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Case Report

FACIAL ESTHETICS IN COMPLETE DENTURE – A CASE REPORT

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ABSTRACT

Patient with completely edentulous maxillary and mandibular arches undergo many esthetic consequences among which sunken appearance of cheek has a great psychological effect. Prosthetic rehabilitation of such patients requires restoring the lost cheek support. This article describes various techniques that have been used in the past to fabricate cheek plumper and presents a case report in which an innovative, simple and effective method was used for the fabrication of detachable cheek plumper.

Keywords: Complete Denture, Esthetics cheek plumper, Die pin, Fabrication technique.

INTRODUCTION

Complete denture prosthetic replacement in present scenario no longer confines to the replacement of missing teeth. It includes facial esthetics also. Denture flanges if properly extended and contoured can help to achieve facial esthetics by supporting lips and cheeks. However, in cases of patients with hollow cheeks, extra support has to be provided. Cheeks due their extreme visibility are an important factor in determining facial esthetics. Slumped or hollow cheeks can add years to a person's age and can have a detrimental psychological effect on the patient.¹ In such cases, cheek plumper can be given.

Cheek plumper, also known as cheek lifting appliance, is a prosthesis for supporting and lifting the cheek to provide required support and esthetic that will increase the self esteem of the patient by providing a youthful appearance.² It can be used in patients who have excessive slumping of cheeks due to tooth loss.³ It is especially useful in young patients who have lost all their teeth and part of the maxillary bone as a result of traumatic injury.³

A cheek plumper can be of two types: detachable or undetachable. The undetachable or conventional cheek plumper is a single unit prosthesis with extensions on either side in the region of the polished buccal surfaces of the denture and are continuous with the rest of the denture. Detachable cheek plumper on the other hand is the prosthesis in which plumper part can be detached from the complete denture. This can be achieved by magnets or customized attachments.

The purpose of this article is to explain a simple and innovative technique of fabricating detachable cheek plumper prosthesis with the use of die pins.

CASE REPORT

A 55 year old male patient reported to the department of prosthodontics, DAV dental college, Yamunanagar with the chief complaint of missing teeth (Fig.1). On examination, patient had completely edentulous upper and lower arches. He was edentulous for past 2 years. Extraoral examination showed slumped cheeks. The patient was conscious about the slumped cheeks and desired a prosthesis which will make his face look fuller. Keeping patient's demand in mind, the treatment plan was formulated. It was decided to give the patient maxillary and mandibular complete dentures with detachable cheek plumper for the maxillary denture.

FABRICATION TECHNIQUE

1) Preliminary Impressions: The preliminary impression of the maxillary and mandibular arch was made in the conventional manner using impression compound

2) Secondary Impressions: The preliminary casts were obtained, over which special trays were fabricated using auto polymerizing resin (DPI Dental products), keeping them 2mm short of the sulcus. The border moulding was carried out conventionally using low fusing impression compound and the final impression was recorded with zinc-oxide eugenol impression paste.

3) Jaw Relations and teeth arrangement: Master cast was obtained on which denture bases were made. Occlusal rims were fabricated on the denture bases and maxillomandibular relations were recorded. Articulation was done followed by teeth arrangement.

4) Try In: For the try in appointment, waxed denture were first tried for occlusion and esthetics. Wax templates for cheek

plumper were attached to the maxillary denture in the distobuccal region and were adjusted accordingly to give patient a fuller appearance.

5) Acrylization: After taking patient consent, waxed plumper was separated from trial denture and acrylization of dentures and cheek plumper were done in conventional way. Finished and polished dentures were tried in the mouth.



Figure 1: Pre-operative extraoral view



Figure 2: Acrylized dentures

6) Procedure for attachment of cheek plumper: Two holes were made with a straight fissure bur on the buccal side of maxillary denture and corresponding inner side of the cheek plumper (Fig. 3). Die pin was made short according to the patient's requirement. Sleeve of the die pin was attached with the autopolymerizing resin on the holes made on the maxillary denture. On the corresponding cheek plumper part, die pin was inserted and attached with autopolymerizing resin (Fig. 4). Patient was instructed on the use of plumper and dentures were delivered after evaluating them for fit and esthetics (Fig. 5,6).



Figure 3: Maxillary denture with holes for attachments



Figure 4: Maxillary denture and cheek plumper with die pin attachments



Figure 5: Maxillary denture with cheek plumpers



Figure 6: Post-operative extraoral

DISCUSSION

A prosthodontist plays an important role in restoring the losses due to aging and loss of teeth, one of which is sunken or slumped cheeks which can make a person appear older. To correct the esthetic requirements in such cases, a cheek plumper prosthesis can be given which provides extra support to the denture and hence help in providing fuller appearance. The conventional cheek plumper design was the one which cannot be detached from the complete denture. such a design had various disadvantages like excessive weight which hampered the retention of the denture, interference with masseter muscle and the coronoid process of mandible by the buccal extensions resulting in destabilization of maxillary

denture especially during eating, muscle fatigue due to continuous use, difficulty in inserting the denture due to increased medio lateral width of the denture in the region of cheek plumper. Also, it cannot be used in patients with limited mouth opening or microstomia.

These flaws were removed by using a detachable plumper prosthesis where plumper can be detached easily from the denture. Magnets have been popularly used for this purpose. It has various advantages like small size and hence can be placed within the denture and the cheek plumper without being obtrusive to either. They produce strong attractive forces between plumper portion and buccal tissue surface of the denture, easy placement for both the dentist and the patient, automatic reseating, can be removed from mouth during eating or in case of muscle fatigue and provide constant amount of retentive force even with a number of insertion and removal cycles.

But magnets are costly, have poor corrosion resistance requiring encapsulation with relatively inert alloy such as stainless steel or titanium, have harmful effects on the health of the oral tissue due to magnetic field and loss of magnetic property over a period of time results in need of frequent replacement.

To overcome these disadvantages, customized attachments have also been made which can be of different types like ball end attachment attached to the plumper part that fits snugly in the concavity made in the corresponding denture part by means of soft liner. Resiliency of soft liner allows close approximation of the plumper with the denture and facilitates removal from the denture when required. But loss of resiliency over a period of time requires its replacement over a period of 6-8 months.

Customized attachments can also be casted using chrome cobalt alloy and then attached to the denture part. To get the snap fit, orthodontic separators can be placed in the concavities on the plumper part which will correspond to the attachments in the denture. But these attachments are not cost effective.

To combat the major demerits of the undetachable cheek plumper and the magnet retained cheek plumper, detachable cheek plumper with custom made attachment using die pins was used in this patient. This innovative technique of using die pins for attachment has various advantages like small size,

easy to insert in two separate portions, easy availability and cost effectiveness.

CONCLUSION

Treatment for edentulous patient should not just confine to replacement of missing teeth. A dentist should carefully understand and recognize the problems of edentulous patients and then accordingly select the course of required treatment. This case report describes a prosthetic aid to restore cheek fullness of the patient. A simple and cost effective method has been used to fabricate the prosthesis.

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