

Magnet Retained Cheek Plumper Prosthesis for Edentulous Patient: A Case Report

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ABSTRACT

Esthetics is a crucial factor which affects the social and physical well-being of the patient. As age advances, many changes occur in the face which includes loss of muscular tonicity and fat. These changes along with the loss of teeth intensify the sunken cheek appearance. This leads to facial disfigurement which may have a psychological impact on individuals, especially young edentulous patients. To rehabilitate such patients, cheek plumpers can be used along with complete dentures to improve the esthetics. The following case report describes the fabrication of a complete denture with magnetic cheek plumper.

Keywords: Cheek plumper; sunken cheeks; magnets

INTRODUCTION

Complete loss of teeth in older individuals results in facial disfigurement and impaired masticatory function. This gives an appearance of exaggerated nose and sunken cheeks which has a psychological impact on the patient. Conventional complete dentures support the lips and cheeks but are not sufficient in cases where there is thinning of tissues and increased muscle tonicity. Restoring support to the cheeks in such patients provides a positive esthetic change and boosts their confidence. In order to support the sunken cheeks, extra support should be provided in the buccal flange area. The conventional method of adding denture base resin material increases the weight of the prosthesis. In order to solve this problem, detachable cheek plumpers are used nowadays. The following case report

describes the fabrication of a complete denture with cheek plumper attached using magnets.

CASE REPORT

A 70 year old male patient reported to Government Dental College, Thiruvananthapuram with the chief complaint of missing teeth and sunken cheeks. On clinical examination, the patient had completely edentulous upper and lower arches and extra oral findings of wrinkled skin and decreased muscle tone resulting in sunken cheeks (Figure 1). He desired a denture which would improve his facial appearance. Conventional complete denture and detachable cheek plumpers for maxillary denture, was planned for this patient.

Primary impressions of upper and lower arches were made using impression

compound (DPI Pinnacle, The Bombay Burmah Trading Corporation Limited, Mumbai, India). Autopolymerizing acrylic resin was used for making the custom trays. Border molding was done using low fusing impression compound (DPI Pinnacle, The Bombay Burmah Trading Corporation Limited, Mumbai, India) and wash impression was made with zinc oxide eugenol dental impression paste (DPI Pvt Ltd). Jaw relations were recorded. In the next appointment, the waxed denture was evaluated first for esthetics and occlusion. In the same appointment, cheek plumpers were made in wax and were attached to the upper waxed-up denture using magnets. Magnets are easy to place, facilitate cleaning, automatically reseats due to the powerful magnetic force and are available in small dimensions. Magnets were attached to the cheek plumpers and the buccal flange of the maxillary denture. The appearance of the patient was evaluated for the fullness of the cheeks. An improvement in facial appearance was observed in the patient with the cheek plumper. Patient was satisfied with his appearance. The waxed plumper along with the magnet was separated from the waxed-up denture with the magnets counterparts. The borders of the magnet were demarcated from the wax so as to facilitate repositioning of the magnet after dewaxing. Subsequently, flasking and dewaxing procedures were completed separately for the final prosthesis and cheek plumpers. The mold space was packed with heat-polymerizing acrylic material (DPI, Mumbai, India) and curing procedures were performed according to the manufacturer's instructions. After deflasking, the cured final prosthesis and plumpers were retrieved. Trimming, finishing, and polishing procedures were performed. First, the plumper was attached to the prosthesis outside the mouth to check the fit. The final prosthesis with the cheek plumpers were verified in the patient's mouth for comfort, function and esthetics. The patient was trained to position the plumper to the

prosthesis. The patient was recalled every 3 months to evaluate the prosthesis.



Figure 1: Before treatment



Figure 2: Try in with cheek plumpers in place



Figure 3: Complete denture with detachable cheek plumper



Figure 4: After dewaxing of cheek plumper

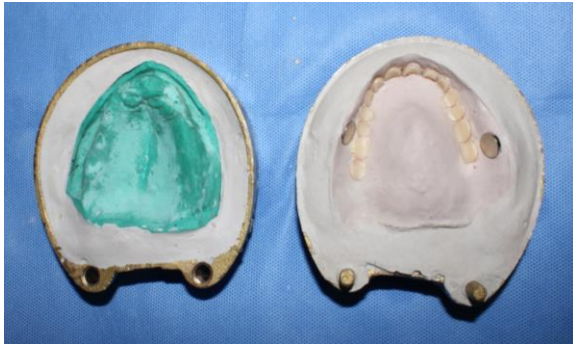


Figure 5: After dewaxing of maxillary denture



Figure 6: Complete denture with cheek plumper inside the mouth



Figure 7: After treatment

DISCUSSION

As age advances, there is a drastic change in tissue atrophy, exaggeration of folds and creases of face which affects the facial esthetics. It leads to sunken cheek appearance in individuals with loss of maxillary and mandibular teeth along with loss of muscular tonicity and fat ⁽¹⁾. The cheek plumpers were fabricated to restore the fullness of cheeks and improve facial form of the patient.

Conventional cheek plumpers were fabricated by adding bulk to the maxillary

dentures which led to poor retention and stability due to increased weight. Due to these limitations, detachable cheek plumpers have become active. It reduces the weight of the prosthesis and helps in easy insertion and removal of the same. If the patient wants, they can use the denture alone without the plumper attached to it.

There are different ways of fabricating detachable cheek plumpers. Push buttons or press stud ⁽²⁾, double dowel pins ⁽³⁾, friction locks ⁽⁴⁾, and customized Co-Cr attachments ⁽⁵⁾ and magnets can be used to fabricate detachable plumpers. However, these attachments have their own limitations.

In this article, magnets are attached to the dentures to facilitate easy removal and reduce bulkiness of the denture. They are used due to their small compact size and strong attractive forces. They are easy to clean, can be placed easily by the patient and dentist, gets automatically reseated and consists of simple laboratory procedures. But they have certain drawbacks such as decreased corrosion resistance and loss of magnetic property over a period of time.

CONCLUSION

Incorporation of magnets to cheek plumpers was a simple and non-invasive treatment modality for sunken cheeks to enhance the facial esthetics of a patient. An alternative option such as magnets was tried to improve the patient's facial appearance. The magnet retained cheek plumper prosthesis successfully restored the contour of the cheek, improved the esthetics and psychological well-being of the patient. Magnetic retention for hollow cheek patients is advantageous due to its small compact size and strong attractive forces; however, over a period of time the magnets used intraorally require replacement due to lack of long-term durability in oral conditions.

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