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Original Article

Demographic analysis of non-melanoma skin cancers in the southeastern anatolia

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Abstract

Aim: To make a demographic analysis of patients operated on because of skin cancer in the last ten years in the Diyarbakir region of Turkey. Information was mapped related to age, gender, localization, grade, and size of skin cancers other than melanoma.

Material and Methods: A retrospective examination was made of patient data in the computerized information system from the last ten years. Age and gender of the relevant patients, tumour diagnosis, size, and localization were recorded.

Results: From the archive scan, the data of 733 patients were retrieved. The diagnosis was basal cell carcinoma (BCC) in 540 cases, squamous cell carcinoma (SCC) in 154, and basosquamous cell carcinoma (BSCC) in 32. BCC was determined more in males (M/F:280/260), localization was mostly in the nasal region and it was seen most in the 60-70 years age range. SCC was diagnosed more in males (M/F:92/62) in the 70-80 years age group, and the most common localization was on the cheek. BSCC was observed more often in females (M/F:14/18).

Conclusion: Diyarbakir is geographically located in the South-east Anatolian region of Turkey, those who live there are exposed to long hours of intense sunlight in certain months of the year. In this region, BCC and SCC were seen more in males and BSCC was determined more in females. When it is considered that UV exposure is significant in the etiology of skin cancers, it can be concluded that characteristics change according to geographic region and epidemiological characteristics (skin type, genetic factors, regional working conditions).

Keywords: Basal cell carcinoma; basosquamous cell carcinoma; squamous cell carcinoma

INTRODUCTION

Malignant skin cancers are generally classified as keratinocystic and melanocystic tumours. The majority of keratinocystic or non-melanoma skin cancers (NMSC) comprise basal cell carcinoma (BCC), squamous cell carcinoma (SCC) and more rarely, Basosquamous Cell Carcinoma (BSCC). These are the most frequently seen tumours worldwide, especially in white-skinned races. The frequency of BCC in the USA has been reported to be 33-39% in males and 23-28% in females (1,2). Although NMSC are widespread, the morbidity and mortality rates are not high. Despite significant developments in the diagnostic parameters of melanoma, the same developments have not been seen for the diagnosis of NMSC. For these types of tumours, the most important data are obtained clinically and diagnosis is made histopathologically.

BCC is seen more often and originates from germinative cells found in the hair root follicles in the epidermis. The most significant factor playing a role in the etiology of this tumour is UV light. This tumour is usually seen in white-skinned people and the geriatric population. SCC forms because of the malignant transformation of epithelial keratinocytes in the skin and mucosal surfaces. Chronic inflammation, chronic wounds and wound scars are thought to be responsible in SCC etiology. While acute and intense exposure to sunlight has a role in the etiology of BCC, long-term chronic exposure is responsible in the etiology of SCC (3,4). BSCC is a clinical and pathological entity that histopathologically shows both BCC and SCC characteristics, has aggressive behavior, and can metastases. Among the predisposing factors in the formation of BCC, together with UV, trauma, radiation scar formation, immune dysfunction, inorganic arsenic, some precancerous lesions have been mentioned, such as sebaceous neva and other adnexal hamartomas (3,4). The etiology of skin cancers varies according to geographical region. However, to the best of our knowledge, there has been no study found for the Southeastern Anatolia Region. Therefore the aim of this study was to develop a

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demographic and epidemiological map of skin cancers seen in the Southeastern Anatolia Region and to present the results.

MATERIAL and METHODS

A retrospective examination was made of patients who presented with a skin tumour at Diyarbakir Gazi Yaşargil Training and Research Hospital between 2009 and 2019. The patients included in the study were those diagnosed histopathologically with NMSC (BCC, SCC, BSCC). Data related to age, gender, tumour type, and localization were analyzed. Patients with sufficient data were included in our study. Patients with additional skin lesions, Primary tumour in any tissue, chronic autoimmune disease were excluded from the study. Approval for the study was granted by the Ethics Committee for Clinical Research (No: 45-631). Information related to each year was copied to standardized data collection sheets in an Excel database and entered in "Statistical Package for Social Sciences" (SPSS). Descriptive statistics tests were used for statistical analysis.

RESULTS

Following the exclusion of 30 patients with incomplete data, an evaluation was made of 733 patients with complete data available. The diagnoses were BCC in 540 cases, SCC in 154, and BSCC in 32. More uncommon diagnoses were determined of adenocystic carcinoma (in the scalp, male) in 1 patient, sebaceous carcinoma (in the scalp, female) in 1 patient, hydroadenocarcinoma (in the scalp, female) in 1 patient, porocarcinoma (in the scalp, female) in 1 patient, and Bowen's disease on the back of 1 patient. Demographic features and localisations are summarised in Table 1, Figure 1, and Figure 2.

Table 1. The localisation of tumours

		BCC		BSCC		SCC	
		Male	Female	Male	Female	Male	Female
Scalp	n	30	14	1		18	9
	Size(mm)	12.6	9.64	20		10.33	14.88
	Age	64.33	71.78	77		75.33	69.77
Forehead	n	19	18		1	2	2
	Size(mm)	10.05	11.5		13	18.5	10
	Age	60	61		97	62	72.5
Cheek	n	78	59	3	7	22	17
	Size(mm)	9.75	9.27	16.66	9	10.5	14.88
	Age	60.69	65.77	74.66	75.85	70.4	67.76
Nose	n	75	100	5	5	12	10
	Size(mm)	9.26	7.77	7	9.4	9.66	9.6
	Age	64.21	63.73	70.2	78.4	62.08	66.6
Upper Lip	n	1	4				5
	Size(mm)	8	10.75				14.4
	Age	63	70.25				74.2
Lower Lip	n	2	1			13	2
	Size(mm)	9	8			16.31	13.5
	Age	72.5	89			63.76	72.5
Periorbital	n	34	33	1	1	1	1
	Size(mm)	7.14	7.81	4	8	14	30
	Age	56.02	63.03	63	77	84	81
Mandibula	n	1	3			1	
	Size(mm)	14	12.33			6	
	Age	38	51.33			67	
Ear	n	11	1	1		12	2
	Size(mm)	13.27	5	10		14.08	17
	Age	71.45	82	70		76.25	77.5
Neck	n	9	1			1	
	Size(mm)	11.66	5			8	
	Age	61.66	42			29	
Others	n	20	26	4	4	10	14
	Size(mm)	9.75	10.38	18.25	21.75	24.3	18.71
	Age	61.5	66.19	72.5	62.5	71.6	70
Total		280	260	14	18	92	62

BCC: Basal Cell Carcinoma, SCC: Squamous Cell Carcinoma, BSCC: Basosquamous Cell Carcinoma

Demographic data of patients with BCC

Of the total 733 patients, BCC was diagnosed in 540 (73%), comprising 280 (51%) males and 260 (49%) females. BCC was seen most often in the sixth decade of life. Localization had not been recorded in 8 cases. The most common localization of lesions was the nasal region (n:175, 32%), and the least common area was the mentum (n:4, 0.07%). In 137 (24%) patients, the lesion localization was on the cheek. In 67 (11%) patients with localization in the periorbital region, the mean age was 59.5 years, and in 12 (0.02%) patients with ear localization, the mean age was 71.9 years.

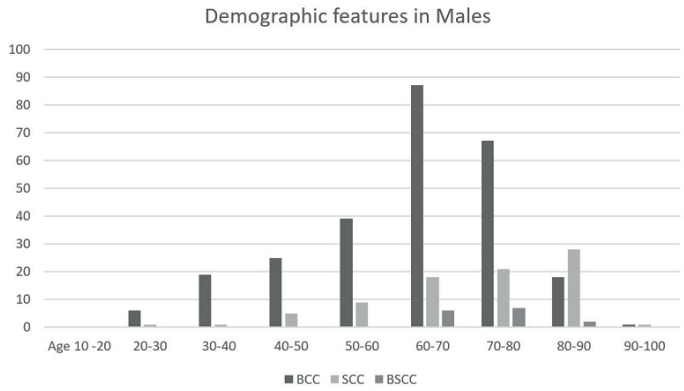

Figure 1. Demographic features in males

Demographic data of patients with SCC

These tumours were seen most often in the seventh decade of life. The patients comprised 92 (59%) males and 62 (41%) females. The most common localization of SCC was the cheek region (n:39, 25%) and the least common was the periorbital and neck region (n:3, 0.001%). Lower lip localization was observed to be significantly greater in males than females (M/F: 13/2). The vast majority of cases with the scalp (M/F: 18/9) and ear (M/F: 12/2) localization were also male.

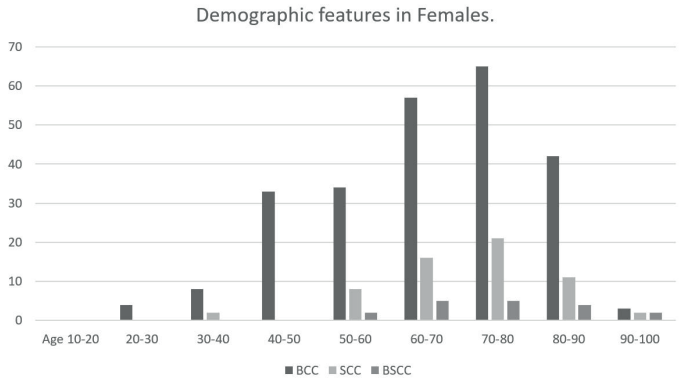

Figure 2. Demographic features in females

Demographic data of patients with BSCC

BSCC was diagnosed in only 32 patients of this series, most often in the sixth and seventh decades of life and more frequently in females than males (M/F: 14/18). These lesions were localized in the cheek in 10 cases (31%) and on the nose in 10 cases (31%).

DISCUSSION

Epidemiological studies on the subject of cancer are important in respect of clarifying the agents and mechanisms of formation. The incidence and mortality rates of cancer increase together with age. Exposure to sunlight and radiation are the two most important factors in the etiology of skin cancers. In addition, geographic region and advanced age are of not insignificant importance in the etiology (5). Australia has the highest incidence and mortality rates of skin cancer in the world, the reasons for which are understood to be exposed to high UV radiation and that the majority of the population are sensitive and white-skinned (6).

With the implementation of the Cancer Monitoring System in Turkey in 2003 and the increased awareness of early diagnosis, the real incidence of the disease has been revealed. Thus, disease can be diagnosed early before metastasis. In addition, there has been a reduction in the incidence of mortality caused by diseases such as melanoma. Findik et al (5) analysed the demographic data of 400 patients who presented because of NMSC at Konya Meram University Medical Faculty Hospital. The most frequent tumour was determined as BCC (263 patients, 65%), localised most frequently in the nasal region (82 patients, 31%). The current study results of tumours seen in the Diyarbakir region are consistent with these findings.

In the same study by Findik et al, SCC cases comprised 28% (114 cases). Lesions were localised most often in the lower lip, the eye region and extremities and were reported to be seen more often in females (7). However, in the current study, they were seen more in males and localisation was determined most often in the cheek. These data were not consistent with the findings of previous studies. As the Diyarbakir region is in the south-east of Turkey, it is close to the equator and therefore exposed to more sunlight for most of the year because of the geographic characteristics. In addition, the geographic conditions and employment in agriculture may explain the gender difference. The same reasons could explain the difference in localisation of the lesions.

Türkmen A et al. (8) evaluated 663 skin cancer cases in 510 patients who presented at Gaziantep University Medical Faculty between October 1999 and December 2009. BCC was determined in 281 patients (M/F:152/129), SCC in 156 patients (M/F:91/65), BSCC in 19 patients (M/F:12/7), and malignant melanoma (MM) in 54 patients (M/F: 25/29). The most common localisation of BCC was the nose (27.73%) followed by the cheek, lower eyelid, ear and upper lip. SCC was determined most often on the lower lip (11.51%) followed by the cheek, nose, ear, and forehead, and BSCC was reported to be observed most on the cheek (8).

In a study of 163 patients who presented at the Plastic Surgery Polyclinic of Sivas Numune Hospital between January 2013 and December 2014, Derebaşınlıoğlu et al. (9) examined the pathology results of 176 skin excisional biopsies. A total of 124 NMSC were determined, as 105 BCC,

14 SCC, and 5 BSCC. The patients comprised 80 (49.07%) males and 83 (50.03%) females (9). The limitations of this study were that it was retrospective in design, there was no histological subgroup analysis, and the sample size of the groups was small.

CONCLUSION

In conclusion, just as the demographic data of skin cancer cases vary from country to country, a difference may also be seen from region to region. When it is considered that with the exception of MM, the diagnosis of skin cancers is generally made according to clinical data, studies such as this one can provide information that can be of guidance in early diagnosis. Further investigations with a larger number of cases and longer duration of follow-up are recommended.

Competing interests: The authors declare that they have no competing interest.

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