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CLINICAL REPORT

# Lip Bumper Prosthesis for an Acromegaly Patient: A Clinical Report

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**Abstract** Prosthetic rehabilitation is done to regain function, speech and esthetics. This article describes the treatment for an acromegaly patient with bony defect. Two piece magnet retained hollow lip bumper prosthesis was fabricated to reduce the weight of the denture and to attain esthetics.

**Keywords** Acromegaly · Lip bumper · Hollow prosthesis · Magnets · Bony defect

## Introduction

Acromegaly is a syndrome caused by the excess secretion of growth hormone with enlargement in extremities of bone [1]. The facial features characterized in acromegaly includes supraorbital ridge prominence, lip and nose enlargement with deep naso labial fold. The mandible shows increase in size both width and length with maxillary arch contained within mandibular arch. Generalized spacing between the teeth is seen. Prosthetic rehabilitation in patients with bony defects is critical. This clinical report explains the prosthetic management of the acromegaly patient with bony defect to attain esthetics.

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## Clinical Report

A 60 year old male patient reported to Department of Prosthodontics, Saveetha Dental college Hospital, Chennai, India. The patient presented a complaint of ill-fitting partial denture. He also presented a complaint of depression in the upper left lip region. He was wearing the denture for past 6 years. Extra oral examination reveals large face with thickened lips. Mandibular prognathism is seen. Extra orally depression seen extending from philtrum of nose to the naso labial fold (Fig. 1). Intra oral examination reveals missing maxillary left lateral incisor, canine and first premolar teeth. There was a bony defect associated with the missing teeth (Fig. 2). Generalized spacing seen in all the anterior teeth both in maxilla and mandible.

## Fabrication of the Prosthesis

Putty wash addition silicone (Aquasil, Dentsply) impression was done in maxillary and mandibular arch. Removable partial denture was fabricated with heat cured polymerizing resin (DPI, India) in the definite cast for maxillary arch. The prosthesis was tried in patient mouth (Fig. 3). Heavy body Addition silicone material (Betasil Vario, Muller Omnicron Dental, Germany) was placed in the defect area over the labial flange of the prosthesis and the patient was asked to do all the lip movements (Fig. 4). The material was added till the lip support is adequate from an esthetic point of view.

Direct flasking of the putty bumper was carried out. Modeling wax was adapted on both walls of the mold and the Centre space was filled with putty to obtain uniform thickness of the acrylic (Fig. 5). Trial closure was done.

Hollow bumper was fabricated by placing salt between the upper and lower layer of heat cure resin (Fig. 6). After the curing cycle, holes were made to remove the salt by flushing with water. Cobalt samarium magnets were attached on the labial flange of the prosthesis using auto polymerizing resin. Magnet keepers were fixed to the bumper with auto polymerizing resin in the holes previously made (Fig. 7). The lip bumper with the prosthesis was tried in the patient mouth to verify the displacement of the lip bumper during lip movements (Fig. 8).

**Fig. 1** Pre-op photograph of the patient

**Fig. 2** Intraoral photograph showing the bony defect

**Fig. 3** RPD try in done

**Fig. 4** Putty in the defect area over the labial flange of RPD

**Fig. 5** Putty inserted to create uniform thickness of acrylic

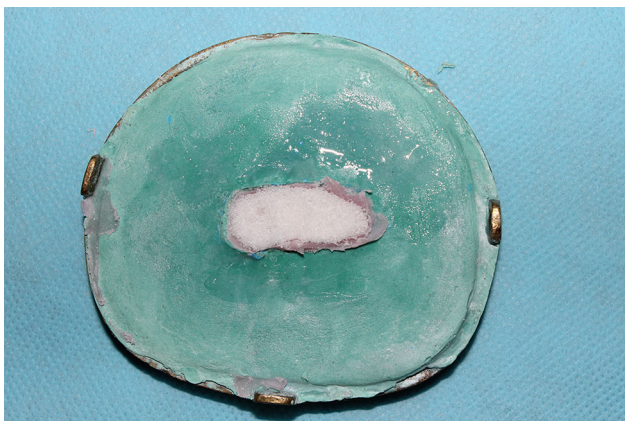

**Fig. 6** Salt between the acrylic to maintain hollow

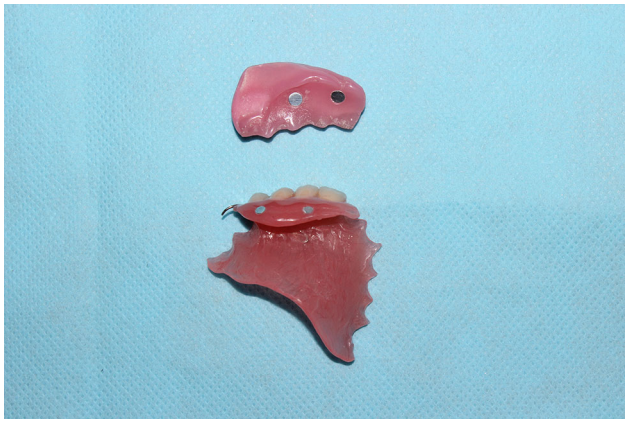

**Fig. 7** Magnets attached to the prosthesis

**Fig. 8** Lip bumper retained with magnets intra orally

## Discussion

The treatment modalities for bony defect in mandibular and maxillary arch are surgical and nonsurgical methods. The nonsurgical method includes bumpers to attain esthetics. Lip bumper are removable appliance that are used to alleviate crowding in the lower arch and to increase the arch length [2]. It is also tried to eliminate the lip biting habit in children. Lip bumpers are first described by subtelny and sakuda in 1966 [3]. A modification in lip bumper prosthesis was fabricated by Mukohyama et al. [4] to a patient with marginal mandibulectomy. This prosthesis restored the lost lip support due to the damage of marginal branch of facial nerve. This also reduced the incidence of lip biting and improved the lip competency. This prosthesis was fabricated with clear heat polymerizing resin retained with two ball clasps. Korn and Melson [5] in 2008 described cheek bumpers a modification of lip bumper.

Various authors have tried different techniques in fabricating hollow prosthesis like lost salt technique, sugar, ice, wax, and putty [6–10]. In this technique a full thickness bumper was avoided to reduce extra weight to the prosthesis. Lost wax technique was used to create hallow in the bumper and Light weight prosthesis was fabricated.

For ease of fabrication, two piece prosthesis was recommended. This prosthesis was joined using cobalt samarium magnets. The prosthesis with magnet retention was comfortable to the patient during placement and removal (Fig. 9).

**Fig. 9** Extra oral photograph after insertion of lip bumper with RPD

## Summary

Prosthetic rehabilitation is done not only to regain the function and speech but also to attain esthetics. Lip bumpers are nonsurgical method of managing bony defects in anterior region. Clinically Lip bumper supports the lips to give good esthetics and better confidence to the patient.

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