

# Improving the Appearance of a Person's Face with Sunken Cheeks using a Removable Magnetic Cheek Plumper with Bilateral Balanced Occlusion: A Case Report

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**Abstract:-** Aesthetics have a crucial significance in both persons social and personal life. The focus on facial aesthetics has evolved in recent years due to its crucial component in dental care. A patient who is entirely edentulous can now receive prosthetic therapy that goes beyond just replacing the lost teeth. A persons age might be extended through sunken cheeks to aesthetic cheeks by a prosthodontist through a prosthetic reconstruction. The use of a magnetic detachable cheek plumper is to enhance facial look on a patient who is entirely edentulous and has hollow cheeks. In this case report a magnetic detachable cheek plumper has been given to the patient with a bilateral balanced occlusion.

**Keywords:-** Prosthetic Reconstruction, Edentulous Patient, Bilateral Balanced Occlusion, Sunken Cheeks, Magnetic Detachable Cheek Plumper.

## I. INTRODUCTION

Facial aesthetics plays a crucial role in one's social and professional life as they are visible. Cheekbones are a major factor in facial aesthetics.<sup>[1]</sup> The support given by intraoral structures such as teeth, ridges, or dentures determines the shape of the cheeks. Hollow cheeks or concavities behind the malar bone are a result after molar extraction, aging-related tissue weakening and weight loss <sup>[2]</sup>. Ageing affects facial aesthetics, muscle tonicity and skin elasticity to disappear and causes impaired muscle functions <sup>[3]</sup>. In addition to replacing lost teeth, complete denture therapy involves restoring the facial aesthetics. The lips and cheeks that are overlaid by conventional full dentures provides suitable support. A bilateral balanced occlusion provides comfort to the patient, protects the tissues and improves retention. Standard conventional dentures are unable to offer sufficient support in those with significant resorption of the alveolar process and requires extra support for the cheeks. <sup>[4]</sup>A cheek plumper is a prosthesis that can boost a patient's confidence in addition to improving appearance and supports the cheek from the premolar to the molar area.

The present article illustrates a case report of detachable magnetic cheek plumper with bilateral balanced occlusion.

## II. CASE REPORT

A 64 years old completely edentulous male patient reported to the Department of Prosthodontics with the chief complaint of difficulty in chewing with sunken cheeks due to missing teeth and poor aesthetics. The patient was very conscious about his appearance and desired a prosthesis which would make his face look fuller and healthier. It was noticed that patient was socially demoralized due to loss of teeth and poor aesthetics because of sunken cheeks. The past dental history revealed that the patient was edentulous since last 5 years and has not worn denture since then. Extra-oral examination revealed that patient had unsupported oral musculature leading to sunken cheeks (Figure 1). Intra-oral examination revealed that ridges were well defined in both maxillary and mandibular arches (Figure 2). Keeping the patients demand in mind, fabrication of maxillary and mandibular complete dentures with intraoral detachable magnetic attachments, were planned.

The steps of fabrication were carried out with patients consent. Primary impressions of maxillary and mandibular arches were made using alginate impression material (Neoalgin; Orikam Healthcare India Pvt. Ltd.) and custom trays were fabricated using auto polymerizing acrylic resin.

Border moulding was done using green stick compound, and definitive impressions were made using zinc oxide eugenol paste (Figure 3). Jaw relations were recorded. Face bow record was done with spring bow and gothic arch tracing was done (Figure 4,5). Teeth setting followed by try-in was done to check for occlusion, esthetics, and phonetics (Figure 6). Significant change in facial esthetics was seen after attaching cheek plumpers and was readily accepted by the patient. The wax cheek plumpers were detached from denture flange area (Figure 7). The denture and cheek plumpers both were cured and after inserting the complete denture, plumpers were attached to the maxillary denture with magnetic attachments and adequate clearance from the occlusal table was verified. The magnetic cheek plumpers (neodymium close-field magnets) were then attached by self cured auto polymerizing resin to avoid any foodlodgment (Figure 8 & 9). Patient showed a significant aesthetic difference and a great satisfaction with the result (Figure10,11)

### III. DISCUSSION

In the traditional denture, a cheek plumper was added to enhance the voluminous look of the cheek and facial muscles.<sup>[6]</sup>

The benefit of a detachable cheek plumper is that it can be removed if its prolonged use causes muscular strain to the patient. Patients who open their mouth less often could be benefited from these detachable cheek plumpers. To lessen the strain on the muscles and for its user friendly nature, neodymium close-field magnets were used for its fabrication.<sup>[7]</sup> Detachable cheek plumpers also makes the denture placement and removal simple and easy, however it shows poor corrosion resistance and has a gradual loss of magnetic property with increasing time duration. One of the limitation associated with fabricating a single-piece denture with cheek plumper is that it might be challenging to install and remove in patients who have restricted mouth opening.<sup>[5,8]</sup>



Fig 1: Straight Profile of the Edentulous Patient



(a)



(b)

Fig 2: Maxillary (a) and Mandibular (b) edentulous arches Showing Sunken Cheeks



Fig 3: Border Moulding of Maxillary and Mandibular Arches



Fig 4: Face Bow Transfer



(a)



(b)

Fig 5: Gothic Arch Tracing (a) Arrow End on the Tracer (b) Centric Relation for Balanced Occlusion



Fig 6: Tryin Done



Fig 8: Magnetic Attachments on the Denture and Plumper



Fig 7: Cheek Plumper Attachment



Fig 9: Removable Attachment Cheek Plumper on



Fig 10: Denture Insertion Done the Denture



Fig 11: Pictures of Pre (a) and Post (b) Denture insertion with cheek plumper

#### IV. CONCLUSION

One of the most difficult task a prosthodontist usually face is to raise someones depressed cheeks to improve their appearance. The greatest clinical benefits that has been demonstrated by the dentists is the capacity to comprehend and identify the issues of a edentulous patients face and to choose the appropriate course of treatment for the reconstruction. Improving the aesthetics of a patient who is in need, helps the patient to receive psychological support in addition to increase his/her chewing efficiency.

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