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Indian Journal of Clinical and Experimental Ophthalmology

Journal homepage: www.ijceo.org

Original Research Article

Clinio-pathological study of recurrent basal cell carcinoma in periocular region

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ARTICLE INFO

Article history:
Received 09-01-2023
Accepted 23-02-2023
Available online 30-06-2023

Keywords:
Basal cell carcinoma
Mohs surgery
Periocular tumors
Surgical excision
Metastasis

ABSTRACT

Aim: To evaluate the prevalence, topographical location and histological type of recurrent basal cell carcinoma in periocular region at tertiary care centre.
Materials and Methods: Clinical and histological data was collected from the patients treated for recurrent basal cell carcinoma (BCC) in periocular region during Jan 2019 to Dec 2021 was analyzed for prevalence, topography, histological type in recurrent cases.
Results: 280 cases were managed during Jan 2019 to Dec 2021. Out of these 44 were recurrent BCC. In recurrent cases 30 were male and 14 were female. Majority of recurrences about 80% occurred within 3 years of primary excision.
Conclusion: Ocular adenexa is most common anatomical site for recurrent basal cell carcinoma. Histologically also more than 80% cases were having of recurrence. Recurrence after incomplete excision is reported to be 20% with 5-9 years of follow-up. Thus, we suggest that all patients who had undergone BCC surgical excision should be re-examined regularly even if surgical margins were negative on histopathology or tumor was indolent in nature.

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1. Introduction

Basal cell carcinoma (BCC) is the most common skin malignancy.[1,2] It constitutes approximately 80-90% of all malignant skin tumors. Prolonged exposure to sunlight seems to be an important predisposing factor.[3] It has diverse clinical presentation in terms of clinical appearance, histopathology and biological behaviour.[4,5] Metastatic potential is very rare; incidence of metastasis is about 0.003-0.5%.[6,7] Several treatment options have been described but gold standard method of treatment of BCC is still total surgical excision with margins control either by frozen sections or Moh's micrographic surgery.[8] Late and untreated case of BCC can lead to extensive tissue destruction which causes cosmetic disfigurement and functional disability. Recurrence after primary surgical excision remains the major concern.[9]

The most important factors which help us in prediction of recurrent BCC are topographical location of tumor, status of excised lesion surgical margins, and histo-pathological type.[10,11]

The definite prediction of which BCC be considered for high risk of recurrence have failed in spite all diagnostic criteria, even the exact incidence of recurrence cannot be estimated objectively because recurrence risk depends on several factors.[12,13]

The aim of the study was to evaluate the prevalence, topographical location and histological type of Recurrent BCC in periocular region diagnosed and managed at tertiary Care centre.

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https://doi.org/10.18231/j.ijceo.2023.047
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2. Materials and Methods

Retrospective study in which clinical and histological data was collected from the records of the patients which were diagnosed and treated for recurrent BCC in periocular region during Jan 2019 to Dec 2021 was analyzed for prevalence, topography, histological type in recurrent cases. Total 280 cases were taken in the study. Inform consent had been obtained from the patients. Ethics committee approval had been obtained for this study.

The study excludes the recurrent cases of BCC presented to center which were treated elsewhere for the primary lesions. As in such cases we don't have the records of primary BCC, its histological type and status of surgical margins.

2.1. Surgical technique

All primary and recurrent BCC cases were surgically excised under local anesthesia in the form of total surgical excision of lesion along with 2 mm clinically free margins. Frozen sections of the tissue were evaluated. When all the margins were reported to be free of tumor residue wound closure was done either with flap, or graft for maximum cosmetic and functional integrity. Specimen was fixed in formalin for further histopathology and send to pathologist.

Based on histopathological reporting BCC histopathological type were categorized into Indolent growth variant and aggressive growth variant. Indolent growth variant comprised superficial, nodular, nodulo-tricoepithelial and aggressive growth variant included the infiltrative type, morpheaform, metatypical, nodular infiltrative.[13]

3. Results

Total number of 280 cases of BCC in periocular region were managed during Jan 2019 to Dec 2021.

Out of these recurrent BCC account 15.7% of all diagnosed cases. In recurrent cases 30 were male and 14 were female. Mean age of individuals at the time of diagnosis of recurrence was 62 years (range 38- 88 years). There was no significant difference between mean age of male (60) and female (66). 10 recurrent cases were excluded from the study as they were treated elsewhere for the primary lesion. The time interval between primary and secondary excision of BCC varies from 18 months to 96 months, with mean of 32 months. Majority of recurrences about 80% occurred within 3 years of primary excision.

The topographical localization of recurrent BCC was as follows: out of 44 cases of recurrent BCC, majority was on the lower lid (11 case, 25%), followed by medical canthus and cheek 7 cases each (15.9%), on auricle 4 cases (9.1%), upper lid 4 cases (9.1%), nasolabial groove 3 cases (6.8%), 3 cases on lateral canthus (6.8%), 2 each cases on nose and fore head (4.5%), and 1 case on temporal region (2.2%). Ocular adenexa was affected in about 25 cases (56.8%).

Histological features: Histological type of all 44 recurrent cases of BCC were as follows:

Table 1: Topographic location of recurrent BCC

Topographic location of recurrent Basal cell carcinoma	**N (44)**	**%**
Lower lid	11	25
Medial canthus	7	15.9
Cheek	7	15.9
Auricle	4	9.1
Upper lid	4	9.1
Nasolabial groove	3	6.8
Lateral canthus	3	6.8
Nose	2	4.5
Forehead	2	4.5
Temporal region	1	2.2

Table 2: Distribution according to the histopathology

Histopathological types (44)	N	%
Indolent	N-19	43.00%
Nodular	12	27.20%
Superficial	4	9.10%
Nodulo-tricoepithelial	3	6.80%
Aggressive type	25	57.00%
Nodulo infiltrative	13	29.50%
Infiltrative	6	13.60%
Morppheic	4	9.10%
Metatypical	2	4.40%

Which compares the primary tumor histology type with recurrent BCC histological type we got 19 cases (43.18%) were having identical histological type, 8 cases (18.2%) have developed a more aggressive histological picture.

Table 3: Comparison table of histopathological type I primary and recurrent BCC

Indolent	**19 cases**	**43.18%**
More aggressive type	8 cases	18.20%

4. Discussion

The aim of the study was to evaluate the prevalence, topographical location and histological type of Recurrent BCC in periocular region diagnosed and managed at tertiary Care centre. In this study ocular adenexa is most common anatomical site for recurrent BCC, lower lid, medial canthus involved in around 80% cases followed by upper lid and lateral canthus which is in agreement with other studies.

Histologically also more than 80% cases of recurrent BCC have similar histological features as we found in primary BCC. Nodular and nodular infiltrative types were the most common histological type in recurrent BCC cases indolent and aggressive variant. Recurrence after

incomplete excision is reported to be 20% with 5-9 years of follow-up.[11–13] Several studies report that medial canthus and morphemic histology are associated with incomplete resection rates and significant higher recurrence rate with incomplete excision being the main risk factor for recurrence.[14–20] Some studies has reported that excision under frozen section has a recurrence rate of 2.1% after 5 years while excision without frozen section control has recurrence of 5%. Periocular lesions has reported to be extensive subclinical spread.[11–13]

5. Conclusion

The study suggests that all patients who had undergone BCC surgical excision should be re-examined regularly even if surgical margins were negative on histopathology or tumour was indolent in nature. Patients should undergo careful monitoring for at least 5 years or if possible life long. Ocular adenexa is most common anatomical site for recurrent Basal Cell Carcinoma. Recurrence after incomplete excision is reported to be 20% with 5-9 years of follow-up. Thus, we suggest that all patients who had undergone BCC surgical excision should be re-examined regularly even if surgical margins were negative on histopathology or tumor was indolent in nature.

6. Source of Funding

None.

7. Conflict of Interest

None.

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Cite this article: Pandey AN, Tyagi M, Sharma S. Clinio-pathological study of recurrent basal cell carcinoma in periocular region. *Indian J Clin Exp Ophthalmol* 2023;9(2):252-254.