Retrospective Study of Basal Cell Carcinoma and Related with Different Parameters in Ghazy Al-hariri Hospital for Surgical Specialist

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Abstract

Background: Basal Cell Carcinoma is a malignant epithelial neoplasm of the skin that can be seen in the area of chronic sun exposure. If it is inadequately treated or left untreated, it can cause local tissue invasion and low death.

Objective: To evaluate different parameters of basal cell carcinoma cases referred to Ghazy Al-hariri Hospital for Surgical Specialist.

Patients and Methods: Retrospective study done in Ghazy Al-hariri hospital for surgical specialist, medical city, Baghdad during the period from 2009 till 2012, 6579 reports from archives of histopathological laboratories were review of malignant cases,84 cases of Basal cell carcinoma, 54 were men and 30 were women. Confirmatory histopathological re-evaluation of some or incomplete information was done, full information has been taken directly from report and the information was arranged in an informative formula sheet which includes, age, gender, anatomical site of tumor, tumor type and tumor size.

Results: In this study the percentage of basal cell carcinoma in relation to the total number is (1.3%), the results showed that 54 (64.3%) were men and 30 (35.7%) were women and the mean age of these patients was (69.9) years. Among basal cell carcinoma lesions, 28 cases were pigmented type, 18 cases were nodular type, 14 cases were ulcerated type, 10 cases were plaque type, 9 cases were basosqumous type and 5 cases were unclear.

Conclusion: The present study revealed significant differences in age between male and female, also most basal cell carcinoma lesions were located on the head and neck area.

Key words: Basal cell carcinoma, Epidemiological indices, risk factors, plaque type.

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Introduction

The Basal cell carcinoma (BCC) is one of the most malignant tumors that rarely metastasizes. The cell of Basal cell carcinoma resembles the basal layer of epidermis and its appendages. It appears to require surrounding stroma to support its growth and it grows by direct extension. There are different clinical form of BCC such as pigmented, nodular, superficial, ulcerative and morephoeic [1]. Its occurrence at the site of previous trauma such as ionizing radiation, thermal burn and scars. The areas receiving maximum sun exposure such as head and neck approximately 85% of BCCs appear on these areas. In the sites protected from sun such as breast and genitals the tumors also occur but in axilla the occurrence is extremely rare [1]. This tumor is more

diagnosed among adults who are elder than 50 years old [2].

The etiological factors that have been confirmed such as genetic background, occupation ,especially ,exposure to ionizing irradiation (childhood therapy) and chemical pollutions such as Arsenic salts but the the primary etiologic factor is the sun light [3]. It is an expensive and a serious public health problem globally related to its local invasive characteristic since it can cause extensive tissue destruction and considerable disabilities if it is diagnosed and treated with delay [4].

The lesions of BCC are different in biology and morphology on both sun protected and sun exposed skin [5]. The typical clinical feature of BCC is red colored papule or pearly pink with telangiectasia. Lesions may be slightly erythematous or translucent with a rolled border, occasionally accompanied by scaling or crusting, bleeding. The large untended neoplasms can be locally destructive of eyes, ears and nares, but the aggressive growth tumors tend to show more frequent ulceration [6]. The BCC lesions have different histomorphologic subgroups which have their specific clinical correlations; the superficial variant presents as a reddish plaque with variegate depigmentationand a spreading peripheral margin and the aggressive growth variants such as infiltrative or morpheaform BCC show as a depressed scariform plaque while the atrophic or scar-like peripheral border that raises consideration clinically to Bowen's disease, other annular dermatoses such as superficial fungal infections and nummular eczema [7].

In addition to sun exposure, genetic susceptibility and exposure to other environmental carcinogens are factors that have been related to the etiology of these lesions [8]. Therefore, behavioral and biological differences between male and female patients would be expected to result in different patterns of behavior of BCC [9]. So this study aims to valuate difference parameters of basal cell carcinoma.

Patients and Methods

Retrospective study done in Ghazy Al-hariri hospital for surgical specialist, medical city, Baghdad during the period from 2009 till 2012, 6579 reports from archives of histopathological laboratories were review of malignant cases,84 cases of Basal cell carcinoma,54 were men and 30 were women. Confirmatory histopathological re-evaluation of some or incomplete information was done, full information has been taken directly from report and the information was arranged in an informative formula sheet which includes, age, gender, anatomical site of tumor, tumor type and tumor size.

Statistical analysis

All data were analyzed by SPSS software, version 14. To analyze the results, we used descriptive statistics such as mean, standard deviation and frequency tables.

Results

The records of histopathological biopsies specimens were studied in the present study which included (1265) biopsies specimens of malignant cases, (84) cases of Basal Cell Carcinoma, 54 were men (64.3%) and 30 were women (35.7%). 69.6 years was the mean age of these patients.

Regarding the variable of gender; for men the highest frequency was among 50- 59 years old (16 cases, 29.6%) and the lowest was among < 20 years old (1 case, 1.9 %) age groups. But, for women the highest frequency was among 60-69 years old (10 cases, 33.3 %) and also the lowest was among < 20 years old (1 case, 3.3 %). In the 7th decade of life was the highest prevalence rate of aquisition (27.4%) as shown in table (1).

Table (1): Age incidence of Basal Cell Carcinoma in both genders.

Age group	Number of Male (%)	Number of Female (%)	Total (%)
(1-19)	1 (1.8)	1 (3.3)	2 (2.4)
(20-29)	1 (1.8)	0	1 (1.2)
(30-39)	1 (1.8)	1 (3.3)	2 (2.4)
(40-49)	7 (13.1)	3 (10)	10 (11.9)
(50-59)	6 (29.6)	5 (16.7)	21 (25)
(60-69)	11 (20.4)	10 (33.3)	21 (25)
(70-79)	15 (27.8)	8 (26.7)	23 (27.4)
(80-89)	2 (3.7)	2 (6.7)	4 (4.7)
Total	54 (100)	30 (100)	84 (100)

***P-value: Significant**

Regarding the anatomical site of tumor as show in table(2) the head and neck were more than 96.5% and in desending order the most common sites were nose 30 cases (35.8%), cheek 19 cases (22.6%), eyes 15 cases (17.9%), and ears 7 cases (8.3%). Only 3 cases (3.6%) were not on the head and neck region. But statistical analysis not revealed significant differences.

Table (2): Frequencies of different clinical types of basal cell carcinoma regarding gender.

		Anatomical distribution						
Gender	**Nose**	**Cheek**	**Eyes**	**Ears**	**Lips**	**Scalp**	**Others**	**Total**
	N (%)	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**
Male	19	12	10	3	3	5	2	54
N (%)	35.1	22.2	18.5	5.6	5.6	9.3	3.7	100
Female	11	7	5	4	2	0	1	30
N (%)	36.7	23.3	16.7	13.3	6.7	0	3.3	100
Total	30	19	15	7	5	5	3	84
N (%)	35.8	22.6	17.9	8.3	5.9	5.9	3.6	100

***P-value: non-significant**

Among BCC lesions, 28 cases were pigmented type, 18 cases were nodular type, 14 cases were ulcerated, 10 cases were plaque type, 9 cases were basosqumous type and 5 cases were unkown.

Regarding the tumor sizes were recorded in all 84 cases of BCC with mean of (19.60mm). The mean size of tumor (19.77 mm) was registered for 54 cases of BCCs occurred in males and the mean size of (18.73 mm) was recorded for 30 cases occurred in females, showing a significant difference between male and female groups (Data were evaluated by using t-Test, p= 0.001). The smallest and the largest tumor size were 5mm and 90 mm in diameter, respectively (Figure 1).

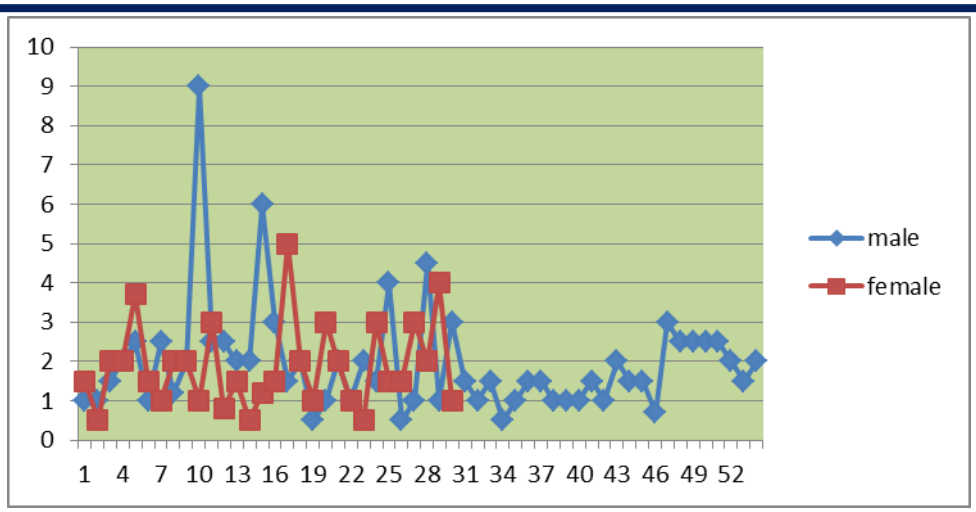

Figure (1): The distribution of Basal Cell Carcinoma tumor size in regarding of gender**.**

Discussion

The most common skin tumor is the Basal cell carcinoma [10]. Many factors mentioned with SCC such as excessive sun exposure especially in childhood age and in subject with red hair or fair skin with minimal tanning ability have been related to this type of lesion [1, 11].

According to gender distribution the present study demonstrated that males significantly higher than women this agreement with other study done by Marks (1993) in Australia [12]. In this study verifies such preponderance of males (64.3%) and (35.7%) of females and this may be because Iraqian females have sun shaded work place and the type of their clothes used by them. So this will reflect the difference in the nature between the males and females activities.

Regarding age. In this study the mean age was 69.6 years; while the other European studies are slightly higher than our study with a mean age of about 72 years. That is may be due to more intensity of sun rays in our country, due to log lasting unprotected sun exposure and the most important, and childhood x-ray scalp irradiation in to treat tinea capilis in our country. On the other hand, the immune system of body becomes less efficient and DNA regeneration capacity decreases with aging; which consequently results in higher possibility of BCC development [13]. Minimum and maximum ages of the patients were reported as 6 and 107 years by Scrivener *et al*, (2002) which are close to the minimum and maximum ages 16 and 85 years reported in the present study [14].

The nose was the most common sites of tumors with 30 cases and then the cheek with 19 cases, eyes with15 cases, ears with 7 cases and both scalp and lips with 5 cases which is in disagreement with other study [15].

The most common factor for BCC was the radiotherapy. Regarding this fact that the radiotherapy induced tumors need to be treated and more aggressive more radical screening programs to treat their tumors as soon as possible seem necessary [16].

The main risk factors of BCCs is the Ultraviolet radiation UV [17] which passes throughout the atmosphere and reaches to the earth surface in more quantities due to destruction of the ozone layer nowadays [13]. Therefore, overdose and long time exposure to solar UV can increase the risk of occurrence of this type of malignancy, especially, due to job conditions and outdoor activities [18]. Despite the fact that metastasis is rarely seen in BCC, it is known that the lesion size might be considered as a risk factor for estimating the possibility of metastasis occurrence.

Likelihood of metastasis occurrence in tumors with diameters larger than 3cm, larger than 5cm, and larger than 10cm have been estimated as much as 1-2%, 20-25%, and more than 50%, respectively [2]. However, no metastasis was observed among the cases in this study. The lesion mean size was 19.60±13.30 mm with a minimum and maximum of 5mm and 90mm, respectively. The results are almost similar to the mean size reported by Toosi *et al*.,(2002), although; the reported minimum (3mm) and maximum (65mm) sizes were different. Mean size of the lesion among men and women were 19.77±14.07 mm and 18.73±10.76 mm, respectively, show a significant statistical differences at P=0.001. The cause of such difference might be explained through more sensitivity and attention of women to their health and any unusual changes in their body, especially in the head-face and neck areas; which persuade them to visit a doctor more frequently and sooner when compared to men. Most of the skin cancers occur in those parts of the body where are more likely to be exposed to the sunlight [20]. In these parts of the body, especially in the in the area of head and neck BCCs lesions area of head and neck BCCs lesions the head-neck area, BCC lesions seem to be more frequent when compared to other parts with complete or relative coverage [2].

Depend on site, the present study which revealed that the nose was the most common site; while the lowest frequency was for lips and scalp [20, 2]. However, findings by Toosi *et al*, were not in agreement with our results.

In this study pigmented and nodular type (33.3% and 21.4% respectively) forms composed the most common clinical types of the BCC lesions .The basosquamous types (10.7%) were the least common and clinical type for (5.9%) of the lesions were unclear. The nodular type one is the most common reported histopathological type, which is disagreement with our results [2, 13]. According to Toosi *et al*., the most common clinical types were noduloulcerative (47.7%) and nodular (31.6%), while the ulcerative (0%) ones were among the least commons. Anyway, there are differences regarding the least common histopathological types according to various studies as in Bariani *et al*.(2006) study pigmented type, in Hakverdi *et al*.(2011) and Scrivener *et al*.(2002) studies morpheaform type, and in Hussain *et al*. study morpheaform and cystic types reported to be the least common histopathological types of the BCC lesions [21].

In current study basosquamous type is the least common histopathological type of BCC, similar to the report by Toosi *et al* (2004). In conclusion, the present study revealed significant differences between male and female, also most BCC lesions were located on the head and neck area.

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