

## Management of Hollow Cheeks with Undetachable Hollow Cheek plumper: A Case Report

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### Abstract

Emphasis on facial esthetics has become an integral part of dental treatment. Prosthetic rehabilitation of a completely edentulous patient no longer confines to only replacement of missing teeth. Patients are increasingly demanding improvement in esthetics at the end of treatment. Slumped or hollow cheeks can add years to a person's age. This article has described a simple, effective and noninvasive treatment alternative to improve facial appearance in a completely edentulous patient with hollow cheeks by making use of undetachable hollow cheek plumper prosthesis.

**Key words:** Cheek plumper, prosthesis, edentulous patient, prosthetic rehabilitation.

### Introduction

In today's world esthetics play a very important role in a person's professional and social life. Cheeks due to their extreme visibility play an important role in determining facial esthetics. Form of cheeks is determined by the support provided by internal structures teeth, ridges or dentures. Extraction of molars, tissue thinning due to aging, or weight loss can cause concavities below the malar bone or hollow cheeks.<sup>1</sup>

Complete denture treatment includes not only the replacement of missing teeth but also the restoration of facial appearance.

Conventional complete dentures with appropriate flange extensions and well positioned teeth adequately support the

overlying lips and cheeks. However, in individuals with marked resorption of the alveolar process, conventional dentures fail to provide adequate support; necessitating additional support for the cheeks.<sup>2</sup> This can be done using cheek plumper or cheek lifting appliances. Cheek lifting appliances have been used previously to improve aesthetics and psychological profile in patients. Use of plumper prosthesis in maxillofacial prosthodontics is also well documented.<sup>3,4</sup>

Also 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.<sup>5</sup>

Cheek plumper can be of two types:

1. Undetachable / Conventional Cheek Plumper
2. Detachable cheek plumper.<sup>6</sup>

The present paper exemplifies case report of undetachable cheek plumper with fulfilling the limitation.

Facial esthetics is an integral part of dental treatment. Edentulous patient are increasingly demanding improvement in esthetics at the end of treatment. Slumped or hollow cheeks can add years to a person's age. This article has described a simple, effective and non-invasive treatment alternative to improve facial appearance in a completely edentulous patient with hollow cheeks by making use of undetachable plumper prosthesis

### **Case Report:**

A 72-year old completely edentulous male patient reported to the Department of Prosthodontics with the chief complains of difficulty in chewing due to missing teeth and poor aesthetics. It was noticed that patient was socially demoralized due to loss of teeth and poor aesthetics because of sunken cheeks (Figure 1).



Fig.1 Pre operative view of patient with shrunken cheeks

History revealed that patient was edentulous since last 4 years and has not worn denture since then.



Fig. 2 Try-In of cheek plumper using impression compound

Extra-oral examination revealed that patient had poor aesthetics, unsupported oral musculature leading to sunken cheeks. Intra-oral examination revealed that ridges were well defined in both maxillary and mandibular arch and diagnosed with According to ACP Classification: Class II Completely Edentulous maxillary and

Mandibular edentulous arch with Sunken [Hollow] Cheeks.

All the steps for conventional complete denture were completed till Try-In stage (Figure 2). At the Try-In stage, the template for cheek plumper was fabricated with the help of impression compound. Impression compound was molded and placed over the maxillary right and left buccal flange of the denture base. Border movements were done so that the compound is well adapted. Movements were repeated till the cheeks gained required fullness (Figure 3 and 4).

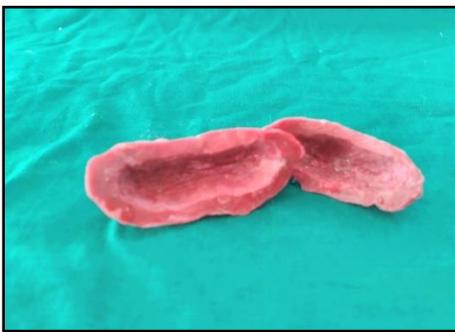


Fig.3: Detachable cheek plumper from Trial denture and scrapped from inner surface to make it hollow



Fig. 4 Trial Denture with trial Cheek plumper



Fig.5: First pour → conventional technique

Now, the cheek plumper made of impression compound were separated from waxed up denture bases. The indentations were marked on trial waxed up denture for future attachment of cheek plumper templates. Cheek plumper templates were scrapped from inner surface with help of Bard Parker blade to make it hollow. Denture flasking and dewaxing procedures were finished separately for the final denture and cheek plumpers with heat-polymerizing acrylic material and curing procedures were completed. After curing, the cured final prosthesis and plumpers were retrieved. Trimming, finishing, and polishing procedures were performed (Figure 5 and 6).



Fig.6: Acrylization of hollow cheek plumper



Fig. 7 Final complete denture attached with hollow cheek plumper

The acrylised cheek plumper templates are attached to final maxillary complete denture using self-cure acrylic resin material. Care should be taken that self – cure acrylic resin material do not flow inside the hollow cavity of cheek plumper. The patient was given common post-insertion instructions and was encouraged to make efforts to learn to adapt to the new dentures and hollow cheek plumper. Within a week, the patient expressed satisfaction in mastication, phonetics and esthetics. The undetachable hollow cheek plumper did not compromise the retention form and weight of maxillary complete denture (Figure 7,8 and 9).



Fig.8: Post operative view with undetachable hollow cheek plumper



Fig. 9 Insertion of final complete denture with hollow undetachable cheek plumper

### Discussion

In today's world denture esthetics is not confined only to selection of the teeth based on factors like form, shape, color, arrangement and sex. Instead, it is more about harmonization between the artificial and natural tissues.<sup>7,8</sup> Loss of teeth in posterior region results in loss of cheek support due to which cheek tend to move medially to meet laterally expanding tongue. Also, loss of the teeth in anterior region leads to changes in cheek contour as a result of loss of vertical dimension of occlusion. The apparent loss of subcutaneous fat, buccal pad of fat and elasticity of connective tissue also produces the slumped cheeks, seen in aged.<sup>9</sup>

Rectifications of drooping of cheeks can be done by different methods like

reconstructive plastic surgery, injecting the botulinum toxin (BOTOX) in the facial muscles and different type of prosthesis.<sup>10,11,12</sup>

Conventional cheek plumpers present major limitations in terms of retention and stability in patients with maxillary dentures due to their increased size and weight.<sup>13</sup>In the present case report undetachable cheek plumper prosthesis was planned to reduce weight of the final prosthesis by making them hollow. Perhaps, fulfilling the limitation of cheek plumper – undetachable hollow cheek plumper was not increased in weight that hamper retention of the maxillary complete denture.

### **Conclusion**

The ability of the dentist to understand and recognize the problems of edentulous patients, to select the proper course of treatment required and reassure them is of great clinical importance. This case report describes a simple and economic prosthetic aid that not only offers esthetics but also improves the psychological and functional profile of the patient.

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### **Conflicts of Interest**

There are no conflicts of interest.

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