

Original Article

Pattern of skin malignancies in Manipur, India: A 5-year histopathological review

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Abstract *Background* Dermatological malignancies are relatively uncommon worldwide and are usually not ranked among the top ten common cancers. Various studies indicate a progressive rise in the incidence of skin cancers. This study was performed to determine the pattern of skin malignancies in Manipur, India.

Patients and methods This was a retrospective analysis of skin cancers seen in a major referral centre in Manipur. Histologically diagnosed skin cancers seen from August, 2004 to October, 2009 were reviewed and analyzed according to age, gender, site of distribution and histological types.

Results 92 histologically diagnosed skin malignancies were reported during the period under review comprising 2.8% of all histologically diagnosed cancers in RIMS hospital. 47 cases (51.1%) were males and 45 cases (48.9%) females with a male to female ratio of 1:0.96. Age ranged from 17 years to 90 years. Squamous cell carcinoma (SCC) was the most common malignancy consisting of 40 (43.6%) cases followed by basal cell carcinoma (BCC) with 30 (32.6%) cases melanoma with 13 (14.2%) cases. Kaposi's sarcoma, sebaceous carcinoma and dermatofibrosarcoma protuberans constituted about 3.2% with three cases each.

Conclusion The most common skin malignancy was SCC followed by BCC and melanoma. In contrast to the Western countries, melanoma is a rare skin neoplasm in Manipur. For better health planning similar larger studies should be encouraged.

Key words

Squamous cell carcinoma, basal cell carcinoma, melanoma, Kaposi's sarcoma, sebaceous carcinoma.

Introduction

Skin is the largest organ in human body. But Skin cancers are relatively uncommon malignancies worldwide and not ranked among the top ten common cancers.¹ Three most frequent primary skin cancers are basal cell carcinoma (BCC), squamous cell carcinoma (SCC) and malignant melanoma. BCC and SCC, in combination referred to as nonmelanoma skin cancers (NMSC), and

malignant melanoma are common in white populations.² The incidence of skin cancers has progressively increased particularly that of cutaneous melanoma over the last few decades.³ There are considerable geographic and racial variations. Incidence of NMSC is highest in Australia,⁴ USA⁵; and in Finland, BCC is more common.⁶ NMSC are not usually life threatening but morbidity is a main concern and more than 1000 deaths annually are reported in US.⁷

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In India, the incidence of skin malignancies is low constituting about 1-2% of all the diagnosed cancers. BCC is the commonest skin cancer worldwide, but various studies from India have reported SCC as the most

prevalent skin malignancy.⁸ Various cancer registries in India reported incidence of skin cancer varying from 0.5 to 2 per 100000 population.⁹

Manipur is a state in North Eastern India where skin cancer constitutes about 2.13% of all diagnosed cancer.¹⁰ Since, skin cancers are usually visible, most of them can be diagnosed early and treated with minimal cost and facilities. This study was conducted to reveal the pattern of various skin malignancies at Regional Institute of Medical Sciences (RIMS) hospital.

Patients and methods

This was a retrospective study of all histologically diagnosed malignant skin lesions seen over a five year period (2004-2009) at histopathology section of Pathology department, RIMS hospital. Ethical approval was taken for this study from institutional ethical committee. RIMS hospital is the only referral hospital in Manipur.

Histology slides of cases within the study period were reviewed and clinical data (age, sex and site) obtained from the histopathology request forms. All the slides had been routinely stained with hematoxylin/eosin and special stains like Masson-Fontana employed wherever necessary. In addition, histopathology records of all malignancies during the study period were reviewed to determine the relative frequency of skin cancers.

Results

92 histologically diagnosed skin malignancies were reported during the period under review. This comprised 2.8% of all histologically diagnosed cancers in RIMS hospital. 47 cases (51.1%) were males and 45 cases (48.9%) females with a male to female ratio of 1: 0.96.

Table 1 shows the relative frequency and age distribution of the various skin malignancies. Age ranged from 17 years to 90 years. Tumors were rare below the age of 30 years and only 4 cases were detected. The most common incidence was among the age group 61-70 years with 26 cases detected, followed by the age group 51-60 years with 20 cases. SCC was the most common consisting of 40 (43.6%) cases followed by BCC with 30 (32.6%) cases, and melanoma with 13 (14.2%) cases. Kaposi's sarcoma, sebaceous carcinoma and dermatofibrosarcoma protuberans constituted about 3.26% with three cases each. **Table 2** shows the median age of presentation and M:F of various cancers.

Distribution of primary sites involved is shown in **Table 3**. Most cases of SCC were seen in the head and neck region with majority in face including lip. Equal number of SCC were also seen in anogenital region especially prepuce and vulva. Most of the cases of SCC i.e. 65% (24/40) were histologically categorized as well-differentiated, 22.5% as moderately differentiated and 12.5% poorly-differentiated. Among the BCC, majority of the cases i.e. 83.3% were reported in the head and neck region with the predilection for face. Melanoma occurred more on the extremities and trunk.

Discussion

In this study, skin cancers constituted about 2.8% of all histologically diagnosed cancers. This is comparable to 2.4% in a study in North India.¹¹ However, various studies across the globe reveal much higher figures of 28.6% in Iran,¹² 12.7% in Nigeria¹³ and 10% in Yemen.¹⁴ Skin cancers occur mainly in the sixth, seventh and later decades.^{11,14,15} In the present series, nearly 70% of all reported cases of cancer relate to the sixth and later decades. Skin cancers occur mainly in the sun exposed regions and in the face and neck areas of the

Table 1 The relative frequency & age distribution of the various skin malignancies.

Age (years)	Diagnosis						Total	%
	SCC	BCC	Melanoma	Kaposi's Sarcoma	Sebaceous carcinoma	Dermatofibrosarcoma protuberans		
11-20	0	1	2	0	0	0	3	3.3
21-30	1	0	1	0	0	0	2	2.2
31-40	2	1	2	2	1	0	8	8.6
41-50	5	8	3	1	0	2	19	20.7
51-60	11	5	1	0	2	1	20	21.7
61-70	13	9	4	0	0	0	26	28.3
>71	8	6	0	0	0	0	14	15.2
Total	40	30	13	3	3	3	92	100

BCC=basal cell carcinoma, SCC=squamous cell carcinoma

Table 2 Median age of presentation and M:F of various cancers.

Diagnosis	Median age(Yrs)	M:F	Total	%
SCC	55	2.6:1	40	43.6
BCC	70	1:2	30	32.6
Melanoma	45	1:2.5	13	14.2
Kaposi's sarcoma	38	All females	3	3.2
Sebaceous carcinoma	55	1:2	3	3.2
Dermatofibrosarcoma protuberans	38	All males	3	3.2
Total			92	100

BCC=basal cell carcinoma, SCC=squamous cell carcinoma

Table 3 Distribution of primary sites involved.

Diagnosis	Head & Neck	Upper limb	Lower limb	Trunk	Anogenital	Total
SCC	12	5	8	3	12	40
BCC	25	0	2	3	0	30
Melanoma	1	2	5	5	0	13
Kaposi's sarcoma	1	0	2	0	0	3
Sebaceous carcinoma	2	0	0	1	0	3
Dermatofibrosarcoma protuberans	0	1	0	2	0	3
Total / %	41 (44.6)	8 (8.7)	17(18.5)	14 (15.2)	12 (13)	92

BCC=basal cell carcinoma, SCC=squamous cell carcinoma

body.^{13,14,15,16} Present study also shows that 44.6% of the reported skin cancers were found in the head and neck region which demonstrate the major influence of sun exposure in the development of skin cancers. The frequency of skin cancers in men and women is different. Present study shows a slight male preponderance comparable to other studies.^{13,14,15}

SCC was the commonest skin cancer in the present series similar to other studies.^{11,13} SCC commonly occurs on sun damaged skin. It can also arise in the precursor lesions such as actinic keratosis, Bowen's disease, leukoplakia or chronic ulcers/scars.¹⁷ The most common histopathological pattern was the well

differentiated form constituting 65% comparable to study by Alakloby *et al.*¹⁵

BCC ranked the second most frequent tumor after SCC in contrast to other studies.^{14,15,16} BCC in this series predominantly involved the face. The most common histopathological pattern was the solid (nodular) pattern also reported by Alakloby *et al.*¹⁵ Some of the patients with pigmented BCC who had initially presented to the general surgeon were referred to us with the provisional diagnosis of melanoma. Thus pigmentation could be a misleading feature.

Melanoma was the third most common lesion in the present study. Melanoma is the most

lethal cutaneous malignancy. Although, it comprises about 3% of all skin cancers, it accounts for about 75% of all skin cancer deaths.¹⁸ The female preponderance is similar to the study by Wanebo *et al.*¹⁹ However, Sharma *et al.*²⁰ reported a higher male preponderance in India. Skin cancers arising from the cutaneous appendages are common but benign. As the region of head and neck is rich in appendages, they frequently arise in these areas. Only three cases of sebaceous carcinoma were noted in our series similar to the study by Al-Abound *et al.*²¹ The other tumors rarely seen were dermatofibrosarcoma protuberans and Kaposi's sarcoma. One of the three cases of Kaposi's sarcoma was HIV-positive. However, there was no history of organ transplantation in the other two cases.

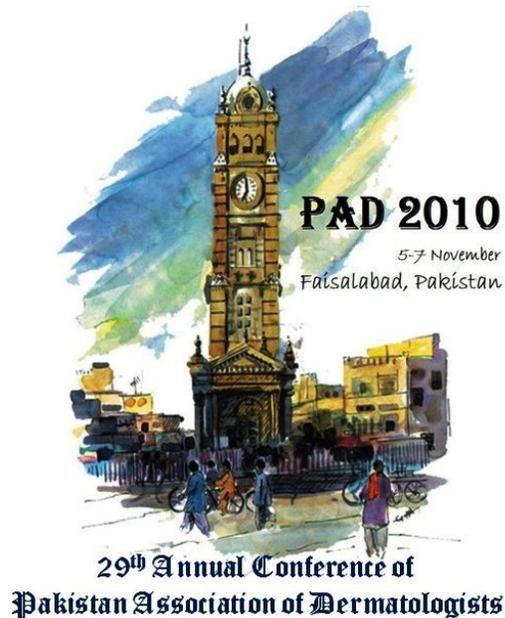
Conclusion

Malignant skin lesions comprise a small but significant proportion of patients with cancer. SCC is the commonest histologic variety unlike in western countries. The knowledge of the frequency of histopathological patterns can help in viewing the prognostic outlook for patients and planning an effective management.

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