

Clinicopathological evaluation of basal cell carcinoma in patients referred to Afzalipour Hospital, Kerman, Iran

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Background: Basal cell carcinoma is the most common skin cancer, constituting nearly 80% of non-melanoma skin cancers. In this study, for the first time in Kerman, the clinicopathological features of basal cell carcinoma in patients referred to Afzalipour Hospital were evaluated.

Methods: This is a retrospective, cross-sectional study on 145 skin biopsy samples with a diagnosis of basal cell carcinoma in Afzalipour Hospital, Kerman. Demographic features of patients and clinical and pathologic types of basal cell carcinoma were recorded. Then, the correlation between clinical or histological types with demographic features was evaluated using the chi-squared test.

Results: Ninety-four (64.8%) of the cases were male, and the mean age of the patients was 68.12 ± 14.54 (min = 15, max = 101) years. The most and the least common sites of involvement were the nose (35.9%) and trunk (0.7%), respectively. The most common clinical (76.5%) and pathological subtypes (71.03%) were nodular. The least common clinical (6.3%) and pathological types (2.1%) were morpheaform. There was no significant correlation between histopathological or clinical types with demographic features including age and sex. Furthermore, there was no significant correlation between sex and the site of the involvement or age of the patients.

Conclusion: In this study, most patients were between 60-79 years of age, and the male-to-female ratio was 1.8 to 1. Nodular and morpheaform types were the most and the least common pathological and clinical types, respectively.

Keywords: Basal cell carcinoma, Clinical, Pathology

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INTRODUCTION

Basal cell carcinoma (BCC) is the most common skin cancer, constituting nearly 80% of non-melanoma skin cancers. The most prevalent site of involvement is the head and neck (85%), and it is observed most frequently in white skin types, men, and older persons (older than 50 years). Although it has a very low risk of metastasis and mortality, delay in diagnosis and treatment of this

cancer can lead to peripheral tissue distribution and cosmetic and functional problems ¹⁻⁵.

Chronic sun exposure and skin type are the most important factors in the development of this cancer. Genetic syndromes such as nevroid basal cell carcinoma, Rombo, Bazex, and xeroderma pigmentosum, and environmental factors such as arsenic exposure and radiotherapy as well as immunosuppression are among the other risk factors of this cancer ¹⁻⁵.

BCC is classified into four clinical types: nodular, superficial, morpheaform, and fibroepithelioma of Pinkus. The most common clinical type of this cancer is nodular, which frequently involves head and neck areas. Clinically, it is characterized by an erythematous or pigmented nodule with a pearly rolled margin and telangiectasia. The superficial type is usually the second common type that frequently involves trunk and limb areas. Clinically, it is characterized by erythematous scaly plaques and patches most prevalently seen in younger individuals¹⁻⁵. The morpheaform type develops as a white sclerotic plaque with a waxy surface and ill-defined margin, most commonly seen in head and neck areas. This type has the worst prognosis among the BCC types⁶⁻⁸. The least frequent type of BCC is fibroepithelioma of Pinkus, which presents as a soft pink or skin-colored nodule or plaque on the trunk and lumbosacral area⁶⁻⁸.

Considering the disparity in epidemiological features of this cancer in different geographical regions and the importance of clinical features and clinicopathological types of this cancer in the selection of better treatment modalities, in this study, for the first time in Kerman, clinicopathological features of BCC in the patients referred to Afzalipour hospital in Kerman was evaluated.

MATERIALS AND METHODS

This is a retrospective, cross-sectional study on 145 skin biopsy samples with a diagnosis of BCC in Afzalipour Hospital, Kerman. Firstly, patients' demographic features (age and sex) and clinical features of BCC (site, color, duration, and clinical type) were collected. Then, biopsy slides were revised by two dermatopathologists for the diagnosis of pathological subtypes. Finally, the correlation between clinical or histological types with demographic features was evaluated.

Data were analyzed using SPSS 16 (software IBM, Armonk, NY, USA). Prevalence, relative prevalence, and mean \pm standard deviation were used for descriptive analysis. Evaluation of correlation between variables was done with the chi-squared test.

RESULTS

In this study, 145 skin biopsies with the diagnosis

of BCC were evaluated. Ninety-four (64.8%) of the cases were male, and 51(35.2%) were female. The mean age of the patients was 68.12 ± 14.54 (min = 15, max = 101) years. The mean duration of the disease was 32.64 ± 30.88 months. One patient had two lesions. Most patients (44.8%) were between 60-80 years old (Table 1). The most and the least common sites of the involvement were the nose (35.9%) and trunk (0.7%). Table 1 demonstrates the prevalence of BCC according to the age of the patients and the site of involvement.

The most and the least common clinical types were nodular (76.5%) and morpheaform (6.3%). The most and the least common pathological types were nodular (71.03%) and morpheaform (2.1%) (Table 2). Fifty-one percent of the cases were

Table 1. Prevalence of basal cell carcinoma according to the age of the patients and the site of involvement

Variable	Prevalence (%)
Age (years)	
< 20	1 (0.7)
20-39	5 (3.4)
40-59	40 (27.6)
60-79	65 (44.8)
≥ 80	34 (23.5)
Site	
Nose	52 (35.9)
Cheek	31 (21.3)
Scalp	21 (14.4)
Forehead	13 (9)
Periorbital	3 (2.1)
Ear and periauricular	12 (8.2)
Upper cutaneous lip	4 (2.8)
Chin	2 (1.4)
Lower limb	3 (2.1)
Upper limb	3 (2.1)
Trunk	1 (0.7)

Table 2. Prevalence of basal cell carcinoma according to clinical and pathological subtypes

Variable	Prevalence (%)
Clinical subtype	
Nodular	111 (76.5)
Superficial	25 (17.2)
Morpheaform	9 (6.3)
Pathological subtype	
Nodular	103 (71.03)
Micronodular	15 (10.3)
Adenoid	11 (7.5)
Superficial	9 (6.2)
Basosquamous	4 (2.8)
Morpheaform	3 (2.1)

pigmented, and 47.6% were ulcerative.

There was no significant correlation between histopathological or clinical types with demographic features including the age and sex of the patients (Table 3, 4). Moreover, there was no significant correlation between sexes with the site of the involvement or age of the patients (Table 4). The minimum age of patients was 15 and 50 years old in males and females, respectively. Also, the maximum age of patients was 101 and 91 years old in males and females, respectively ($P = 0.238$).

DISCUSSION

This study evaluated the clinicopathological features of basal cell carcinoma (BCC) in patients referred to Afzalipour hospital in Kerman. We found that males were more commonly affected than females (male-to-female ratio 1.8 to 1). In previous studies in Iran, the male-to-female ratio varied from 1.1–1.6 to 1, in compatibility with our results⁹⁻¹².

The mean age of patients in this study was slightly higher in men than in women, but the result was not significant ($P = 0.23$). The minimum age of patients was lower in males than females. In the study in Hamadan by Zargarani, similar to our study, the mean age was significantly higher in men (63.07 ± 13.44) than in women (59.81 ± 14.01)⁹. Most of the patients in the present study were older than 40 (96.2%), which was nearly consistent with the study in Mashhad by Amouzegar (80%)¹⁰.

The most common clinical type of BCC in the current study was the nodular type (76.5%), which is compatible with the Hamadan study (75.5%) by

Table 4. Correlation between clinical types, histopathological types, and site of the lesions with the sex of the patients

Variable	Male N (%)	Female N (%)	P-value
Clinical subtype			
Nodular	75 (79.8)	36 (70.6)	0.259
Superficial	13 (13.8)	12 (23.5)	
Morpheaform	6 (6.4)	3 (5.9)	
Histopathological subtype			
Adenoid	7 (7.3)	4 (8.2)	0.538
Nodular	70 (72.9)	33 (67.3)	
Micronodular	10 (10.4)	5 (10.2)	
Superficial	4 (4.2)	5 (10.2)	
Basosquamous	2 (2.1)	2 (4.1)	
Morpheaform	3 (3.1)	0 (0)	
Site of the lesions			
Nose	34 (37.8)	18 (32.8)	0.392
Cheek	24 (26.7)	7 (12.7)	
Scalp	12 (13.3)	9 (16.4)	
Forehead	6 (6.7)	7 (12.8)	
Periorbital	2 (2.2)	1 (1.8)	
Ear and periauricular	8 (8.9)	4 (7.3)	
Upper cutaneous lip	2 (2.2)	2 (3.6)	
Chin	0 (0)	2 (3.6)	
Upper limb	1 (1.1)	2 (3.6)	
Lower limb	1 (1.1)	2 (3.6)	
Trunk	0 (0)	1 (1.8)	

Zargarani⁹. Our study's least common clinical type was the morpheaform type (6.3%), contrasting with the pigmented type (0.3%) in Hamadan⁹. In the present study, most of the lesions were pigmented (51%). Furthermore, ulceration was observed in 47.6% of the cases in the current study, in contrast to 23.3% in the Hamadan study⁹.

The most and the least prevalent pathological type in the present study was the nodular type (71.03%) and morpheaform (2.1%). The most

Table 3. Correlation between clinical or histopathological type with age of the patients

Variable	≤ 20 years N (%)	21-40 years N (%)	41-60 years N (%)	61-80 years N (%)	> 80 years N (%)	P-value
Clinical subtype						
Nodular	0 (0)	4 (80)	47 (72.3)	27 (79.4)	33 (82.5)	0.259
Superficial	1 (100)	1 (20)	12 (18.5)	6 (17.7)	5 (12.5)	
Morpheaform	0 (0)	0 (0)	6 (9.2)	1 (2.9)	2 (5)	
Histopathological subtype						
Adenoid	0 (0)	0 (0)	2 (8)	4 (6.2)	5 (14.7)	0.867
Nodular	1 (100)	5 (100)	29 (76.3)	47 (72.3)	21 (61.8)	
Micronodular	0 (0)	0 (0)	5 (13.2)	7 (10.7)	3 (8.8)	
Superficial	0 (0)	0 (0)	3 (7.9)	4 (6.2)	2 (5.9)	
Basosquamous	0 (0)	0 (0)	1 (2.6)	2 (3.1)	1 (2.9)	
Morpheaform	0 (0)	0 (0)	0 (0)	1 (1.5)	2 (5.9)	

common pathological type in Hamadan (69.2%) and Kermanshah (76.6%) was the nodular type, similar to the current study ^{9,12}. However, in contrast to this study, the least common types in Hamadan and Kermanshah were basosquamous (0.8%) and micronodular (0.6%), respectively ^{9,12}.

The most frequent site of involvement in this study was the nose (35.9%), compatible with the Hamadan (37.54%) and Kermanshah (44.7%) studies ^{9,12}. The least frequent site of involvement in the face in our study was the chin (1.4%), which is similar to the Hamadan study (0.44%) but different from the Kermanshah study (upper lid, 0.84%) ^{9,12}.

In our study, there was no significant correlation between clinical or pathological types with demographic features including age and sex of the patients. However, in the studies in Hamadan and France, there was a significant correlation between pathological type and sex of the patients ^{9,13}. In the French study, nodular and morpheaform types were most commonly observed in male and female patients, respectively ¹³. In the present study, nodular and superficial types were more frequent observed in male and female patients, respectively, but results were not significant. In the study in Hamadan by Zargaran, similar to the current study, the superficial type was most common in females and the nodular type was most common in males ⁹.

In the French and Australian studies, in contrast to this study, there was a correlation between age and pathological type. Increasing patients' age accompanied increased incidence in nodular type and decreased incidence in superficial type ^{7,13}. However, our study found no correlation between age and pathological types.

CONCLUSION

In this study, most patients were male and between 60-80 years of age. There was no significant correlation between histopathological or clinical types with demographic features such as age and sex. Moreover, there was no significant correlation between sex and the site of involvement or age

of the patients. Nodular and morpheaform types were the most and least common pathological and clinical types, respectively.

Conflict of Interest: None declared.

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