

“EFFICACY OF 3MM CLINICALLY PALPABLE EXCISION MARGINS FOR THE TREATMENT OF 2CM OR LESS PRIMARY FACIAL BCCS”

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ABSTRACT

Objectives: To determine the efficacy of 3mm clinically palpable excision margins for the treatment of 2cm or less primary facial Basal cell carcinoma (BCC) in terms of margin clearance and recurrence.

Study design: Descriptive cross-sectional

Place and Duration: Plastic Surgery Clinic, Aman Hospital Dabgari Gardens Peshawar from January 2012 to Jan 2014.

Material and Methods: A total of 40 clinically diagnosed primary facial BCCs, were included in the study. Tumor size more than 2cm, recurrent tumors, patients who received preoperative radiotherapy were excluded from the study. They were excised taking 3mm clinically palpable excision margins by the same Plastic surgeon and tissue specimens sent to same laboratory for histopathological confirmation and margin clearance. These patients were analyzed in terms of margin clearance and recurrence rate. All patients were followed for a minimum of two years to see for any recurrence.

Results: A total of 40 patients each with a single tumor including 32 male and 8 female with a mean age of 58.6 years were studied. 36(90%) tumors were histologically clear of tumor cells while in 4(10%) cases, tumor was found involved. Out of these 4 patients, 3(7.5%) patients had their tumor involved on lateral sides while deep involvement was found in 1(2.5%) patient. Periocular area was found to be the most common site for incomplete excisions i.e. 3(7.5%) followed by nose in 1(2.5%) patient. During 2 years follow-up period, only 1 (2.5%) patient had tumor recurrence.

Conclusion: As there is strong interplay between achieving clear excision margins and obtaining satisfactory cosmetic and functional outcome, therefore keeping margin clearance to minimum can solve this dilemma. Moh's micrographic surgery, though addresses these issues, but due to its non availability in Pakistan, is not practicable.

Therefore we propose that clinical excision margins of 3mm might be adequate for tumors of 2cm or less. Further randomized controlled trials will have to be carried out to strengthen this hypothesis.

Key words: Basal cell carcinoma; excision; margin clearance, recurrence.

INTRODUCTION

Basal cell carcinoma is the most common slow growing tumor of epidermal origin.¹ Its incidence has been increasing in the past two decades.² Head and neck area is the most common site of involvement.³ Exposure to ultraviolet light, ionizing radiation, fair skin,

male sex, immunosuppression, tendency to freckle in childhood and chronic exposure to certain toxic substances such as arsenic are the likely causative factors.⁴

There are different subtypes such as nodular, ulcerative, cystic, superficial, sclerosing, pigmented and basosquamous BCCs.⁵ Most BCCs cause local tissue destruction in a 3-D plane and does not metastasize.⁶ Morpheaform and basosquamous are the types with aggressive behavior and if not properly managed, can recur even in a more aggressive way.⁷

The mainstay of therapy for these lesions is surgical excision though different treatment options have been narrated in textbooks such as curettage, electrodesiccation, cryosurgery, radiotherapy etc.⁸ Recently a new surgical technique known as Mohs Micrographic Surgery has been introduced into the armamentarium of treatment for these lesions and is considered as an ideal treatment option with lowest recurrence rate but requires specialized training, is time consuming and has long operative time.⁹

An ideal treatment option should totally cure the BCC, produce optimal aesthetic and functional out-

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come and with no recurrence rate.¹⁰ Plastic surgeons surgically remove these tumors taking in to account adequate margins both in periphery and depth with obvious superior results. Though there is no general consensus of how much should be the excision margins but 2-10mm range is cited in different research articles depending upon the size and nature of the BCCs². This study is aimed to determine the efficacy of 3mm excision margins to treat facial BCC of size 2cm or less and its rate of incomplete excision and recurrence for these size tumors.

MATERIAL AND METHODS

This study was carried out at the Plastic and Reconstructive Surgery Clinic, Aman Hospital, Dabgari Gardens Peshawar from January 2012 to Jan 2014. All the patients were enrolled from Out Patients' department or referrals from other Specialities. After explaining the study protocol informed consent was acquired from all patients.

Inclusion criteria: All the patients with clinically diagnosed primary facial BCC of size 2cm or less were included in the study.

Exclusion criteria: Those cases who received pre-operative radiotherapy which could bias clinical assessment of BCC margin were excluded from the study. Recurrent tumors were also omitted.

After hospital admission, patients were subjected to detailed clinical history and physical examination and investigations for anesthesia and surgical fitness. Clinically the BCCs were diagnosed on the basis of typical prolonged history of lesion on the facial area having physical characteristics of rolled over edges of the ulcer formation and nodularity etc. All tumors were marked first at their margins and then at 3mm distance. These were excised taking 3mm clinically palpable safe margins and deeper at subcutaneous level. The biopsy specimens being marked at 12 o'clock position were sent to the same laboratory for histopathological confirmation and margin clearance. Incomplete excision was defined as a pathologic report that indicated the presence of tumor cells at the surgical margins of the lesion.

Patients were followed for a minimum of two years to see for any recurrence. We analyzed this data in terms of age, gender, site, histopathological margin clearance and recurrence.

RESULTS

A total of 40 patients were included in this study, each patient with a single tumor. 32 (80%) were male and 8 (20%) female, with male to female ratio of 4:1 and with mean age of 58.6 years. The size of BCCs ranged from 1.5-2mm. All the tumors were excised with 3mm clinically palpable margins and deep at the subcutaneous level.

The histopathological reports revealed that 36(90%) patients were free of tumor while in 4(10%) patients, positive margins were found. Out of these 4 patients, 3(7.5%) patients had their tumor involved on lateral sides while deep involvement was found in 1(2.5%) patient.

Table 1. Differentiation pattern of complete vs incomplete excision of BCCs

Differentiation pattern	Complete excisions n=36 (90%)	Incomplete excisions n=4 (10%)
Ulcerative	13 (32.5%)	0 (0%)
Nodular	15 (37.5%)	0 (0%)
Superficial spreading	5 (12.5%)	0 (0%)
Morpheaform	2 (5%)	3(7.5%)
Basesquamous	1 (2.5%)	1(2.5%)

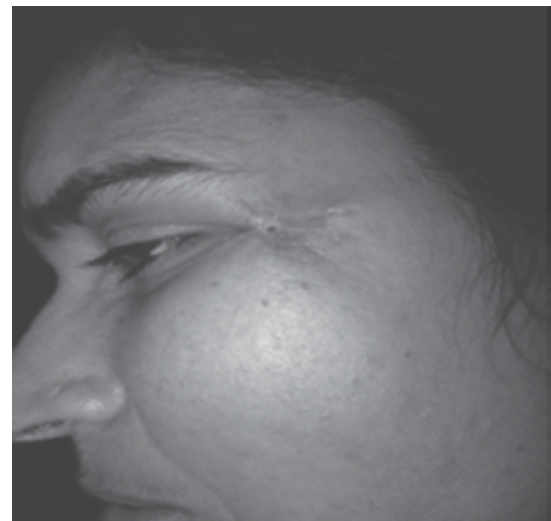


Fig.1 sclerosing type BCC



Fig. 2 Marking at 3mm distance from tumor

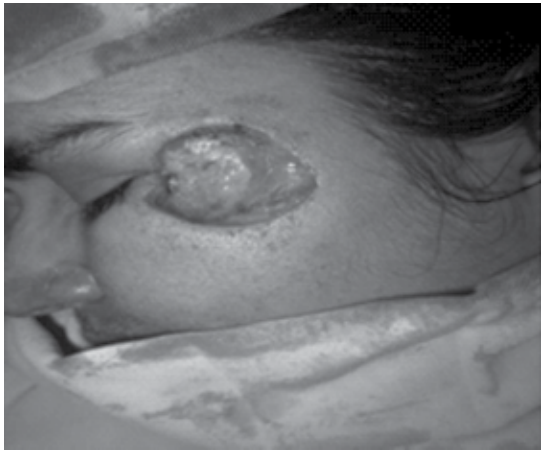


Fig.3. Defect after excision graft

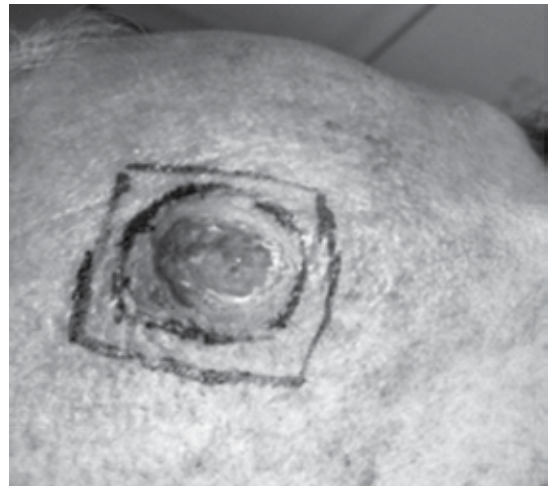


Fig 2. Tumor marked at 3mm



Fig 4. Coverage with full thickness skin

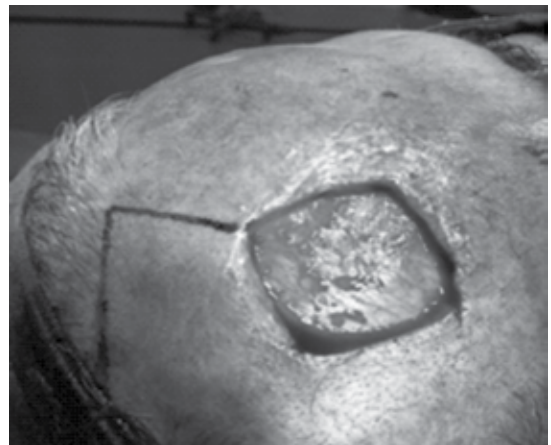


Fig 3. After excision and design of rhomboid flap



Fig.1 BCC Rt temple

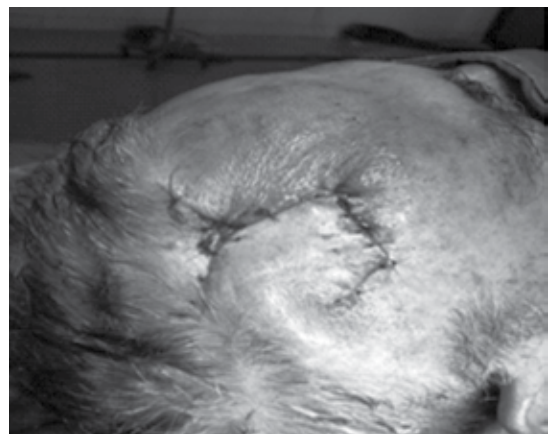


Fig 4. Final closure

The most common site of incomplete excision was periocular i.e. 3(7.5%) cases followed by nose in 1(2.5%). The histopathological type of BCC in those with Positive margins showed morpheaform type in 3(7.5%) and basisquamous in 1(2.5%) patients. Table 1 illustrates differentiation pattern in complete versus

incomplete excision of Bccs.

Those patients with positive tumor margins were observed at three months interval for two years. Over two years of follow up period, only 1 (2.5%) patient had tumor recurrence. Thus a positive margin has an

average recurrence rate of 25%.

DISCUSSION

Basal cell carcinoma is the most frequently occurring epidermal neoplasm with increase its incidence in the past few decades². This disease is responsible for considerable morbidity especially in the head and neck area though the mortality is not that much high. Solar radiation and exposure to ultraviolet light is the main causative factor in its prevalence³.

Though there are different non surgical and surgical treatment options available to treat these neoplasms like curettage, electrodesiccation, cryotherapy, radiation, 5-Flourourasil etc but Surgical excision is the mainstay of therapy for these lesions and is highly effective for primary BCC¹². In surgical excision, the tumor is removed with a clinically normal surrounding tissue of variable dimensions. There is no general consensus about the safety excision margins though a range of 2-10mm has been set as a guideline to treat basal cell carcinomas depending upon the type and size of these neoplasms.¹⁰ As there is strong interplay between excision margins and cure of these locally aggressive lesions especially in head and neck area, we evaluated the efficacy of 3mm excision margins in a specific group of these tumors of size 2cm or less.

In this study the ratio of male to female patients was higher i.e.4:1 as compared to other studies by Bisson MA¹¹ et al. This might be due the fact that in our society female patients often present late to health care facility thereby letting the tumor to get bigger in size.

In this series the margin clearance rate was 90% while in 10% cases the margins were affected by the tumor. These findings are well supported by studies of Bisson MA¹¹ et al, Griffiths RW¹² and Telfer NR et al¹⁰ who noticed that more than 90% lesions were found cleared of tumor. However in their study there was no limit of tumor size while we restricted our study to tumor size less than or equal to 2mm and which might account to this high percentage of tumor clearance in our study.

The findings of this study with 90% clear rate of basal cell carcinoma is not supported by the study of Cigna E et al¹³ who in their study showed that 3mm margin of excision is not adequate for treatment of these neoplasms. This difference might be due the fact that they have included in their study all sizes of basal cell neoplasms and didn't consider the site of these lesions i.e included BCCs on trunks and limbs as well. Moreover, their study sample was 1123 as compared to our sample of 40 patients.

In this current study, the most common site of incomplete excision was periocular in 7.5% followed by nose 2.5%. This finding is well comparable to the study by Patel SS et al¹⁴ who also found the same sites to be the most common sites of involvement of incomplete excisions. However, the ratio of lateral to deep tissue

involvement in current study is not supported by Patel SS et al who observed each 3.5% positive peripheral and deep margins in their study in contrast to 7.5% and 2.5% respectively in our study. This might be to the fact that in our study the lateral margins were found positive in morpheiform type of neoplasm i.e. 3 cases which is very aggressive type. Similarly they included Basal cell neoplasms on all parts of the body in contrast to our series of these neoplasms on face only which has great cosmetic and functional importance.

The management of positive margins after resection of basal cell neoplasm is disputable though there are three options available, i.e. re excision, radiotherapy and wait and see approach¹⁴. As compared to our previous study, RAK et al¹⁵, where we sent the patient with positive margins for radiotherapy, this time we adopted the wait and see approach.

The overall recurrence rates after 2 years follow up was 2.5% in our series which is much lower than that observed by Ceilley RI et al.⁸ and Telfer NR et al.¹⁰ after 5 years follow up. These lower rates of recurrence in this study may be due to the small size of these tumors, comparatively shorter duration of follow up and a small sample size.

CONCLUSION

As surgical resection is the cornerstone in treating these most common cutaneous neoplasms, a 3mm surgical resection margin can be safely undertaken for non morpheiform type of basal cell carcinomas to attain 90% cure rate for lesions 2cm or smaller. This attitude becomes so much important in head and neck area where functional and cosmetic concerns are of utmost importance. Similarly a positive pathological margin has 25% average recurrence rate even by adopting wait and see approach.

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