



Basal Cell Carcinoma in Iraq: An Observational Study

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Article History

Received: 18 August 2020

Reviewed & Revised: 20/August/2020 to 15/October/2020

Accepted: 16 October 2020

E-publication: 23 October 2020

P-Publication: November - December 2020

Citation

Firas Fakhir Altameemi. Basal Cell Carcinoma in Iraq: An Observational Study. *Medical Science*, 2020, 24(106), 3918-3922

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General Note

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ABSTRACT

Objective: The study aimed to detect the association between demographical, clinical, and pathological characteristics of Basal Cell Carcinoma (BCC) in Iraq. **Methods:** An observational study was conducted from June 2019 to June 2020. A total of 233 lesions on the skin belonging to 200 patients who were suspected to have BCC by clinical examination in Misan Radiation Oncology Center. A histopathological examination was done for each excisional biopsies. **Results:** There were no significant differences between the gender, and smoking with BCC prevalence, whereas statistical differences were observed regard residency, and work. The nodular type was more common clinical types at 57%. The sensitivity of using dermatoscopic in the examination of BCC was much higher than that of clinical diagnosis (97.6% vs 93.9%), thus it had high accuracy (90.1% vs 76.8%). **Conclusions:** Dermatological examination proved to be more sensitive and accurate than clinical examination in the diagnosis of BCC. Males are more evident to develop BCC than females.

Keywords: Basal Cell Carcinoma, Histopathology, Radiation Oncology, Sun exposure

1. INTRODUCTION

According to the latest report published by Cancer Registry in Iraq, skin cancer was the ninth commonly diagnosed malignancy among the Iraqi peoples (MOH, 2018). BCC is a common skin cancer form (Bichakjian *et al.*, 2018). Ultraviolet radiation from sun exposure is an etiological factor in the pathogenesis of skin cancer (Singal *et al.*, 2016), in addition to fair skin, sunburn, smoking, and ionizing radiation (Marzuka and Book, 2015; Samarkandy *et al.* 2020). Usually, it does not spread, but sometimes it can distract the skin and invade underlying organs (Marzuka and Book, 2015, Dourmishev *et al.*, 2013).

BCC is defined by the WHO Committee of the skin tumors as localized invasive with slow spread rate metastasis carcinoma which arise from the epidermis (Dourmishev *et al.*, 2013, Nakayama *et al.*, 2011; AL-Ghamdi, 2020), and the other name is Rodent ulcer. Generally, skin types are classified into six categories according to the Fitzpatrick scale as Type I-VI according to characters as burns, tans (palest; freckles), and pigmentation (Nakayama *et al.*, 2011). The clinical variants of BCC include nodular, ulcerated, superficial spreading, infiltrative, and morphea forms (Nakayama *et al.*, 2011).

The study aimed to detect the association between demographical, clinical, and pathological characteristics of Basal Cell Carcinoma (BCC) in Iraq.

2. PATIENTS AND METHODS

Study design and setting

A cross-sectional study was conducted including patients attending a dermatological clinic in Misan Radiation Oncology Center from August 2019 to June 2020.

Study size

200 patients from Misan Radiation Oncology Center who had BCC.

Participants

Two hundred thirty-three skin lesions were found in 200 patients who have BCC by clinical examination, and by dermatoscopic examination.

Data collection

The excisional skin biopsies were sent for the histopathological department to confirm the diagnosis of BCC.

Statistical analysis

We used IBM SPSS Statistics Software (version 204.0, SPSS, Inc., Chicago, Illinois, USA). All p-values < 0.05 is significant.

3. RESULTS

Regarding demographic characteristics, 131(65.5%) of patients were males and 69(34.5%) were females, with a mean age 66.5 ± 1.5 years, of the 200, 145(72.5%) patients were lived in rural areas, while 55(27.5%) patients were of an urban resident. Most of the participants were farmers at 65%. Tobacco smoking was a common habit in 102(51%). The family history of skin cancers was negative in 144(72%) as illustrated in table 1.

Table 1: Demographic characteristics of BCC

Variables	Value	
Gender	Male	131 (65.5%)
	Female	69 (34.5%)
Age (years)	<60 years	77 (38.5%)
	≥60 years	123 (61.5%)
	Mean ± SD	64.8±2.8
Residence	Urban	55 (27.5%)
	Rural	145 (72.5%)
Previous jobs	Government employer	21 (10.5%)
	Private jobs	29 (14.5%)
	Farmer	130 (65%)

	Un employer	20 (10%)
Tobacco smoking	Yes	102 (51%)
	No	98 (49%)
Family history	Positive	56 (28%)
	Negative	144 (72%)

Clinically, the most prevalent type was the nodular variant as 57% of lesions were diagnosed, followed by ulcerated lesions as 20.6%. Morphea form was the least common one recorded as 3%, (Table 2).

Table 2 Clinical types of BCC

Clinical Type	n	%
Nodular	133	57
Ulcerated	48	20.6
Superficial spreading	31	13.3
Infiltrative	14	6
Morphea form	7	3
Total	233	100

The dermatoscopic examination was more sensitive (97.6% vs 93.9%), more specific (21.7% vs 17.3%), and more accurate (90.1% vs 76.8%) than clinical examination, (Table 3).

Table 3 Results of clinical examination and dermatoscopic examination

Examination		BCC	
		Positive	Negative
*Clinical	Positive	170	9
	Negative	43	11
**Dermatoscopic	Positive	205	5
	Negative	18	5
*Sensitivity 93.9% Specificity 17.3% Accuracy 76.8% Positive predictive value 79.8% Negative predictive value 45%		**Sensitivity 97.6% Specificity 21.7% Accuracy 90.1% Positive predictive value 91.9% Negative predictive value 50%	

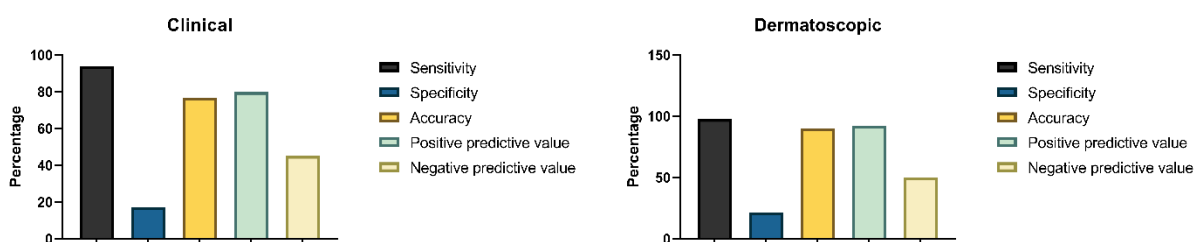


Figure 1: Diagnostic performance of clinical examination and dermatoscopic examination

4. DISCUSSION

In this study, males were more than females, this reflected that men are more work outdoor, and exposed to the sun more, which may lead to frequent trauma, and burns to lips, which agrees with the results of (Abbas and Borman, 2012). The age for patients was mostly more than 60 years and those findings similar to those reported by (Janjua and Qureshi, 2012).

The living in rural areas among patients with BCC in was high. Patients living in these areas consider initial BCC lesion look like cosmetic issue with low impact on health and ask for medical advice only when lesions become symptomatic or disfiguring, and this comes in contrast to the result of (Maia *et al.*, 1995).

In our study, half of the cases were tobacco smoking. That was agreed with the findings of Smith and Randle who described an increased prevalence of BCC among smokers (Smith and Randle, 2001). Family history of skin cancer demonstrated in 28%, whereas Ahluwalia *et al.*, found that 40% of patients had a positive family history (Ahluwalia *et al.*, 2012),but Abbas *et al.*, registered only 29.4% (Abbas and Borman, 2012).

The commonest clinical patterns of the BCC were nodular type lesions, and this similar to Dourmishev *et al.*, study results (Dourmishev *et al.*, 2013). In two examinations (clinical and dermatoscopic), we adopted both as a provisional diagnosis for BCC with high sensitivity, but the dermatoscopic was more accurate than clinical since both required the results of biopsies for confirming the diagnosis as a gold standard method. This nearly agrees with another study conducted by (Akay and Erdem, 2010, Menzies *et al.*, 2000).

5. CONCLUSION

Sun exposure is a play role as an important risk factor for developing skin cancer especially in those who live in rural places. Dermatological examination of the skin proved to be a useful real time saving noninvasive visual aid in the diagnosis of BCC yielding a higher sensitivity for the diagnosis of BCC than that of clinical diagnosis.

Funding

This study was funded by author only.

Conflict of Interest

The author declares that they have no conflict of interest.

Informed consent

Written informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

Ethical approval for human

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards (Code: 2019/C081).

Data and materials availability

All data associated with this study are present in the paper.

Peer-review

External peer-review was done through double-blind method.

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