

Evaluation of incidence of Non-Melanoma skin cancers in Esfahan

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Abstract

Non melanoma skin cancers (NMSC) are one of the most prevalent malignancies of humans. Although the mortality rate is not high for these cancers, they may cause high morbidity for the patients. In addition to the skin type, factors such as sun exposure, head and neck radiotherapy, inappropriate use of sunscreen and cultural changes may increase the incidence of these cancers.

Aims: To determine the incidence of Non-Melanoma skin cancers in Esfahan:

Settings and Design: This was a retrospective study. We used data of the cancer registry center for performing this study.

Methods and Material:

Statistical analysis used: Descriptive statistical tests and t-student test were used for statistical analysis.

Results: Overall 1681 cases were registered that included 352 cases of SCC and 1329 cases with BCC. The incidence of NMSC was calculated to be 10.67/10`000 population

Conclusions: Regarding topographic results, the most prevalent site for BCC were middle face and then head and neck and the least prevalent site was lower extremity. The most prevalent site for SCC was middle face and the least prevalent site was the trunk.

INTRODUCTION

Non melanoma skin cancers (NMSC) are one of the most prevalent malignancies of humans. Although the mortality rate is not high for these cancers, they may cause high morbidity for the patients. BCC can cause destruction of the nose, eyes, paranasal sinuses, and even can invade dura and brain (1).

SCC, in addition to local destruction, can metastasize and even lead to death.

Although most cases of NMSC are observed in fair skin people, this condition is still at the top of malignancy list in the ethnical skin types (2).

In addition to the skin type, factors such as sun exposure, head and neck radiotherapy, inappropriate use of sunscreen and cultural changes may increase the incidence of these

cancers.

In this study we evaluated the incidence of the NMSC in Esfahan continent as the sample community of Iran.

SUBJECTS AND METHODS

This was a retrospective study in that digital information of Esfahan cancer registry center was used. Digital information was analyzed from data that was registered between years 1997-2001 and were grouped by age, sex, demographic and topographic characteristic of skin cancer. In this center, ICD0 codes were used for cancer types, its location and patients demographic characteristics.

The cases of the mucosal and genital cancers were excluded. We considered NMSC as the sum of both SCC and BCC excluding cases of mucosal and genital cancers.

The mean population of the Esfahan continent was 3'937'593

at the time of the study, including 2'027884 males and 1'909'709 were female.

RESULTS

Overall 1681 cases were registered that included 352 cases of SCC and 1329 cases with BCC. The population of Esfahan was estimated to be 3'937'593, the incidence of NMSC was calculated to be 10.67/10'000 population. Sex distribution of the NMSC is shown in table.1.

These cancers were most prevalent in the 5th-8th decade.(table.2)

Regarding topographic results, the most prevalent site for BCC were middle face and then head and neck and the least prevalent site was lower extremity. The most prevalent site for SCC was middle face and the least prevalent site was the trunk. The number of mucosal SCC was 223 (table 3).

Figure 1

Table 1: Incidence of SCC and BCC by sex

TYPE sex	Male incidence in 100'000	Female incidence in 100'000
SCC	399 4.90	176 2.3
BCC	793 9 77	536 7 01

Figure 2

Table 2: Age Characteristics of the patients

age	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	>90
SCC	5	3	8	31	64	112	180	130	34	8
BCC	0	6	15	83	251	369	316	240	40	9

Figure 3

Table 3: Number of the cases of NMSC by location of the involvement

type site	SCC	BCC
Periocular	22	98
HEAD AND NECK (except face)	64	378
Face (except periocular and periauricular area)	149	744
Ear	57	69
TRUNK	9	28
Upper extremity	25	7
Lower Extremity	26	5
Mucosal area	223	-

DISCUSSION

According to our results, the incidence of NMSC is calculated to be 10.6 in 100,000 populations. This incidence is lower than European countries but still shows an increase as compared with the same place in the recent 10 years.

According to studies, the incidence of NMSC is increasing in the world. The incidence of this disease has increased in the Europe from 173.5 to 265 in the recent 10 years (4).

Although our study showed lower incidence of these cancers as compared with European countries, but still shows an increase of as much as 25% in the recent decade.

Unfortunately, we did not find any reliable data about the incidence of NMSC in the Esfahan.

However in one study the prevalence of NMSC was reported to be 11.5 in the years 1988-1992 (3) but in current study we calculated the incidence of NMSC. Although the incidence and prevalence are not comparable exactly, but regarding low mortality rate of NMSC, we can conclude that the incidence of NMSC has increases significantly.

Annually 900'000 new cases of BCC is reported in the USA with incidence of this diseases was estimated to be 485 and 253 in males and females respectively .These values, as expected, are significantly different from our results. The most common site for BCC in our study was the face and then followed by head & neck. The prevalence of BCC on the head and neck was even more than ears and eye. This finding is possibly due to high incidence rate of BCC on the scalp that is possibly due to scalp radiotherapy.

Our results also showed that in Iran, like other countries, the incidence of BCC was more in males than females. The incidence of this tumor was 1.4 times more in males than in females and this ratio was similar to the other countries including Australia (6), Minnesota (7) and past data of Esfahan, itself.

92% of the BCC cases have occurred after age 40 years although in the other part of the world, it is usually 75% (8). This difference is probably due to the ethnical differences as BCC is more commonly seen in the patients with solar keratosis and freckles (9).

The incidence ratio of BCC & SCC is different in various parts of the world and depends on the sun exposure degree and the sun irradiance. As the sun exposure increases, this ratio will decrease from the usual value of 4 (7) and may even decrees to 1 in white fisher man (10).

Immunosuperssion will also decrease of this ratio (11).

The incidence ratio of BCC/SCC in our study was 3.7. As Iran is one of the high exposure areas, ratio of 3.7 seems to be a predictable value. In addition, may cases of BCC in Iran is due to the previous radiation.

Although SCC is more commonly seen in the white skin., it is also commonly seen in the ethnic skin types. However, the common site and prognosis of the SCC is different in the

different skin types (2,12). In our study, the most common site was the face and the least common site was the trunk that seems to be most dependent on the sun exposure degree.

Except the sun light, other factors such as immunosupression, HIV infection, and PUVA therapy are important in the pathogenesis of the SCC (13,14).

There was also a significant increase in the incidence of SCC in the females.

These changes may reflect an alternation in the cultural habits of the patients in the recent 50 years. It may be due to more outdoor activities of the females, although for BCC cases, they may be due to previous radiotherapy exposure.

We suggest that enough education should be given to the Iranian patients for prevention of the NMSC in them as Iran is a high exposure country and there has been an increase in the incidence of these cancers. If the incidence of NMSC is considered to be the similar value (i.e 10.6/100'000 of population) in the other parts of Iran, we almost encounter 5000-6000 of new cases of NMSC in Iran. Regarding this fact, screening of the patients for these cancers seems to be crucial to decrease mortality and morbidity.

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