



CHEEK PLUMPER: GIVING HOLLOW CHEEK THE FULLNESS BACK

Dental Science

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ABSTRACT

Esthetics play a crucial role in a person's personal as well as social life. Due to increase in age various facial changes take place which include fat atrophy mainly in the cheek and temporal regions. Sometimes partial or complete loss of teeth accompany these changes enhancing their unaesthetic value. Young edentulous patients suffer from psychological trauma of edentulism more if sunken or hollowed cheeks accompany this condition. To rehabilitate such patients who cannot afford quick treatments like cheek augmentation through dermal fillers, cheek plumpers can be used to enhance the esthetics provided by the complete dentures. The following article presents the fabrication of complete maxillary denture with detachable cheek plumpers.

KEYWORDS

INTRODUCTION:

'A beautiful face is a silent commendation.' Esthetics play an important role in a person's personal as well as professional life. But as age increases fat atrophy sets in, involving the flattening or hollowing of formerly full cheeks. Also, loss of teeth leads to impairment of masticatory function and facial disfigurement having a psychological impact on the individual [1]. Fat atrophy in edentulous persons often appears very obvious when it appears as hollowness in the cheeks. Cheek augmentation or malar augmentation with dermal fillers is a quick treatment that restores height, definition and fullness to the cheek area. Dermal fillers are injected at varying depths to plump the cheek area and restore natural volume and fullness instantly. This being an invasive technique is not considered as a treatment option by old patients. Also due to the higher cost of the dermal fillers patients do not opt for this treatment.

Rehabilitating an edentulous patient with dentures may result in increased confidence and social interactions due to positive esthetic changes [2]. It is also important that the prosthesis not only replaces the teeth but also restores the lost facial contours. Sometimes the flanges of the dentures do not increase the fullness of the cheek sufficiently. This calls for certain changes in the dentures given to the patient which includes the fabrication of maxillary denture with conventional or detachable cheek plumpers. A conventional cheek plumper involves the extension of denture base material in the premolar and molar region to support the cheeks. But this adds to the weight of the denture making detachable cheek plumpers more preferable than conventional.

This clinical report illustrates the fabrication and use of a detachable cheek plumper prosthesis attached to the maxillary denture with press stud fasteners or push buttons in a completely edentulous patient with hollow cheeks.

CASE REPORT

A 33-year old female patient reported to Government Dental College and Hospital, Aurangabad with the chief complaint of missing teeth and sunken cheeks. On examination, the patient had completely edentulous upper and lower arches. She was edentulous for over a period of 3 years and had two sets of previous dentures. She desired a denture which would enhance her appearance while also eliminating the sunken cheek appearance and make her look healthier and younger. Keeping the desires of the patient in mind we decided to rehabilitate her with upper and lower complete dentures with detachable cheek plumpers.

Impressions of the maxillary and mandibular residual ridges were made using impression compound. Custom trays were fabricated using autopolymerising acrylic resin and border molding was done using low fusing impression compound. Final impressions were made with zinc oxide eugenol impression material. Jaw relations were recorded

and it was seen that the maxillary wax rim failed to provide the necessary support for the sunken cheeks. Anterior try in was performed. For the complete try-in appointment, waxed dentures were first tried for occlusion and esthetics. Cheek plumpers made in modeling wax were then attached to the maxillary denture.(Fig.1)

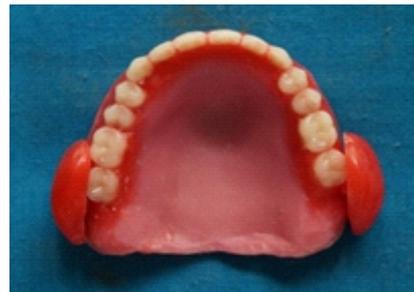


Fig. 1 : Waxed cheek plumpers attached to maxillary denture for try-in

They were evaluated to give the patient a fuller appearance, adequacy of cheek support and contour. The cheek plumpers were modified not to cause occlusal interference, instability of dentures, or unnecessary stretching of facial muscles. After having marked the final positions of the cheek plumpers on the maxillary denture, the waxed plumpers were separated from the waxed denture following the try-in procedure. Processing of the dentures and cheek plumpers was performed separately in a conventional manner. Female portions of the press stud fasteners were incorporated in the processed cheek plumpers while the male portions were attached to the maxillary denture in the predetermined position. (Fig. 2)



Fig. 2 : Cheek plumpers to be attached using press stud fasteners

At the time of denture insertion the patient was instructed regarding proper use of the detachable plumpers after having verified adequate

clearance of the cheek plumpers from the occlusal table. The patient was satisfied with the esthetics provided by this new set of dentures. She was recalled after one week for regular follow-up evaluations.



Fig.3: Patient satisfied with the esthetics and function of the denture. A: Pre-insertion, B: post-insertion frontal view

DISCUSSION:

The state of edentulism represents compromise in the integrity of the masticatory system accompanied by adverse functional and cosmetic consequences.[3] Along with an increase in age, the support provided by the subcutaneous fat in the cheeks also decreases causing a sunken cheek appearance. With the loss of posterior teeth, the cheeks tend to collapse and move medially to meet the laterally expanding tongue [4]. Loss of vertical dimension due to edentulism further alters the contours of the cheek.

Complete denture prosthesis should help in supporting the slumped tissue. Conventional methods include increasing thickness of flange of maxillary and mandibular denture such that vestibular fornix is filled with appropriate facial contours or arranging second row of teeth for esthetic reasons has been reported in the literature [1]. Lazzari described the fabrication of a maxillary removable partial denture for a patient with unilateral facial paralysis. Design included an open loop of eight gauge half round wire attached in the area of first bicuspid, which elevated and supported the upper lip and corner of the mouth. The loop was covered with clear acrylic resin [5]. Larsen et al advocated fabrication of maxillary removable partial denture framework with a retentive mesh in the bicuspid region reinforced with autopolymerising resin to obtain desirable contours on evaluation of speech and esthetics.[6]

These conventional cheek plumpers with buccal extension could cause interference with the functions of the masseter muscle and the coronoid process of the mandible and hence can destabilize the maxillary denture especially during mastication [1].

Magnets are also used due to their small compact size and strong attractive forces. Some of the advantages of magnets include easy cleaning, easy placement for both the dentist and the patient, automatic reseating, simplicity of the clinical and laboratory procedures, and constant retentive force with the consecutive number of insertion and removal cycles.[7] Certain studies have discussed the use of press stud fasteners [8-13] and magnets [8-11] to aid in retention of detachable cheek plumpers.

Clinicians must choose the appropriate attachment according to the thickness and height of the denture flange and keeping in mind the dexterity of the patient.

Although cheek plumpers have a few drawbacks, including the accumulation of food, patient discomfort resulting from the additional weight and bulk of the dentures, the requirement of manual dexterity of patients to ensure accurate attachment, and the susceptibility of magnetic attachments, if used, to corrosion and loss of magnetism and of the press stud fasteners to breakage [9-10] their esthetic benefits far outweigh the drawbacks. A periodic patient recall is therefore necessary to assess and, when required, replace the attachments.

SUMMARY:

Acceptable denture esthetics can be achieved by proper positioning of teeth for lip support, and by providing additional support to the slumped tissues. The use of press stud fasteners in the present case report is an easy and feasible option for conventional method of adding bulk to the denture flanges. Press stud fasteners are easy to use, readily available and are cost effective. Incorporating such attachments in detachable cheek plumpers will not only increase their retention but also can be easily replaced in cases of any damage to the attachments.

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