

**Prosthodontic rehabilitation of unilateral maxillectomy patient: A case report**

<sup>1</sup>Dr. Rashmi Rajput, <sup>2</sup>Dr. Anurag Hasti, <sup>3</sup>Dr. Aahish Choudhary, <sup>4</sup>Dr. Mahinder Chouhan

**Corresponding Author:** Dr. Rashmi Rajput

**Citation of this Article:** Dr. Rashmi Rajput, Dr. Anurag Hasti, Dr. Aahish Choudhary, Dr. Mahinder Chouhan, “Prosthodontic rehabilitation of unilateral maxillectomy patient: A case report”, IJDSIR- April - 2021, Vol. – 4, Issue - 2, P. No. 65 – 69.

**Copyright:** © 2021, Dr. Rashmi Rajput, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License. Which allows others to remix, tweak, and build upon the work non commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**Type of Publication:** Case Report

**Conflicts of Interest:** Nil

**Introduction**

Any maxillary defect may result from congenital malformations or acquired defect from trauma or surgery for oral neoplasms. The maxillary or soft palate defect will impair speech and functions of mastication and deglutition. A maxillofacial prosthesis results to replace the missing oral or facial structures and its functions. The prosthesis constructed to rehabilitate the maxillary defect is termed as an obturator. The goals of prosthetic rehabilitation for maxillectomy patients include separation of the oral and nasal cavities to allow adequate deglutition and articulation, possible support of the orbital contents to prevent enophthalmos and diplopia, support of the soft tissues to restore the mid facial contour, and an acceptable esthetic result. A definitive obturator is indicated when the surgical site has healed completely and is dimensionally stable.

**Case History**

A 45 year female patient came to the department of prosthodontics with the complain of nasal tone. Patient history-Patient has given history of surgery in upper arch because of osteomyelitis. Before the one year of surgery

she felt dull pain and swelling on left side of cheek and lip. She ignored the problem and didn't go to show to doctor. Later she faced intra and extra oral swelling on left side Of face than she came to the dental college.

Past dental history- she had removed the teeth from upper left side by some quack 2.5 year ago. After 2year later of extraction she diagnosed osteomyelitis on upper jaw. Than mxillectomy has been done.

**Medical history**

Patient was suffering from Diabeties. Intraoral examination- completely edentulous maxilla with anterior and labial defect on left side. A thick fibrous band and scar tissue on left buccal mucosa near the corner of mouth. So mouth opening was restricted. Teeth present in lower arch incisor to first molar on both right and left side.

**Diagnostic aids:** OPG, CBCT.

**Treatment plan:** upper complete denture with hollow bulb.

Extraction of 47, 48 and root canal treatment of 45, 46 Hemisection of 46.

## **Review and maintenance**

### **Method**

Upper and lower primary impression were made with irreversible hydrocolloid impression material, and pored with type 3 gypsum and obtained the upper and lower model. A double custom tray was made on upper model with self-cure polymethyl methacrylate. Then border molding was done with tracing material and records all the extension of defect. Made the final impression with silicon material. Pored the impression with type 4 gypsum and obtained the master cast. Blocked all the undercuts with type 2 gypsum on master cast. Fabricate an occlusion rim and jaw relation was done. After the teeth arrangement trying was also done. Flasking and Dewaxing was done and before the packing a 2mm thickness layer of heat cure polymethyl methacrylate placed in the defect area than put salt over it than complete the packing with heat cure. After the curing removed the denture, finished and polished was done then made 2 holes to wash out the salt with water than sealed the hole with self-cure polymethyl methacrylate.

Denture insertion was done with some occlusion corrections instruct the patient to maintain the prosthesis. Recall the patient for review after 1 day and 1 week and 3 months.

### **Discussion**

Maxillofacial pathologies involve surgical partial or complete resection of jaws and teeth for the management of the patient. Effectively restore the form and function of such patient is very critical with the prosthesis. Clinician has to motivate and educate the patient all about the type of prosthesis as well as the limitations of the prosthesis before beginning of the treatment. Though close hollow bulb prosthesis is considered as more hygienic than the open prosthesis. However it is also found that fluids can be absorbed through the porosities in the acrylic resin seal

and in such situations, patients are unable to clean the inner surface of the closed system. This unhygienic situation harbours the growth of microorganisms. Advantages of hollow prosthesis, which makes its more common as a treatment option for maxillofacial rehabilitation.

This case report describes a simple technique for the fabrication of a closed hollow bulb prosthesis using a salt index.

### **Conclusion**

Living with any form of maxillofacial defect causes a lot of psychological trauma to the patients due to impaired esthetics and functions. Hence, we as prosthodontists must try to restore the lost form and function of the oral and its surrounding structures that will enable the patients to gain his comfort, function and confidence.

### **Legend Figure**



Fig.1: intra oral view



Fig.2: pre-op front view



Fig.3: pre-op side view

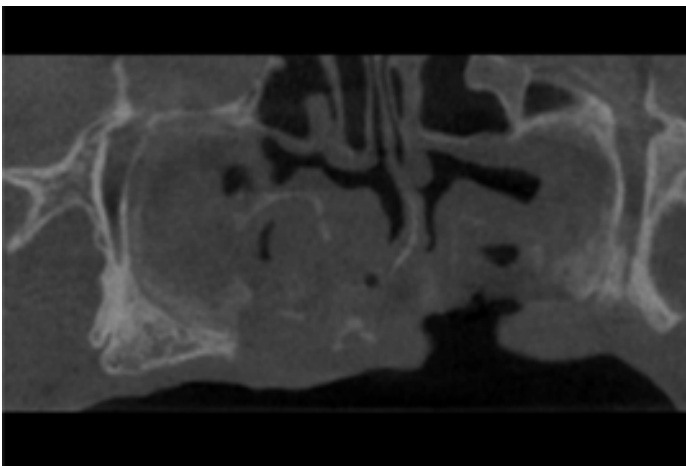


Fig.4: patient opg X-ray

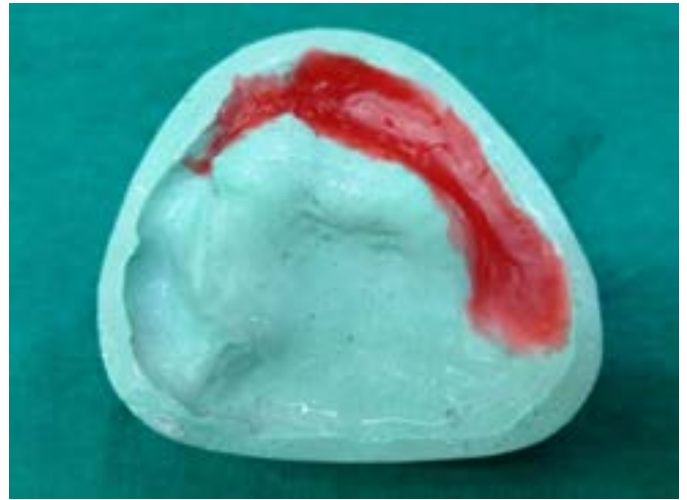


Fig. 5: primary cast undercut blocked with modeling wax



Fig.6: double custom tray



Fig. 7: separate custom tray





Fig.8: final impression



Fig.11 : defect area packed with salt to make it hollow

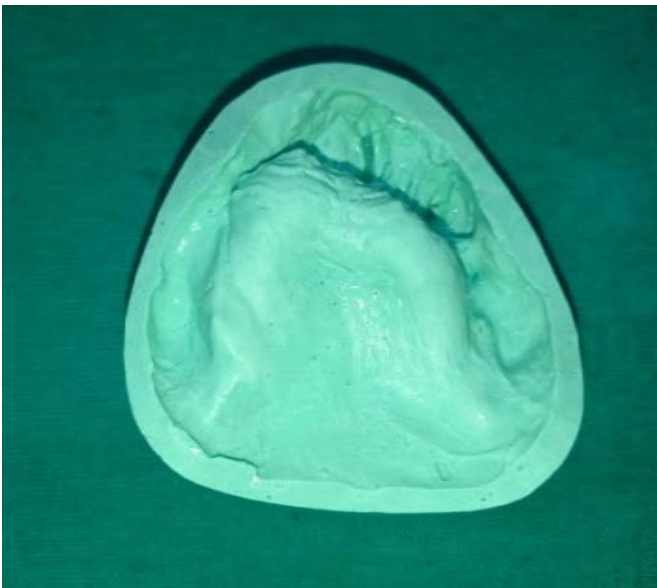


Fig. 9: master cast



Fig.12 : final prosthesis

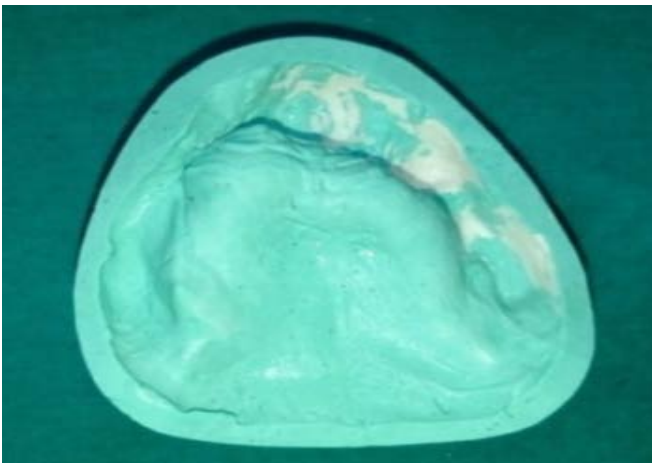


Fig.10: master cast blocked with plaster



Fig.13 : final prosthesis in patient mouth



Fig.14: post insertion side view



Fig.15: post insertion front view

#### References

1. Cheng AC, Somerville DA, Wee AG. Altered prosthodontic treatment approach for bilateral complete maxillectomy: A clinical report. *J Prosthet Dent* 2004;92:120-4.

2. Javid N. The use of magnets in a maxillofacial prosthesis. *J Prosthet Dent* 1971;25:334-41.
3. Federick DR. A magnetically retained interim maxillary obturator. *J Prosthet Dent* 1976;36:671-5.
4. Mishra N, Chand P, Singh RD. Two-piece denture-obturator prosthesis for a patient with severe trismus: A new approach. *J Indian Prosthodont Soc* 2010;10:246-8.
5. Srinivasan M, Padmanabhan TV. Rehabilitation of an acquired maxillary defect. *J Indian Prosthodont Soc* 2005;5:155-7.
6. Kumar NS. Prosthetic rehabilitation of a complete bilateral maxillectomy patient: A technical report. *Aust J Basic Appl Sci* 2009;3:424-31.
7. Patil PG. New technique to fabricate an immediate surgical obturator restoring the defect in original anatomical form. *J Prosthodont* 2011;20:494-8.
8. Mishra N, Chand P, Singh RD. Two-piece denture-obturator prosthesis for a patient with severe trismus: A new approach. *J Indian Prosthodont Soc* 2010;10:246-8.
9. Singh M, Bhushan A, Kumar N, Chand S. Obturator prosthesis for hemimaxillectomy patients. *Natl J Maxillofac Surg* 2013;4:117-20.
10. Benington IC. Light-cured hollow obturators. *J Prosthet Dent*, 62: 322-325, 1989.