FREQUENCY DISTRIBUTION OF BASALIOMA SKIN CANCER AT DR. MOEWARDI HOSPITAL, SURAKARTA, CENTRAL JAVA

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ABSTRACT

Background: Basalioma is a nonmelanoma skin cancer that grows from the basal epidermal cells. It commonly occurs in the head and neck area exposed to ultraviolet light (UV). Data in Dr. Moewardi hospital 2013-2015 showed that basalioma was the most common type of skin cancer. This study aimed to describe the basalioma skin cancer in Dr. Moewardi hospital, Surakarta.
Subjects and Method: This cross-sectional study was conducted at Dr. Moewardi Hospital, Surakarta, Central Java, from 2016 to 2019. A sample of 70 patients diagnosed with basalioma skin cancer was selected for this study. The study variables were gender, age, occupation, tumor location, tumor size, and clinical tumor type. The data were collected from the medical record. The data were described in percent.
Results: As many as 64.3% of basalioma patients were female, 30% were farmers, 90.02% aged ≥50 years, 72% had tumors located in the midface region, 70% had a tumor in the H-zone, 72.8% had tumor size <2 cm, and 58.5% had a nodular tumor.
Conclusion: The frequency distribution of basalioma in Dr. Moewardi Hospital has been described by gender, age, tumor location, tumor size, and histopathological type.

Keywords: age, gender, midface, nodular, basalioma

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BACKGROUND

In the last decade, there has been an increase in skin cancer throughout the world, the increase in patients and mortality of skin cancer is increasing—nearly 5 million people with skin cancer. (Guy et al., 2015). Skin cancer is divided into 2 groups: melanoma skin cancer and nonmelanoma skin cancer (Narayanan et al., 2010). Another classification places 3 types of skin cancer: Basalioma or Basalioma, Squamous Cell Carcinoma (SCC), and Malignant Melanoma (MM) (Kawasumi & Nghiem, 2012). The prevalence and incidence of Basalioma in all parts of the world vary from one another, but Basalioma is the first rank of all skin cancers. In Germany, it was reported that 80% of skin cancers found were Basalioma, while 20% were non-Basaliomas (Lomas, 2012).

Basal cell carcinoma, in general, is a skin cancer that often attacks the white population with an increasing incidence rate worldwide (Lomas et al., 2012). It is difficult to estimate the incidence of basaliomas because non-melanoma skin cancers are usually not included in the cancer register. In

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addition, there are clear geographic differences in the incidence of non-melanoma skin cancer. (Trakatelli et al., 2014). Often it is difficult to know the exact prevalence of Basalioma because registration of this type of skin cancer is often not reported. Based on data from the Polyclinic of the Department of Dermatology and Venereology Dr. Hospital. Cipto Mangunkusumo (RSCM) in 2000-2009 that Basalioma was ranked first with 261 cases, then 69 cases of SCC, and 22 cases were found in MM patients. Then, data from RSUP Dr. M. Djamil Padang Basalioma is in the first position, SCC is in second place, and MM is in third place (Tan and Sunjaya, 2016). At Dr. Moewardi Hospital also reported that Basalioma also ranked first (Mawardi et al., 2016).

Basalioma is a common, slow-growing cancer that rarely metastasizes. It tends to occur in areas of the body exposed to chronic sun exposure and in light-pigmented individuals (Kumar et al., 2018). Nonmelanoma grows from the basal cells of the epidermis and skin follicles (especially parts that are often exposed to sunlight) (Kumar et al., 2014). Basalioma risk factors are associated with exposure to ultraviolet (UV) B; most Basalioma cases are in areas that are often exposed to sunlight (Miryana et al., 2013). Men generally risk getting Basalioma up to two times higher than women (Demirseren et al., 2014).

Several studies have shown a significant difference between the number of Basalioma about gender. Men are affected more often than women (with a ratio of 1.5-2:1), and the highest number of Basalioma cases is between the ages of 60 to 70 years. Still, several recent studies have shown an increasing number of young women patients under 40 years. (Darjania & Galdava, 2019). The purpose of this study was to determine the prevalence of Basalioma in RSUD Dr. Moewardi Surakarta-Indonesia, period 1 January 2016-31 December 2019, based on demographic data of gender, age, occupation and clinical data, Basalioma type, predilection.

SUBJECTS AND METHOD

1. Study Design

This was a descriptive study with retrospective design with. The data were obtained from medical records at Dr. Hospital. Moewardi Surakarta, Central Java, Indonesia.

2. Population and Sample

All patients diagnosed with Basalioma in RSUD Dr. Moewardi Surakarta by meeting the criteria will be used as samples, namely as follows: a. Inclusion criteria were all patients who had been diagnosed with primary Basalioma in the medical records of RSUD Dr. Moewardi Surakarta in the 2016-2019 period based on the results of histopathological examination. At the same time, the exclusion criteria were patients with a history of recurrent Basaloma, metastases, and multiple lesions. Then, incomplete medical records, not Basalioma on the histopathological examination results.

3. Study Variables

Basalioma is a non-melanoma skin cancer that grows from basal epidermal cells, which is most common and occurs in areas of the head and neck exposed to ultraviolet (UV) light.

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4. Operational Definition of Variables

The dependent variable is basalioma skin cancer. The independent variables were gender, age, occupation, tumor location, tumor size, and clinical tumor type.

5. Instruments

Basalioma was diagnosed using histopathological examination of the specimen/biopsy.

6. Data Analysis

The characteristics of the sample in the form of categorical data are displayed in the form of a percentage.

7. Research Ethics

This research has obtained approval from the Health Research Ethics Commission of Dr. Moewardi Hospital/ Faculty of Medicine, Sebelas Maret University, Surakarta-Indonesia (762/ VIII/HREC/2021).

RESULTS

Based on the data collection results, 70 patients met the research requirements from 99 samples obtained, then grouped by sex (gender), age, occupation, location of Basalioma and size, and disease duration. Of the 29 patients excluded, including incomplete medical record data (no Basalioma location, Basalioma size, treatment history), non-primary Basaloma, duplication of data, patients had more than one medical record.

Table 1. Basalioma demographic data

Variable	Characteristics	Total	Percentage (%)
Gender	Male	25	35.71
	Female	45	64.29
Age (year)	< 20	- 1	-
	21-30	1	1.42
	31-40	5	1.42
	41-50	22	7.14
	51-60	41	31.42
	>60 year		58.60
Job	Farmer	21	30.00
	Housewife	20	28.57
	Government Employess	6	8.57
	Private	16	22.87
	Collage Student	1	1.42
	Others	6	8.57

There were more female patients than men with 45 female patients and 25 male patients (64.3% compared to 35.7%), most of the patients had Basaloma more than two years, most of the patient's education was primary education (elementary and junior high school), the patient's occupation mostly farmers (30%), followed by housewives (28.57%), the age range of the patients was 22-90 years. According to clinical data from patients, the most common Basalioma found was that most (72.9%) Basalioma were found in the midface area, then in the upper and lower face areas. Apart from the location.

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In 3 patients (4.3%), the face was found in the chest, neck, and groin or inguinal areas. The most common tumor size was < 2 cm (72.8%). Basalioma types based on the most common subtypes were nodular (37.1%), then noduloulcerative (21.4%), and sclerotic (20%). According to the nature of aggressiveness, more were non-aggressive (52.9%).

Based on clinical research data, it was found that the most common Basalioma found was found mostly in the midface location (72.9%). Basalioma was found in the midface area, then in the upper and lower face areas. In addition to the facial location, 3 (4.3%) were found in the chest, neck, and groin or inguinal areas (Table 2). The most common tumor size was < 2 cm (72.8%). Baxter and Pranand divided another area known as the H-zone, including the temporal, auricular, orbital, nasal, and upper mandibular areas (Baxter et al., 2012). In this division, 70% of patients had Basalioma in the H-zone area. In addition, the most common subtypes were nodular (37.1%), then noduloulcerative (21.4%), and sclerotic (20%). According to the nature of aggressiveness, more were non-aggressive (52.9%).

Table 2. Basalioma clinical data

Variable		Total	Percentage (%)
Tumor Location	Upper face	10	14.30
	Midface	51	72.90
	Lower face	6	8.60
	Other	3	4.30
Tumor Size	<2 cm	51	72.80
	>2 cm	19	27.20
Risk-*zone*	H-zone	49	70.00
	NonH-zone	21	30.00
Clinic Type (Subtype)	Nodular	26	37.10
	Noduloulseratif	15	21.40
	Mikronodular	4	5.70
	Sklerotik	14	20.00
	Superficial	8	11.50
	Mixed	3	4.30
Aggressiveness	Agresif	33	47.10
	Nonagresif	37	52.90

DISCUSSION

Basalioma patients were found more in women than men (9:5). This is by research conducted by (Mawardi et al., 2016) that Basalioma is more commonly found in women than men. Various studies mention the incidence of Basalioma, which is more common in men than women (Apalla et al., 2017). This is because many male patients work and are easily exposed to ultraviolet light than women. The increasing prevalence of women may be more susceptible to Basaliomas because many women also work; it is also possible because of changes in women's lifestyles. The number of women who work outdoors increases the risk of exposure to ultraviolet rays,

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especially if women do not use protection against UV exposure. Sunburn is a short-term effect of overexposure to UV rays. Research conducted by Wu et al. states that women are more affected by Basalioma than men (Wu et al., 2013). However, in another study conducted by Asgari et al. (2015), Basalioma patients were more common in men than women.

In this study, most of the Basaliomas were found at over 50 years, as much as 90.02%. Only 2.42% of Basalioma patients are under the age of 40. It can be understood that old age causes a person's immunity to decrease. Several studies suggest that the increasing incidence of skin cancer worldwide over the past two decades has reached "epidemic" proportions due to lifelong sun exposure in an increasingly aging population (Donaldson and Coldiron, 2011). More than 90% of patients with Basalioma are aged 60 years and over, although recently, there has been an increasing incidence in patients aged under 40 years. Individuals over 75 years have a five-fold risk of developing Basaliomas. It is estimated that 53% of deaths due to skin cancer occur in individuals over 65 years (Nakayama et al., 2011).

Occupation has a high correlation with the incidence of skin cancer. In this study, farmers were ranked first (30%). More than 70% of patients in this study were employed, only less than 30% were housewifes. This study is also by previous research conducted by Mawardi that farmers are at risk for Basalioma (Mawardi, 2017). UV exposure is still a contributor to skin cancer. Chronic and intermittent sun exposure is a significant risk factor for the three main types of skin cancer: Basalioma, SCC, and melanoma. Sun exposure can also increase the likelihood of developing new melanomas in people with a history of both melanoma and non-melanoma skin cancer (Tabatabaie et al., 2020). On the other hand, the study results found that Basalioma tumors' location was primarily found in the midface (72%), upper face, and lower face regions. This division is based on the anatomy of the facial area proposed by Baker et al., who divides the location of the face into 3 parts, namely upper face, midface, and lower face.

Mawardi (2017) stated that most Basalioma locations are found in the midface region compared to the other areas. The midface region is a line that starts from the glabellar to the bottom of the nose above the philtrum (Baker, 2007). The midface region includes the orbit, auricle, nose, cheek, and zygomatic parts. In the study Mawardi (2016), Basaliomas found in the midface region could be considered more aggressive than in the other areas, upper face and lower face. In another regional division of Basalioma, Baxter et al. divided another area known as the H-zone, including the temporal, auricular, orbital, nasal, and upper mandibular areas (Baxter et al., 2012). In this subdivision, 70% of patients had Basalioma in the H-zone area than in the non-H-zone area (30%).

Judging from the size of the Basalioma tumor in this study, it was found that most of the Basalioma had a length of < 2 cm (72.8%), while those measuring >2 cm were 27.2%. Basaliomas that have a size greater than 2 cm can be considered to have a higher

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recurrence tendency than those less than 2 cm. In addition, a size greater than 2 cm will cause difficulties in carrying out the management of Basalioma therapy. Nodular and nodulo-ulcerative subtypes (58.5%) were the most common, followed by sclerotic type (20%). This is not much different from the research conducted by Gandhi and Kampp that the nodular type, as well as nodular with ulceration, is the most common clinical form of Basalioma, followed by superficial and sclerotic types (Gandhi & Kampp, 2015).

For 4 years, Basalioma was more common in women than men, with age more than 50 years, and most locations were found in the midface area. Gender changes in basaliomas require joint attention because of the significant increase in cases. This is a single-center study, so it cannot represent the existing population. However, this study found a tendency to increase Basalioma incidence and a shift in the population susceptible to Basalioma incidence in women.

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AUTHORS CONTRIBUTION

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There was no conflict of interest in this study.

CONFLICT OF INTEREST

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