

Hollow Palatal Obturator – Case Report



Medical Science

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ABSTRACT

Most acquired maxillary defects occur due to surgical resection of tumours. The most common of all intraoral defects are seen in the maxilla, in the form of an opening into the maxillary sinus and nasopharynx. These defects create disabilities in speech, deglutition, and mastication. Prosthetic rehabilitation with obturator provides both physiological and psychological benefits along with restoration of masticatory function and improvement of speech and aesthetics. One of the main objectives in the fabrication of hollow obturators is to minimize weight to optimize retention and stability as well as patient comfort. The article describes simple method for the fabrication of one piece hollow obturator for a patient with left side total maxillectomy.

Introduction

The morphology of the jaw has a functional and aesthetic role. The palate separates the oral cavity from the nasal fossa and occlusion between the dental arches provides the mandible with the stability which enables the pharyngeal muscles to initiate the critically important act of swallowing. Aesthetically, the maxillary bone is responsible for the projection of the nose, cheeks and hemi-face. A maxillary-palatal defect may have serious consequences as far as concerns the relationship between form and function: inability to chew and swallow, disorders in phonation and important psychological implications{1}.

It is more difficult to treat the acquired palatal defects in edentulous patients, as no natural teeth are present to take support from. As per Aramony, the partially edentulous palatal defect patients are classified as per Kennedy's classification and are treated successfully by taking support from the remaining natural teeth.

A simple technique of the fabrication of the one piece closed hollow bulb obturator prosthesis to rehabilitate a unilateral palatal defect, is illustrated here{3}.

CASE REPORT

A 55-year-old male patient reported in the Department of Prosthodontics, Al-Badar Rural Dental College & Hospital, Gulbarga (Karnataka state) with a chief complaint of difficulty in swallowing food, liquid, and food escaping into the maxillary sinus and nasal cavities. The patient had a history of Odontogenic keratocyst of left maxilla and partly right maxilla 1 year back. The patient underwent left total and right partly maxillectomy 1 year back.

On examination there was a palatal defect in left and right maxillary region (Fig.1.) The oral mucosa was healed and healthy. Teeth no. 13, 14, 15, 17,27 were present.

Apart from difficulty in swallowing he has difficulty in speech and unaesthetic appearance had led to psychological trauma. The patient was wearing interim obturator for past one year which was now loose and illfitting. The treatment plan for the patient was to

provide a definitive obturator. Single piece hollow obturator prosthesis made of heat cure acrylic resin was planned.

PROCEDURE

1. Perforated tray was used for making a primary impression of the defect with alginate and a wet gauge placed into the defect area. The gauge was used so as to prevent escaping of the alginate into the nasal cavity. Alginate impression was also made for the mandibular arch using perforated tray (fig 1 & 2).
2. Impressions were poured using dental stone and primary casts were obtained.
3. Special tray was fabricated using auto polymerising acrylic.
4. Border moulding was done using function moments. Size and shape of the bulb was recorded using green stick compound in increments.
5. Finally impressions were made using zinc oxide eugenol impression paste and alginate for maxillary and mandibular arch with single tray dual impression technique.
6. Next the impressions were poured in dental stone and final master cast were obtained. The undercuts were blocked using modelling wax (fig 3).
7. Self cure acrylic denture base was made and bite rims using modelling wax was fabricated.
8. Maxillary rim was adjusted till proper lip fullness was attained and finally the bite were recorded (fig 4).
9. Casts were mounted on the mean value articulator and teeth setting was done. Cast circumference Clasps placed with respect to 13,17, 27 were incorporated for retention (fig 5).
10. Trial was made and evaluated for aesthetics, phonetics and functional occlusion (fig 6).
11. There after proper wax up was done and casts were de-articulated.
12. Flasking and de-waxing were carried out in usual manner .
13. Heat cure acrylic resin was mixed and at the time of packing (doughy stage), a small portion of mix was adapted to the defect with light pressure .
14. Thickness of the inner bulb was maintained at 1.5 to 2mm thickness. This was achieved by pressing a reamer into the acrylic with 2mm of stopper maintained from the tip.
15. The hollow defect was filled with the salt and finally the remaining heat cure acrylic was packed in the usual manner (fig 7).
16. Routine curing procedure was followed for the fabrication of prosthesis.
17. The obturator was grossly trimmed and finally polished using standard procedures

18. A hole was drilled onto the palatal surface of the bulb and the salt was drained out of it using water with syringe. The hole was closed using auto polymerizing acrylic resin (fig 8 & 9).
19. Finally obturator insertion was done after making necessary occlusal adjustments and post insertion instructions were given to the patient for proper maintenance of the prosthesis (fig 10).

Discussion:

A person's personality can be affected to a great extent due to facial disfigurement. Maxillofacial prostheses help in rehabilitating such cases and make them socially acceptable

{ 10 } . Obturator prosthesis play an important role in the recovery of oral function in postsurgical maxillectomy patients. Lack of support, retention, and stability are common prosthodontic treatment problems for patients who have had a maxillectomy. A hollow bulb prosthesis (either one piece or two piece) is a better Choice, as it is lighter in weight and is

more hygienic. Light weight has also been considered for maxillary resection prosthesis, by Chalian and Barnett{ 14 }.

CONCLUSION: Rehabilitation of acquired maxillary defect using definitive closed hollow bulb obturator took care of different domains of care, which improved physical, emotional, functional and social needs.



Fig 3



Fig 4



Fig 1

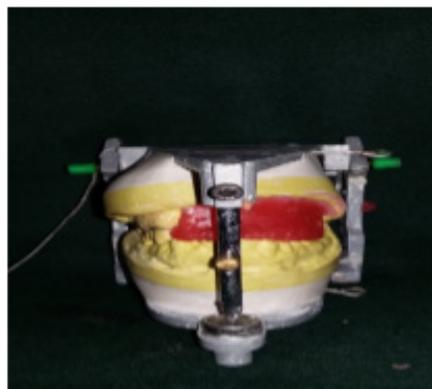


Fig 5



Fig-2



Fig 6



Fig 7



Fig 9



Fig 8



Fig 10



BEFORE



AFTER

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