



OUTCOME ANALYSIS OF LOCAL FLAPS RECONSTRUCTION AFTER EXCISION OF BASAL CELL CARCINOMA OF THE FACE: SINGLE INSTITUTIONAL EXPERIENCE OF FORTY CASES

KEY WORDS

BCC, Face reconstructive surgical procedures, local flaps of the face, nasolabial flap, V-Y advancement

Prof. B. Asokan. Mch

Professor Of Plastic Surgery & Dean Government Medical College and ESI Hospital, Coimbatore

Dr. S. Sivakumar. Mch

Assistant professor, Dept. Of Plastic Surgery, Government Medical College and ESI Hospital, Coimbatore.

ABSTRACT

Background: Basal cell carcinoma (BCC) is the most common skin cancer. After excision of BCC on the face, the options of treatment for a skin defect are variable. Many surgeons prefer to use a local flap rather than a skin graft or free flap for small- or moderately-sized circular defects. We have evaluated the various flaps for reconstruction of skin defects after excision of BCC of the face. **Methods:** All of the patients were pathologically diagnosed with basal cell carcinoma (BCC), forty patients underwent various flaps like V-Y advancement flap, cheek advancement flap, forehead flap, glabellar flap, nasolabial flap repair over the period 2 yrs. between January 2014 and December 2015. We evaluated the postoperative complications in the form of flap loss either partial or complete, wound dehiscence, hematoma and wound infection. The cosmetic outcome and patient satisfaction was evaluated at 6 months after surgery. **Results:** There were 25 men and 15 women. The ages ranged from 45 to 70 years with a mean age of 60 years. The tumor locations were the face in all patients. All of the flaps survived apart from only two cases in which there was partial flap loss. Postoperative recovery was usually rapid. **Conclusions:** In our experience, local flaps give the best results and are the first choice for reconstruction of the face. Most defects can be best closed by nasolabial, V-Y advancement and forehead flap, cheek advancement, glabellar flaps. Outstanding functional and cosmetic results can be achieved

Introduction

The most common malignant tumours of the face are (BCC), squamous cell carcinoma (SCC) and melanoma. [1] BCC constitutes more than three quarters of skin cancers of the face [2]. Risk factors for BCC include sun exposure, fair skin type, ionising radiation, advanced age, immunosuppression [3]. BCCs of the face are almost always curable when detected and treated early. [4] various treatment options are available for reconstruction after excision of tumour of the face from skin graft to local or distant flaps for resurfacing of defect. While the results of skin graft are less than satisfactory for large areas to cover, distant flaps are bulky with a poor colour match. Skin grafts takes several weeks to stabilise and match with the recipient site. Contracture may develop in the long-term follow-up. [5] Local flaps provide reasonable option for reconstruction of facial defects with good colour and texture match and good success rate.

We share our experience of forty patients operated for BCC over the face and reconstructed with various local flaps in the past 2 years

Materials and Methods

This is a retrospective review of 40 patients who underwent surgical excision of basal cell carcinoma involving the facial region followed by primary reconstruction using local flap cover over a period of 2 years (January 2014 and December 2015). There were 25 males and 15 females with a mean age of 60 years (range 45-70 years). In all patients, the diagnosis was confirmed by histopathological examination before. None of the patients had evidence of any metastasis

The defects following excision of 40 patients, 12 were managed with V-Y advancement flap, 8 with cheek advancement flap and 12 with nasolabial flap, 6 with median forehead flap and 2 with glabellar flap cover. All the patients analysed for aesthetic outcome after 6 months.

Table:1

Type of flap	No. of patients	complications	Aesthetic outcome
V-Y advancement flap	12	Wound dehiscence one case	good
cheek advancement flap	8	No complication	Very good
nasolabial flap	12	Partial tip necrosis-2pts	good

median forehead flap	6	No complication	Very good
glabellar flap	2	No complication	excellent

Results

All patients tolerated the surgical procedures well with no systemic or anaesthesia-related complications. The tumor diameters varied from 10 to 50 mm (mean, 28 mm). All patients were treated under general anaesthesia. The flap of choice was made after considering the defect location, skin condition, and expected scarring. Complete flap survival was achieved in 38 cases (95%). There were two cases of partial flap necrosis of the nasolabial flap and healed by secondary intention. There was wound dehiscence encountered in two cases which were managed by antibiotics, frequent dressings then secondary sutures

Follow-up ranged upto 6 months. No recurrence at the primary tumor site was detected during the follow-up period, Aesthetic results were deemed excellent in 20 patients (50%), while 15 patients shows good results (37%) and 5 patients were fair result (13%). The colour and texture matches were aesthetically good and the contour was distinct.

Fig:1 Nasolabial flap



Ala of the right side nose reconstructed with nasolabial flap for both lining and cover

Fig:2 V-Y Advancement flap



Left infra orbital lesion covered with V-Y advancement flap.

Fig:3 Cheek advancement flap



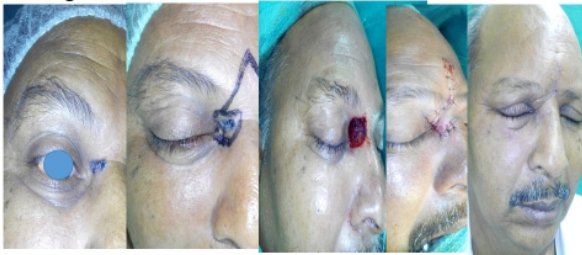
BCC over right cheek excision done ,raw area covered with cheek advancement flap

Fig:4 median forehead flap



BCC over dorsum of the nose excised and raw area covered with paramedian forehead flap

Fig :5 GLABELLAR FLAP



BCC over medial canthus excised and raw area covered with glabellar flap

Discussion

Neoplasm of the skin is found most often on the face. Cosmetically, the face is the most important anatomic area for most patients. Because of this, malignant tumour of the facial skin poses a great challenge in treatment, prohibiting compromises between oncologically responsible surgery and functional plus cosmetic outcome. [6]

BCC constitutes approximately 75% of non-melanoma skin cancers. It is usually observed in older patients, especially in those frequently and intensively exposed to ultraviolet radiation during their lives. BCC is often observed in the head and neck areas, especially the eyelid and nose. It is more common in males. The tumour grows slowly. BCC may be treated with surgery, cryotherapy, radiotherapy and curettage and electrodesiccation. [7]

Appropriate follow-up after complete BCC excision has been discussed by several previous studies. Park et al. report only a 1% recurrence rate after complete excision of BCC and suggest no follow-up of these patients is required. [8]. For nasal reconstructions, the midline forehead skin flap can serve as a cover for any nasal reconstruction from severe tip and ala loss to a total nasal defect. Using this flap, aesthetic and functional reconstruction can be achieved by creating a nose that blends well with the face.

The superiorly based nasolabial flap is useful for defects of the nasal sidewall, ala and tip while the inferiorly based nasolabial flap is useful for defects of the upper and lower lip, nasal floor and columella. [9] Advancement flap design is relatively simple and can be successfully applied to repair a wide variety of small- or moderate-sized cheek defects. The advancing tissue can also be based on a neurovascular bundle. The V-Y advancement flap is equally effective for coverage of large cheek wounds and small defects of those approximating the lid or lateral cheek. [10]

Conclusion

In our experience, local flaps give the best results and are the first choice for reconstruction of the face. The flap choice depends on tissue laxity, vascularity and resulting donor-site distortion. Although many flaps are described, most defects can be best closed by nasolabial, V-Y advancement and forehead flaps glabellar flaps. Outstanding functional and cosmetic results can be achieved. Proper execution requires considerable technical skill and experience. However, the local flaps are still the workhorse for facial reconstruction

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal

REFERENCES:

1. Kavarana NM. Use of a folded forehead flap for reconstruction after a large excision of the full thickness of the cheek. *Plast Reconstr Surg* 1975;56:629-32.
2. Song R, Gao Y, Song Y, Yu Y, Song Y. The forearm flap. *Clin Plast Surg* 1982;9:21-6
3. Daya-Grosjean L, Couvé-Privat S. Sonic hedgehog signaling in basal cell carcinomas. *Cancer Lett* 2005;225:181-92.
4. Butler DF, Parekh PK, Lenis A. Imiquimod 5% cream as adjunctive therapy for primary, solitary, nodular nasal basal cell carcinomas before Mohs micrographic surgery: A randomized, double blind, vehicle-controlled study. *Dermatol Surg* 2009;35:24-9
5. Gloster HM Jr. The use of full-thickness skin grafts to repair nonperforating nasal defects. *J Am Acad Dermatol* 2000;42:1041-50.
6. Hajdarbegovic E, van der Leest RJ, Munte K, Thio HB, Neumann HA. Neoplasms of the facial skin. *Clin Plast Surg* 2009;36:319-34.
7. Laloo MT, Sood S. Head and neck basal cell carcinoma: Treatment using a 2-mm clinical excision margin. *Clin Otolaryngol Allied Sci* 2000;25:370-3.
8. Park AJ, Strick M, Watson JD. Basal cell carcinomas: Do they need to be followed up? *J R Coll Surg Edinb* 1994;39:109-11.
9. Jin HR, Jeong WJ. Reconstruction of nasal cutaneous defects in Asians. *Auris Nasus Larynx* 2009;36:560-6.
10. Schoeller T, Otto A, Wechselberger G, Lille S. Radial forearm flap donor-site complications and morbidity. *Plast Reconstr Surg* 1998;101:874-5.