Supra major Reconstruction of Hemi facial defect in a case of recurrent Squamous cell carcinoma of tongue using pedicled Forehead and Pectoralis major Myocutaneous flap: A Case Report

Shailendra B Singh[1], Archana Thakur[2], Rahul kaushik[2], Deepanjali Kalra[2], Manisha Singh[2]

[1]Assistant Professor, Department of burns and plastic surgery, Smt N.H.L Municipal Medical College and Consultant Plastic surgeon, Sterling Cancer Hospital, Ahmedabad, Gujarat, India.

[2]Resident Doctor, Department of Burns and Plastic Surgery, Smt NHL Municipal Medical College and S.V.P Hospital, Ahmedabad, India.

*Corresponding Author**

Shailendra B Singh
Assistant Professor
Arcus Sky city, Club 07 Road,
Shela, Ahmedabad,
Gujarat, 380058, India
E-mail: shailendrabsingh21@gmail.com

Received: 12 Aug 2022, Manuscript No. ACR-22-18666; **Editor assigned:** 18 Aug 2022, PreQC No. ACR-22-18666 (PQ); **Reviewed:** 25 Aug 2022, QC No. ACR-22-18666 (Q); **Revised:** 05 Sept 2022, Manuscript No. ACR-22-18666 (R); **Published:** 10 Sept 2022, DOI.10.37532/22.11.4.7-9.

Abstract

Presented here is a case of Recurrence in Oral Cancer. Three years back, the patient had under gone Glossectomy with reconstruction using Pectoralis Major Myocutaneous Flap. Patient developed a recurrence on right buccal mucosa and alveolus. It was fungated with pungent smell and was extruding through the right cheek. It was neglected by the patient hence the delay. The malignancy appeared inoperable but patient's relative insisted, hence we decided to operate upon the patient. The plan was bipedal Pectoralis Major Myocutaneous flap (PMMC) for coverage of resultant defect following Oncological excision. The excised specimen included skin of right cheek up to Zygomatic arch, to upper third of neck with Buccal mucosa, Retromolar trigone, lower partial upper maxilla, pterygoids and both the upper and lower lip. So it was half of the right face-up to the upper third of neck including the lower lip. It was a Hemi facial defect Since adequate facilities for microsurgery were not available. Two pedicle flaps were needed, as left PMMC was used in first surgery, so we decided to use fore head flap for inner lining, floor of mouth and it was folded upon itself to form the lower Lip. Right spiral PMMC flap of the size 18 X 16 cms with nipple was used as the outer cover with skin grafts at both the donor sites. Patient tolerated surgery and post operative period was uneventful. The reconsruction was a successful endeavor.

Keywords: Hemi facial defect • Pedicled flap Reconstruction • Forehead flap • Pectoralis Major Myocutaneous flap

Introduction

Indian being a third world country, the educational level and health system is poor in most of the part of country. People are not educated so they go for treatment only in the last stage of disease. Means by that time the growth even gets fungated and Ulcerated and it starts showing out side the cheek, sometime with pungent smell. Many time it becomes a social problem as relatives start avoiding these patient.

Oral cancer is the most common cancer in India Total number of new cases 1324413 amongst men (16.2% of all cancer), the fifth most frequently occuring cancer amongst women (4.6% of all cancers). Number of cancer related death is around 851678 [1]. Cumulatively, this makes mouth cancer the leading cancer site for men in most of India. Oral cancer is preventable if screened for or detected early and could be treated at an early stage.

The patients relative insists on removal of disease by the surgery as soon as possible. These patients are consulted by the Onco surgeon and he is forced to do the surgery knowing fully well that it's an inoperable last stage tumor and chances of recovery is very less and recurrence is very high. The resulting defects would be huge . So it would be a Palliative Onco surgery. Plastic surgeon is asked to cover these defects and they have to use one or more flaps to cover these supramajor defects.

Case Report

Here we present a case where patient had undergone Commando surgery for Squamous cell Carcinoma of tongue and which was reconstructed by Pectoralis major myocutaneous flap from left side in the year 2016. In 2019 He developed recurrence and presented again with pungent smelling ulcerated and fungated mass over Right side of cheek involving Right Buccal mucosa, retromolar trigone, upper alveolus and both upper and lower lips.

After explaining the patient's relative regarding supra major surgery with proper consent and proper investigations Patient was taken for surgery. Onco surgeon did the radical neck dissection with excision of growth with proper safety margin. The excised specimen included Right Buccal mucosa, Right Mandible with RMT, right lateral border of previously reconstructed tougue by pmmc flap, Lower partial Maxilla near total lower lip and part of upper lip upto right Philtral ridge.

The skin defect created was almost half of the face on right side. Superiorly extending upto to the zygomatic Arch, inferiorly involving upper third of the neck, medially extending up to previously reconstructed tongue, near total Lower lip, even half of upper lip was also lost. So it was a huge defect of size 16 cm X 14 cms. There was requirement of skin for inner lining and outer coverage also.

The area of defect which were needed to be reconstructed, means Inner defect were Inner lining of Right Buccal mucosa, floor of mouth, RMT, upper alveolus margin, both lower and upper lips. Outer cover needed was outer skin cover over Zygomatic Arch and extending inferiorly up to upper third of neck.

Patient was not affording and facility of free flap was also not available. So, it was decided to reconstruct the defect by using two Pedicled flap, Forehead and PMMC flap [2,3]. Forehead flap was given preference over Deltopectoral flap as area needed was more. Other flaps like lattissmus Dorsi Flap needs change of position of patient on operation table, so was not considered [4] (Figure 1).

We decided to do Forehead flap from right side to form inner linning of buccal mucosa, floor of mouth, [4] RMT, upper alveolus, and upper lip and it was folded upon itself to form Lower lip. In fact it was demanding too much from single flap. For outer coverage huge Spiral PMMC with the size 18 X16 cms was used to cover the outer surface of fore head flap (Figures 2 and 3).

Donor area on chest needed skin grafting . Graft was taken from Right Thigh. Single sheet of Skin graft was put on forehead to cover the defect of forehead. Tracheostomy was done and Ryles tube inserted. Pt was kept in

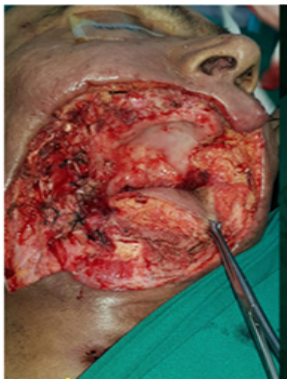

Figure 1. Defect post oncological excision.

ICU for two days. Flaps healed well without any complication and patient was discharged after two weeks.

On follow up after one month pedicled part of forehead flap was cut and divided extra skin was excised out. Flap was refashioned. After few days Patient looks quite recharged and happy . There was 100% graft take up over forehead . Around 15 % graft loss was over the chest but decision taken for healing by secondary intention.

Technique of elevation of Forehead and PMMC flap

Forehead flap was raised on right superficial temporal artery extending below the hair-line with four finger width and above the eyebrow upto the lateral border of left eye . It was designed to form the inner lining of Right Buccal mucosa, floor of mouth, right side of Tongue and the upper and lower lip. Outside cover was given by Ipsilateral PMMC flap of the size 18cm X 16 cms. It was designed with Nipple and Areola complex and it was elevated. It was made spiral so as to keep the skin outside. Flap was sutured with Forehead flap and was aligned. Skin graft was done over the donor area over chest (Figures 4-6).

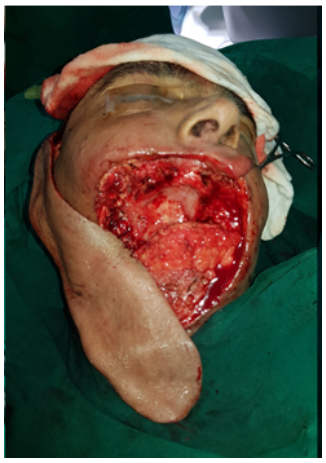

Figure 2. Forehead flap.

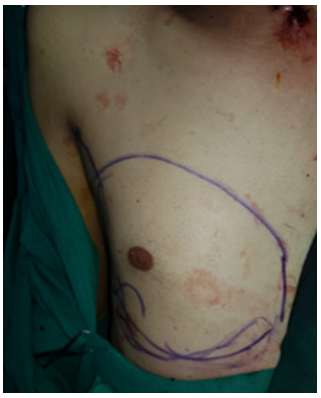

Figure 3. Marking of PMMC flap.

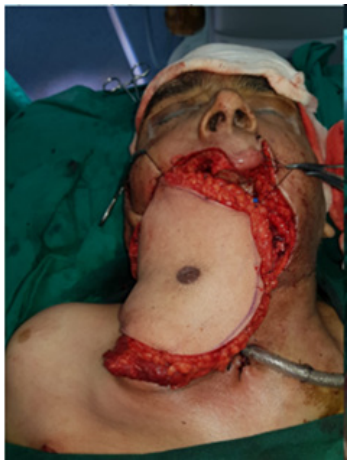

Figure 4. PMMC spiral flap.

Figure 5. Post operative picture.

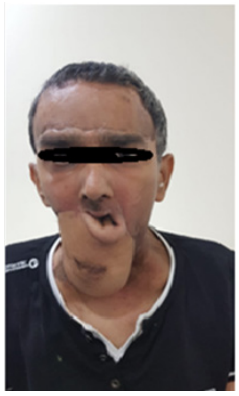

Figure 6. Patient after 2 months.

Discussion

It was a case of recurrent carcinoma of tongue which was reconstructed by PMMC flap three years back. Patient presented with fungated carcinoma right Buccal mucosa. Patients relative were informed regarding pros and cons of surgery and poor prognosis. The defect created after excision was huge and so the reconstruction was also a challenging task for Onco reconstructive surgeon.

The pressure from patient's relatives which made onco surgeon to operate the case. Relatives were explained regarding excision and coverage by Plastic surgery. Onco surgeon also explained regarding Radiotherapy, chemotherapy and also regarding poor prognosis . Initially it was decided that defect would be covered by Pedicled flap mostly Bi paddled PMMC flap [5]. Since patient was poor the microvascular free flap was not considered . But once excision was done the defect was very big defect which would need at least two big flap. Since flap available were only Right. PMMC, DP and Forehead. The defect needed reconstruction of both inner and outer lining. After thorough discussion it was decided to use forehead flap for inner lining and huge spiral PMMC for outer lining.

In previous days Fore head flap was usually used to reconstruct buccal mucosa or floor of mouth. But here we extended its use to reconstruct lower lip and part of upper lip also. Big pectoralis major of size 18cms X 16 cms was designed. Nipple areola complex was also included in flap. K Kiyokawa et el, had shown that Nipple Areola Complex help to maintain the blood supply of the flap [6]. Since we wanted skin on outer surface, so spiral PMMC flap was used. It was taken in such a way that pedicle is not compressed. PMMC flap was handled very cautiously as skin paddle was big and any necrosis in flap would have led to future complications. With the help of two flaps the defect was wisely covered by skin on both inner and outer lining and that too without the use of any free flap [7].

It helped the flap to heal very smoothly without any untoward incident. Pt was discharge in two weeks. Tracheostmy was also removed by week end. On follow up on fourth week forehead flap was refashioned and pedicle was taken out. After it patient started looking fresh and much happier. Even relatives were also happy. Stephen Ariyan has written that

its plastic surgeons presence which has made oncosurgeons operate highly advanced cases [8]. Advantage of covering defect with pedicled flap was that we were sure about the viability of flap. As flap failure means life of patient would be endangered. Operative time and Anaesthesia time was less. Wound healed faster and so Radiotherapy and Chemotherapy could be started soon. Patient tolerated surgery very well. Disadvantage ideally now a days free flap is a viable option but in this patient due to economical reason we went for pedicled flap. Forehead flap is a two stage procedure, It took around one month to complete the forehead flap inset. After one month period patient and even his relatives were also very Happy.

Conclusion

We reported a case where pt developed highly malignant recurrence within three years. Onco surgeon did the Palliative excision of growth and growth was excised out. But it created a hemifacial defect on rt. Side of face. We took decision and covered the defect both inner lining and outer lining along with lip by our trusted Forehead and PMMC flap. Both these flaps are there since last 50 years but still they are one of the most trusted Armamentarium for Onco Plastic surgeons. With the help their combination we were able to do supra major reconstructions.

Declaration of consent

The authors certify that they have obtained all appropriate patient consent forms in patient's language. In the form the patient has given their consent for the images and other clinical information to be reported in the journal. The patient understands that their name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

References

1. Mathur, Prashant, et al. "Cancer statistics, 2020: report from national cancer registry programme, India." *JCO Global oncology* 6 (2020): 1063-1075.
2. McGregor, Ian A. "The temporal flap in intra-oral cancer: its use in repairing the post-excisional defect." *British Journal of Plastic Surgery* 16 (1963): 318-335.
3. Bakamjian, V. Y. "A two-stage method for pharyngoesophageal reconstruction with a primary pectoral skin flap." *Plastic and Reconstructive Surgery* 36.2 (1965): 173-184.
4. COHEN, I. KELMAN, and MILTON T. EDGERTON. "Transbuccal flaps for reconstruction of the floor of the mouth." *Plastic and Reconstructive Surgery* 48.1 (1971): 8-10.
5. Tripathi, Mayank, et al. "Pectoralis major myocutaneous flap in head and neck reconstruction: An experience in 100 consecutive cases." *National journal of maxillofacial surgery* 6.1 (2015): 37.
6. Kiyokawa, Kensuke, et al. "A method that preserves circulation during preparation of the pectoralis major myocutaneous flap in head and neck reconstruction." *Plastic and reconstructive surgery* 102.7 (1998): 2336-2345.
7. Yang, G-F., et al. "Classic reprint Forearm free skin flap transplantation: a report of 56 cases." *British journal of plastic surgery* 50.3 (1997): 162-165.
8. Aryan, S. "The pectoralis major myocutaneous flap; a versatile flap in reconstuction in the head and neck." *Plast. Reconstr. Surg.* 24 (1971): 173-184.

Cite this article: Singh B., S, et al. Supra Major Reconstruction Of Hemi Facial Defect In A Case Of Recurrent Squa-Mous Cell Carcinoma Of Tongue Using Pedicled Forehead And Pectoralis Major Myocutaneous Flap: A Case Report. Reconstr Surg Anaplastol, 2022, 11(4), 07-09