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Original Research Article

Management of basal cell carcinoma: our experience at tertiary care institute

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ABSTRACT

Background: Basal cell carcinoma (BCC) is a slow growing, locally invasive and most common skin cancer. Its etiology is mostly linked to exposure to U.V. rays in sunlight. Diagnosis is mostly clinical and wide local excision is main treatment modality.
Methods: The study was conducted on 50 cases of BCC diagnosed at Sri Guru Ramdas University of Health Sciences during a study period extending from January 2013 to January 2021. In the present study various variables associated with BCC i.e. age, gender, size, site, and histopathology were studies.
Results: The present study was conducted on 50 patients of BCC. Total number of males was 32 (64%) and there were 18 (36%) females. Mean age of patients presented with BCC was 65 years and SD=14.054. It was observed that most common site of lesion was infra orbital region 12 (24%). Size of lesion varied from 1 to 3 cm and wide local excision with flap was most commonly performed procedure at our Institute. Nodular sclerosing was observed to be the most common histopathological type accounted for 35 (70%) of total cases.
Conclusions: BCC is a common surface malignancy amenable to early detection and potential cure. Infra orbital region is most common site and nodular sclerosing is most common histopathological type. Wide local excision remains the heart of treatment.

Keywords: BCC, Wide local excision, Mohs microsurgery, Skin flap, Split skin grafting

INTRODUCTION

BCC is a slow growing, locally invasive tumour of skin.[1] BCC so named as its cells are similar to those of basal area of appendages.[2] It is among the most common skin cancers and its incidence is rising in many countries.[3] The incidence of BCC varies in different countries depending on various geographical factors. Its aetiology is mostly linked to exposure to U.V. rays in sunlight on exposed parts of skin.[2] Exposure to ionizing radiation, Arsenic, chronic wound and prolonged immunosuppression are among other risk factors.[3] Clinically patient present with indurated nodule or ulcerative lesion. Diagnosis is mainly clinical and good clinical examination with magnification is mostly sufficient. Indication of biopsy are in case of diagnostic dilemmas and when we want to know the histopathological sub-type in order to plan treatment. Imaging techniques as CT scan and MRI have only role in some cases when we have to rule out Bony, Neurovascular, parotid and Orbital involvement.[4] BCC is a locally invasive but rarely metastatic.[5] Many treatments are available such as Radiotherapy, Cryosurgery etc but

wide local excision and flap remains main treatment modalities.[1,6] Three mm margins can be safely used in lesions less than equal to 2 cm size with minimal recurrence.[5]

The Aim of the study is to evaluate the pattern of BCC, Age incidence, Histopathology, gender distribution in this geographical region.

Most common treatment plan followed in our Tertiary care institute was also studied.

METHODS

The prospective study was conducted on 50 diagnosed cases of BCC at Sri Guru Ramdas University of Health Sciences during study period extending from (January 2013 to January 2021).

Inclusion criteria

All the newly diagnosed and recurrent cases of BCC in all the age groups during the study period were included in study.

Exclusion criteria

Already diagnosed patients of BCC who received some treatment outside our institute as cauterization etc were excluded.

Patients were selected According to the inclusion and exclusion criteria for present study. Preoperative workout of the selected patients for present study was done and thus the planned treatment was done. Follow Up was done for the period of 2 months.

Ethical approval was taken from the ethical committee of the institution. The statistical analysis was done with the help of Statistical package for social sciences (SPSS) version- 20.

RESULTS

The present study was conducted on 50 patients selected according to the inclusion criteria. The data obtained was analysed by SPSS version 20.

Table 1: Age wise distribution of patients (n=50).

Variable	N	Min	Max	Mean	SD
Age	50	35	95	65.08	14.054

Descriptive analysis was done in order to explore the frequency of most common site of lesions, various histopathological variants, size and surgical procedures done.

The non-parametric test i.e., Chi-square was run to explore the statistical significance of difference seen in gender and histopathological variants.

Table 2: Gender wise distribution (n=50).

Gender	Frequency	%	X^2 value (df)	P value
Female	18	36.0		
Male	32	64.0	3.920 (1)	0.048*
Total	50	100.0		

*p<0.05

Table 3: Distribution of BCC according to site.

Site of lesion	Frequency	Percentage
Cheek	6	12.0
Forehead	4	8.0
Infraorbital region	12	24.0
Malar region	4	8.0
Nasolabial fold	4	8.0
Nose	11	22.0
Mastoid	2	4.0
Lower eyelid	1	2.0
Scalp	3	6.0
Temporal region	2	4.0
Upper lip	1	2.0
Total	50	100.0

It is evident from the table 1 that the age range of patients was from 35 to 95 years with mean age of 65 years and SD is 14.054.

Results shown in table 2 indicated that males accounted for 32 (64%) of patients of present study and females constituted 18 (36%) of total sample. The Chi-Square value thus obtained is 3.920 (df=1) which is statistically significant beyond 0.048. Therefore, it is clear from chi-square test that there was significant male preponderance.

It is evident from table 3 that most common site of lesions was infraorbital region 12 (24%) followed by nose 11 (22%), cheek 6 (12%), forehead 4 (8%), malar region 4 (8%), nasolabial fold 4 (8%), scalp 3 (6%), mastoid 2 (4%), temporal region 2 (4%) and the least common sites involved were upper lip 1 (2%) and lower eyelid 1 (2%).

It is evident from the table 5 that most commonly followed surgical procedure is wide local excision with different kinds of flaps or split skin grafting.

As evident from above table Nodular Sclerosing is most common histopathological sub-type (70%) and infiltrative being least common (8%). The Chi-Square value thus obtained is 31.720 (df=2) which is statistically significant beyond 0.00. Therefore, it is clear from chi-square test that there was statistically significant

difference between various histopathological variants of BCC.

Table 4: Distribution of lesions according to size.

Size (cm)	Frequency	Percentage
1.5×1.5	8	16.0
1×1	15	30.0
2.5×2	2	4.0
2×1	4	8.0
2×2	18	36.0
3×3	3	6.0
Total	50	100.0

Table 5: Surgical procedures done in BCC.

	Frequency	Percentage
LWE and direct closure	5	10.0
L W E and flap	33	66
L W E and SSG	12	24.0
Total	50	100.0

Table 6: Histopathological variants of BCC.

HPS	Frequency	Percentage
Infiltrative	4	8.0
Nodular sclerosing	35	70.0
Superficial spreading	11	22.0
Total	50	100.0

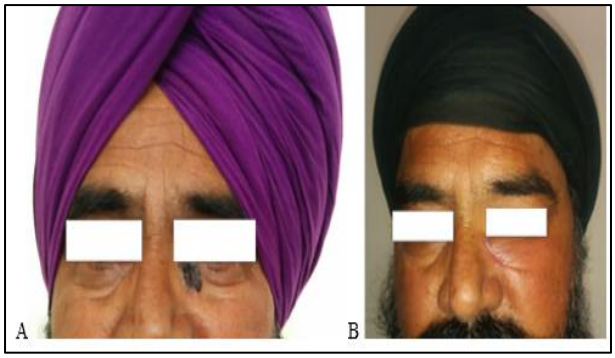

Figure 1: (A) Preoperative. (B) Postoperatively after wide local excision and flap being done.

DISCUSSION

The main finding of present research are discussed in the light of relevant literature. The present study was undertaken to study the variables associated with BCC i.e., age, gender, site, size and histopathology. In the present study the mean age at the time of diagnosis was 65 years, which is similar to most of studies conducted word-wide.[7-10] BCC is more frequent among males as compared to females in the present sample. The results are in line with the findings of research conducted by Shah and Coates, 2006.[11] The probable reason of for gender difference i.e., male preponderance might be more exposure to sunlight and age difference i.e., elderly susceptibility many be attributed to oxidative stress, Genome structure and gene expression, immunocompetent and connective tissue stability.[12]

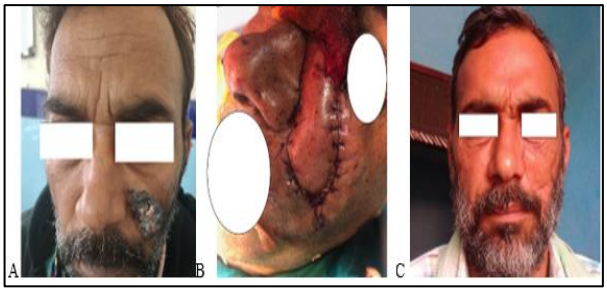

Figure 2: (A) Patient with BCC near cheek region preoperative. (B) Intraoperative WLE and flap done. (C) Postoperatively after wound healing.

The most frequent site of lesion found in present research is infraorbital region of face above Onghren's line. Onghren's line is imaginary line joining the angle of mouth and ear lobule.[13] Lorenzini, Gatti, Giannitrpani also explained that 80-85 percent of BCC occur on head and neck region.[13] Jain et al also reported that 80 percent of BCC originate above the line from corner of mouth to ear lobule which is in line with the findings of present research. Further, authors explained that exposure to ultraviolet radiation for lifetime is the major factor involved in pathogenesis of BCC on sun exposed skin.[14] The other probable reason of occurrence of BCC might be genetic predisposition and more vulnerability to sunburn. Moreover, arsenic exposure and immunosuppression can also be causal factors for development of BCC.[4]

Another variable that was studied in the present research is histopathological pattern of tumour. It was found that most common histopathological subtype was nodular sclerosing. This finding is in accordance with the results reported by Mackiewicz-Wysocka et al who explained that nodular subtype is most common type of BCC.[15] Authors also reported that nodular subtype is mostly reported on face.[15] Aandani et al also reported most common histopathological subtype is nodular sclerosing.[16] Present research also puts light that size of lesion varied from 1 to 3 cm in size.

Various treatment modalities are available for treating BCC. Surgical treatment includes Wide local excision, Mohs Micrographic surgery, curettage/ electrodessication and Cryosurgery. For small lesions tropical agents as Fluorouracil, Imiquimod etc are used. Energy devices such as laser, photodynamic therapy and radiation therapy use is also documented in literature. But wide local excision and Mohs microsurgery remains as most commonly used and standard treatment of BCC as we can look for negative margins of excised tissue, ensuring

complete surgical removal of diseased tissue. Moreover, we have tissue available for histopathological sub-typing and knowing the depth of invasion.[17] In the present study also, In the present research most common treatment modality used was wide local excision and reconstruction with flap or split skin graft for treatment.

Limitations

The study was confined to single institute.

CONCLUSION

BCC is amenable to early detection and potential cure as it is a surface malignancy and least chances of metastasis. Infra-orbital region is the most common site and nodular sclerosing is most common histopathological type. And wide local excision remains the heart of treatment.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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