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Non-melanoma Skin Cancers Reported at a Secondary Care Institution in Milas

İkinci Basamak Sağlık Kuruluşu Non-melanom Deri Kanseri Verileri: Milas Yöresi

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Abstract

Aim: We investigated demographic features, tumor location and histopathology as well as frequency of recurrence of nonmelanoma skin cancer (NMSC) in patients in Milas region.

Methods: Medical files of 120 patients with the diagnosis of NMSC, who attended the dermatology department at Milas State Hospital between 2011 and 2014, were analyzed retrospectively. Statistical analysis was performed by evaluating demographic characteristics (age, gender, tumor initial age), alcohol consumption, smoking habits, occupation, Fitzpatrick skin type (FT), location of lesions, tumor histopathology and recurrence frequency.

Results: The average age at admission was 65.2 years. Male/female ratio was equal and the number of females with basal cell carcinoma (BCC) was higher than that of males, while squamous cell cancer was more common in men. 88.3% of the lesions involved the head and neck region. The most common location was the nose (19.7%), followed by eye and ear region. 70.8% of patients had FT 1 and 2 and 70% had light eye color. There were more than one lesion in five patients and recurrence was observed in 15 of the patients. The most common histopathologic type was nodular, followed by infiltrative and superficially spreading BCC. Almost all of our patients were active farmers.

Conclusion: During the three-year follow-up period, NMSCs were reported to have a high rate of frequency and recurrence. We believe that skin cancers constitute an important health problem for this town and this can grow unless necessary measures are taken.

Keywords: Non-melanoma skin cancer, Milas, basal cell carcinoma, squamous cell carcinoma

Öz

Amaç: Bu çalışmada Milas yöresinde görülen non-melanoma deri kanseri (NMDK) hastalarından devlet hastanesine başvuranların demografik özellikleri, tümör lokalizasyonu ve histopatolojisi ile tümörlerin rekürrens sıklığı çalışıldı.

Yöntemler: Çalışmada 2011-2014 yılları arasında; dermatoloji kliniğinde görülen 120 NMDK tanılı hastaların dosyaları retrospektif olarak incelendi. Hastaların demografik özellikleri, alkol ve sigara kullanımı, mesleği, Fitzpatrick deri tipi (FT), lezyonların lokalizasyonu, tümör histopatolojisi ile rekürrens sıklığı değerlendirilerek istatistiksel analiz yapıldı.

Bulgular: Hastaların başvuru sırasındaki yaş ortalaması 65,2 olarak bulundu. Erkek ve kadın oranı eşitti ve bazal hücreli karsinom (BHK) hastalarında kadın sayısı, skuamöz hücreli kanser hastalarında erkek sayısı fazla idi. Lezyonların %88,3'ü baş-boyun bölgesinde görüldü. En yaygın lokalizasyon burun olup (%19,7) bunu göz ve kulak çevresi izledi. Hastaların %70,8'i FT 1 ve 2, %70 hasta açık renk göze sahipti. Beş hastada birden fazla lezyon vardı ve hastaların 12 tanesinde rekürrens görüldü. En sık karşılaşılan histopatolojik tip nodüler olup bunu infiltratif ve yüzeyel yayılan BHK izledi. Hastalarımızın neredeyse hepsi tarım ile aktif uğraşan bireylerdi.

Sonuç: Üç yıllık takipte ilçenin ikinci basamak sağlık kuruluşunda tespit edilen olguların sıklığının ve rekürrensin yüksek olduğu tespit edilmiştir. Deri kanserleri sıklığının ve tedavisinin bu bölge için önemli bir sağlık problemi olduğunu ve koruyucu önlemler alınmazsa bunun artacağını düşünmekteyiz.

Anahtar Sözcükler: Non-melanom deri kanserleri, Milas, bazal hücreli karsinom, skuamoz hücreli karsinom

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Introduction

Non-melanoma skin cancers (NMSCs) are among the most common malignancies seen worldwide and in our country (1). Although it has a low mortality, it can cause disfiguration because it is frequently located in the head and neck region and morbidity is rather high, causing economic loss (2-5). There is no sufficient information on the incidence of the disease in our country. Information about its incidence and characteristics are usually obtained from retrospective analysis of the patient archives (3).

NMSCs include the two most common types of cancers; basal cell carcinoma (BCC) originating from the basal layer of the epidermis and skin adnexa, and squamous cell carcinoma (SCC) developing from atypical epidermal keratinocytes. BCC is stable, slow-growing tumor with a very low risk of metastasis, while SCC has a more aggressive course, grows rapidly and has a high risk of metastasis. The major etiologic factor in the development of BCC and SCC is exposure to ultraviolet beams, particularly ultraviolet B (2,5).

The Fitzpatrick skin type classification denotes six different skin types, skin color, and reaction to sun exposure which ranges from very fair (skin type I) to very dark (skin type VI) depending upon whether the patient burns at the first average sun exposure or tans at the first average sun exposure (2).

Methods

Data of patients with NMSC diagnosis were screened in Milas State Hospital. Patients who had been followed up for at least six months were included in the study. Age, gender, skin type, smoking, alcohol use, tumor location and clinical data were evaluated according to the histopathologic types. Facial area was recorded as nose, zygoma, around ear, lower lip, chin, scalp, frontotemporal, orbital, nose and neck. Histopathology of the lesions was classified as BCC and SCC. BCC was evaluated as nodular, micronodular, morpheic, superficially spreading and infiltrative; whereas SCC was evaluated in subgroups of *in situ*, well, moderate and poorly differentiated, and not classified.

Statistical Analysis

The SPSS statistical package (Version 16.0, SPSS, Inc., Chicago, IL) was used for analysis.

Descriptive statistics of demographic and other variables were recorded. Student's t-test and the Mann-Whitney U test for independent samples were used for all parametric and nonparametric analyses, respectively. The chi-square test was used for qualitative variables. In all statistical tests; a p value of less than 0.05 was considered statistically significant.

Results

Eighty four (70%) of 120 patients who had been diagnosed with NMSC had BCC, and 36 (30%) had SCC. The male/female ratio was equal. BCC patients consisted of 21 men and 15 women; SCC group included 39 men and 45 women. Skin type was FT 1 and 2 in 85 patients, 50 cases had dark eye color, and 70 had light eye color. Recurrence was observed in 15 patients (Table 1). Two of these cases had the third recurrence, while one had the fourth recurrence. The subject who had the forth recurrence was a homeless patient with multiple actinic keratosis and more than one lesion. SCC and BCC most commonly occurred in the seventh decade of life both in men and women.

There were no any skin cancer cases in the first decade of life. Most patients were in the age group of 60-70 years. Although there were cases with tumor involvement of the body regions such as lumbosacral, abdominal and lower extremities, tumor spread was mostly observed in the head and neck region (88.3%) in cases with BCC (Table 2).

Lesions were found mostly on the nose, followed by central parts of the face such as periorbital area and above zygoma (Figure 1, 2). Other lesions were seen on the hands (five patients), chest area (three), back (two),

Table 1. Demographic features of non-melanoma skin cancer patients

Age mean ± SD (min-max)		65.5±13.9 (13-96)
Gender n (%)	Male	60 (50.0)
	Female	60 (50.0)
FT n (%)	1	1 (0.8)
	2	84 (70.0)
	3	35 (29.2)
Eye color n (%)	Brown	50 (41.7)
	Light eye	70 (58.3)
	Hazel	28 (23.3)
	Blue	11 (9.2)
	Green	31 (25.8)
Number of mean ± SD		1.08±0.36
n (%)	1	113 (94.2)
	2	4 (3.3)
	3	3 (2.5)
Recurrens mean ± SD		0.28±0.78
n (%)	0	105 (87.5)
	2	12 (10.0)
	3	2 (1.7)
	4	1 (0.8)

SD: Standard deviation

waist (two), legs, abdomen, arms and base of the mouth.

The most common histopathologic type of BCC was nodular, followed by mixed and superficially spreading types. Typing could not be done in 16 patients with SCC, and 15 were classified as well-differentiated (Table 3).

Discussion

Basal cell cancer is typically seen in elderly patients, in those with light skin texture, light colored hair and eye, and in skin regions exposed to sunlight (4). It is particularly common in the face area (forehead, nose, malar area, upper lips, eyelids, etc.), and rarely metastasizes (6). About 10% to 15% of SCCs occur on the body, however, despite intense exposure to sunlight, they are rarely seen in hands and dorsal parts of the arms. SCC also develops frequently from the sun-exposed areas of the skin. However, some forms can originate from various parts of the skin depending on chronic trauma, burn scars and genetic disorders (7).

Table 2. Non-melanoma skin cancer mostly common in face area

		n	%
Head and neck localize NMSC	Yes	106	88.3
	No	14	11.7

NMSC: Non-melanoma skin cancer



Figure 1. Multiple pigmente and ulsere basal cell carcinoma at the face

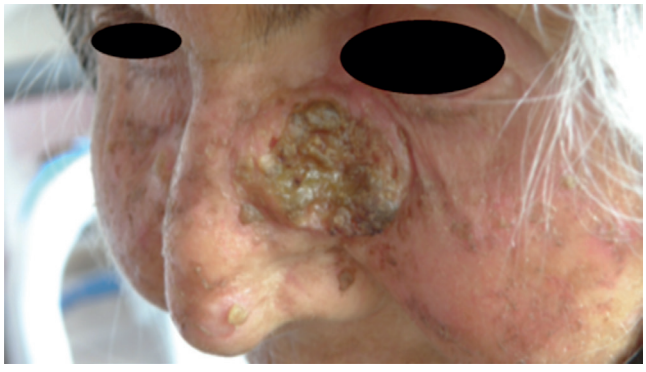


Figure 2. A giant nodular, basal cell carcinoma near to eye and multipl actinic keratoses

Milas county, the place where this study was conducted, is located in the southern Aegean region, and is one of the towns receiving heavy sunlight. Its population is approximately 100.000 and the most common occupations in this region involve tourism and agriculture, both performed under direct sunlight. In this article, for purpose of contributing to the literature, we report cancer rate and cancer location characteristics in patients who were admitted to the dermatology department at Milas State Hospital and histopathologically diagnosed with NMSC and underwent surgery between 2011 and 2014.

In a study conducted in our country, the average age of 576 patients with BCC was 55.2 years, and it was considered to be similar with that in the tropical regions (8). Similar to other studies in our country, the average age was found to be 65 in our study (3,8,9). Our cases peaked at seventh decade. Although age at admission was consistent with the literature in our country, peak age was seventh decade, similar to that in countries such as Greece, Spain and Italy (10-12). Despite most of the people living in this region have light colored skin and eye, advanced peak age can be attributed to healthy diet like in European countries (13).

Although male dominance in NMSC is reported more often in the literature, there is no any difference in gender in Italian and Australian patients (14,15). Male/female

Table 3. Histopathologic types of non-melanoma skin cancer

Tumor type	BCC	84	70.0
	SCC	36	30.0
Histopathologic type	BCC infiltrative	3	2.5
	BCC keratotic	3	2.5
	BCC morpheic	1	0.8
	BCC nodular	57	47.5
	BCC mix (nodular, infiltrative, micronodular)	8	6.6
	BCC nodular + SCC well differentiated	1	0.8
	BCC nodular and superficially spreading	3	2.5
	BCC superficially spreading	8	6.7
	SCC	15	12.5
	SCC acantholitic	1	0.8
	SCC *in situ*	2	1.7
	SCC well differentiated	15	12.5
	SCC microinvazive	2	1.7
	SCC moderate differentiated	1	0.8

BCC: Basal cell carcinoma, SCC: Squamous cell carcinoma

ratio was assessed as one in our study and this could prove the effect of sun rather than gender under the condition of equal exposure.

Annual statistical information about skin cancers is not reliable in our country. In our study, BCC incidence among patients with NMSC was 70% (n=84), which was consistent with the incidence in white Caucasians. SCC is the second most common skin cancer among white Caucasians, and constitutes 15% to 25% of all skin cancers (3,8,9). In our study, SCC covered 30% of the cases (n=36).

Exposure to sunlight is the most common factor emphasized among the etiologic factors in skin cancers. Especially depending on the occupation, exposure to sunlight shows an increase. Farmers, sailors and fishermen are the occupational groups that bear the most risk of excessive sun exposure (16). Since our hospital is in Aegean Region, a geographical area of high ultraviolet all around the year, it is estimated that the incidence of skin cancers would be high. A national study on this topic would establish the regional differences.

Various sources report that the most common area of the face that involves BCC is the nasal region, with a frequency of 25-30%. SCC, however, more likely involves the scalp and superior auricular area (6,7,17). As in other studies, the nasal unit is the most common site for skin cancers in our study. Fourty lesions were nasal tumors and 32 were buccal and periorbital tumors. In the literature, there are reports that nasal unit was followed by forehead and buccal units. In eleven patients, skin lesions were located in the auricular region. Kwa et al. (18) reported that SCC of the ear was more likely located on sun-exposed superior portion of the helix.

It was observed that all the patients included in this study were farmers. Smoking and/or alcohol use was present in 30 (25%) of our patients. The presence of history of smoking in about half of the cases with lip lesion can be considered as significant. Smoking and alcohol consumption are rather crucial among the etiologic factors of lip cancer (19,20).

Recurrence rates in patients who had insufficient resection and tumor in surgical margins were reported to be between 12% and 13% in various studies (21-24). According to the medical history obtained from 120 patients, 15 had a previous lesion on a distinct area of the face that was treated for skin cancer. Lesion recurrence was observed during the follow-up of 15 patients. It has been reported in the literature that risk of developing a second lesion within the first two to five years after the first lesion can be as high as 50%. The average follow-up time in our patients was 16 months and the longest follow-up was 42 months. Rowe et al. (25) and Silverman et al. (26) reported a recurrence rate of 3-5% for small lesions and 9-10% for large lesions during five-year follow-up after excisional surgery of BCCs. Pascal et al. (27) reported that two years of follow-up in average is required to observe recurrence in positive surgical margins in BCCs. In SCCs, however, 70-85% of the recurrences are seen within the first two years (25,28). The recurrence rate of approximately 10% in our study can be attributed to deficiency in surgical intervention.

Male dominance has been reported in different regions of our country (28-30). In their ten-year study that was performed in a region having the same climate as Milas, have reported that the prevalence of NMSC among women was rapidly increasing. In studies where NMSC was seen only in the ear cap, the rate of males was higher than females (16/1) (31). This is the first study of women and men equality in our country in the literature we could reach.

Conclusion

It was determined that the frequency of recurrence and the frequency of the cases detected in a secondary care institution were found to be higher during the three-year follow-up. We assume that increased frequency of skin cancers is an important health problem for this region and that the incidence will increase if preventive measures are not taken.

Ethics

Ethics Committee Approval: Retrospective study.
Informed Consent: It was taken.
Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Ş.A., K.B. Concept: Ş.A., K.B. Design: Ş.A., K.B. Data Collection or Processing: Ş.A., K.B. Analysis or Interpretation: Ş.A., K.B. Literature Search: Ş.A., K.B. Writing: Ş.A., K.B.

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