previous denture, similar teeth set was used. The teeth were set in accordance with esthetic guidelines and try-in was done.

While sealing the wax up, tin foil was incorporated in the area which had to be left open in the final denture. The foil was folded and was closely adapted to the cast.



FIGURE 1- tin foil placed in area to be kept open in denture

The denture was then invested and processed in conventional manner. After deflasking the denture, the tin foil was removed.

A window was hence formed on the labial aspect of the upper ridges in the area of prominence. At all other places the denture covered the underlying tissue similar to that by a conventional denture.



FIGURE 2- denture after processing.

Since there was no denture base in the area of prominence, the lips and the peri oral tissues were in direct contact with the ridge which reduced the fullness of mouth. The border areas were moulded in

close proximity to the oral tissues in order to attain retention and they were kept sufficiently thick such that they had adequate strength and at the same time they did not affect esthetics.

The denture was polished and tried for retention and stability in the patients mouth. Upper and lower complete denture were delivered after occlusal adjustments were done. Patient approved of the improved esthetics. Patient was recalled after 1 day, 1 week and 1 month. Patient did not complain of any significant post insertion problem with the new set of denture.



FIGURE 3- patient with new denture(frontal view)



FIGURE 4- patient with old denture (profile view)



FIGURE 5- patient with new denture (profile view)

DISCUSSION

In this case after clinical examination it was revealed that the major cause of unesthetic appearance is labially inclined premaxilla and the accompanying undercut. This led to excessive fullness on wearing the denture. Since the patient did not want any surgical procedure, modification of the labial flanges of the maxillary denture was contemplated. In the area devoid of denture base the perioral tissues came in direct contact with the mucosa reducing the fullness and improving esthetics.

CONCLUSION

Although preprosthetic surgery helps in recontouring the ridges to accept prosthesis in a better way they do have some limitations. Non surgical procedures should be utilised whenever feasible for construction of prosthesis as they are not only non invasive but may have better patient acceptance and provide satisfactory results.

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