

Magnetic Cheek Plumpers : A Step Ahead In Esthetics - A Clinical Report

Abstract

An Edentulous patient reporting to his dental treatment is a common occurrence these days. The loss of support of the facial musculature is of great concern to the patient and carries a good social stigma. This clinical report focuses on proper support of the slumped oral musculature and cheeks in particular by incorporating cheek plumper and also demonstrates how denture esthetics can be achieved. The templates for cheek plumper was made by use of magnets placed in maxillary and mandibular buccal flanges.

Key Words

Magnetic, Plumpers, Esthetics, musculature, mandibular

Introduction

The word esthetics is derived from the greek word "AISTHETIKOS" meaning perceptive. It pertains to the sense of beautiful or the science which deduces from nature and taste, the rules and principles of art^[1]. The term dental esthetic's was coined in the year 1750 which is a blend of knowledge to give beauty ,in contrast to science of logic for truth^[2]. Complete denture esthetics is defined as the effect produced by a dental prosthesis that affects the beauty and attractiveness of the person^[3].

Denture esthetics starts with the very first step as one of the objectives of impression making. Due to ageing a dentist has to handle a whole lot of losses-loss of teeth ,residual alveolar ridge ,tonicity of muscles etc. the key to all these losses is to support and harmonize the collapsed lower third of the face with the upper part with various treatment modalities present at the hands of the prosthodontist.

- 1) Conventional Dentures
- 2) Unconventional Dentures

Case Report

A 55 yr old completely edentulous patient reported to the department of prosthetics with the history of ill fitting denture ,for complete denture prosthesis. His prior concern for the denture was for mastication but in addition he also insisted on improving his esthetics. On examination one of the major finding was poor esthetics, unsupported musculature and slumped cheeks. the ridge was low well rounded in maxillary arch while in the mandibular arch was a depressed

ridged form(Fig 1).

On intraoral examination suction disk mark was observed in anterior maxilla leading to edematous and flabby tissue in surrounding areas. The old dentures revealed compromised retention and stability due to underextended borders ,severe occlusal wear was observed leading to free way space of 4-5 mm. Patient was advised to stop wearing his old denture, gum massage and oral physiotherapy was advised.

The treatment was planned according to the condition of the present maxillary and mandibular ridges. Different impression techniques and materials were used to get the maximum retention and stability of the dentures.

Procedure:

Primary impressions of both the maxillary and mandibular ridges were made with a viscous mixture of two varieties of softened impression compound (3 parts impression compound + 7 parts greenstick compound) [McCord's Technique]^[4]. (Fig 2) The impressions were washed and

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Fig 1 : Preoperative Photograph



Fig 3 A) : Without Cheek Plumpers

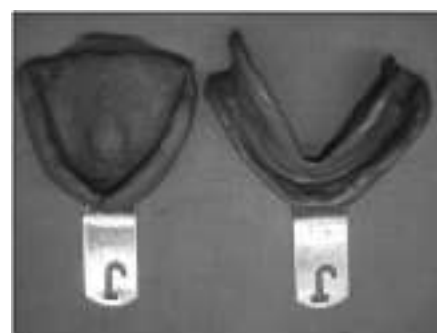


Fig 2 : Preliminary Impression



Fig 3 B) : With Cheek Plumpers



Fig 4 : Try In



Fig 5 : Trial Denture



Fig 6 : Flasking



Fig 7 : Finished Prosthesis

poured with the dental plaster. For the maxillary and mandibular ridge, border molding and secondary impressions were made with the conventional method. The jaw relations were recorded. Face Bow transfer and jaw relations were then verified. Articulation was done and teeth were arranged. At the try in stage, cheek plumpers were made in wax as separate portions on the buccal surface of the denture^[5],19]. **(Fig 3,4).**

- They were superficially attached to the buccal surfaces on the right and left side and tried in the mouth to determine the amount of desired cheek support for comfort, function and esthetics.
- Corresponding to this buccal extension, hollowed cavities were made on the buccal surface of the denture on the right and side approximately in the cervical region of molars. As clinical magnets were beyond the affordability of the patient, a decision was made to use stereo/radio magnets that are known for their powerful magnetic



Fig 8 : Post Operative

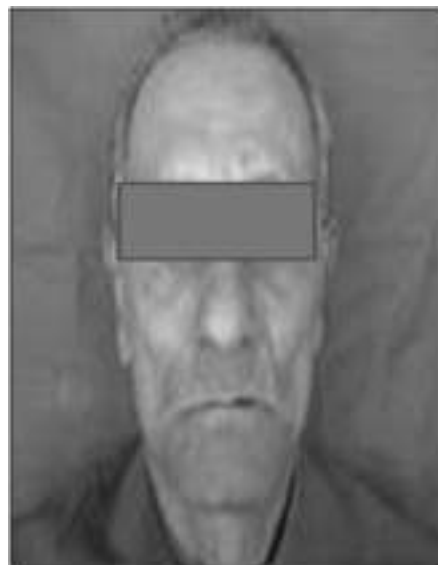


Fig 9 : Without Dentures



Fig 10 : With Dentures And Cheek Plumpers



Fig 11 : With Only Dentures

attraction.

- The disadvantages like higher chances of corrosion and gradual loss of magnetic properties were explained to the patient. The maxillary and mandibular trial dentures were waxed up, flaked and dewaxed.
- The heat cure acrylic resin is packed by taking care not to dislodge the magnets **(Fig 5,6,7,8)**. Patient was satisfied with the new dentures. **(Fig 9,10,11)**.

Discussion

Cheek plumper, also known as the cheek lifting appliance is basically a prosthesis for supporting and plumping the cheek to provide necessary support. A conventional cheek plumper is a 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^{[5],[6]}. Demerits are, due to its excessive weight, could hamper retention of the maxillary complete denture. It can result in muscle fatigue. It can destabilize the maxillary denture. It could interfere with masseter muscle and the coronoid process of the mandible. It is difficult to insert the denture due to its excessive mediolateral width. It can't be used in patients with limited mouth opening. Ageing causes tissue atrophy, folds and creases of face become exaggerated which is due to loss of support by the alveolar bone and teeth in particular leading to collapse of lower third of face. There is deepening of nasolabial fold, drooping of corner of mouth, loss of vermilion border, depression of lips with exaggerated wrinkling^{[7],[9],[11]}. Cheek contour change as a result of vertical dimension of occlusion due to anterior teeth loss. Loss of subcutaneous fat and elasticity of connective tissue produce the slumped cheeks, seen in aged. For plumping of cheeks and to eliminate the tedious work of minor correction of modeling wax, cotton rolls can be placed in distosuperior and distoinferior aspect of maxillary denture bases respectively^[8]. These cotton templates which are readily available in every dental practice are used as guidelines for adding modeling wax in the buccal vestibule to act as cheek plumper. Distosuperior and distoinferior aspects does not affect the retention as it was not overfilled and to prevent dislodging of denture due to gravity they were made hollow^[9].

Magnet Retained Cheek Plumpers

Magnets have generated great interest within dentistry, and their applications are numerous. The reason for their popularity is related to their small size and strong attractive forces^{[4],[7],[8],[12]}.

Advantages

smaller in size, easy to place within the dentures and the cheek plumpers, produces strong attractive forces, convenient to insert as two separate portions. easily detachable, no excessive muscle fatigue, easy to clean, easy to reseat

Disadvantages

poor corrosion resistance, harmful effects of magnetic field, loss of magnetic property over a period of time, requires frequent replacement.^{[12],[13]}

Conclusion

The dentist's ability to understand and recognize the problems of edentulous patients, to select the proper course of required treatment and reassure them has proven to be greatest clinical value. This new prosthetic aid not only provides esthetics but also improves the psychological profile of the patient.

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