



DETACHABLE CHEEK PLUMPERS -:AN INNOVATIVE APPROACH FOR REHABILITATING SMILES

Dental Science

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ABSTRACT

Slumped or hollow cheeks can add years to a person's age. A conventional cheek plumper prosthesis is a single unit prosthesis with extension near premolar-molar region which support the cheek. Major flaw of this design being increased weight of the prosthesis. Also the mesiodistal width may hinder placement especially in microstomia cases. Detachable plumper prosthesis is thus more beneficial.

KEYWORDS

Introduction

Denture esthetics plays a vital role in achieving desirable beauty, attractiveness, character, and dignity of an individual. Proper support and positioning of the facial musculature, especially the orbicularis oris muscle, contribute attractiveness greatly to the "cosmetic effect."

General appearance of the lower half of the face is determined by the contour of the jaw bones, underlying teeth, and the soft tissues and muscles surrounding the teeth. Edentulousness is often associated with loss of teeth, resorbed alveolar ridge, reduced muscle tonicity, and hollow cheeks.² Cheek plumpers have been described for improving esthetics and the psychological profile of patients with maxillofacial defects and facial paralysis.^{1,4}

A conventional type of cheek plumper is a single-unit prosthesis with an extension near the premolar molar region that supports the cheeks. Such devices are an integral part of the contour of maxillary denture flanges designed by overcontouring denture flanges in the mediolateral and anteroposterior directions within physiologic limits. However, the increased weight and bulk of conventional cheek plumpers make their insertion challenging and also hampers the retention of maxillary complete dentures. Moreover, they cannot be used in patients with limited mouth opening because the additional thickness might hinder the insertion and/or removal of the dentures.^{2,3}

Apart from conventional cheek plumper, it can be fabricated using various attachment systems like magnets, press button, or a customized ball attachments. This clinical report describes a simple accurate and cost effective technique, eliminating the use of self cure acrylic for attaching press buttons which always results in inaccuracies while fabricating detachable cheek plumpers

CASE REPORT

A 48 year old female patient reported to dept of prosthodontics requesting replacement of missing teeth. On examination patient had completely edentulous maxillary and mandibular dentures. Patient had a very high aesthetic demand and was unsatisfied with the existing denture which was fabricated six months back. So that an alternative treatment plan was formulated, keeping patient's demands in mind. It was decided to fabricate maxillary complete dentures with detachable cheek plumpers and a conventional complete denture on mandibular arch.

Maxillary and mandibular impressions were made using impression compound (aslate) Custom trays were made using autopolymerising acrylic resin. Border molding was done using low fusing impression compound (Aslate, Asian Acrylates, Mumbai) and wash impressions were made with light body addition silicone impression material (Aquasil, Dentsply/caulk).

Jaw relations were recorded.

Try in of the waxed denture was done to evaluate occlusion and esthetics. After that cheek plumper made in wax and were attached to the maxillary denture and were evaluated to give patient a more fuller appearance.

A putty index of the waxed plumper was made before separated from the waxed denture. Waxed plumper was removed once the putty index sets.

Press button attachments were planned as a cost effective alternative. The most difficult aspect of its fabrication was its orientation of attachments in proper position. Any error in this step results in the improper fit of the final acrylic plumper.

Male component of the press button was attached to the wax plumper which was held inside the putty index and acrylization was done. Evaluated the proper adaptation of wax plumper to trial denture after removing excess wax from the denture flange area. Proper trimming of denture base required if any misfit noticed

An aluminium foil was placed on the attachment surface of the acrylized cheek plumper and female counterpart was attached on to it. The whole component was tried on trial denture base to ensure proper fit. The whole unit including acrylized plumper aluminium foil and attached female component was positioned on trial denture base. Margins were sealed slightly and acrylized.



Wax plumper attached after try in and Putty index of wax plumper made



Dewaxing and acrylization of cheek plumper



Aluminium foil was placed over the attachment surface of acrylized plumper and female counterpart was attached on to it. The whole component was tried on trial denture base to ensure proper fit

**Final prosthesis**

Pre and post operative view of the patient

DISCUSSION

Fabrication of cheek plumper prosthesis is technique sensitive, any errors may result in the misfit of the plumper prosthesis especially during fixation of press button on to the wax plumper and also during selfcuring of corresponding attachments on to the denture flange. Detachable prosthesis enabled the patient to remove the plumpers and use the denture if required. Earlier magnets were used to retain plumper prosthesis but they exhibit poor corrosion resistance and loss of magnetic effect over a period of time.³ So that a detachable plumper prosthesis retained with press button attachment was planned as a cost effective alternative to reduce weight of the final prosthesis and to allow ease in placement of the prosthesis.

CONCLUSION

This article describes a simple, accurate, retentive and noninvasive treatment alternative to improve facial appearance in a patient with hollow cheeks. An effort was made to improve patient's appearance by providing better support to the cheeks. This innovative technique eliminates the need of self cure acrylic resin for attaching press buttons which always results in inaccuracies.

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