Basal Cell Carcinoma in Iraq: An Observational Study

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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: Dermatoscopic 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

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male 131 (65.5%), Female 69 (34.5%)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>&lt;60 years 77 (38.5%), ≥60 years 123 (61.5%)</td>
</tr>
<tr>
<td>Residence</td>
<td>Urban 55 (27.5%), Rural 145 (72.5%)</td>
</tr>
<tr>
<td>Previous jobs</td>
<td>Government employer 21 (10.5%), Private jobs 29 (14.5%), Farmer 130 (65%)</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Clinical Type</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nodular</td>
<td>133</td>
<td>57%</td>
</tr>
<tr>
<td>Ulcerated</td>
<td>48</td>
<td>20.6%</td>
</tr>
<tr>
<td>Superficial spreading</td>
<td>31</td>
<td>13.3%</td>
</tr>
<tr>
<td>Infiltrative</td>
<td>14</td>
<td>6%</td>
</tr>
<tr>
<td>Morphea form</td>
<td>7</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>233</td>
<td>100%</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Examination</th>
<th>BCC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
<td>170  9</td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td>43   11</td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td>205  5</td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td>18   5</td>
</tr>
</tbody>
</table>

*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 be 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).

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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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