

Prosthodontic Step Wise Rehabilitation of a Patient with Polymorphous low-grade Adenocarcinoma (PLGA) in maxilla - A Case Report

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Abstract

A male patient was diagnosed for Polymorphous low-grade adenocarcinoma (PLGA). He presented with a solitary well defined dome-shaped swelling on the left postero-lateral part of palate and was scheduled for partial maxillectomy. He was referred from the Dept. of Oral surgery to the Dept. of Prosthodontics for fabrication of surgical obturator . Polymorphous low-grade adenocarcinoma (PLGA) is a rare tumor of the salivary glands which is limited, to a great extent, in the minor salivary glands and commonly, but not exclusively, localized in the palate of the mouth. It is known to be clinically benign and histologically polymorphic; sometimes misdiagnosed as pleomorphic adenomas, monomorphic adenomas, malignant pleomorphic adenomas, adenoid cystic carcinomas and adenocarcinoma not otherwise specified. This paper is highlighted about the step wise approach for the rehabilitation of surgical obturator for PLGA and followed by fabrication of definitive hollow bulb obturator for maxillary defect after 6 months.

Keywords : *Interim obturator , hollow bulb obturator, PLGA*

Introduction

Oral rehabilitation after hemimaxillectomy patients suffering from PLGA presents diverse clinical and technical problems. The usual treatment sequence includes placement of a surgical obturator during the intervention; then 5–10 days later this obturator is removed. A removable interim obturator is constructed and placed for the duration of the wound healing period; finally, the definitive obturator is constructed and placed about 3–6 months post-surgery, when major changes in tissue conformation are no longer expected⁽¹⁾. With the aim of simplifying this process, both for clinician and patient, various types of obturator have been proposed^(2–8)

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The clinician must not only cope with the patient's difficulties, but in technical terms must deal with mobile, non-cicatrized, bleeding tissues, with mucous secretions, and with jaw and mouth movements restricted by pain and swelling. With the aim of simplifying this process, both for clinician and patient the best possible prosthodontic step wise rehabilitation of a patient must be followed by the clinician to obtain the best results. This article will highlight the step wise approach for prosthetic rehabilitation of a Patient with Polymorphous low-grade Adenocarcinoma (PLGA) in maxilla.

Case Report

58 year old male patient with PLGA was scheduled for partial maxillectomy in Dept. of Oral surgery and was referred to Dept. of Prosthodontics Rural Dental College Loni for fabrication of surgical obturator.

Extraoral examination

- No apparent extraoral swelling was noted.
- Lymph nodes were non-palpable (Fig:1)

Intraoral examination

A solitary well defined dome-shaped swelling on the left postero-lateral part of palate

Antero-posterioly extending from distal aspect of maxillary first premolar upto the maxillary tuberosity on the left side. (Fig:2)

Mediolaterally from midline of palate upto the alveolar margin measuring approximately. 4 x 3 cm.

Immediate Surgical obturator

- Tentative extent of surgical wound was discussed with surgeons
- Primary impression was made with irreversible hydrocolloid impression material (Alginate) (Fig:3)
- Mock surgery was performed on the cast.
- Obturator plate was fabricated in self cure acrylic resin and was delivered immediately after surgery(Fig:4)

Delayed surgical obturator

- One month post surgery healing was found satisfactory for fabrication of delayed surgical obturator(Fig:5)
- Impression was made with alginate irreversible hydrocolloid and undercuts were blocked out using modeling wax.(Fig:6)
- Obturator with hollow Defect portion was fabricated.(Fig:8)

Definitive prosthesis

- Before going for definitive prosthesis restoration of the existing dentition was done (Fig:9)
- Patient underwent through oral prophylaxis
- Metal Crown prosthesis were planned with 16 and 17
- Mouth preparation for cast framework was done after surveying of the cast
- After mouth preparation and crown preparation of 16 and 17 polyvinyl siloxane light body and putty final impression was made in single step using stock tray.(Fig:10)
- Crowns were fabricated and finished in the laboratory.

- Cementation of crowns was done with GIC luting cement ,final impression for metal framework was made with pentamix material, metal framework try in was done and checked for any corrections (Fig:11) after thorough evaluation record base was adapted for impression for altered cast and jaw relation
- The defective area was recorded using low fusing impression compound green stick (Fig:12)
- Occlusal rim was fabricated using modelling wax, teeth arrangement was done using acrylic teeth set.
- Patient try-in was done; evaluation for proper swallowing, speech, esthetics was done. Patient approval was taken and final definitive prosthesis with hollow bulb was fabricated.
- The hollow bulb was constructed using the Triad visible light-cured (VLC) denture base resin system
- VLC resin a hollow bulb was constructed in the central part of the base corresponding to the defect.
- Ease of insertion and removal was tested in the mouth, aiming for 3–4 mm separation between the bulb and the borders of the defect. Inadequate or excessive separation can be resolved by removal or addition of resin. The bulb was inserted into the defect, the patient was then instructed to make functional movements (chewing and swallowing) .
- After thorough examination the obturator was finally inserted and given to the patient for use (Fig:13)
- Post insertion instructions were given and patient recalled after 1 week.



Fig :1 Extra Oral



Fig:2 Preoperative intraoral view



Fig:3 Irreversible hydrocolloide impression



Fig:4 Surgical obturator plate



Fig:11 Trial of metal framework



Fig:12 Recording defect area



Fig:5 Wound healing after 1 month



Fig:6 Irreversible hydrocolloid impression



Fig:13 Final prosthesis



Fig:14 Preoperative view



Fig:7 Blocked out cast with modelling wax



Fig:8 Interim obturator plate



Fig:15 Post surgery



Fig:16 With prosthesis

Discussion

Prosthetic rehabilitation of maxillofacial defect is most challenging. Very often surgical and prosthetic team do not work hand in hand, this results in very poor outcome of prosthesis which will eventually affect the self esteem and quality of life of the patient. It is necessary that to meet these challenges we need to help and co-operate with our surgical colleagues and a proper step wise planned approach in rehabilitating such maxillary defect of patient is necessary to get the best outcome of our treatment.

Conclusion

A rewarding area, as most patients with acquired maxillary surgical defects can be restored to near normal function and appearance. Judicious use of available materials, established techniques & readiness to accept newer methods can all culminate in true rehabilitation & satisfaction of the patient.



**Fig:9 Mouth preparation for cast framework
Mouth preparation for cast framework**



Fig:10 Final impression for crowns on 16,17

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