

A Technique to Improve Complete Denture Esthetics using Cheek Plumpers: A Case Report

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Abstract:

Esthetics play an important role in completely edentulous patients along with function and speech. The loss of facial muscle tonicity is of great concern in treating completely edentulous patients. Sunken cheek is a major consequence of flaccid facial musculature and this can make a person appear older than his chronological age. This case report describes a simple and non-invasive method to re-establish the sunken cheeks utilizing cheek plumper which is added to a conventional complete denture.

Key Word: Cheek Plumper; Esthetics; Complete Denture.

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I. Introduction

A complete denture is a prosthesis which helps in restoring the lost teeth and alveolar process of a patient. The prosthodontist has a major role in restoring the lost teeth, alveolar process and tonicity of muscles.¹ Both the function and facial esthetics of a completely edentulous patient has to be restored by a prosthodontist. Due to extreme visibility, cheeks are an important part of facial esthetics. In a dentulous patient, the cheeks are supported by the teeth and alveolar ridges. The loss of teeth and thinning of soft tissues due to aging or weight loss may lead to the hollowing of cheeks.² The sunken appearance of cheeks can increase the patient's age in appearance and have a negative impact in the psychosocial life of the patient.³ The completely edentulous patients with sunken cheeks need an extra support to the denture to restore facial support. The cheek plumper is a prosthesis which along with the denture mimic the fullness of cheeks. This case report focuses on improving the facial esthetics in a completely edentulous patient by using an undetachable cheek plumper.

II. Case report

A 57-year-old female patient with completely edentulous maxillary and mandibular arches, reported to St. Gregorios Dental College, Kothamangalam, Kerala. On intraoral examination, completely edentulous maxillary and mandibular arches which were ovoid in shape and exhibited order 5 and order 6 respectively were noticed (Fig.1). On extraoral examination, loss of muscle tonicity and skin tone and sunken cheeks were noticed. She had lost her teeth over a period of 5 years because of periodontal diseases and was edentulous for the past 4 years. She had psychological stress due to her increased age appearance and was leading an isolated life. A treatment plan was formulated and it was decided to rehabilitate the completely edentulous arches with maxillary and mandibular complete denture along with a cheek plumper attached to maxillary complete denture.



Fig.1: Completely edentulous maxillary and mandibular arches

Preliminary impression of maxillary and mandibular arches was made using impression compound material (Aslate, Asian Acrylates, Mumbai). Custom trays were fabricated using autopolymerising acrylic resin. Border moulding was done using low fusing impression compound (DPI, Pinnacle tracing sticks, Mumbai) and secondary impression were made using zinc oxide eugenol impression paste (DPI Impression paste, Mumbai). Jaw relations were recorded and teeth arrangement was evaluated. A roll of softened wax was adapted over the middle third region of the labial and buccal flanges of maxillary denture without interfering the teeth arranged and the borders obtained during border moulding and secondary impression. The softened wax was extended to the labial flange as well to provide a slight plumping effect for the lip (Fig.2).



Fig.2: Trial denture with wax patterns for cheek plumper

The waxed denture showed improved esthetics and provided sufficient support for the cheek. Flasking and dewaxing of the waxed denture was done. The mold space was packed with heat-polymerizing acrylic material (DPI, Mumbai, India) and curing procedures were performed according to the manufacturer's instructions. The final denture was finished and polished (Fig.3 and Fig.4)



Fig.3: The definitive complete denture prosthesis



Fig.4: Maxillary complete denture with undetachable cheek plumper

The patient was recalled for regular checkups for evaluating any soreness or looseness of denture.



Fig.5: Preoperative and Postoperative photographs

III. Discussion

Hollow or sunken cheeks can be either a result of normal physiologic process (edentulism) or pathological conditions like hemihypertrophy, Bell's palsy, burn scar, maxillofacial surgery, damage to marginal branch of facial nerve.^{4,5} Restoring external form of the lips and cheeks is an integral part of the dental treatment. Cheek lifting prosthesis is used as an adjunct to the artificial dentures to support the slumped or unsupported cheeks to improve facial esthetics. These are not visible during speech and should be comfortable for the patient to justify its purpose. These prostheses can be incorporated either as fixed or removable attachment and can be attached either to maxillary or mandibular denture as per the requirement of the case without compromising retention and esthetics.^{6,7} If attached to mandibular denture, the prosthesis will move during functional movements. This can cause discomfort to the patient and also compromise the retention of lower denture.⁸ Based on such clinical parameters, planning a cheek plumper for maxillary denture is always advantageous over mandibular denture. Various attachments have been described in literature for the removable plumper with their merits and demerits.^{9,10,11} This article has shown a relatively simple, inexpensive and effective clinical technique where an undetachable cheek plumper was added to a retentive maxillary denture and a conventional mandibular complete denture was fabricated. The advantages of this design are ease of use, patient comfort, absence of gap between the prosthesis and denture and minimal chances of food lodgment. The final prosthesis improved function, comfort and also enhanced the appearance and psychosocial health of the patient.

IV. Conclusion

This case report describes a very simple method to restore the facial contours and function in a completely edentulous patient by using cheek plumpers. Within limitations, this prosthesis reestablishes the esthetics and improves the social well-being of the patient.

References

- [1]. Martone AL. Effects of complete dentures on facial esthetics. *J Prosthet Dent.* 1964 Apr; 14:231-55.
- [2]. Bains JW, Elia JP. The role of facial skeletal augmentation and dental restoration in facial rejuvenation. *Aesthetic Plast Surg.* 1994 Summer; 18(3):243-6.
- [3]. Suryakant Chagan Deogade; Magnet retained cheek plumper in complete denture esthetics: a case report. *Journal of Dentistry, Tehran University of Medical Sciences, Tehran, Iran* (2014; Vol. 11, No. 1)
- [4]. Steven J. Larsen, John F. Carter, Hratch A. Abrahamian. Prosthetic support for unilateral facial paralysis. *J Prosthet Dent* 1976; 35:192-201.
- [5]. Hitoshi M, Chiaki K, Takashi O, Hisashi T. Lip plumper prosthesis for a patient with a marginal mandibulectomy: a clinical report. *J Prosthet Dent* 2004; 92(1):23-26.
- [6]. Fernandes A, Correia M, Pinto N. Prosthesis for cheek support—a case report. *J Indian Prosthodont Soc* 2002; 2(4):19-20.
- [7]. Navitha Verma, Vidya Chitre, Meena Aras. Enhancing appearance in complete dentures using magnet retained cheek plumpers. *J Indian Prosthodont Soc* 2004; 4:35-38.
- [8]. Riley MA, Walmsley AD, Harris IR. Magnets in prosthetic dentistry. *J Prosthet Dent* 2001; 86:137-142.
- [9]. Keni NN, Aras MA, Chitre V. Customised attachments retained cheek plumper prosthesis: a case report. *J Indian Prosthodont Soc.* 2012; 12: 198-200
- [10]. Kamakshi V, Anehosur GV, Nadiger RK. Magnet retained cheek plumper to enhance denture esthetics: case reports. *J Indian Prosthodont Soc*, 2013; 13: 378-81.
- [11]. Shah RJ, Chaturvedi AT, Prajapati HG, Malek FG, Darji BJ, Katayyan PA. Enhancement of patient aesthetics using detachable cheek plumpers in complete dentures: case series. *Sch J Med Case Rep* 2014; 2:615-7.

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