Case Report

JRAD Journal of Research and Advancement in Dentistry

J Res Adv Dent 2016;5:3s:19-21.

Economical Method of Making Customized Attachments Retained Cheek Plumper Prosthesis: A Case Report

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ABSTRACT

Background: Complete Denture is an artificial appliance which restores natural functions and esthetics caused by loss of natural teeth. Customized attachment retained cheek plumper help to enhance facial appearance by supporting the sunken cheeks. This article reports an innovative technique of plumping the cheeks using cheek-plumper which are attached to the conventional complete denture, using conventional ball attachments and orthodontic elastic separators.

Keywords: Complete Denture; Cheek Plumbers; Esthetics.

INTRODUCTION

Complete Denture is an artificial appliance which restores all the lost natural teeth in an edentulous mouth and restores the mastication, phonetics and esthetics. The first objective of complete denture prosthesis is mastication(1,2). Second objective is restoration of the esthetics, concerned with the artistic phase of the prosthesis. It relates to the ability of the prosthesis to construct or create the natural looking substitutes for the lost natural alveolar processes and teeth and to reproduce by artistic sense and skillful technique to restore the lost facial contour as well(3,4).

CASE REPORT

A 50yr old female patient came to the department of prosthodontics with a chief complaint of missing teeth. On examination patient had completely edentulous upper and lower arches. Patient had lost her teeth over a period of 3 years as they were mobile and was edentulous for past 2 years. One of the major findings on extra oral examination was sunken cheeks. Patient was conscious of them and desired a prosthesis which would make her face look fuller and healthier. Treatment plan was formulated, keeping patient's demand in mind. It was decided to give patient upper and lower complete dentures with detachable cheek plumpers for the maxillary denture.

Maxillary and mandibular impressions were made using impression compound. Custom trays were made using auto polymerising acrylic resin. Border molding was done using green stick and wash impressions were made with zinc oxide eugenol impression material. Jaw relations were recorded. 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.

Received: June. 11, 2016: **Accepted**: Aog. 19, 2016
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pISSN 2278-0076
eISSN 2321-9270

Steps in fabrication of the attachment.

1) Ball implant abutment impression was taken using putty impression material and moulted wax was poured into the impression and the wax pattern was removed from the impression .

2) The attachments were cast using chrome cobalt alloy. They were polished on all surfaces except the one which would be waxed in the denture as the surface irregularities aid in better retention of attachment to the denture base (fig:1).

Acrylisation was done in conventional way. Upper denture was acrylised with the orthodontic elastics placed on the buccal surface of denture (Fig:4). The finished and polished dentures were tried in the mouth. The waxed plumper prosthesis was repositioned over the attachment and required corrections were done (fig:5) . Wax pattern of plumper was invested and acrylised (fig 2,3). The acrylised plumpers were tried in the mouth and conventional casted attachments were placed in the plumper part which corresponded to the attachments in the denture to get snap fit (fig 6). Detachable plumpers enabled the patient to remove the plumpers and use the denture if required. In the past, magnet retained plumper prosthesis have been used but they exhibit poor corrosion resistance and loss of magnetic property over a period of time(5,6). To form a detachable unit, attachments were used as they provide an easy, cost effective and reliable means. Cobalt chromium alloys were used to cast the customized attachments due to their biocompatibility, rare allergies and resistance to corrosion(7,9) . CoCr alloys are also routinely used for casting procedure in dental laboratories(8).

DISCUSSION

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(11). 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(11). Its use in Maxillofacial Prosthodontics is well documented. 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(11).

CONCLUSION

This article has described a simple, effective and noninvasive treatment alternative to improve facial appearance in a patient with hollow cheeks. An effort was made to improve patient's appearance by providing better support to the cheeks. The customised attachments retained cheek plumper prosthesis successfully restored the contour of cheek improving esthetics and psychological wellbeing of the patient.

Fig 1:Customised attatchments.

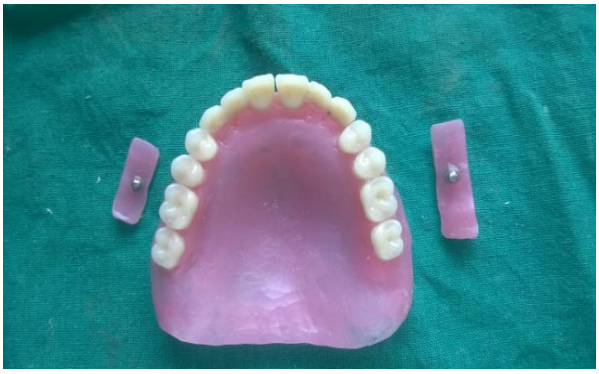

Fig 2: Wax pattern

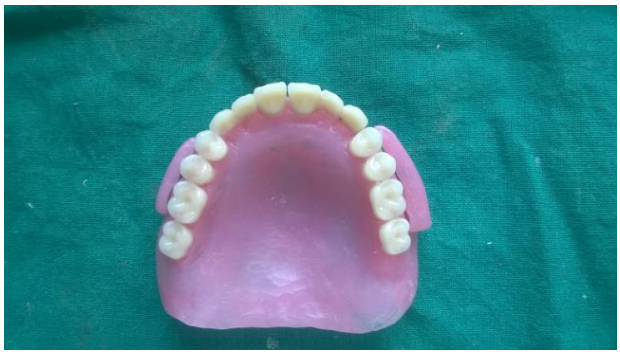

Fig 3: Acrylised wax pattern

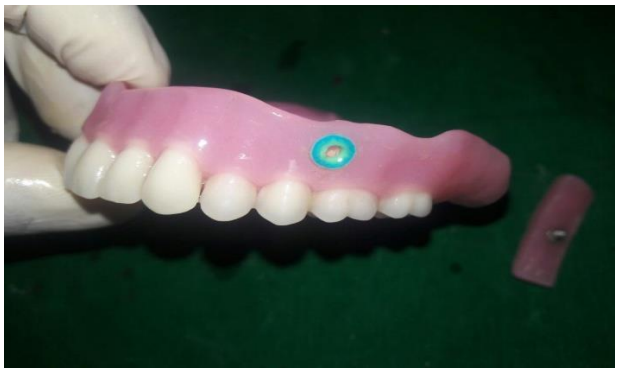

Fig 4: Orthodontic separators placed in the denture

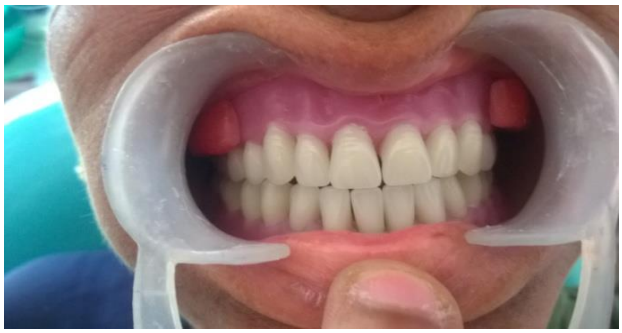

Fig 5: Try in of acrylised denture with the cheek plumper.

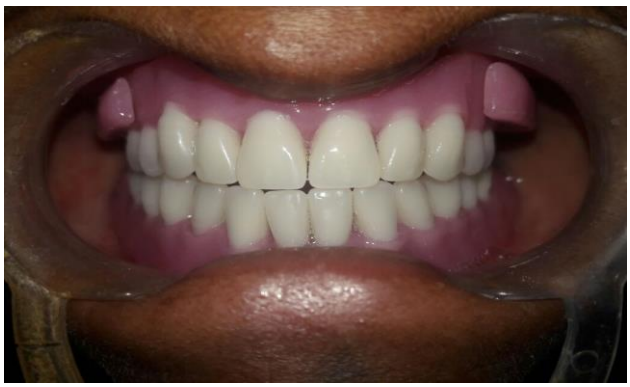

Fig 6: Upper complete denture with detachable plumpers and lower complete denture.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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