

MANAGEMENT OF BASAL CELL CARCINOMA OF FACERatnakar Sharma¹, Sanjay Sharma², Rishabh Sharma³, Raheel Hussan⁴¹Associate Professor, Department of General Surgery, GMC, Jammu, Jammu and Kashmir, India.²Assistant Professor, Department of General Surgery, GMC, Jammu, Jammu and Kashmir, India.³Resident, Department of General Surgery, GMC, Jammu, Jammu and Kashmir, India.⁴Resident, Department of General Surgery, GMC, Jammu, Jammu and Kashmir, India.**ABSTRACT****BACKGROUND**

Basal Cell Carcinoma is a locally invasive, slowly spreading tumour which rarely metastasises, arising in the epidermis or hair follicles, the cells usually resembling the basal cells of the epidermis. The Basal Cell Carcinoma in North Indian population usually involves head and neck region. The management of Basal Cell Carcinoma of face requires excision of lesion with healthy margins and resurfacing the defect by split skin graft/ flap coverage.

Aims and Objectives:

1. To evaluate the epidemiology of Basal Cell Carcinoma of face.
2. To evaluate various modalities of coverage of the defect following surgical excision of Basal Cell Carcinoma of face.

MATERIALS AND METHODS

This case series was conducted in the Department of Surgery, Govt. Medical College Jammu, J and K, India and included 50 patients having been diagnosed with Basal Cell Carcinoma of face (histopathology proven) admitted in surgery ward from November 2015 to October 2017 (Prospective study). All patients underwent surgical excision with a 5 mm healthy margin followed by reconstruction either by skin graft (12%) or flap coverage (88%).

RESULTS

Majority of the patients had restoration of anatomy and normal function after reconstructive procedures with colour and contour matching of that of the recipient site. No major complication was encountered in any of the patients.

CONCLUSION

Basal Cell Carcinoma is treated with surgical excision followed by adequate coverage of the defect by a modality which should not only be functionally adequate, but also aesthetically appealing. Flaps are a versatile modality of reconstruction with the choice of flap being governed by the site and size of the defect post tumour excision.

KEY WORDS

Basal Cell Carcinoma, Excision, Reconstruction of Defects.

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BACKGROUND

Jacob Arthuri in 1827 first coined the term rodent ulcer to describe what we now know as Basal Cell Carcinoma.¹ Basal Cell Carcinoma is the most common skin cancer among whites.² It accounts for 75% of all skin cancers. Basal Cell Carcinoma contributes to 20% - 30% of skin malignancies in Asian Indians.³ The Basal Cell Carcinoma has a high propensity to involve the sun exposed areas of head and neck with a high percentage of 91.2%. The most common location being the medial/ lateral canthus of eye.⁴ Individuals with a Basal Cell Carcinoma over the face typically presents with a shiny, pearly skin nodule. However, superficial Basal Cell Carcinoma can present as a red patch similar to eczema. Infiltrative or morphea form basal cell cancers can present as skin thickening or scar tissue making diagnosis difficult without using tactile sensation and a skin histopathology.⁵

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Most Basal Cell Carcinomas are slow growing, relatively non-aggressive tumours; a minority have an aggressive behaviour with local tissue destruction and metastasis.⁶ Although, prevalence of metastasis and mortality is very low.^{7,8} Basal Cell Carcinomas may grow aggressively causing extensive tissue destruction.⁹ The management of Basal Cell Carcinoma of the face requires excision of the lesion with healthy margins and resurfacing the defect by skin graft/ flap coverage. Reconstruction of various facial defects including those of nose, eyelids, canthi, cheeks and ear following resection of Basal Cell Carcinomas involving face has been described in various studies.^{10,11,12}

In the present study, an attempt has been made to describe in detail the management of patients with Basal Cell Carcinomas involving face. The evaluation of various reconstructive modalities for coverage of the defects arising out of excision of the Basal Cell Carcinoma over the face has been made.

Objectives

- To evaluate the epidemiology of Basal Cell Carcinoma of face.
- To evaluate various modalities of coverage of the defect following surgical excision of Basal Cell Carcinoma of face.

MATERIALS AND METHODS

This case series is done on 50 patients having been diagnosed with Basal Cell Carcinoma of face (Histopathology proven) requiring surgical excision followed by reconstruction of the defects admitted in Postgraduate Department of Surgery, Government Medical College, Jammu (J and K) from November 2015 to October 2017. The patients were studied prospectively. Detailed history of the patient, examination of the lesion followed by investigations for anaesthesia was done in all the cases. All the patients underwent surgical excision of the lesion with a 5 mm margin all around the lesion. The defect was then suitably covered by either skin graft or flap. Flap division and inset if required was done after interval of three weeks. The excised specimen was assessed for margin and depth clearance post-operatively. Follow-up of patients was done clinically at monthly intervals for first three months and then after every three months.

Inclusion Criteria

All patients presenting with histopathology proven Basal Cell Carcinoma of the face.

Exclusion Criteria

1. Extensive disease with gross involvement of the orbit or intra-orbital infiltration.
2. Patients having multifocal lesions.

RESULTS

Age Group	No. of Patients	Percentage (%)
21-30 years	2	4
31-40 years	2	4
41-50 years	14	28
51-60 years	18	36
61-70 years	8	16
71-80 years	6	12
Total	50	100

Table 1. Age distribution of Patients

Maximum number of patients were in the age group of 51-60 years (36%) followed by 41 - 50 years of age (28%). The average age was 54.4 years.

Out of the 50 patients, 32 (64%) were male and 18 (36%) were females, male: female ratio of about 1.7: 1. Out of all the patients, majority were residents of rural areas (72%).

Maximum patients were either labourers or farmers (80%), who were exposed to sunlight for prolonged durations.

Interval	Number	Percentage (%)
< 6 Months	6	12
> 6 Months	44	88
Total	50	100

Table 2. Time Interval between Onset of Lesion and Presentation to the OPD

In our study, 88% of patients presented to the OPD for evaluation more than 6 months after the onset of the lesion with the average duration of delay being 8.4 months.

The commonest site of the lesion was eyelid [56%] followed by nose, cheek and forehead being 28%, 12% and 4%, respectively.

Coverage Modality	Patients	Percentage (%)
Skin Graft	6	12
Flap	44	88
Total	50	100

Table 3. Coverage Modality Post Excision

Flaps were the most common modality of coverage (88%) after excision of Basal Cell Carcinoma of face.

Type of Flap	Number of Patients	Percentage (%)
Forehead flap	18	41
Nasolabial flap	12	27.3
Fricke's flap	6	13.7
Superficial temporal artery flap	4	9
Free radial artery flap	2	4.5
Combined nasolabial and forehead flap	2	4.5
Total	44	100

Table 4. Type of Flap

Forehead flap was the commonest modality of coverage [41%] followed by nasolabial flap [27.3%].

Patients undergoing excision of lesion followed by coverage with skin graft took 2 weeks to recover, whilst the recovery period was 4 weeks in the patients undergoing flap coverage as a reconstructive modality.

No major complication was noted in any of the patients. Hair growth was noticed in 6 cases where forehead flap was used for coverage of the defect due to extension of the flap into the hair bearing area of the scalp. Flap bulk was noticed in the case requiring combined nasolabial and forehead flap for coverage of nasal defect.



Plate 1. Forehead Flap for Reconstruction of Post Excision Nasal Defect of Basal Cell Carcinoma



Plate 2. Fricke's Flap for Lower Eyelid Reconstruction after Excision of Lower Eyelid Basal Cell Carcinoma

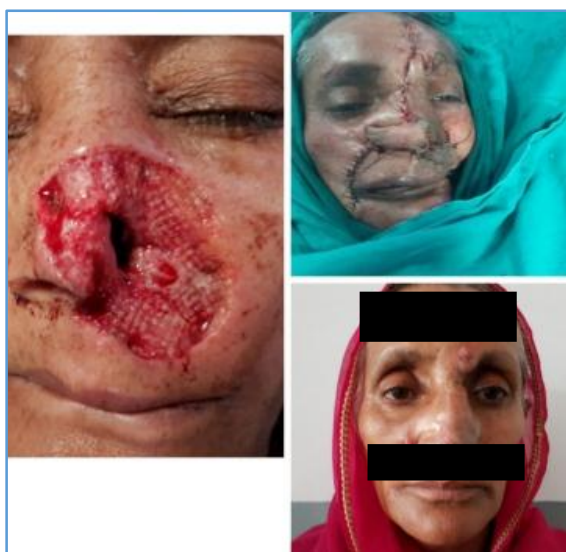


Plate 3. Combined Nasolabial and Forehead Flap for Nasal Reconstruction of Post Excision Defect of Nasal Basal Cell Carcinoma



Plate 4. Free Radial Artery Flap for Forehead Reconstruction following Excision of Basal Cell Carcinoma of Forehead

DISCUSSION

Basal Cell Carcinomas are the most frequent skin cancers usually occurring on the sun exposed of the body with maximum being located over the face. In our study, 50 cases of Basal Cell Carcinoma of face needing excision and coverage were included. Maximum number of patients were in age group of 51 - 60 years. Mean age of patients was 54.4 years. The youngest patient was 29 years old male, whereas the oldest patient was 78 years old male. The relationship between the old age and the incidence of Basal Cell Carcinoma is well established in studies by other authors.^{13,14,15} Males outnumbered the females in our study group with males accounting for 64% of the cases. This finding goes well with the other study groups.^{4,16,17} The incidence of Basal Cell Carcinoma was highest in labourers or farmers (80%). Szweczyk M et al¹⁸ in their study on 312 patients treated for head and neck Basal Cell Carcinomas observed that farmers accounted for 33% of all the patients. The lower eyelid was the most common site of Basal Cell Carcinoma (56%) followed by nose (28%) and cheek (12%). Forehead was the least common site. Allali J and D'Hermies F¹⁹ in their study found that Basal Cell Carcinoma accounted for approximately 90% of the eyelid tumours and most frequently involved the lower eyelid. Jung Hun Choi et al²⁰ found the most common location of the occurrence of Basal Cell Carcinoma is face to the nasal unit followed by orbital unit. In our study the tumour excision was done with a circumferential margin of 5mm, which is close to the margins in other studies.^{21,22}

Flap coverage was employed as a method of reconstruction of the defects following excision. Out of 44 patients undergoing flap coverage, forehead flap was the most commonly used for reconstruction. Six patients undergoing forehead flap for repair had hair growth at the recipient site. The role of forehead flap in reconstruction of facial defects following resection of Basal Cell Carcinoma has been established in other studies too.^{14,23,24}

Nasolabial flap was the second most common modality of coverage (27.3%) in our study with no complications observed during the follow-up period. The role of nasolabial flap for the reconstruction of lower eyelid/ nasal ala has been stressfully done by other authors too.^{25,26}

Fricke's flap was the method of reconstruction in six cases (13.7%) with no complication in post-operative period in our study. Fricke's flap for reconstruction of eyelids and canthi has been used in other studies too.^{27,28}

Superficial temporal artery flap was used in four cases for reconstruction of defect following excision of Basal Cell Carcinoma over the cheek with no post-operative complications. Xu M et al²⁹ reconstructed 12 cases of zygomatic cheek defects using superficial temporal artery flap successfully.

Two large nasal defects occurring after excision of Basal Cell Carcinoma required coverage using combination of forehead and nasolabial flaps. The flaps survived post-operatively. Zelken JA et al used combined nasolabial and forehead flap to cover defects involving the upper lip and nose in 6 patients.³⁰

None of our patients had recurrence of the lesion during followup.

CONCLUSION

We conclude that Basal Cell Carcinoma of face commonly affects labourers/farmers, the lower eyelid being the most common affected anatomical site, flaps are the most versatile reconstructive modality providing a durable coverage with anatomical and cosmetic acceptance with minimal morbidity after doing an oncological resection of the tumour site.

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