

Skin Cancers in Baghdad Hospitals

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Abstract

Background: Non-melanoma skin cancers are the most common form of skin cancers in the world. Those at risk for skin cancer are fair-skinned individuals who tan poorly and who have had significant chronic or intermittent sun exposure. There were many reports about the increase in the rates of all cancers including skin cancers in Iraq.

Objectives: To study the frequency and types of skin cancers in Baghdad hospitals.

Patients & Methods: A cross-sectional hospital based study was conducted in seven teaching hospitals from Kurkh and Resafa representing Baghdad city in a period from December 2010 through June 2012. The study includes 577 patients confirmed with various skin tumors. Socio-demographic information, full dermatological examination and skin biopsy was done.

Results: The frequency of skin cancer were 246 (42.6%) from Kurkh, 179 (31.1%) from Resafa; and 152 (26.3%) from others (Those patients from near Baghdad or other distant governorates). They include 356 (61.7%) males and 221 (38.3%) female patients. The commonest age group affected by skin tumors were those > 40 years (89.5%) and only 10.5% < 40 years. The outdoor male were more affected than females. The most frequent tumor was basal cell carcinoma 300 cases (52%) then squamous cell carcinoma 144 cases (25%), malignant melanoma 32 cases (5.5%), Kaposi's sarcoma 23 cases (4%), Dermatofibrosarcoma protuberance 19 cases (3.3%) and other rare tumors.

Conclusion: The rate of skin cancers were more in men than in women patients (M: F 1.6:1). The outdoor patients were more affected than indoor patients. The rate of skin cancers in Baghdad city was higher than what reported by Ministry of Health. Basal cell carcinoma and Squamous cell carcinoma were the most common skin cancers among patients followed by malignant melanoma and Kaposi sarcoma.

Keywords: Skin cancers, Baghdad hospitals, basal cell carcinoma.

Introduction:

Non-melanoma skin cancers (NMSCs) are the most common form of skin cancer. Those at risk for skin cancer are fair-skinned individuals who tan poorly and who have had significant chronic or intermittent sun exposure^[1, 2]. Most cancers occur more frequent in men than in women. Smoking-related cancers occur more frequently in men, at least in part because of their earlier and greater exposure to tobacco smoke^[3]. Additional risk factors include a prior personal or family history of skin cancer, prior radiation therapy, PUVA treatment, arsenic exposure & systemic Immunosuppression^[1].

People who work outdoors, such as farmers and construction workers and those who go boating often, play a lot of outdoor sports, or sunbathe on the beach, are at the highest risk of developing skin cancer^[4].

Both photoageing^[5] in general, and UV-related skin cancer, are far more common in skin types 1-4, particularly those living in the Southern hemisphere^[6], than in those with darker skin^[7]. Squamous cell carcinoma (SCC) is rare in skin types 5-6^[8]. There was association between the development of Malignant Melanoma (MM) and short-term intense UV-exposure, particularly burning in childhood^[9-11]. Most skin tumors developed on exposed part of the body head and neck^[2,12]. Results from Iraqi Cancer Board (2008) show that the number of male patients (215) with skin cancers is higher than female patients (152) (M: F 1.4:1) and the Rank of skin cancers were 9^[13]. Al-Ganabi in an epidemiological study of the commonest 15 cancers in Iraq in 1989 & 1998 was found that the rank of

Data analysis

skin cancers changed from 5th to 7th and the incidence rate for skin cancers decreased from (6.19 per10⁵) to (4.64 per10⁵) for Iraqi population which was statistically significance^[14]. The sex-specific incidence rate for males decreased from (3.30 per10⁵) to (1.99 per10⁵) was significance and the rank changed from 4 to 7, while the sex-specific incidence rate for females decreased from (2.65 per10⁵) to (1.75 per10⁵) was significant and the rank changed from 2 to 4^[14].

Patients and Methods:

This is a cross-sectional hospital based study was conducted in outpatient and dermatological clinic in seven teaching hospitals from Kurkh and Resafa in Baghdad (Baghdad Teaching Hospital/Medical city, Kandy Teaching Hospital, Al-Yarmouk Teaching Hospital, Al-Khaddemya Teaching Hospital, Al-Kerama'a, Al-Wasety and Radiology and Nuclear Medicine Hospital, the last hospital received already diagnosed cases) in a period from December 2010 through June 2012. Every patient after confirmed with malignant skin tumor (Histopathologically proved) who attended outpatient and dermatological clinic in each hospital included in this study. Socio-demographic information like; age, gender, residency. Skin biopsy was done for each not confirmed case by dermatologist and researcher or by plastic surgeon except for those patients from Radiology and Nuclear Medicine Hospital (already diagnosed cases). Occupation (current & past), outdoor and indoor occupation classified as: less than 4 hrs, as indoor occupation and equal or more than 4 hrs as outdoor occupation (Children & young considered as no-occupation)^[15].

Data entry followed by descriptive, and inferential statistics were carried out (by the researcher) utilizing the software statistical package for the social science "SPSS for windows, version 16", and EPI inform, version 6. Chi square was used. Accepted probability cutoff for significances were set to be $\leq 5\%$ to $> 1\%$ denoting significant, and $\leq 1\%$ denoting highly significant statistical test results. Any value more than 5% was considered non-significant.

Results:

The study group included (577) patients, 356 (61.7%) were males and 221(38.3%) were female patients, M: F ratio was (1.6:1). The mean \pm SD for age of study group was 59.34 \pm 15.618.

Table-1 Show skin cancers by histopathology; (577) cases were confirmed, the most frequent tumor in this study was BCC 300 cases (52%) then SCC 144 cases (25%), MM 32 cases (5.5%), KS 23 cases (4%), DFSP 19 cases (3.3%).

Table -1: Types of skin tumors among study group by histopathology.

| Histopathology | No. | % |
|-----------------------------------|-----|-----|
| Basal cell carcinoma | 300 | 52 |
| Squamous cell carcinoma | 144 | 25 |
| Melanomas | 32 | 5.5 |
| Kaposi's sarcoma | 23 | 4 |
| Dermatofibrosarcoma protuberans | 19 | 3.3 |
| Mycosis fungoides | 13 | 2.3 |
| Basosquamous carcinoma | 12 | 2.1 |
| Skin metastasis | 12 | 2.1 |
| Bowen's disease | 8 | 1.4 |
| Malignant fibrous histiocytoma | 8 | 1.4 |
| Adenocarcinoma of skin appendages | 4 | 0.6 |
| Paget's disease | 2 | 0.3 |
| Total | 577 | 100 |

Table No. 2 show distribution of cases according to age groups in outdoor and indoor patients. Results indicate that 89.5% of age groups were > 40 years

and only 10.5% were < 40 years, the number of cases increased by increasing of age.

Table No. 2: Distribution of cases according to age groups in relation to outdoor and indoor environment.

| Age groups in years | Outdoor and indoor environment | | | | Total % |
|------------------------------------|--------------------------------|------------|------------|------------|-------------|
| | indoor | % | outdoor | % | |
| < 20 (n=10) | 8 | 2.4 | 2 | 0.8 | 1.7 |
| 20-39 (n=51) | 35 | 10.6 | 16 | 6.5 | 8.8 |
| 40-59 (n=177) | 118 | 35.6 | 59 | 24 | 30.7 |
| 60-79 (n=289) | 153 | 46.2 | 136 | 55.3 | 50.2 |
| ≥ 80 (n=50) | 17 | 5.1 | 33 | 13.4 | 8.7 |
| Total (n=577) | 331 | 100 | 246 | 100 | 577 |

Table No. 3: show more outdoor males than outdoor females with statistical significant association (P-value < 0.0001).

Table No. 3: Distribution of cases according to gender in relation to outdoor and indoor environment.

| Gender | Outdoor and indoor environment | | | | Total % |
|---------------|--------------------------------|-------------|------------|-----------|-------------|
| | indoor | % | outdoor | % | |
| Male | 169 | 2.4 | 187 | 0.8 | 1.7 |
| Female | 162 | 10.6 | 59 | 6.5 | 8.8 |
| Total* | 331 | 35.6 | 246 | 24 | 30.7 |

* $\chi^2 = 37.20$, df = 1, P-value < 0.0001

Table No 4 demonstrate the types of skin tumors among patients according to working environment whereas the total results for all types of skin tumor shown 57.4% indoor and 42.6 outdoor patients

developed skin cancer. BCC, SCC developed more in outdoor Patients than their comparable group in MM, KS, and MF & DFSP.

Table No. 4: The types of skin tumors among patients by working environment

| Histopathology | Outdoor and indoor working environment | | | | Total | % |
|-----------------------------------|--|-------------|------------|-------------|------------|------------|
| | Indoor | % | Outdoor | % | | |
| Basal cell carcinoma | 157 | 52.3 | 143 | 47.7 | 300 | 52 |
| Squamous cell carcinoma | 81 | 56.3 | 63 | 43.7 | 144 | 25 |
| Melanomas | 24 | 75 | 8 | 25 | 32 | 5.5 |
| Kaposi's sarcoma | 17 | 74 | 6 | 26 | 23 | 4 |
| Dermatofibrosarcoma protuberans | 14 | 73.7 | 5 | 26.3 | 19 | 3.3 |
| Mycosis fungoides | 8 | 61.5 | 5 | 38.5 | 13 | 2.2 |
| Basosquamous carcinoma | 7 | 58.3 | 5 | 41.7 | 12 | 2.1 |
| Skin metastasis | 9 | 75 | 3 | 25 | 12 | 2.1 |
| Bowen's disease | 4 | 50 | 4 | 50 | 8 | 1.4 |
| Malignant fibrous histiocytoma | 5 | 62.5 | 3 | 37.5 | 8 | 1.4 |
| Adenocarcinoma of skin appendages | 3 | 75 | 1 | 25 | 4 | 0.6 |
| Paget's disease | 2 | 100 | 0 | 0 | 2 | 0.3 |
| Total | 331 | 57.4 | 246 | 42.6 | 577 | 100 |

Discussion:

Non-melanoma and Melanoma skin cancer is a common worldwide health problem. It tremendously increased all over the world^[1].

Globally there is increase in incidence of skin tumor due to many factors such as skin types, genetic factor, geographical factor, environmental and occupational factors (exposure to carcinogen chemicals, ozone depletion, ionizing radiation), medical (organ transplantations, infections and Immunosuppression therapy)^[1, 6,13].

The majority (89.5%) of cases were old age. Many other studies demonstrate that major types of skin cancers increased their incidence with increasing ages^[1,2,13,15]. Results from this study indicate that the number of male patients were higher than female patients with ratio (M:F 1.6:1) which agree with the results of Iraqi Cancer Board^[13] and Al-Ganabi^[14], but the number obtained by this study was higher than what reported by both above study.

NMSCs by far presented the most common cancer in this study. BCC (52%) the commonest followed by SCC (25%) but still higher than those reported by MOH^[13] were BCC (37.06%); and agreed with all studies in literatures reviewed^[1,6,12,13,15]. This higher number of cases with NMSCs came from that majority of cases were old age patients and many of them with outdoor occupations which lead to accumulative effect of UVR and those group had more chance to come in contact with several chemicals and biological agents and that

need long time of exposure with long latent period to developed skin cancers.

Only (0.54%) of malignant melanoma cases was reported in Iraq by MOH^[13] which is much less than what reported by this study (5.5%).

Other cancers are rare and agreed with other authors^[1, 15]. Results obtained from MOH^[13] reported lower prevalence for all other cancers in comparison with the results of this study which may indicate under reporting of the cancer registry system.

Studying the outdoor and indoor working hours in relation to age were shown in table No.2, there were an increasing number of cases by increasing of age in both indoor and outdoor patients. Results in table 3 demonstrated high statistical significant association between male and female in relation to outdoor and indoor (P- value < 0.0001). That mean outdoor males have more chance for developing skin cancer than females. Females were less involved in outdoor work except those farmers in rural area, most of them either housewives or indoor workers with less sun exposure so they were less liable to get skin cancers than men. The result agrees with many authors^[1,6,13,15].

Studying the effect and relation of the working environment on the rate of different types of skin tumors in table No.4, results indicate the higher number of skin cancers among indoor patients because it is the larger group of patients and many other risk factors involved in development of skin cancers such as age, sex, genetic, duration and nature of occupation, skin types in addition to the type of working environment.

Furthermore patients with BCC, SCC had more outdoor working hours than their comparable group in MM, KS, MF & DFSP. These results may indicate that BCC, SCC were more affected by the outdoor environment versus other types of skin cancers in this study which were not affected by outdoor environment except for MM. The results agree with other studies [1, 15].

Conclusion

The rate of skin cancers were more in men than in women patients (M: F 1.6:1).the outdoor patients were more affected than indoor patients. The skin cancer in Baghdad city with higher rate than where reported by MOH. Basal cell carcinoma and Squamous cell carcinoma were the most common skin cancers among patients followed by malignant melanoma and *Kaposi's* sarcoma, other tumors found less frequent.

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