



A SIMPLE PALATAL OBTURATOR: A BLESSING FOR HEMI MAXILLECTOMY PATIENT WITH MICROSTOMIA – A CASE REPORT.

Prosthodontics

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ABSTRACT

A restricted mouth opening in a patient can create a significant problem with the insertion and the removal of the obturator prosthesis. Maxillectomy defects results in the formation of an opening between the oral cavity and the antrum and/or the nasopharynx. These defects are tremendously inconvenient to the patient because of the loss of oronasal seal which substantially interferes with the important functions such as speech, swallowing, deglutition and mastication. This case report describes a technique for the fabrication of an obturator for an Armany class III patient.

KEYWORDS

Hemi-maxillectomy, Obturator, Softliner, Swallowing.

INTRODUCTION

Primary objective of prosthetic rehabilitation in maxillectomy patients is to improve quality of life by improving legibility of speech, masticatory function, deglutition and esthetics^{1,2,3}. It is of utmost importance that it must separate the oral cavity from nasal and sinus cavities and make oral cavity ready for appropriate function. Also the prosthesis must add retention and stability by extending far into the defect to seal it. The location and size of maxillary defect and the individuality of the case determine the difficulty of prosthetic rehabilitation⁴. The reduced mouth opening hinders conventional dental treatment; hence, alternative treatment procedures have to be chosen to overcome the clinical difficulties while managing such a patient. The causes of microstomia are scleroderma, oral submucous fibrosis, sequelae of burns, genetic disorders, plummer vinson syndrome, surgical resection of facial and oral neoplasms, and temporomandibular joint disorders^{5,6,7,8}. Several stock and custom tray designs have been described in the literature. Sectional impression trays have been fabricated using, orthodontic expansion screws⁹, metal pins and acrylic resin block¹⁰, lego blocks¹¹, dowel plug holes and screw joint for rigid connection has been also used in microstomia patient¹². This case report describes an impression procedure for the prosthetic rehabilitation of a patient with limited mouth opening.

Case Report

A 38 year old man reported to the Department of Prosthodontics, Meghna institute of dental sciences, Nizamabad with a chief complaint of difficulty in swallowing and speech. The patient presented history of adenoid cystic carcinoma for which hemi maxillectomy was done 5 yrs back and he used to wear a feeding plate. After one year there was recurrence of tumor and he underwent radiotherapy. As the resection bed was treated post operatively with radiation therapy, it resulted in limited mouth opening.

On clinical examination, it was revealed that the patient had maxillary class III defect according to Armany classification {figure 1} and he had mouth opening of only 18mm. {figure 2}.



Figure 1. Intra Oral View Defect



Figure 2. Minimal Mouth Opening

Due to limited mouth opening, the patient was advised to do mouth opening exercise with help of Heisters jaw opener {figure 3}, which had increased to 26mm, then the suitable perforated stock tray was

selected and the impression was made with irreversible hydrocolloid (Dentalgin; Prime Dental Products, Mumbai, India) {figure 4}. After retrieval of the tray, the cast was poured with dental stone.

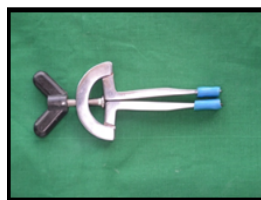


Figure 3. Heisters jaw opener



Figure 4. Stock tray with impression

The defect was not totally recorded due to the limited mouth opening. So, a custom tray was planned for the impression procedure. Auto polymerizing acrylic resin (DPI cold cure dental products of India, Mumbai) was used for the fabrication. {figure 5}



Figure 5: Fabricated Custom Tray Covering The Defect.

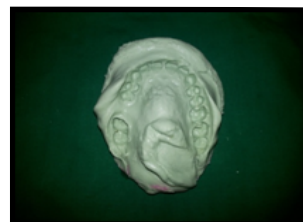


Figure 6: Final Impression Covering The Defect.

Before making the impression a piece of gauge was placed in the defect. Impression was made with the irreversible hydrocolloid impression (Dentalgin; Prime Dental Products, Mumbai, India) {figure 6}. It was poured with the dental stone and cast was obtained. The trial was taken, soft liner was used and obturator was given to the patient {figure 7, 8}. Necessary instructions were given to the patient. He was instructed to clean the prosthesis with water and chlorhexidine to avoid stomatitis.

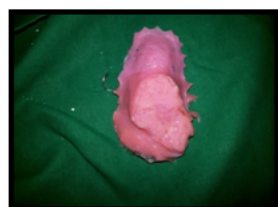


Figure 7: Finished Palatal Obturator With Soft Liner



Figure 8: Intra Oral View Of The Obturator

DISCUSSION

The patient with maxillary defect presents a complex biologic, sociologic and psychologic problem. The obturator fulfills functions such as feeding, keeping the wound or defective area clean and enhance the healing of traumatic or post surgical defects, help to reshape and reconstruct the palatal contour and/or soft palate, improves speech. A method of overcoming impression difficulties that uses a custom impression tray that results in an accurate impression for such patients is described. Every patient is a different case and should be treated accordingly.

In our case use of clasp provides good retention along with improved function of mastication.

Advantages of this technique include very economical, simplified tray manipulation and decreased patient trauma, the ability to use a custom fabricated tray for optimal impression material thickness and precise intra oral positioning and stability. Disadvantages are additional time, labor required for precise fabrication of custom tray.

Regular follow up visits were carried out. Initially after every 1 week for 2 months, later every month for further 6 months. Patient was satisfied with his obturator. Marked improvement in phonetics was noticed at initial visit. Patient could perform mastication without dislodgement of the obturator.

CONCLUSION

Restricted mouth opening in hemimaxillectomy patient is a common scenario due to post surgical and radiation therapy. Making good impression is an important step in prosthodontic management of such patients. Keeping this in mind, we have to modify the routinely used trays and provide newly designed trays for ease and betterment. This case report describes very simple, quick, economical and readily available method of dealing with patients in whom placement of full size impression tray is hindered by microstomia.

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