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Original Article

Reconstruction of Basal Cell Carcinoma over Face by Facial Flaps – Study of 30 Cases

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Abstract

Background: Basal cell carcinoma (BCC) is the most common skin cancer.85% of BCC are located in the head and neck area, of which 30% on the nose. 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 skin graft or free flap for small or moderately sized circular defects after excision of BCC on the face.

Methods: All of the patients were histopathologically diagnosed as Basal cell carcinoma, thirty patients underwent various flaps like V-Y advancement flap, bilobed flap, forehead flap, nasolabial flap, glabellar flap repair over 3 years, between January 2014 to December 2016. We observed post-operative complications as flap loss either partial or complete, wound dehiscence, hematoma and wound infection and recurrence of carcinoma. The cosmetic outcome of the face also evaluated.

Results: There were 19 men and 11 women. The age ranged from 48 to 73 years with a mean age of 62 years. The causes were BCC in all cases. The tumour locations were the face in all patients. All of the flaps survived, but in one case recurrence of BCC occur, which was managed surgically. Post-operative recovery was very nice.

Conclusions: Our study shows facial flaps give nice result and first choice for facial reconstruction in BCC of face. Most defects can best closed by various facial flaps and outstanding functional and cosmetic results can be achieved.

Keywords: BCC, flaps, V-Yflaps, bilobed flaps

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Introduction

The most common malignant tumours of the face are Basal cell carcinoma, Squamous cell carcinoma (SCC) and melanoma.[1] BCC constitutes more than three quarters of skin cancers of the face.[2] BCC occurs more often in men than in women.[3] It is seen more often after age of 50, but in patients younger than 35 years it is more aggressive.[4] 85% BCC are located in the head and neck area, of which 30% occurs on the nose.[5-6]

Basal cell carcinoma arises in basal keratinocytes in the deep layer of the epidermis.[7] Risk factors for BCC includes sun exposure, fair skin type, ionizing radiation, advance age,

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immunosupression.[8] BCC of the face are almost always curable when detected and treated early.[9] 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 satisfactory for large areas to cover, distant flaps are bulky with a poor colour match. Skin grafts take several weeks to stabilize and match with recipient site. Contracture may develop in the long term follow up.[10] Local facial flaps provide reasonable option for reconstruction of facial defects with good colour and texture match and good success rate.

There are many treatment options of BCC in face which depend on the location and size of the defect, finally the outcome to be aesthetically and functionally satisfying for the patient: electrodessication and curettage for smaller tumours, excision with plastic reconstruction of the tissue defect, Mohs micrographic surgery, radiation therapy and cryotherapy.[11-16]

Materials and Methods

It is a retrospective study, in which 30 patients underwent surgical excision of basal cell carcinoma involving the facial region followed by primary reconstruction using local flap cover over a period of 3 years(January 14 to December 16) in ENT and Head-Neck surgery department of Rajshahi Medical College Hospital. There were 19 males and 11 females with mean age of 62 years (Range 48-73 years). In all patients the diagnosis was confirmed by histopathological examination before; none had evidence of any metastasis.

The wound following excision of tumour of 30 patients, 17 were managed with V-Y advancement flap, 5 with nasolabialflap, 3 with bilobed flap, 3 with median forehead flap and 2 with glabeller flap cover. All the patients analyzed for aesthetic outcome 6 months later.

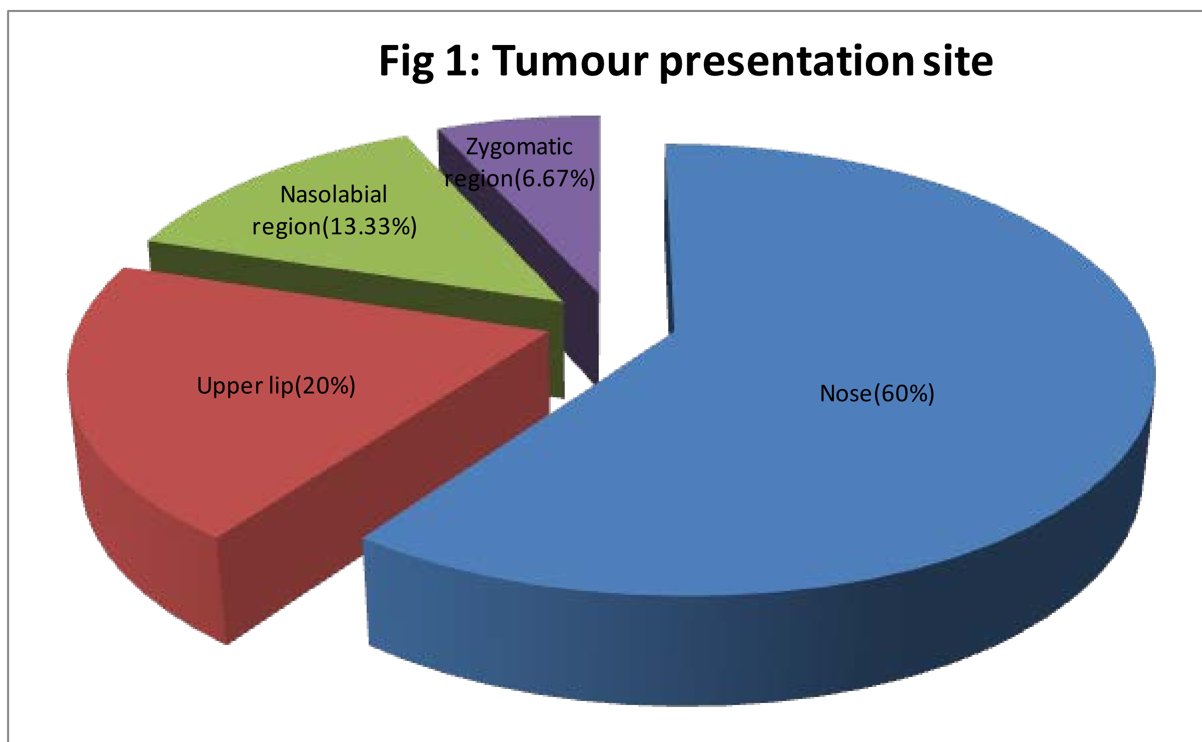
Table no-1:

Type of flap	No. of patients	Complications	Aesthetic outcome
V-Y advancement flap	17	No complication	Very good
Nasolabial flap	05	No complication	Very good
Bilobed flap	03	One recurrence of BCC	Good
Median forehead flap	03	No complication	Very good
Glabellar flap	02	No complication	Very good

Results:

There were 30 patients, 19 were males and 11 were females. The age of the patients ranged from 48 years to 73 years with mean age of 62 years. The tumour diameters varied from 15 mm to 75 mm (mean 36 mm). Twenty two patients were treated under general anaesthesia and 8 patients under local anaesthesia (with smaller diameter); all patients tolerated the surgical procedures well with no systemic or anaesthetic complications. In 18 cases tumours were over nose (tip, ala, leteral nasal wall), 6 in upper lip, 4 in nasolabial region and rest 2 in zygomatic region.

Pictures: Basal cell carcinoma of face and reconstruction by facial flap



The flap choice was made after considering the defect location, skin condition and expected scarring. Complete flap survival was achieved in all cases (100%). But in one case recurrence of BCC occurred 2 years later and it was surgically managed. Surgical approach in BCC consists in excise of tumour in safety tissue margin from 5 mm to 8 mm. In two cases (BCC in nasal tip and ala) along with local skin flap, cartilage from pinna was taken and harvested and gave good support for the skin flap in lateral nasal wall reconstruction.

Post-operative follow-up were given up to 6 months, no recurrence at the primary tumour site was detected during the follow-up period, but in one case recurrence occurred 2 years later. Aesthetic result were excellent in 19 cases (63.33%), while 8 patients showed good result (26.67%) and 3 patients were fair results (10%). The colour and texture matches were aesthetically good and the contour was distinct

Discussion:

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 adequate surgery and functional plus cosmetic outcome.[17]

BCC constitute 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 head and neck areas specially the eyelid and nose. It is more common in males. The tumour grows slowly.BCC may be treated with surgery, cryosurgery, radiotherapy and curettage and electrodessication.[18]

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.[19]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.

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.[20]

In our study the treatment of Basal cell carcinoma was radical surgical excision with histologic control followed by plastic and reconstructive surgery for correction of loss of facial function and aesthetic integrity; after surgery the patients have an acceptable quality of life for years with nice aesthetical and functional outcome.

Conclusion:

Basal cell carcinoma is the most common type of the skin lesion of malignant variety in the face. In our experience, local flaps achieve the best results in reconstruction of face following the loss of facial function and aesthetic integrity after radical surgical excision of BCC. The flap choice depends on tissue laxity, vascularity and resulting donor site distortion; most defects can be best closed by V-Y advancement, bilobed flap and forehead flaps. Outstanding functional and cosmetic results can be achieved and the local flaps are still the workhorse for facial reconstruction.

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