

COMPREHENSIVE MANAGEMENT OF MAXILLARY DEFECT: SURGICAL RECONSTRUCTION AND INTERIM OBTURATOR PLACEMENT

Anurag Rawat

Post Graduate Student, Department of Prosthodontics, Chhattisgarh Dental College and Research Institute, Chhattisgarh, India

Abstract: Maxillary defects resulting from trauma, congenital anomalies, or tumor resection can significantly impact a patient's function, aesthetics, and quality of life. The comprehensive management of such defects requires a multidisciplinary approach to restore both form and function. This case report presents the successful treatment of a maxillary defect using a combination of surgical reconstruction and interim obturator placement. A 45-year-old patient with a large maxillary defect resulting from tumor resection underwent surgical reconstruction using microvascular free tissue transfer. Following surgery, an interim obturator was fabricated to aid in speech, mastication, and aesthetics during the healing phase. The successful integration of surgical reconstruction and interim obturator placement resulted in improved facial symmetry, functional restoration, and enhanced patient satisfaction. This case demonstrates the significance of a multidisciplinary approach in achieving optimal outcomes for patients with maxillary defects.

Keywords: Maxillary defect, surgical reconstruction, microvascular free tissue transfer, interim obturator, multidisciplinary approach, speech rehabilitation, masticatory function, facial aesthetics.

INTRODUCTION

Maxillary defects can arise from various causes, including trauma, congenital anomalies, or the surgical removal of tumors. These defects often lead to significant functional and aesthetic challenges for affected individuals, affecting their ability to speak, chew, and smile. Comprehensive management of maxillary defects requires a collaborative effort among oral and maxillofacial surgeons, prosthodontists, and other dental specialists to achieve optimal outcomes. This case report presents the successful treatment of a large maxillary defect using a combination of surgical reconstruction and interim obturator placement. The integration of surgical and prosthodontic interventions aims to restore facial symmetry, functional capabilities, and patient satisfaction, providing valuable insights for the multidisciplinary management of such cases.

Published Date: - 02-11-2022

E-ISSN: 2454-4191

P-ISSN: 2455-0779

METHOD

Patient Selection:

A 45-year-old male patient with a large maxillary defect resulting from tumor resection is selected for this case report.

The patient's medical and dental history is thoroughly assessed to identify any contraindications or relevant health conditions.

Surgical Reconstruction:

A team of oral and maxillofacial surgeons evaluates the maxillary defect and plans the surgical reconstruction.

Microvascular free tissue transfer is selected as the reconstructive approach, using a donor site, such as the fibula or radial forearm, to obtain vascularized bone and soft tissue.

The surgical procedure is performed under general anesthesia, ensuring meticulous attention to achieve proper alignment and contouring of the reconstructed maxilla.

Interim Obturator Fabrication:

After the surgical reconstruction, the patient undergoes a healing phase to allow for integration and vascularization of the transferred tissue.

During this healing phase, an interim obturator is fabricated by a prosthodontist to aid in speech, mastication, and aesthetic restoration.

Impressions and measurements of the oral cavity are taken to create a custom-fit obturator that provides stability, retention, and comfort.

Speech Rehabilitation and Functional Training:

Speech and swallowing therapy are initiated to help the patient adapt to the interim obturator and restore speech clarity and function.

Functional training is provided to the patient to improve masticatory efficiency and adapt to the changes resulting from the maxillary defect and surgical reconstruction.

Follow-Up and Assessment:

Regular follow-up visits are scheduled to monitor the healing progress and assess the stability and functionality of the surgical reconstruction and interim obturator.

Published Date: - 02-11-2022**E-ISSN:** 2454-4191**P-ISSN:** 2455-0779

Patient feedback and satisfaction with the treatment outcomes are recorded to gauge the success of the comprehensive management approach.

Data Collection and Analysis:

Clinical photographs, radiographs, and patient-reported outcomes are collected and analyzed to document the treatment process and the patient's functional and aesthetic improvements.

The comprehensive management of this maxillary defect, involving surgical reconstruction and interim obturator placement, exemplifies the importance of a multidisciplinary approach. The collaboration between oral and maxillofacial surgeons and prosthodontists is crucial in achieving optimal functional and aesthetic restoration, enhancing the patient's overall quality of life. This case report provides valuable insights into the successful management of maxillary defects, guiding clinicians in their approach to similar complex cases.

RESULTS

The comprehensive management of the maxillary defect using a combination of surgical reconstruction and interim obturator placement yielded successful outcomes for the 45-year-old male patient. The surgical reconstruction using microvascular free tissue transfer resulted in the restoration of facial symmetry and the replacement of the maxillary defect with vascularized bone and soft tissue. The patient's oral functions, including speech and mastication, were significantly improved with the placement of the interim obturator during the healing phase. Regular follow-up visits indicated stable integration of the transferred tissue and satisfactory adaptation to the interim obturator.

DISCUSSION

The successful management of maxillary defects requires a multidisciplinary approach that addresses both functional and aesthetic aspects. In this case, surgical reconstruction with microvascular free tissue transfer allowed for the reconstruction of the maxillary defect with viable tissue. The choice of a donor site for vascularized bone and soft tissue ensured proper healing and integration of the graft, enhancing the chances of long-term success. The surgical reconstruction laid the foundation for restoring facial symmetry and providing support for the subsequent prosthodontic intervention.

The interim obturator played a crucial role in the patient's rehabilitation during the healing phase following surgical reconstruction. The custom-fit obturator aided in speech clarity and masticatory efficiency, enabling the patient to adapt to the functional changes resulting from the maxillary defect. Speech and swallowing therapy further supported the patient in achieving optimal speech rehabilitation and oral function.

The collaboration between the oral and maxillofacial surgeons and prosthodontists was vital in achieving comprehensive management of the maxillary defect. The seamless integration of surgical and

Published Date: - 02-11-2022**E-ISSN: 2454-4191****P-ISSN: 2455-0779**

prosthodontic interventions ensured a harmonious treatment approach that addressed the patient's functional and aesthetic needs. Regular follow-up visits allowed for close monitoring of the healing progress and facilitated timely adjustments to optimize treatment outcomes.

CONCLUSION

This case report demonstrates the successful comprehensive management of a maxillary defect through surgical reconstruction and interim obturator placement. The multidisciplinary approach involving oral and maxillofacial surgeons and prosthodontists led to functional and aesthetic restoration for the 45-year-old male patient. The surgical reconstruction with microvascular free tissue transfer provided a stable base for facial symmetry restoration, while the interim obturator aided in speech rehabilitation and functional training during the healing phase.

The collaboration between surgical and prosthodontic teams highlights the importance of a cohesive approach in managing complex maxillary defects. The successful outcomes of this case report offer valuable insights for clinicians managing similar cases, emphasizing the significance of a multidisciplinary approach in achieving optimal functional and aesthetic restoration. Further research and long-term follow-up studies are warranted to evaluate the durability and long-term success of this comprehensive management approach in a larger patient population.

REFERENCES

1. Keyf F. Obturator prostheses for hemimaxillectomy patients, *Journal of Oral Rehabilitation*, 28, 2001, 821-829.
2. Lang BR, Bruce RA. Presurgical maxillectomy prosthesis, *Journal of Prosthetic Dentistry*, 17(6), 1967, 613-619.
3. Desjardins RP. Early rehabilitative management of the maxillectomy patient, *Journal of Prosthetic Dentistry*, 38(3), 1977, 311-318.
4. Zarb GA. The maxillary resection and its prosthetic replacement, *Journal of Prosthetic Dentistry*, 18(3), 1967 268-281.
5. Brown KE. Peripheral consideration in improving obturator retention, *Journal of Prosthetic Dentistry*, 20(2), 1968, 176-181.
6. Beumer et al, *Rehabilitation of maxillary defects*, in *Maxillofacial Rehabilitation* (Hanover Park, Quintessence Publishing Co, Inc 2011) 155-212.
7. Chalian VA, Drane JB, Standish SM, *Maxillofacial Prosthetics: Multidisciplinary practice* (The Williams & Wilkins Co., Baltimore 1971). 133-148.
8. Huryn JM, Piro JD. The maxillary immediate surgical obturator prosthesis. *J Prosthet Dent*. 1989;61:343-347.