

ESTHETIC RECONSTRUCTION WITH CHEEK PLUMPERS: A CASE REPORT

*Eaketha P Lokesh, **Swapna C, ***Sheejith M

*Post graduate, ** Professor, ***Professor and HOD, Dept: of Prosthodontics, KMCT Dental College, Kozhikode,
| Corresponding Author: Dr. Eaketha P Lokesh, E-mail: eaktha.plokesh@gmail.com

<https://doi.org/10.55231/jpid.2022.v06.i01.05>

Abstract

Ageing and long span edentulism is associated with loss of teeth, alveolar ridge resorption, and loss of support and tonicity of facial muscles. This is a great concern in treating completely edentulous patients. Flaccid facial musculature eventually results in sunken cheeks and unesthetic appearance, causing a negative impact on psychological well-being of the patient. Prosthetic rehabilitation of completely edentulous patient with conventional complete denture doesnot confine to replacement of missing teeth, but may require additional support in some instances. The present clinical report exemplifies the use of non-detachable maxillary cheek plumper prosthesis in a completely edentulous patient with sunken cheeks.

Keywords: Cheek Plumpers, Non-Detachable, Lost-Salt Technique

INTRODUCTION

Denture esthetics produced by dental prosthesis affects the delicacy and attractiveness of an individual. Facial esthetics play a major role in an individual's psychosocial and professional life. The loss of oral structures affects the appearance of face by changing the contour of jaw bones, soft tissues & surrounding orofacial musculature. As age progresses, the loss of subcutaneous fat

& elasticity of the tissues causes the cheeks to become slumped.¹ This result in hollowed-out, sunken appearance & exaggeration of wrinkles because of tissue laxity².

When missing teeth is replaced, it is necessary to restore the facial contours. A properly extended and contoured denture flange can adequately support the overlying lips and cheeks. But sometimes, the denture flange doesnot provide adequate support to the facial musculature & requires additional support³.

Cheek plumpers are prosthesis used to enhance the support of sunken cheeks providing better esthetics. Earlier, it was used for improving aesthetics & psychosocial profile of patients affected with Bell's palsy⁴. It can be fabricated either as conventional or detachable type. Conventional cheek plumper is single unit prosthesis with extensions on either side, near the premolar-molar region that supports the cheek. But this design has many drawbacks¹. The external contour of the cheek plumper is not contoured to function in harmony with muscular activity in the region of its incorporation. This leads to frequent dislodgement of denture during speech. It may interfere with masseter muscle and coronoid process of the mandible. Moreover, patients with limited mouth opening have difficulty in insertion and removal of dentures as additional thickness hinders it. The detachable cheek plumper is a separate unit from

the denture, thus facilitating easy insertion and removal of the prosthesis. These plumpers can be made easily detachable by using various attachments such as press button, magnets, orthowires or buccal tubes. These can be also casted using Ni-Cr alloy as a key-keyway attachment⁴. Because of their detachability, they are easy to insert, remove and clean¹. This case report illustrates plumping of cheek of an edentulous patient with hollow cheek plumpers.

CASE REPORT

A 60 year old male patient reported to the department of prosthodontics, KMCT Dental College, Kozhikode, India for replacing his missing teeth over upper and lower arches (Figure 1). On intraoral examination, the patient had completely edentulous maxillary and mandibular arches. He

had lost all his teeth following a fall from tree 20 years back. Blackish pigmentations were present over the labial and buccal oral mucosa. The ridge was high, well rounded in the maxillary arch and low, well rounded in the mandibular arch with sufficient interarch space.

Extraoral findings revealed flaccidity of facial muscles, wrinkling of skin resulting in sunken and slumped cheeks. Patient was hypertensive and was under medication for past 10 years. Patient was a heavy smoker for past 40 years, who used to smoke atleast one packet of cigarettes a day. The patient was seeking an improvement in his facial appearance, therefore the treatment plan formulated was a conventional complete denture with non-detachable hollow cheek plumper.

Preliminary impressions were made with irrevers-

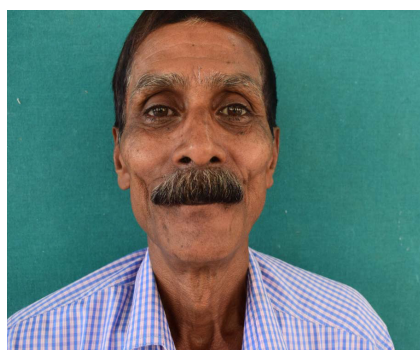


Figure 1: Preliminary photograph



Figure 2: Modelling wax contoured along the buccal flanges of premolars and molars



Figure 3: Maxillary complete denture with cheek plumpers inserted for acrylizing using lost salt technique



Figure 4: Acrylized maxillary complete denture with non-detachable cheek plumpers



Figure 5: postoperative photograph of patient

ible hydrocolloid and border molding was done with modelling plastic impression material. Definitive impressions were made using zinc oxide eugenol impression paste. Jaw relation was recorded, and the teeth arrangement was evaluated. Wax patterns for cheek plumpers were fabricated during the clinical evaluation stage.

A roll of softened modelling wax was adapted over the buccal flanges of the maxillary denture on either side in the premolar-molar region (Figure 2). The adapted wax was evaluated extraorally for adequacy of cheek support and contour. This was later modified to ensure that they did not cause occlusal interferences, instability of dentures, or unnecessary tensing of facial muscles.

The dentures with cheek plumpers were fabricated using heat polymerized acrylic resin. Dewaxing was carried out and lost salt technique was used during packing stage for fabrication of hollow cheek plumpers (Figure 3). After processing, holes were drilled into the denture base distal to the most posterior teeth to assist removal of salt. The holes were sealed with autopolymerizing resin. The denture was immersed in water to check the seal of autopolymerizing resin. If no bubbles are evident, an adequate seal is confirmed. The final polished denture with cheek plumper (Figure 4) was inserted and any occlusal adjustments and plumper contouring was done. The patient was given post insertion instructions and was motivated to make efforts to learn to adapt to the new denture with cheek plumpers (Figure 5). Within four to six weeks, the patient expressed satisfaction in phonetics and mastication.

DISCUSSION

Detachable cheek plumpers were claimed easy to insert, remove and clean. They can be made detachable using magnets (made of Neodymium-iron-boron alloy), Ni-Cr or Co-Cr alloy. Magnets have poor corrosion resistance and can lose their magnetic properties over time. The nickel content

in Ni-Cr alloy may be allergenic to some individuals. The press stud fasteners can break, if not properly handled. The orthodontic wires can bend with repeated usage. Elderly patients who need assistance might not easily seat a cheek plumper to a complete denture. Also conventional cheek plumpers can increase the weight of the prosthesis, causing muscle fatigue and denture instability. In such situations, a hollow cheek plumper is a better treatment option.

However, cheek plumpers have certain drawbacks, such as food accumulation, patient discomfort due to extra mediolateral extension. The maxillary cheek plumper may not adequately provide fullness of cheeks or muscle draping. In such situations, the insertion of Mandibular cheek plumpers need to be planned.

CONCLUSION

Cheek plumpers are straight forward to fabricate and provide a non-invasive and cost-effective treatment option for the improvement of facial appearance with sunken cheeks. This treatment helps improve esthetics and psychological well-being of patients.

REFERENCES

1. Bhushan P, Aras MA, Coutinho I, Rajagopal P, Mysore AR, Kumar S. Customized Cheek Plumper with Friction Lock Attachment for a Completely Edentulous Patient to Enhance Esthetics: A Clinical Report. *J Prosthodont.* 2019 Jan;28(1):e1-e5.
2. Viridiya NM, Palaskar JN, Wankhade J, Joshi N. Detachable cheek plumpers with different attachments for improving esthetics in a conventional complete denture: A clinical report. *J Prosthet Dent.* 2017 May;117(5):592-596.
3. Fernandes A, Correia M, Pinto N. Prosthesis for cheek support-a case report. *J Indian Prosthodont Soc.* 2002;2(4):19-20.
4. Pudi S, Kota S, K V G Ch K, Kaladi SR, Gade RR. An Innovative Technique Using a Stainless Steel Double Die Pin Retained Cheek Plumper in Complete Denture Esthetics: A Case Report. *Cureus.* 2019 Nov 19;11(11).