

## **Post Surgical Management of Maxillary Defect with an Interim Obturator- A Case Report**

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### **ABSTRACT**

The defect of the jaws and face can be because of numerous reasons which includes acquired or congenital deformities or any pathology. In demand of complete removal of the lesion, surgical management often results in communication of the oral and nasal cavity leading to problems like regurgitation of food, hypernasal speech, compromised esthetics and poor deglutition. The advances in surgical management along with the prosthetic rehabilitation can help us to overcome this problem with the reconstruction of the affected area. During the initial phase, placement of surgical or interim obturators can help to improve the outcome of definitive prosthesis. The present article focuses on a patient with partial maxillectomy, rehabilitated with the delayed surgical and interim obturator.

### **INTRODUCTION**

Maxillofacial deformities are irregularities or malformation in the bones and/or soft tissues of the face. These maxillofacial deformities can be either introral or extraoral and congenital or acquired due to trauma, pathology, surgery etc.<sup>1,2</sup>

Surgical resection is a common treatment modality for oral cancer. Debilitation of hard and soft tissues often leads to psychological disturbances in the patient. The functions of speech and deglutition are severely altered after maxillectomy. The affected oral and facial structures affects the behaviour of an individual in the society.

Many times when the defect is large simply reconstructive surgery does not restore the defect. Reconstruction along with prosthetic rehabilitation helps to restore the defect during that time.<sup>3,4</sup>

According to GPT 9 Maxillofacial Prosthesis is any prosthesis used to replace part or all of any stomatognathic and/or cranial structures.<sup>5</sup>

According to GPT 9- Obturator is a maxillofacial prosthesis used to close a congenital or acquired tissue opening primarily of the hard palate and / or contiguous alveolar /soft tissue structures. Prosthetic Rehabilitation of these intraoral maxillary defects is important as it creates a barrier between the nasal cavity and the oral cavity.<sup>5</sup>

The congenital and acquired maxillary defects are closed with Obturators. Maxillectomy patients are rehabilitated with different obturators at intervals. Surgical obturators are given after surgery to maintain the functions during the healing phase of the tissues.<sup>6</sup> Due to increased anaesthetic and surgical time required for adjustments some Surgeons avoid immediate obturators<sup>7</sup>. Surgical obturators can be immediate or delayed surgical obturators.

Interim Obturators help in adequate healing of the constantly changing tissues and tender area. Interim Obturators are mostly given After 7-10 days of surgery.

Definitive prosthesis are given after 6 months of surgery depending on the complete healing of tissues<sup>6,7</sup>

The primary aim of Interim Obturator is unaltered deglutition and Proper speech. They are light weight prosthesis helping the patient for future adaptation of definitive prosthesis. It also helps to maintain the oral Hygiene which affects the Healing of the tissues until the Definitive Prosthesis is provided to patients.<sup>8</sup>

The given Interim Obturator is a simple feeding plate without incorporation of any teeth as it might interfere with the healing process due to exertion of heavy masticatory stresses.

## **CASE REPORT**

A 64 year old male patient was referred by the Department of Oral and Maxillofacial surgery for the reconstructive prosthesis for a hemimaxillectomy defect. Patient gave past medical history of surgical excision of Squamous Cell Carcinoma lesion of the left maxilla ten days before. The patient was fed with ryles tube ,hence he was unsatisfied with the meals. Because of oral and nasal communication, hypernasal speech was evident. He could neither swallow food nor drink water. The patient was under psychological trauma. Extraorally the soft tissues on the affected side were collapsed. The resection of maxilla was through the midline suggesting Armanis Class I defect. Introrally intact teeth were present on right side of maxillary arch from central incisor to second molar. The resection site was painful, tender and inflamed. To create a barrier between the oral and nasal communication an interim obturator was planned which would enable him to process for his daily food and water. Patient was informed about all the pros and cons of this prosthesis and consent was taken. After a thorough examination the undercuts in the surgical site were blocked with gauze dipped in betadine solution to avoid any unnecessary trauma to the healing tissues.

The Preliminary impression was made with Irreversible Hydrocolloid Impression material- Alginate (Prime Dental Products Pvt Limited) with the help of Perforated stock trays. Type III dental stone ( Kalastone, Kalabhai Ltd. Mumbai, India ) was used for pouring the impression. The extension of the Obturator was marked on the cast. The obturator was planned with multiple wrought wire clasps. The clasps were fabricated with the Orthodontic wire of 22 gauge round stainless steel and engaged in the retentive area of the teeth on the non resected side.

Modeling wax was used to block the defective area and the palatal configuration was contoured. The prosthesis was constructed on the same day to avoid any interruption which may be caused by tissue contraction or edema at the surgical site. The factors like discharge of the patient after the delivery of the prosthesis and removal of the ryles tube was also considered.

Conventional fabrication was done using clear acrylic resin because clear acrylic helps us to distinguish the tissue impingement caused by the prosthesis. Flasking was done for the invested cast. Dewaxing was performed. Packing was done with clear acrylic resing followed by curing. The retrieved prosthesis was properly finished and polished to avoid any sort of iiritation. The final prosthesis was inserted and checked for border extension.

Patient was asked to drink water and also eat food to check for the peripheral seal of the prosthesis, evaluate the leakage of water from the nose and the food acuumulationfrom the nose respectively. Patient was also engaged in a routine normal conversation to check for hypernasality.

The patient was taught the removal and the placement of the obturator followed by the instruction regarding the maintenance and hygiene. Night removal of the prosthesis was suggested. All the pros and cons of the obturator was informed to the patient.



Post Surgical View



Interim Obturator



Impression making with Alginate  
after filling the defect with gauze



Intraoral Placement of Interim  
Obturators

## **CONCLUSION –**

Oral Carcinomas are commonly encountered and has a tendency to spread too vigorously, hence it urges a prompt treatment to cease its further spread. Multidisciplinary approach is needed to restore the oral functions which are compromised during surgery. Obturator prevents the leakage of water from the nose allowing the closure of the defect between oral and nasal cavity. This helps patient for proper oral feed without regurgitation of food and water. The patient no longer needs Ryles tube for feeding. Also the prosthesis is less invasive and can be done at the chairside.

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