

Prosthetic Rehabilitation of Acquired Maxillofacial Defect: Obturating Residual Oro-Nasal Communication: A Clinical Report.

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Case Report

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ABSTRACT

The prime objective of maxillofacial prosthetic is to improve the Quality of Life of the individuals with maxillofacial defects. However, patient with maxillofacial defect experiences unique alterations in the normal oral environment, which have negative impact on the psychological disposition of patients. In this aspect, Maxillofacial Prosthetics aim to attain the optimal/suboptimal functions, such as speech and swallowing. This case report presents an interim prosthesis fabrication with an immediate approach to cover defect created by missing tissue to regain optimal/suboptimal functions.

INTRODUCTION

Successful prosthetic rehabilitation of oral environment altered because of congenital, traumatic or surgical insult is considered the primary goal of restorative therapy, but no less important to the patient is attainment of normal esthetic and functions. Hence, Maxillofacial Prosthetics is concerned with the restorations and/or replacement of the stomatognathic system and associated facial structures with prosthesis that may or may not be removed on regular or elective basis. Maxillofacial defects may arise due to congenital malformations, developmental defects or due to acquired defects resulting from surgery of oral neoplasm or trauma. At times surgical repair of large defects persists as some minor residual defects. One of the most common maxillofacial defects, that is, acquired defects is usually managed by removable prosthesis. The typical maxillary acquired defect results in oral communication with nose and/or maxillary sinus, though the composition of residual surgical defect which may vary widely in dimensions [4]. This creates physiological and functional deficiencies in mastication, deglutition and speech. Such defects have negative impact on the psychological disposition of patients, especially if defect affects esthetic appearance also. Modifying routine dental procedures, the dentist can create an interim prosthesis with immediate approach to cover defect created by missing tissue to regain optimal/suboptimal functions.

Case Report

A 65-year-old male patient reported with the chief complaint of nasal reflux of fluid with associated nasal discharge in mouth for the past several months, hyper nasal speech and missing teeth. Past dental and medical history revealed a surgically treated case of carcinoma of palate. On intraoral examination, residual oro-nasal communications were observed involving the right side of posterior palate. Patient was partially edentulous with all teeth present except upper anterior and left second premolar and first molar. (Fig 1)



Figure 1: Intraoral view of residual oronasal communication.

Management Strategy

- Time factor: Timing of maxillofacial prosthetic care best emphasize the initial appointment prosthetic care that patient required, followed later by the more static prosthetic requirement fulfillment. It is helpful with regard to coordinate physiologic and psychological care for patients with such defects.
- Effect of time factor on demeanor: Most importantly, a positive impact on the psychological disposition is noted which later seems critical to performed definitive treatment so that demeanor is more conducive to treatment, and/or coordinated with service of rehabilitating team.

Hence, the prime objective of prosthetic was to seal the oro-nasal communication with an interim obturator with an immediate approach to reestablished swallowing, phonetics and maintenance of patency of the nasal cavity along with replacement of missing dentition to improve esthetics and functions.

Prosthetic Management

After thorough oral prophylaxis, treatment plan decided was to fabricate interim obturator with an immediate approach in heat polymerized acrylic resin to close the defect and to replace missing teeth to restore esthetic and functions. Maxillary and mandibular impressions were made with irreversible hydrocolloid in stainless steel stock trays and poured in dental stone to make working cast. Heat cured acrylic resin obturator was planned with retentive aids, C- clasps on remaining premolars and molars. Jaw relations were recorded and the working casts were mounted on the articulator and diagnostic wax-up for interim obturator was done. The flasking and acrylization procedure was done using heat polymerizing acrylic resin following conventional method. Prosthesis was finished and polished. Interim immediate obturator adjustment and insertion done and post insertion instructions regarding use and hygiene maintenance were given and patient was scheduled for regular follow ups. (Fig 2, 3)



Figure 2: Acrylic immediate interim obturator.



Figure 3: Interim obturator in situ.

DISCUSSION

As a key factor for patient satisfaction, the potential benefits of evaluating the patient's psychological perspective are manifold. Mental attitude of maxillofacial patients are usually classified by the etiology of their diagnosis, which is usually categorized: Acquired, Congenital, and Developmental. Therefore, an objective evaluation of the patient's psychological requirements may allow to more precisely define the type of intervention most successful for the patient, thereby optimizing and individualizing treatment strategies. This could not only enable to avoid costs of inefficient treatment but, in reply, also contribute to a furthered patient–doctor interaction [2].

Also, timing of maxillofacial prosthetic care best emphasize the initial appointment prosthetic care that patient required, followed later by the more static prosthetic requirement fulfillment, is helpful with regard to coordinate physiologic and psychological care for patients with such defects. It is emphasized here because of the important impact of decision made at all stages of management can have on prosthesis function and patient's acceptance and finally, better outcome [3].

The objective of the immediate interim prosthesis is to separate/cover defects involving the oral and nasal cavities by either obturating the communication or reconstruct disfigurement caused by maxillofacial defects. Obturating the defect is an artificial mean of blocking the free transfer of speech sounds and food/liquid between the oral and nasal cavities. The major deficiencies directly addressed by prosthetic care at initial appointment with immediate care are deglutition and speech. At initial focus on improvement in swallowing and speech with immediate interim prosthesis can help boost the rehabilitation process significantly [4, 5].

The advantages of having the ability to take nourishment by mouth without nasal reflux, allowing nasogastric tube removal and to communicate with family members are significant component of immediate prosthetic management. Most importantly, a positive impact on the psychological disposition is noted which later seems critical to performed definitive treatment so that demeanor is more conducive to treatment, and/or coordinated with service of rehabilitating team.

CONCLUSION

The patients with acquired palatal defects results from surgical treatment usually with residual oronasal/antral communication and with missing teeth. The prosthetic management of such cases with immediate approach affects patient acceptance of prosthetic phase because of immediate prosthetic rehabilitation, easy insertion and removal, easy maintenance and most importantly low cost. This overall treatment phase thus provide a more conducive psychological and physiological balance.

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