Prognosis of Skin cancer in Hamadan, Iran (2008-2018)

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Abstract

Objective

Skin cancer is the most common cancer in the world. The study was aimed to determine the prognosis of skin cancer in Hamadan, Iran.

Methods

A cross-sectional study was conducted retrospectively at Sina Hospital in Hamadan, Iran. A total of 3276 cases that had been diagnosed with skin cancer from 2008 to 2018 were reviewed. The variables included early symptoms, location involved, metastasis, prognosis and treatments, were recorded in checklist.

Results

The mean age of the patients were 65.30 ± 14.6 years. The highest and lowest number of skin cancers were on the nose and trunk (29.3 and 3.3%). There was also no significant relationship between radiotherapy, invasion and treatment with skin cancer. The most common pathological type of skin cancers was Basal Cell Carcinoma (BCC). The highest relative invasion was related to Melanoma (26.4%) and the lowest relative invasion was related to BCC (2.1%). The prognosis of skin cancer and 5-year survival rate of patients was 90.7%, respectively.

Conclusion

The most common age of the patients with skin cancer is in the seventh decade of life. The prognosis of patients with different types of skin cancers in this study was very good, indicating that it usually improves.

Introduction

Cancer will be a determining factor in the global burden of the disease in the upcoming decades. Skin cancer is the most common cancer in the world and the incidence of skin cancer has increased in recent decades[1, 2]. The most important risk factors include radiotherapy, increasing life expectancy, chemicals and environmental factors such as sunlight and skin photo types. The incidence and mortality rate of skin cancer is steadily increasing with age, men are more likely to develop this cancer than women. Skin cancer is an appearing clinical problem in the elderly[3]. Skin cancer is the most common human cancer in the world. It is the first cancer in men and the second in women. In countries such as the United States, Europe and Australia, where people have white and light skin and blue and green eyes, are more common and one of the leading causes of death in these countries[4]. There are two types of skin cancer, originating from the epidermis: melanoma and non-melanoma skin cancer (NMSC). Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are referred to NMSC[5].

In Australia, relative survival after diagnosis of melanoma of the skin is very high when compared with other types of cancer. The 5-year relative melanoma survival rate increased from 88% in the period 1986-1990 to 91%

in 2011-2015. Survival rate was more overall it varied considerably by stage at presentation [6].

Australian survival rates from melanoma are generally higher than in other countries due to the high proportion of thin lesions. Survival rates are higher in countries where there is greater melanoma awareness due to earlier detection. Gender differences are also observable in relation to mortality. The estimated death rate for men and women in 2020 was 6.1 and 2.8 per 100,000 respectively[7]. Aging and lifestyle changes are the most important risk factors for skin cancer in Iran[8]. Sun-protective clothing provides a physical barrier that reduces skin cancer[9].

Due to the lack of comprehensive information on skin cancer, this study was done to determine the Prognosis of skin cancers over 11 years period in Sina Hospital in Hamadan city, Iran.

Materials And Methods

This study was a retrospective cross-sectional study. A total of 3276 patients who were diagnosed with skin cancer from 2008 to 2018 referred to Sina Hospital in Hamadan, Iran and their medical record including Location of lesion, history of radiotherapy, tissue invasion, prognosis and applied treatments were Extracted from files and the checklist was filled out. File deficiencies were followed up by telephone. Data were analyzed using SPSS/20 software and chi-square test. P value < 0.05 was regarded as significant.

Results

In this retrospective cross-sectional study, 3276 patients who referred to Sina Hospital in Hamadan in from 2008 to 2018 following the diagnosis of skin cancers were included in the study. The mean and standard deviation of the age of the subjects in this study is 65.30 ± 14.6 years. The minimum age of patients was 14 years and the maximum age of patients was 92 years old. The most common pathological types of skin cancers were BCC (68.6%) followed by SCC (24.6%) and Melanoma (4.7%), respectively.

Table 1: Frequency of lesion site in patients with skin cancer

Location of lesion	Type of Skin Cancer (n=3276) No. (%)						Total	P-value*
	BCC	SCC	Melanoma	Fibrous histiocytoma	Sebaceous adenocarcinoma	Spindle cell sarcoma		
Lips	46(2.0)	106(13.2)	5(3.2)	0	0	0	157(4.8)	< 0.001
Eyelid	181(8.1)	29(3.6)	9(5.8)	0	6(18.8)	0	225(6.9)	
Ears	159(7.1)	99(12.3)	4(2.6)	0	2(6.2)	0	264(8.1)	
Nose	757(33.7)	169(21.0)	27(17.4)	3(18.8)	3(9.4)	1(5.3)	960(29.3)	
Neck & Scalp	376(16.7)	146(18.1)	33(21.3)	0(0.0)	4(12.5)	2(10.5)	815(24.9)	
Trunk	60(2.7)	24 (3.0)	11(7.1)	3(18.8)	5(15.6)	4(21.1)	107(3.3)	
Upper limbs	35(1.6)	54(6.7)	14(9.0)	0	2(6.2)	6(31.6)	111(3.7)	
Lower limbs	29(1.3)	50(6.2)	29(18.7)	0	2(6.2)	4(21.1)	114(3.5)	
Kind	293(13.0)	81(10.0)	27(17.4)	5(25.0)	6(18.8)	0	411(12.5)	
Forehead	312(13.9)	79(9.8)	13(8.4)	2(12.5)	1(3.1)	1(5.3)	408(12.5)	
Total	2248(68.6)	806(24.6)	155(4.7)	16(0.5)	32(1.0)	19(0.6)	3276(100.0)	

* χ^2 Test, Values are presented as number (percentage).

The results showed that the highest number of skin cancers was on the nose (29.3%) and the lowest number was on the trunk (3.3%). Also, the distribution of skin cancers on different parts of the body was significantly different ($P < 0.001$) (Table 1).

Table 2: Frequency of history of radiotherapy, tissue invasion and treatment in the subjects

Cractristics	Type of Skin Cancer (n=3276) No. (%)						Total	P- value*
	BCC	SCC	Melanoma	Fibrous histiocytoma	Sebaceous adenocarcinoma	Spindle cell sarcoma		
History of radiotherapy								0.71
Yes	490(21.8)	165 (20.5)	34(21.9)	3(18.8)	10 (31.2)	3 (15.8)	705 (21.5)	
No	1758 (78.2)	641(79.5)	121 (78.1)	13(81.2)	22 (68.8)	16(84.2)	2571(78.5)	
Invasion								0.08
Yes	48(2.1)	43(5.3)	41(26.4)	1(6.2)	2(6.2)	2 (10.5)	137(4.1)	
No	2200(97.9)	763(94.7)	114(73.6)	15(93.8)	30(93.8)	17(89.5)	3139(95.9)	
Type of treatment								0.05
Resection	1759 (87.2)	(83.3) 671	125 (78.1)	11 (681)	25 (78.1)	13 (68.4)	2600 (79.4)	
Excision	489 (21.8)	135(16.7)	34(21.9)	5(31.2)	7(21.9)	6 (31.6)	676 (20.6)	
Total	2248(68.6)	806(24.6)	155(4.7)	16(0.5)	32(1.0)	19(0.6)	3276(100.0)	

* X² Test, Values are presented as number (percentage).

According to the results, most of the subjects had no history of radiotherapy (78.5%). Only 137 (4.1%) of the pathology specimens had invasion of the underlying tissues. The highest and lowest relative invasion was related to Melanoma (26.4%) and BCC (2.1%), respectively. The relative rate of invasion was related to SCC (5.3%). Treatment of patients with various skin cancers included (79.4%) with lesion resection and (20.6%) patients with lesion excision. Also, there was no significant relationship between the history of radiotherapy, invasion and type of treatment with the incidence of skin cancers (P >0.05) (Table 2).

The 60.9 and 39.1% of patients had initial symptom of ulcerative and non-ulcerative lesion, respectively. In this study, prognosis of patients with various skin cancers was (92.8, 7.2%) recovery and death. The worst prognosis of patients with various types of skin cancer related to Melanoma with 76.7%, recovery and the best prognosis of patients with various types of skin cancer related to BCC with 94.8%, recovery. The 5-year survival rate in patients with various skin cancers was generally 90.7%.

The patients had one and more than one lesion (95.1 and 4.9%) when referring to Hospital, respectively. The average size of skin lesions was 7.9 ± 4.8 mm. The smallest lesion was 3 mm and the largest lesion was 30 mm.

Discussion

Based on the results of this study, skin cancer has been increasing trend during time. The mean and standard deviation of the age of the subjects was 65.30 ± 14.6 year. The minimum age of patients was 14 year and the maximum age was 92 years old. The highest frequency of skin cancer lesions was on the nose and the lowest number was on the trunk. Most of the subjects had no history of radiotherapy. Only 4.1% of the pathology specimens had invasion of the underlying tissues. The highest and lowest relative invasion was related to Melanoma and BCC, respectively. Treatment of patients with various skin cancers included lesion resection and excision (79.4 and 20.6%), respectively.

Ahmadi et al., found that Face was the most common place of the incidence of this disease (81.6%) and hand was the least common one (1.7%). The rate of incidence of cancer has experienced considerable growth in men and a slight decrease in the case of women between 2002 and 2011 in Ilam[10]. Yuyucu Karabulut (2015) found that, almost all types if skin cancer showed slight predominance for nose and cheek localization. The mean tumor diameter was 8.94 mm [11]. This survey was consistent with findings of other studied around the world. The 5-year survival was high for all age groups, gradually declining with age[6, 12]. Skin cancer is an appearing clinical problem in the elderly.

Conclusion

The most common age of the patients with skin cancer is in the seventh decade of life. The prognosis of patients with different types of skin cancers in this study was very good, indicating that it usually improves.

Declarations

List of abbreviations

Not applicable

Ethics approval and consent to participate

This study was reviewed and approved by the Ethics Committee of Research Deputy of Hamadan University of Medical Sciences, Hamadan, Iran. Patients were not required to give informed consent to the study because the analysis used files data that were obtained after each patient agreed to treatment by written consent.

Consent to publish

All authors declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere. All authors confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us. All authors understand that the Corresponding Author is the sole contact for the Editorial process. He/she is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs.

Availability of data and materials

Further information is supplied as supplementary file or can be obtained from the authors on request.

Conflict-of-interest statement

No potential conflicts of interest.

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Author contributions:

Sasan Nazari conceived the idea, planned the study and drafted the manuscript. All authors helped acquisition of data, did statistical analysis, editing and final approval of manuscript. All authors contributed significantly to the submitted manuscript.

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