

TECHNIQUE TO IMPROVE COMPLETE DENTURE AESTHETICS USING CHEEK PLUMPER APPLIANCE: A CASE REPORT

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ABSTRACT

Aesthetics plays an important role in complete denture treatment. Prosthetic rehabilitation of a completely edentulous patient no longer confines to only the replacement of missing teeth. Nowadays patients are too demanding for improvement in esthetics at the completion of treatment. The loss of support of the facial musculature is of great concern in treating completely edentulous patients. Sunken cheeks are one of the major consequences of flaccid facial musculature. Natural teeth should be preserved but at the same time, clinician must be aware of the edentulous ridge that could be destroyed by forces exerted on the denture during function. Further, it has a greater impact on the aesthetics as well as the psychology of the patient. Cheek plumper appliances can restore such facial delinquencies. The underlying principle for providing this appliance is that some patients have depressed cheeks and require extra support for improved facial aesthetics. Literature has well evidenced the extensive usage of magnets as attachments, but it has been shown that magnets lose their magnetic property over a period leading to failure of treatment. However, push buttons that were used in the cheek plumpers seems to increase the durability of the cheek plumper appliances. This clinical report describes a simple technique to improve support for sunken cheeks using detachable acrylic cheek plumper.

Keywords: Cheek Plumpers, Facial Esthetics, Sunken Cheeks, Pre fabricated attachment.

J Ind Dent Assoc Kochi 2020;2(1):39-42.

INTRODUCTION

As the world becomes more image conscious, people are increasingly on the lookout for ways and means of enhancing their natural beauty. It is important for a dentist to consider the whole face in totality when trying to work on dental aesthetics. External facial features like eyes, nose, cheeks, lips and facial musculature due to their extreme visibility are an important factor in determining facial aesthetics¹.

Ageing leads to the high impact on external facial aesthetics due to early tooth loss, alveolar resorption and reduced tonicity of musculature. The key to aesthetic replacement to all these losses is to support and harmonize the collapsed lower third of the face with the upper part with the help of various treatment modalities².

At times denture flange do provide support to the peri-oral muscles but fails to mimic the fullness of the cheeks. Cheek plumper or cheek lifting appliance is essentially a prosthesis that support and lift the cheek to provide necessary support and esthetic³. A conventional cheek plumper prosthesis is a single unit prosthesis with extension near premolar–molar region which support the cheek. Cheek plumpers or cheek lifting appliances have been used previously for the purpose of improving psychological profile in patients. Cheek plumper can be of two types :

1. Undetachable / Conventional Cheek Plumper
2. Detachable cheek plumper

Undetachable cheek plumper has some limitations like increased weight which could hamper retention of the maxillary complete denture and makes it difficult to insert. Moreover, long-term use can lead to muscle fatigue, and also it cannot be used in patients with limited mouth opening⁴.

Slumping or sagging of cheeks can increase person's age in appearance and hence have a negative effect on the self confidence of the patient. This clinical report focuses on to improve facial aesthetics of completely edentulous patients with sunken cheeks with the help of detachable cheek plumper.

CASE REPORT

A 40 year old patient reported to the department of prosthodontics with the complain of 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. History revealed that patient was edentulous since last 1 year and has not worn denture since then.

Extra-oral examination revealed that patient had poor aesthetics, unsupported oral musculature leading to sunken cheeks. Intra-oral examination revealed that ridges were low well rounded in both maxillary and mandibular arch. Maxillary and mandibular diagnostic impressions were made with impression compound. Maxillary and mandibular arch final impression was made using selective pressure impression procedure using green stick compound for peripheral molding and impression with zinc oxide eugenol. Vertical jaw relation was established and tentative jaw relation was recorded ,tentative centric was verified using extra oral tracers. Balanced occlusal scheme was developed using a balancing ramps (figure1). For the try in appointment waxed denture were first tried for 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. The waxed plumper was separated from the waxed denture. Prefabricated attachments were waxed in the complete denture in place of the plumper prosthesis.

Acrylisation was done in conventional way. Upper denture was acrylised with the attachments placed on the buccal surface of denture. The finished and polished dentures were tried in the mouth. The waxed plumper prosthesis was repositioned over the attachment and required corrections were done (figure2). Wax pattern of plumper was invested and acrylised. Patient was instructed on the use of plumpers and dentures were delivered after evaluating them for fit and esthetics (figure 3a, 3b). Recall appointment were scheduled after 1 day, 1 month and every 6 months.



Figure 1:
Bilateral balanced occlusion obtained using balancing ramps

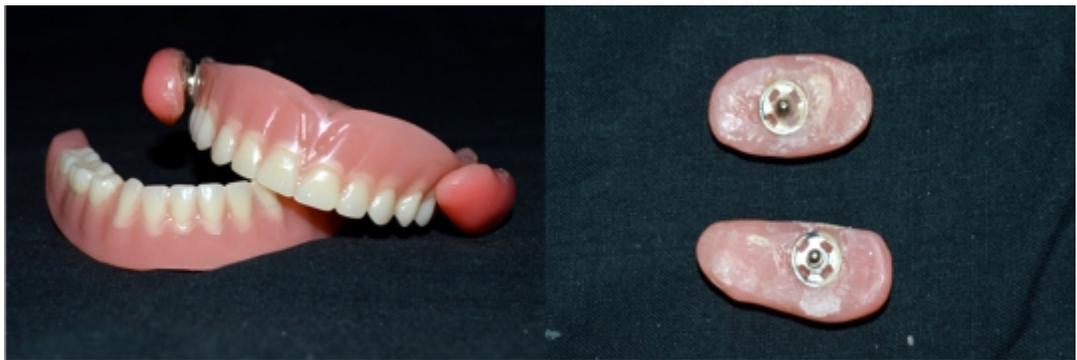


Figure 2:
Maxillary Complete denture fabricated with detachable cheek plumpers attached using prefabricated attachment



Figure 3a: Pre treatment (frontal view)

Figure 3b: Post treatment (frontal view)

DISCUSSION

The area available for the cheek plumper is not static and therefore requires knowledge of anatomy and physiology of the area for fabrication of a successful and functional prosthesis. The cheeks are supported from three aspects, the zygoma above, the mandible below, and the parotid gland overlying the masseter muscle posteriorly⁵. Additional support is provided by the subcutaneous fat and the buccal fat pad. This support is responsible for the soft, rounded contours of the cheeks in the lower third of the face⁵. The anterior part of the cheek is supported by the muscular framework converging into the modioli, and posterior support is provided by the posterior teeth and their supporting structures⁵.

In order to mimic the fullness of the cheeks, a cheek plumper is often used and known as the cheek lifting appliance. It is variously cited in literature for providing support to the cheek wherever and whenever deficient^{6,7}. This prosthesis is basically for supporting and plumping the cheek to provide a youthful appearance. It is especially useful in young patients who have lost all their teeth and part of the maxillary bone as a result of a traumatic injury. Its use in Maxillofacial Prosthodontics is well documented^{6,7}. However it can also be used in patients who have an unusually excessive slumping of the cheeks as a result of teeth loss.

A Conventional cheek plumper would be a part of the complete maxillary denture prosthesis forming 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^{6,7,8}. The retentive mechanism used for the cheek plumper was a friction lock attachment. It does not contain any metal components, can be fabricated easily in the laboratory, does not require any extra or specialized equipment, and is cost effective. Further research is needed to establish its serviceable lifespan⁹.

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 profile of the patient.

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