



## THE PREVALENCE OF NON MELANOMA SKIN CANCER IN A TERTIARY HOSPITAL IN SOUTH INDIA

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### ABSTRACT

Among all the malignancies in India, cutaneous malignancies constitute less than 2%. These mainly include melanomas and non melanoma conditions. Among non melanotic skin cancers (NMSC), basal cell carcinoma and squamous cell carcinoma are commonly seen. NMSCs are associated with extensive local tissue destruction, morbidity, metastasis and even death. BCC is the commonest cancer with slow growing potential, local destruction, rare metastasis. SCC on the other hand is almost always preceded by premalignant lesions, can metastasize by lymphatics or by hematogenous route. As they account for high rates of mortality and morbidity, early diagnosis and treatment becomes vital. We have conducted this study to assess the prevalence of cutaneous malignancies in Indian population and also to examine the risk factors associated with them.

**KEYWORDS:** SCC, BCC, sun exposure.

### INTRODUCTION

There is increased incidence of both melanoma and non melanoma skin cancers in the past few decades. This is attributed to the loss of protective function of ozone layer, resulting in harmful UV radiation directly reaching the Earth's surface. Around 2 – 3 million non melanoma skin cancers and 1,32,000 melanomas are being diagnosed globally every year.<sup>[1]</sup>

Skin cancer incidence is less than 1% of all the diagnosed cancers in India.<sup>[2]</sup> Primary skin cancers are divided into Squamous cell carcinoma (SCC), Basal cell carcinoma (BCC), and malignant melanoma. SCC and BCC are collectively known as nonmelanomatous skin cancers (NMSC).<sup>[3]</sup> NMSCs, otherwise known as keratinocytic carcinomas are more common in white skinned individuals compared to darker phenotypes. They account for 1-2% of cutaneous neoplasms in India.<sup>[4]</sup>

Among the NMSCs, SCC is reported to be more prevalent in India compared to BCC as shown by various studies.<sup>[3,5,6]</sup> However the most prevalent in western individuals was found to be BCC among the NMSC.<sup>[7,8]</sup>

BCC is known to effect photo exposed areas like head and neck as is seen in about 80% of population.<sup>[9]</sup> Lesions over genitalia and peri anal area have been reported in around 4% of population.<sup>[10]</sup> The tumour

progresses slowly, but can cause significant destruction locally leading to disfigurement.<sup>[9]</sup> Metastasis is very rare and is seen in 0.5% of cases.<sup>[11]</sup>

SCC on the other hand occurs mainly on covered areas and is usually aggressive.<sup>[12]</sup> A variety of conditions are known to be morphological analogues of SCC like actinic keratosis, arsenical and radiation keratoses, Bowen's disease, giant condyloma and verrucous carcinoma, keratoacanthoma, and proliferating tricholemmal cysts.<sup>[13]</sup> Kangri cancer seen exclusively in individuals of Kashmir valley is known to occur after exposure to kangri, fire pot used in winter to generate warmth. Common sites are lower extremities and abdominal wall, occurring over erythema ib agne.<sup>[14]</sup> Typical cases of SCC present clinically as shallow ulcers with keratinized crust and indurated, often elevated margins.<sup>[15]</sup> Various risk factors associated with metastasis include site of tumour (lips, ears), diameter (>2cm), perineural invasion, poor differentiation, immunosuppression.<sup>[16]</sup> About 2-6% of distant metastasis are noted in SCC patients.<sup>[17]</sup>

### MATERIALS AND METHODS

The study was conducted on 46 pathologically confirmed cases who have attended the outpatient block of dermatology, venereology and leprosy department of Gandhi hospital, Secunderabad. The study period is 3 years, i.e., June 2013 to July 2016. The clinical findings

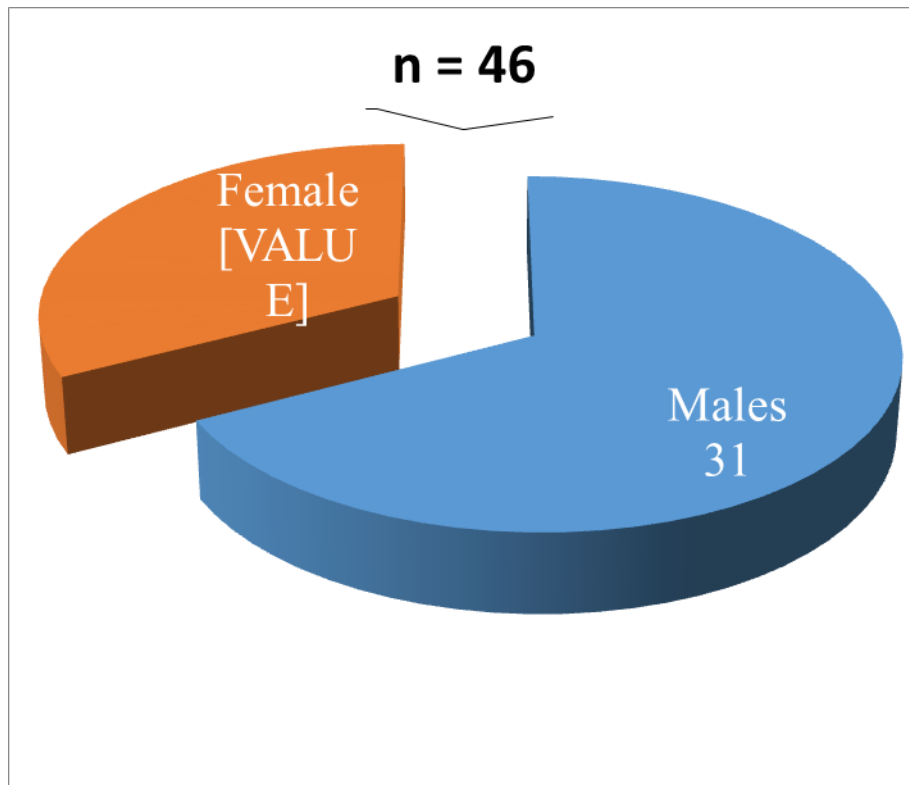
were confirmed by biopsy. Biopsy reports that confirmed non melanotic skin cancers were included in the study.

## RESULTS

The patients age group ranged from 26 to 72 years, with an average age of 46.4 years.

**Table 1: Gender distribution among patients.**

S.No	Sex	Number
1	Male	31
2	Female	15
3	Total	46

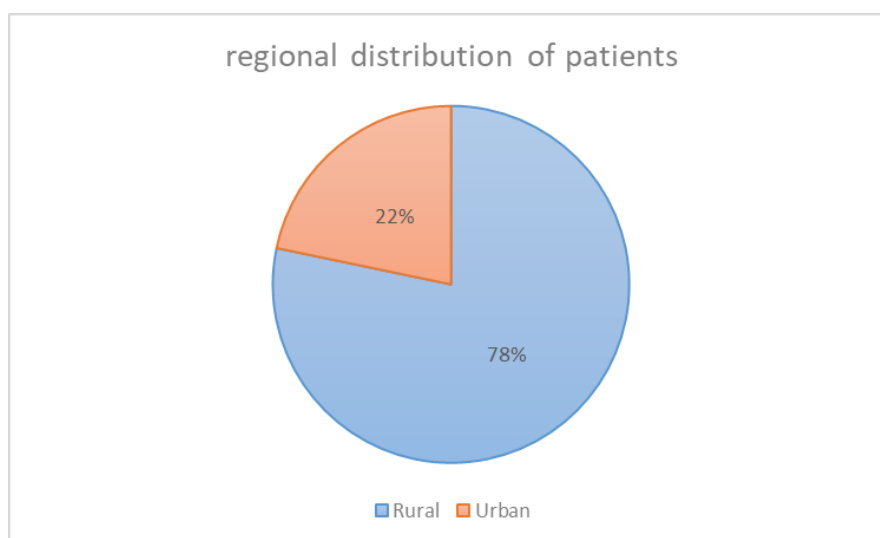


**Fig 1. Gender distribution in study population.**

Among 46 cases, 15(33.4%) were females and 31(66.6%) were males.

**Table 2: Region distribution among patients.**

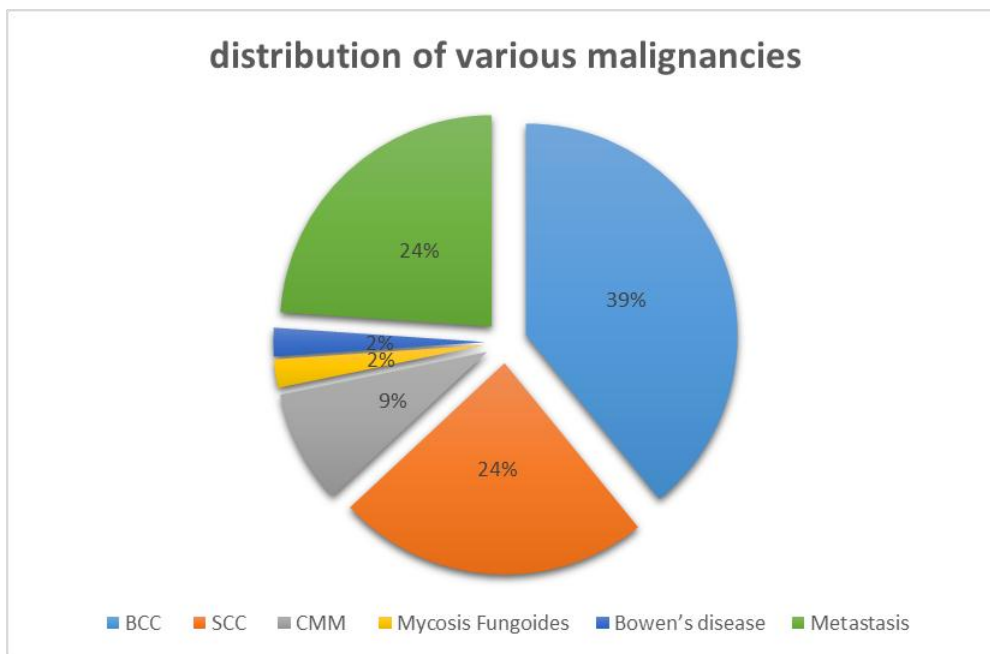
S.No	Region	Number
1	Rural	36
2	Urban	10
3	Total	46



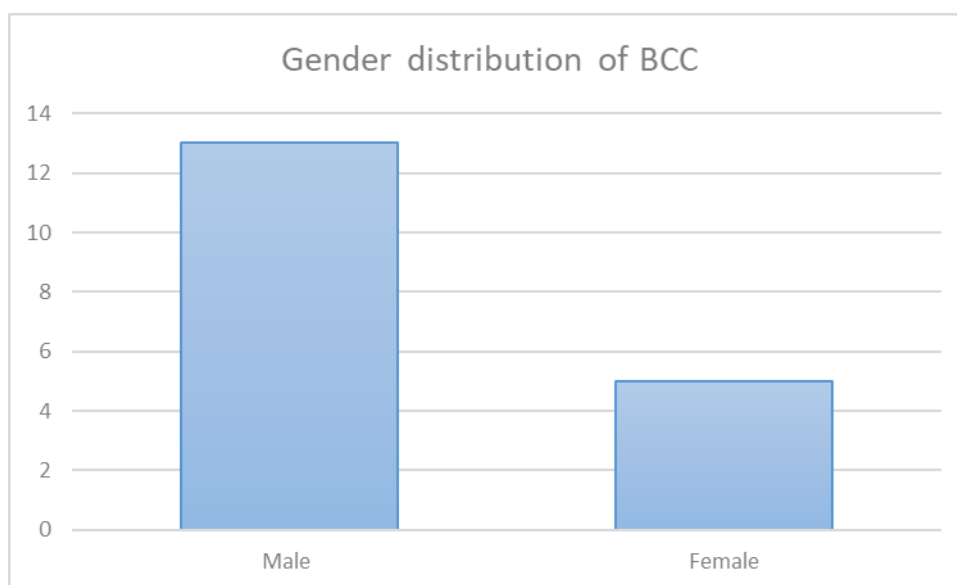
**Fig 2: Regional distribution of patients.**

**Table 3: Various types of non melanotic skin cancers found in study population.**

S.No	Type of malignancy	n	%
1	BCC	18	39%
2	SCC	11	24%
3	CMM	4	09%
4	Mycosis Fungoides	1	02%
5	Bowen's disease	1	02%
6	Metastasis	11	24%

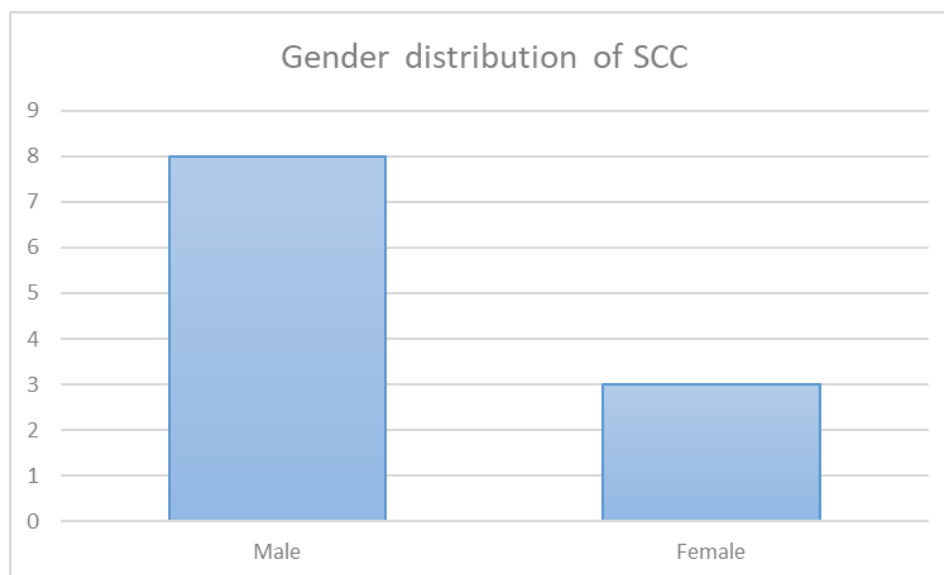
**Fig 3: Distribution of various non melanotic skin cancers in study population.****Table 4: Gender distribution of BCC in study population.**

S.No	Sex	Number
1	Male	13
2	Female	5
3	Total	18

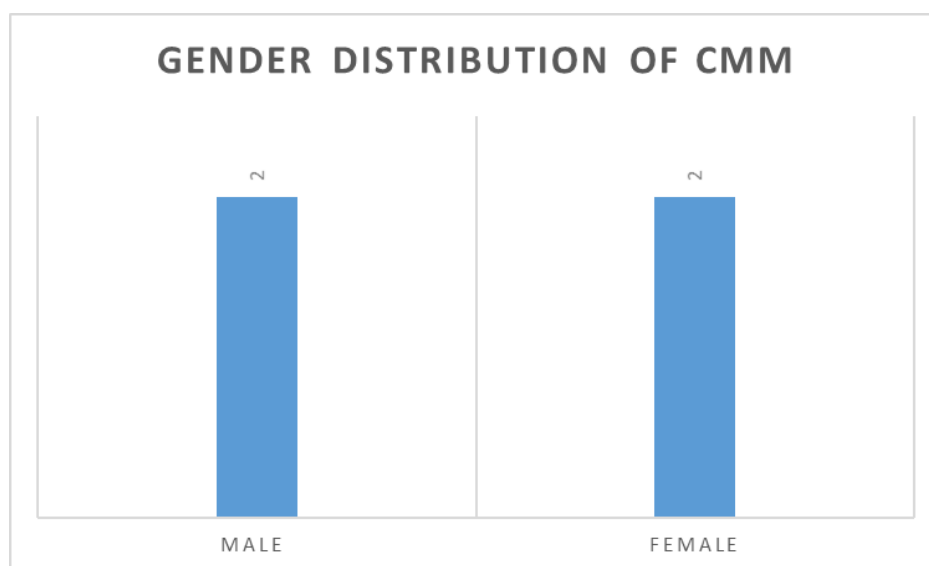
**Fig 4: Gender distribution of BCC among study population.**

**Table 5: Gender distribution of SCC among study population.**

S.No	Sex	Number
1	Male	8
2	Female	3
3	Total	11

**Fig 5: Gender distribution of SCC among study population.****Table 6: Gender distribution of CMM in study population.**

S.No	Sex	Number
1	Male	2
2	Female	2
3	Total	4

**Fig 6: Gender distribution of CMM among study population.****Table 7: percentage of metastases found in study population.**

S.No	Breast	5	12%
1	RCC	1	02%
2	Head & Neck	2	04%
3	Prostate Adenocarcinoma	2	04%
4	SCC Skin	1	02%
5	Total	11	24%

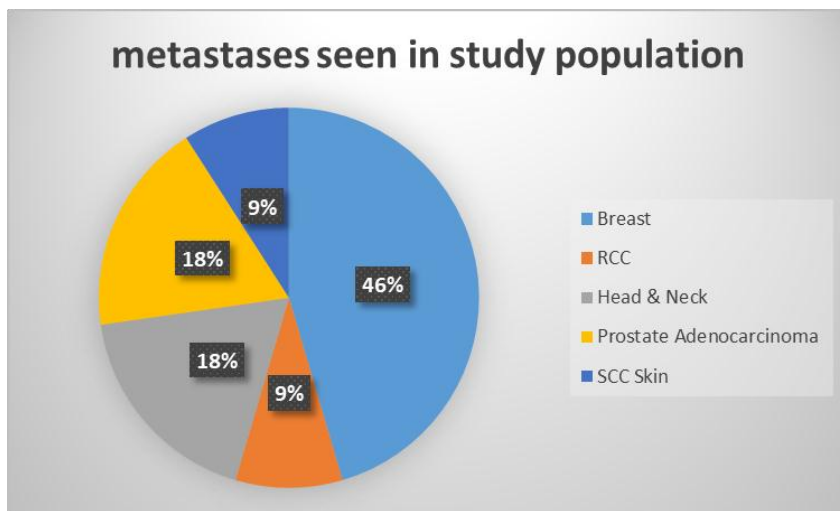


Fig 7: metastases seen in the study population.

Table 8: Gender distribution of metastases to skin in the study population.

S.No	Sex	Number
1	Male	6
2	Female	5
3	Total	11

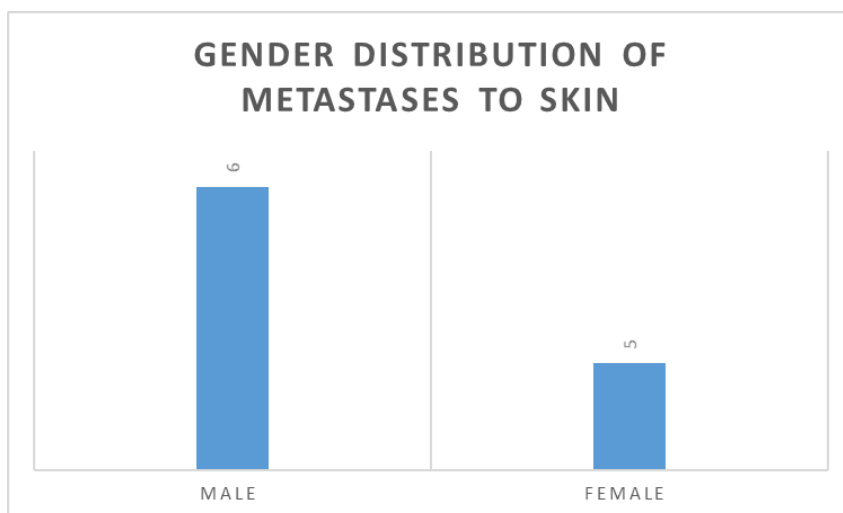
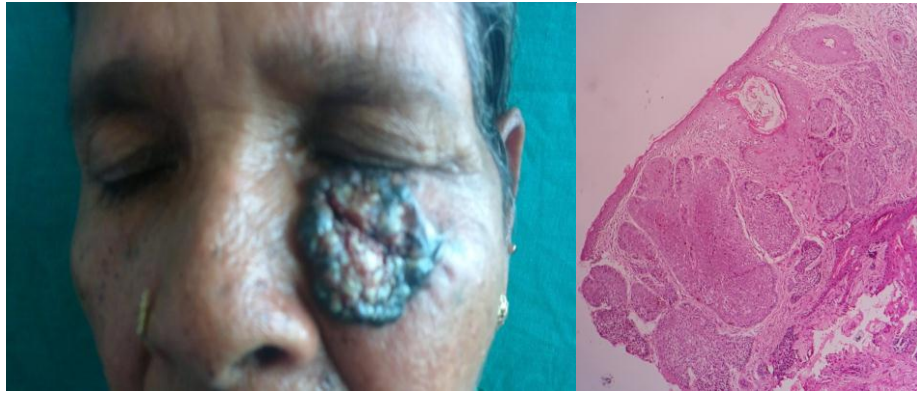


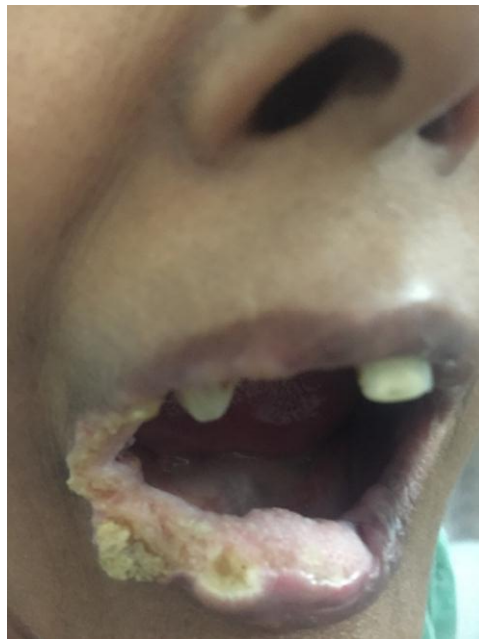
Fig 8: gender distribution of metastases to skin in study population.



Image 1: BCC in a 56 year Old female.



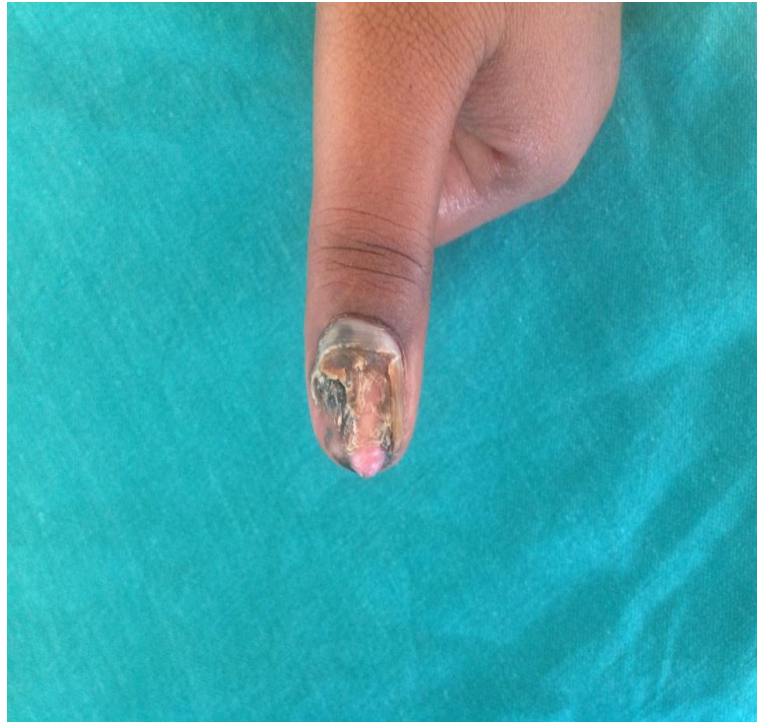
**Image 2: BCC seen on the cheek of 52 year old female.**



**Image 3: SCC on lower lip.**



**Image 4: SCC on left cheek in a 35 year old female.**

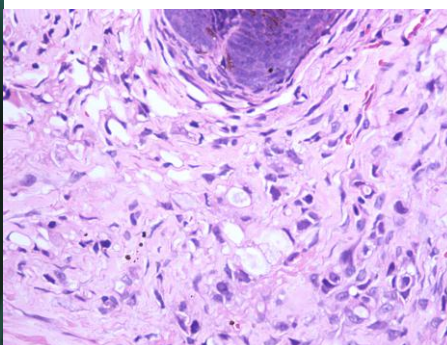


**Image 5: Subungual melanoma in 26 year Old female.**





Images 6 & 7: cutaneous malignant melanoma in 52 year old female.



Images 8 & 9: Leukemia cutis in 60 year Old male.

## DISCUSSION

Over the last few decades incidence of skin cancer is increasing. NMSC is the commonest world wide. Incidence varies widely with the highest rates in Australia [ $> 1000/100\ 000$  person-years for BCC and the lowest rates in parts of Africa ( $< 1/100\ 000$  person-years for BCC). Various factors influencing the incidence rates are UV radiation exposure, sun seeking behaviours, skin type, immunosuppression associated with organ trasplants.<sup>[6]</sup> In India, it also includes poor socio economic status, lack of awareness about sun protection, poor wound management.

This study was undertaken due to the paucity of studies evaluating the incidence of non melanotic skin cancers in India.

In our study, the age group ranged from 26 to 72 years, with a mean age of 46.4 years. In a study done by Lal ST

et al, evaluating the skin cancer profile of patients attending tertiary care hospital in Malawa, Punjab, the age group of patients studied ranged from 27 to 92 years with a mean age of 62 years.<sup>[2]</sup> In a study by Manjula Adinarayan et al, evaluating the clinicopathological aspects of NMSC, the age group ranged from 20 to 80 years with a mean age of 52.8 years.<sup>[18]</sup>

In our study, among 46 cases, 15(33.4%) were females and 31(66.6%) were males, male preponderance was seen. In a similar study by Manjula A et al, 23 (74.2%) were males and 8 cases (25.8%) females, showing similar male preponderance.<sup>18</sup> In a study by Lal ST et al, 45 cases (58.4%) were females and 32 cases were males (41.5%).

Majority of study population are from rural areas (78%). In these patients, agriculture was noted as the main occupation. Prolonged sun exposure was noted in most



of the patients (78%). The findings were similar to a study by Lal ST et al.<sup>[2]</sup>

Majority of cases were found to be BCC i.e., 18 among 46 cases (39%). Male: Female 2.1:1. In a study by Lal ST et al, BCC was found to be the commonest NMSC seen in 54.76% of study population.<sup>[2]</sup> In a study by Brar B et al, who conducted epidemiological review of skin cancers in Malwa region in Punjab, BCC was found to be the most common cancer in concurrence with our study.<sup>[20]</sup>

In our study, SCC was seen as the second common cancer after BCC, occurring in 11 patients (24%). Majority of studies showed SCC as the most common NMSC occurring in India. In a study by Manjula A et al, it was noted in 83.9% of cases and BCC in 13.1% cases. In a study by Lashiram RS et al, evaluating the pattern of skin cancers in India conducted in Manipur, SCC was found in maximum cases accounting for 43.6% cases.<sup>[19]</sup>

Cutaneous malignant melanoma was found in 4 cases (9%) in our study. Malignant melanoma accounts for <5% of skin cancers.<sup>[21]</sup> In a study by Lal ST et al, melanoma accounted for 8% of cases.<sup>[2]</sup>

Mycosis fungoides was found in 1 patient (02%) in our study. MF happens to be the most common cutaneous T cell lymphoma (CTCL), accounting for 50% of cases. In India, 1000 new cases are diagnosed every year.<sup>[22]</sup>

Bowen's disease was found in one patient (02%) in our study. It is an intra epithelial neoplasia that is usually seen on head, neck and lower limbs.<sup>[23]</sup> In our patient, it was found on right lower limb, above the ankle on lateral aspect.

Metastases to skin with primary cancer elsewhere were found in 11 cases (24%). They were found in 6 males (54%) and 5 females (45%). Majority of them occurred with primaries from breast, i.e., 5 cases (12% of total cases). 1 case arised from Renal Cell Carcinoma(02%). Metastases from head & neck region occurred in 4%, from prostate adenocarcinoma in 2 cases (04%), and SCC in skin itself in 1 case (02%).

## CONCLUSION

BCC was found to be more common in this study in contrast to the other studies in India. Highly organized registry system should be developed to generate usable data. Aggressive public education should be done on the etiological factors with an aim to prevent the malignancies. Any cutaneous lesion in individuals with visceral malignancies should be viewed with high index of suspicion. Further studies should be undertaken with adequate population to validate the above results and to describe the trends of cutaneous malignancies in India.

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