

Basal Cell Carcinoma; Pattern of Presentation, Outcome of Different Surgical Procedures in Terms of Post-Operative Infection, Skin Colour Match & Patient Acceptance

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ABSTRACT

Aims: To evaluate the pattern of presentation of Basal cell carcinoma and to compare the outcome of the different surgical procedures in term of post-operative infection, skin colour match and patient acceptance.

Study Design: Cross sectional Descriptive study

Place and Duration of Study: Department of Plastic/Reconstructive Surgery & Burns, LUMHS Jamshoro from 25th February 2010 to 25th August 2010.

Methodology: Forty patients of basal cell carcinoma were admitted through the outpatient and in casualty departments. The patients were diagnosed by pre-operative workup and on clinical parameters finding. The study intended to compare the outcome of the different surgical procedures in term of post-operative infection, skin colour match and patient acceptance. The follow up was comprised mandatory 1st visit after 5days in skin graft and after 1 week in flap and then 2nd visit after 8 days in skin graft and after 3 month in flap.

Results: Twenty six (65%) patients were presented with nodular variety of basal cell carcinoma; the commonest surgical procedure done was flap in n=29 (72.5%) patients, the early postoperative complications seen in this study were infection 2.5% patients, intermediate skin colour in 5% patients and non-acceptance in 10% patients.

Conclusion: Basal cell carcinoma is locally aggressive skin malignancy. Nodular variety is most common variety in our set up. Local flap surgery is useful surgical procedure which results in good cosmetic results and less tissue infection and profound patient's acceptance.

Key words: Basal cell carcinoma (BCC), Pattern, Outcome, Local flap, Full thickness skin graft

INTRODUCTION

Basal cell carcinoma (BCC) is a type of skin malignancy and the well-known disease found in people.¹ Basal cell carcinomas are normally sluggish developing tumor that infrequently spread too far off pieces of the body. Whenever left unmanaged, or insufficiently managed, the BCC can lead broad obliteration of tissue, especially on the face.² The clinical behaviour of BCC is capricious; it might stay little for quite a long time, or it might develop quickly or continue by progressive sprays of augmentation of tumor and halfway relapse.³ The tumor may happen at whatever stage in life, however the rate of BCC increments uniquely after the age of 40. The occurrence in more youthful individuals is expanding, potentially because of expanded openness to the sun. Hazard factors are light complexion, propensity to spot, and serious level of sun openness, male sex, and hereditary inclination.⁴ The primary line treatment of BCC is careful extraction. Numerous choices are accessible, including curettage, cryosurgery, and laser treatment, careful extraction with foreordained edges of clinically ordinary tissue, Moh's micrographic medical procedure, radiotherapy, skin therapy, intra-lesion therapy, photodynamic treatment, immune-modulators, and chemotherapy.^{5,6}

Skin malignancy is the most well-known disease around the world. Its occurrence is multiplying each 15-20 years likely in view of a maturing populace, and expanded Ultra Violet light familiarity because of ozone exhaustion.⁷

Among all skin cancers like squamous cell carcinoma, Melanoma, BCC is without a doubt the most widely recognized harmful skin disease and the well-known human threat by and large, with the consistent expansion in its occurrence.⁸ Basal cell carcinoma is by and large a confusion of white people, particularly those with light complexion. Ultra-violet radiation is the main danger factor in the advancement of it. Short-frequency ultra-violet B radiation (290-320 nm, burn from the sun beams) is accepted to assume a larger part in BCC arrangement than long-frequency UVA radiation (320-400 nm, tanning beams).^{9,10} An inertness time of 20-50 years is common between the hour of UV harm and the clinical beginning of BCC. In this way, much of the time BCC creates on persistently sun-uncovered skin in older individuals, most usually in the space of head and neck. Ultra-violet B radiation harms DNA and its maintenance framework and modifies the invulnerable framework bringing about a reformist hereditary changes and development of neoplasm. Ultra-violet-incited transformations in the TP53 tumor-silencer quality have been found in about half of BCC cases.^{11,12}

Albeit numerous treatment methods are utilized for BCC, little exploration is accessible that precisely thinks about these distinctive management methods against one another and for various kinds of tumor. With an increment in frequency of dermal disease, a decent proof base practice is essential to settle on treatment choices.¹³

Prognosis is superb if the accurate strategy for therapy is utilized in early primary BCCs. Repetitive diseases are a lot harder to fix, with a higher intermittent rate with any techniques for treatment. Albeit basal-cell carcinoma seldom metastasizes, it develops locally with attack and annihilation of nearby tissues. The disease can encroach on fundamental designs like nerves and result in loss of sensation or loss of capacity or infrequently demise. By far most of cases can be effectively treated before genuine complexities happen. The repeat rate for the above treatment choices goes from 50% to 1 percent or less.^{1,8}

This study will help us to define the prevalence in this part of our country and sign & symptoms will help us to define different types of BCC and their pathology and presentation. Operative procedure performed will help to ascertain recurrence rate.

MATERIALS AND METHODS

This study was carried out in Department of Plastic/Reconstructive Surgery & Burns, LUMHS Jamshoro from 25th February 2010 to 25th August 2010. Forty patients of BCCs were admitted through the outpatient and in casualty department. All the patients with basal cell carcinoma were included in the study irrespective of their age. The patients who were unfit for general anaesthesia, patients having associated skin pathology, patients with history of allergic reactions and patients having any poorly controlled systemic co-morbidity like diabetes, hypertension were excluded. The patients were diagnosed by pre-operative workup and on clinical parameters finding. The study was intended compare the outcome of the different surgical procedures in term of post-operative infection, skin colour match and patient acceptance.

The detailed history and clinical examination operative findings, post-operative recovery, postoperative complications and follow up record. Clinical examination of the patient was done with assessment of anomaly of skin that does not become okay within few weeks. Co-morbid investigated to record. The sample patients were consulted about their willingness and written consent before adapting either of the operative method. The follow-up comprised mandatory 1st visit after 5days in skin graft and after 1 week in flap and then 2nd visit after 8 days in skin graft and after 3 month in flap (Figs. 1-3). The data was entered and analyzed through SPSS-24.

RESULTS

There were 28 (70%) females and 12 (30%) were males with mean age 36.78 years. Twenty six patients had nodular at head and neck, pigmented in 11 (27.5%) and superficial in 3 (7.5%). The commonest surgical procedure done was flap in 29 (72.5%) patients, full thickness graft in 7 (17.5%) patients and primary closure in 4 (10%) patients (Table 1). The early postoperative complications seen in this study were infection in n=2.5% patients, intermediate skin colour in 5% patients and late non acceptance in 10% patients (Table 2).

Table 1: Demographic information of the patients (n=40)

Variable	No.	%
Gender		
Male	12	30.0

Female	28	70.0
Age (years)		
20-30	3	7.5
31-40	18	45.0
41-50	10	25.0
51-60	6	15.0
61-70	3	7.5
Type of Tumour		
Superficial	3	7.5
Pigmented	11	27.5
Nodular	26	65.0
Type of Surgery		
Flap	29	72.5
Full thickness graft	7	17.5
Primary closure	4	10

Table 2: Postoperative complications (n=40)

Postoperative complication	No.	%
Early infection	1	2.5
Intermediate skin colour	2	5.0
Late non-acceptance	4	10.0
No complication	33	82.5

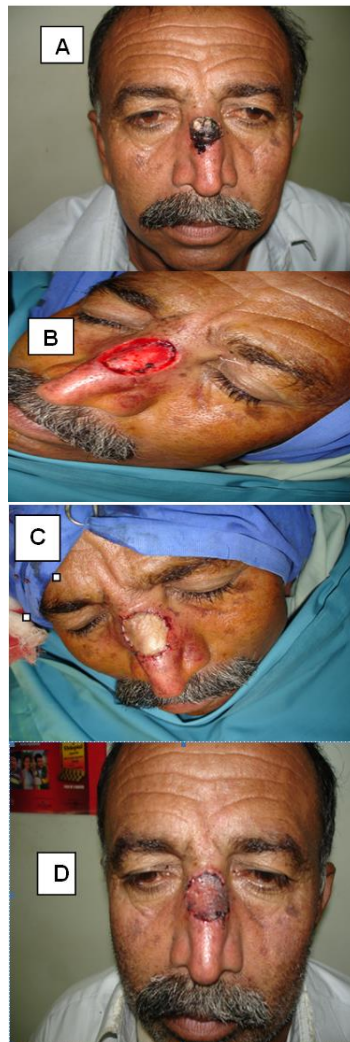


Fig. 1: (A) BCC at dorsum of nose (B) Tumor is excised with 5mm tumor free margins (C & D) Full thickness graft placement & successful take



Fig. 2: (A) BCC of medial side of cheek (B) Rhomboid flap is done after excision of tumor

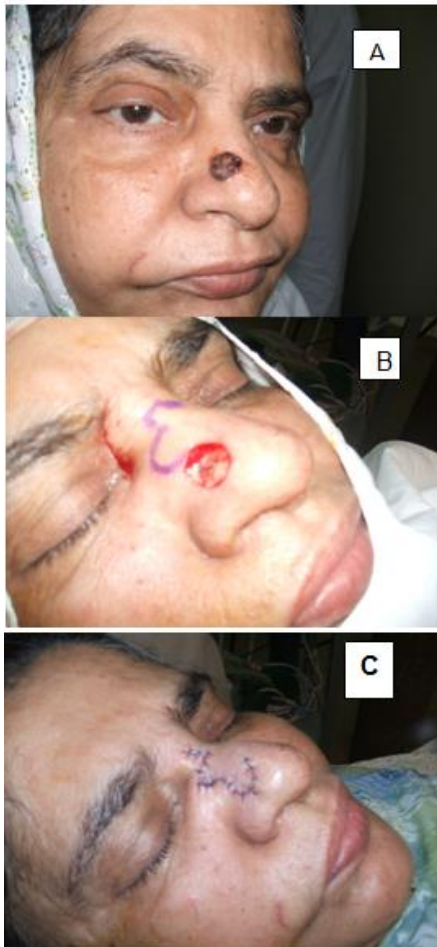


Fig. 3: (A) BCC of lateral wall of nose (B) Excision of tumor with marking of bilob (C) Bilobed flap

DISCUSSION

Epidemiologic data exhibit the higher frequency of the BCC near to the equator or at high altitude.¹⁴ It is significantly more typical in lighter looking people with a family ancestry. There are around 8 lac new cases annually in the USA alone. About one third of White individuals foster BCC in their life. In Canada, well-known skin disease mostly is BCC (however 33% of all malignant growth analyze), influencing 1 out of 7 people over a life time. In the USA roughly 3 among 10 White individuals foster a BCC in their life time. Most inconsistent BCC emerges in little numbers on sun-uncovered skin of individuals over age 50, albeit more youthful individuals may likewise be influenced.^{15,16}

Other danger factors for the occurrence of BCC incorporate ultraviolet rays, sun bath use, family background of skin malignancies, immuno-suppression, past radiotherapy, and constant openness to harmful toxin like inorganic arsenic.¹⁷ Albeit seldom metastatic, its harmful nature is some of the time stressed by the neighborhood tissue obliteration, distortion, and even demise whenever left untreated.¹⁸

Management requires a multidisciplinary approach. Surgery for BBCs can be surgically delt if lesions are limited, different therapies include laser ablation, photodynamic therapy and chemotherapy.¹⁹ Literature shows that World wide different studies has been formed that are showing the different clinical types of BCC and also the different treatment modilities has been adopted to cure this lesion.²⁰ Basal cell carcinoma is mostly diagnosed in old age.²¹ But in our study there was with age range of 20-70 years with the mean age of 36.78 years.

Buljan et al²² describes the various varieties in clinical presentation of BCC, such as nodular, ulcerating, pigmented, sclerosing, superficial, and fibroepithelioma of Pinkus; each differs in symptoms, signs, histopathology and aggressiveness in behavior. But in our study presentation of patients were nodular at the head and neck in 26 (65%), pigmented in 11 (27.5%) and superficial in 3 (7.5%). The advancement of new remedial methodologies and treatment strategies for the removal of BCC is vital in fighting what is a developing issue. Careful techniques, such as Mohs procedure, cryotherapy/cryosurgery, curettage and carbon dioxide laser treatment, just as non-operative methods, for example, radiotherapy are perceived as potential options.^{22,23}

Buggiani et al describes that photodynamic therapy is powerful therapy choice in treating the non melanotic skin malignancy including BCC.²⁴ Karve et al²⁵ proposes that recommend that utilization of imiquimod 5% cream can be more financially savvy than careful intercessions, for example, extraction medical procedure among patients with superficial BCC.

Thosani et al²⁶ discussed the role of immunostainig in conjugation with mohs microsurgery as a treatment of choice for the removal of skin tumors including BCC. Immune-stains feature the tumor cells and permit the Mohs specialists to pin point and kill the left over tumor at the surgical edge. It is particularly useful when a tumor gives inconspicuous or vague histologic highlights or when a tumor is concealed in a pocket of thick inflammation.^{23,25}

While Fien et al²⁷ describes the importance of photodynamic therapy in BCC, photodynamic therapy (PDT) includes the organization of a photosensitizing drug and its resulting enactment by light at frequencies coordinating with the retention range of the photosensitizer. Since the skin is promptly available to light-based treatments, PDT with foundational and especially with skin specialists has gotten significant in treating cutaneous problems. Effective PDT is shown in treating slight non-melanoma skin malignancy including a few instances of nodular basal cell carcinoma. Benefits of aminolevulinic corrosive/methyl aminolevulinate PDT incorporate the chance of synchronous treatment of numerous tumors and huge surface regions, great cosmesis, and negligible dismallness, like dying, scarring, or infection. Similarly Nestor et al²⁸ and Szeimies²⁹ showed the importance of photodynamic therap in BCC treatment.

Surgical extraction is an exceptionally successful treatment for primary lesions. To play out the best careful treatment, the size of the peripheral and deep surgical edges should correspond with the probability that subclinical tumor expansions exist.³⁰ Concurring Griffiths et al³¹ profound edge leeway is in the reach somewhere in the range of 0,1 and 9.9 mm. For the most part, as this will rely on the nearby life systems, extraction through subcutaneous fat is advisable.

As indicated by the Telfer et al³² that extraction of little (<20 mm) obvious lesions with a 3 mm peripheral surgical edge will clear the tumor in 85% of cases. A 4-5 mm fringe edge will build the fringe freedom rate to roughly 95%, showing that around 5% of little, obvious BCCs reach out over 4 mm past their evident clinical margins.

Griffiths has given a useful account of hiarchy of types of wound closure avilable according to complexity like primary suture, split and full thickness garft , local and distant flap.[33] In our study we have performed surgical excision in all 40 patients with tumor free margins of 5 mm. After excision for resultant defect we have performed flap in 29 patients (72.5%) in larger defects which we were unable to close primarily and in which tumor involvement was deep, muscles were involved or underlying bone was exposed. we have also performed full thickness graft in 7(17.5%) patients in which lesion was too large to permit primary closure, to give a cosmetic matching colour and contour of skin. For smaller lesions in which there was much tissue laxity we have performed primary closure in 4 patients (10%) [Table 1].

We have performed variety of local skin flaps including bilobed flap, rhomboid flap, median forehead flap and cheek advancement flap etc. Rustemeyer J et al shows significant complication rate and the variety of complications like wound dehiscence, graft loss and flap loss that resulted in significantly more aesthetic deficit.³⁴ We have also seen complications but the no of complications were slightly less and no serious deformity was encountered. We have found infection in 2.5% patients, intermediate skin color in 5% patients and late non acceptance in 10% patients (Table 2). Wound infection was successfully treated with proper antibiotics and skin color change and nonacceptance we have councelled the patiens and they became satisfied.

The most ideal approach to lessen your opportunity of getting skin disease as BCC are: Stay away from the mid year sun when it's most elevated in the sky between 11 a.m. furthermore, 4 p.m. Look for conceal when you are outside - or make your own, Wear a wide-overflowed cap that conceals the rear of your neck, your ears and your face, Wear dress that covers your arms, back and legs, generously apply expansive range sunscreen with a SPF of in any event 15 to uncovered skin, never use tanning gear & It is likewise a smart thought to wear UV-defensive shades when in the sun.^{35,36}

CONCLUSION

Basal cell carcinoma is locally aggressive skin malignancy. Nodular variety is most common variety in our set up. Local flap surgery is useful surgical procedure which results in good cosmetic results and less tissue infection and profound patient's acceptance.

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