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Profile of Skin Tumors at Dr. Zainoel Abidin General Hospital Dermatology and Venerology Outpatient Clinic in 2017 – 2021 : A Retrospective Study

Wahyu Lestari,[1] Nanda Earlia[1], Fitria[1], Sitti Hajar[1], Mimi Maulida[1]

[1]Department of Dermatology and Venereology, Faculty of Medicine, Universitas Syiah Kuala, Dr. Zainoel Abidin General Academic Hospital Banda Aceh, Indonesia

ABSTRACT

Background: Skin tumors are swellings caused by proliferation or failure of cell death mechanisms. Based on the type of growth, skin tumors are divided into benign tumors and malignant tumors. **Purpose:** To investigate the incidence of skin tumors in Dr. Zainoel Abidin General Hospital outpatient clinic. **Methods:** This study is a descriptive study with total sampling. The diagnosis of skin tumors is assessed based on medical records filled by Dr. Zainoel Abidin General Hospital Dermatovenerologist in January 2017-September 2021. **Result:** The results showed patients diagnosed with benign skin tumors had as many as 360 subjects and malignant tumors had as many as 4 samples. The majority of women are affected by benign and malignant skin tumors. Based on the age of benign tumors dominated by the age of 22-45 years while in malignant tumors dominated by 45-64 years. The majority of the sample comes from Banda Aceh, based on where the most of them reside. Based on the size of lesions, benign tumors are dominated by lesions that are less than 0.5 cm in size, while malignant tumors are dominated by lesions that are larger than 0.5 cm in size. Based on the presence and absence of recursion the entire dominant sample has no recursion. Based on the physical treatment in benign tumors are dominated by electrocautery action while malignant tumors are the same number between general surgery and FNAB. **Conclusion:** most of the skin tumors found in Dr. Zainoel Abidin General Hospital dermatology and venerology outpatient clinic are benign. Better outcomes can be achieved by prevention and early treatment.

Keywords: Benign Skin Tumors, Malignant Skin Tumors, Skin Neoplasm.

Correspondence: Wahyu Lestari, Department of Dermatology, School of Medicine, Universitas Syiah Kuala, Dr. Zainoel Abidin General Hospital, Jl. Tgk.Daud Beureueh No.108 Banda Aceh 2415, Indonesia, Phone : +628126991901, Email : Wahyu_lestari2000@unsyiah.ac.id.

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BACKGROUND

Literally, a tumor can be defined as a swelling characterized by inflammation or new growth of a tissue caused by uncontrolled growth and progressive multiplication of cells. Neo means new, plasia means growth or division, hence neoplasia refers to the growth of new cells, which is different from the development of the surrounding cells. Tumors are caused by the process of proliferation or failure of the mechanism of cell death. Based on their growth, tumors can be classified as benign or malignant. Benign tumors will not invade normal cells in the surrounding area and will not spread systemically or metastasize, but locally they can grow larger. Malignant tumors, also known as cancers, are infiltrative and have the abbilty to damage the surrounding cells as well as metastasize in blood vessels and lymph vessels. The growth of cancer on the skin can be caused by carcinogenic and co-carcinogenic substances.[1]

The overall incidence and prevalence of melanoma and keratinocyte carcinoma, which consists of basal cell carcinoma and squamous cell carcinoma, have increased in recent decades. Among the various types of skin carcinoma, keratinocyte carcinoma is the most common, with 75% of them diagnosed with basal cell carcinoma, mostly affecting Caucasian races.[2] The incidence of melanoma increases by 4-6% in the white population. In the UK, America, and Australia, the incidence of skin cancer has also increased. The World Health Organization (WHO) predicts that there are about 2 million new cases of non-melanoma skin

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cancer every year, while melanoma skin cancer accounts for around 132,000 new cases per year worldwide. Centers of Diseases Control (CDC) estimates that in 2005 there were approximately 53,792 people diagnosed with melanoma skin cancer and approximately 8,345 people died in the United States.[3] In Indonesia, the incidence of skin cancer is in third place (ranging from 5.9 to 8% of all types of cancer per year). The most cases of skin cancer are basal cell carcinoma (65.5%), then squamous cell carcinoma (23%), malignant melanoma (7.9%), and other types of malignant skin cancers (3.6%).[4]

Based on this background, it is known that the incidence of skin tumors in Indonesia is still high, so we consider it is necessary to conduct a retrospective study on " Profile of Skin Tumors at Dr. Zainoel Abidin General Hospital (RSUDZA) Dermatology and Venerology Outpatient Clinic in 2017 – 2021 ".

Table 1. Measurement tool, result, and scale for the variables

Variables	Measurement tools	Measurement Method	Measurement Result	Measurement Scale
Diagnosis	Medical record	Medical record analysis	1. Benign tumor 2. Malignant tumor	Nominal
Size of the lesion	Medical record	Medical record analysis	1. <0,5 cm 2. >0,5 cm	Nominal
Severity degree	Medical record	Medical record analysis	1. Mild 2. Moderate 3. Severe	Nominal
Recurrence	Medical record	Medical record analysis	1. Present 2. Not present	Nominal
Treatment	Medical record	Medical record analysis	1. Electrocautery 2. General surgery 3. FNAB 4. Injection 5. Incision 6. Radiation	Nominal

FNAB: fine needle aspiration biopsy

METHODS

This research is a descriptive observational study, using retrospective data (medical records) to evaluate the description of skin tumor patients in the Dermatology and Venerology department of Dr. Zainoel Abidin General Hospital Banda Aceh. The study was approved by the FK USK–RSUDZA Research Ethics Committee. (023/ETIK-RSUDZA/2022)

This research was conducted in the Dermatology and Venerology department of Dr. Zainoel Abidin General Hospital Banda Aceh from October 11 until November 13, 2021. The sample from this study were all patients diagnosed with skin tumors between January 2017 and September 2021 in the Dermatology and Venerology department of Dr. Zainoel Abidin General Hospital Banda Aceh who met the inclusion and exclusion criteria.

The observation variables in this study were the size of the lesion, the degree of severity of the disease, the recurrence of the disease, the diagnosis of the disease, and the treatment of skin tumor patients. The research data was analyzed univariately.

RESULT

A total of 195 (54.2%) patients had benign skin tumors with a diameter of less than 0.5 cm. The majority of individuals with benign skin tumors, 302 (83.9%), did not experience recurrence. However, 58 (16.1%) of skin cancer patients had a recurrence between 2017 and 2021.

The profile of malignant skin tumors in RSUDZA shown in Most of the respondents (75%) diagnosed with malignant skin tumors were in the age range of 45-64 years old. The majority of people with malignant skin tumors come from Banda Aceh.

All of the malignant skin tumors that have been diagnosed have a diameter of >0.5 cm, there were no recurrence. Treatment that are generally performed in

the RSUDZA dermatology and venerology outpatient clinic are general surgery and FNAB.

There were 364 skin tumor patients that fulfilled the inclusion criteria of this study. The distribution of benign and malignant skin tumor is shown in

Table ***4***. The incidence of benign tumors in Dr. Zainoel Abidin General Hospital Banda Aceh was 360 patients with the highest incidence observed in 2019 being 132 patients (36.2%). Four patients with malignant skin tumors were diagnosed in this period. The highest incidence of malignant skin tumors was recorded in 2018, when 3 individuals (0.8%) received a diagnosis.

Table *3*. The result of a literature study also showed the same results: that 70% of people diagnosed with malignant skin tumors are female.

Table *2*. Profile of benign skin tumorshows the profile of benign skin tumors in Dr. Zainoel Abidin General Hospital Banda Aceh during this period. Most of the benign skin tumor patients are female that account for 208 (57.0%) patients. The majority of benign skin tumor patients were between the ages of 25 and 45, accounting for 122 (33.9%) of the total. Banda Aceh had the highest percentage of patients with benign skin tumors, at 197 (54.7%). This is aided by the fact that RSUDZA is located in the center of Banda Aceh, making it easier for patients from that city to access care.

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Table 2. Profile of benign skin tumors

Variables	Frequency	Percentage (%)
Gender		
Male	152	42.2
Female	208	57.8
Age		
< 25	77	21.4
25-45	122	33.9
46-64	113	31.4
>65	48	13.3
Origin		
Aceh Barat	4	1.1
Aceh Besar	127	35.3
Aceh Jaya	2	0.6
Aceh Selatan	5	1.4
Aceh Singkil	1	0.3
Aceh Tengah	3	0.8
Aceh Utara	5	1.4
Banda Aceh	197	54.7
Bireuen	1	0.3
Nagan Raya	4	1.1
Pidie	7	1.9
Pidie Jaya	1	0.3
Sabang	2	0.6
Subussalam	1	0.3
Diameter		
<0,5	195	54.2
>0,5	165	45.8
Reccurence		
Present	58	16.1
Not present	302	83.9
Treatment		
General Surgery	21	5.8
Electrocautery	281	78
FNAB	4	1.1
Injection	52	14.5
Incision	1	0.3
Radiation	1	0.3

FNAB: fine needle aspiration biopsy

Most of the respondents (75%) diagnosed with malignant skin tumors were in the age range of 45-64 years old. The majority of people with malignant skin tumors come from Banda Aceh.

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Table 3. Profile of malignant skin tumors

Variables	Frequency	Percentage (%)
Gender		
Female	4	100.0
Age		
< 25	0	0
25-45	0	0
46-64	3	75.0
>65	1	25.0
Origin		
Aceh Besar	1	25.0
Banda Aceh	3	75.0
Diameter		
>0,5	4	100.0
Reccurence		
Present	58	16.1
Not present	302	83.9
Treatment		
General Surgery	2	50.0
FNAB	2	50.0

FNAB: fine needle aspiration biopsy

Based on the research that has been done, a profile of benign skin tumors and their degrees of severity in RSUDZA can be seen in Table 5. The highest incidence of benign skin tumors is seborrheic keratosis (36.1%), while the severity degree of most of the seborrheic keratosis is moderate. Keloid is the second most common benign skin tumor (15.9%) and most of the severity degrees are severe. The third most common benign skin tumor is verruca vulgaris (12%). Most of the severity verruca vulgaris patients is moderate. The severity degree in this research is determined by the involved location of benign skin tumors. If the distribution is regional, it will be considered as mild. However, if the distribution has become generalized, it will be considered severe, and the more area involved, the worse the prognosis.

Table 6 shows the severity degree of malignant skin tumors in RSUDZA. The severity degree of basal cell carcinoma is determined by the distribution of the lesion. Three patients (75%) have a moderate degree, while one (25%) has a mild degree.

Table 4. Distribution of skin tumor patients in rsudza between 2017-2021

Skin tumor	Year					Total
	2017	2018	2019	2020	2021	(%)
Benign	29	80	132	50	69	360 (99)
Malignant	0	3	0	0	1	4 (01)
Total	29 (7.9)	83 (22.8)	132 (36.2)	50 (13.7)	70 (19.23)	364 (100)

Table 5. The severity profile of benign skin tumors

Diagnosis	Degree of Severity			Frequency	Percentage (%)
	Mild	**Moderate**	**Severe**		
Callus	0	0	4	4	1.1
Clavus	1	8	2	11	3.1
Hemangioma	0	0	1	1	0.3
Keloid	1	22	34	57	158
Seborrheic Keratosis	8	69	53	130	36.1
Epidermal Cyst	0	7	4	11	3.1
Nevus Eruption	0	2	0	2	0.6
Nevus Pigmentosus	2	2	3	7	1.9
Papilloma	0	4	1	5	1.4
Skin tag	0	9	7	16	4.4
Soft tissue tumor	0	0	2	2	0.6
Steatocystoma Multiple	2	1	1	4	1.1
Syringoma	0	10	10	20	5.6

Verruca Plana	0	2	2	4	1.1
Verruca Vulgaris	5	23	15	43	11.9
Viral Wart	0	6	12	18	5.0
Xanthelasma	0	6	5	11	3.1

DISCUSSION

Most of the tumors in this study were benign and dominated by women in their middle age. Women have a higher awareness of seeking treatment at a health facility than men, which contributes to the higher number of women recorded as skin tumor patients.[5,6] This finding supports the findings of Gefilem et al[7]., who found that benign skin cancers are more common in middle age. The risk of having benign skin tumors rises with age, peaking between the ages of 25 and 44.[5]

High incidence of recurrence in benign skin tumor is linked to a high level of exposure to risk. Electrocautery was used on the majority of patients with benign skin tumors, with 281 (78%) receiving it. Almost all of the patients diagnosed with benign skin tumor are treated with electrocautery. The electrocautery procedure is beneficial for therapy in nonconductive tissue parts of the body, such as cartilage, bone, and nails.[8,9]

In this study, all of the the patients diagnosed with malignant skin tumor were female.[5] But based on other studies mentioned men tend to have a 1.37 times greater risk of suffering from malignant skin tumors.[3] This is because men more often work outdoors. The likelihood that more women than men will be diagnosed with malignant skin tumors is higher since women are more likely to take care of their skin and seek medical attention if something goes wrong.

Age is one factor that can affect the immune system, where an older person will have a lower immune response. Hence, they will be more vulnerable to have malignant skin tumors. This result is inline with a study that stated that the incidence of malignant skin tumors is higher at the age of 50-69 years.[4,10,11] The incubation period of malignant tumors took years to develop, so the manifestation will be appeared in older age.[12]

All patients with malignant skin tumors are given therapy with surgery using surgical techniques as surgery is the first line therapy for every malignant skin tumors, where this technique is able to extract whole malignant tumor while FNAB can be done for histopathology. Surgery has a higher rate of recovery.[10,13]

The result of skin tumor that can be found in RSUDZA is in line with another study that stated the most common benign skin tumors that can be found is seborrheic keratosis, verruca vulgaris, and keloid.[1] Keloid is most commonly found in high-tension skin, such as the anterior chest region.[14] As benign skin tumors can morphologically overlap with other skin lesions, the accuracy of diagnosis can be improved by the use of non-invasive optical technologies.[15]

Table 6. The Profile of the Severity of Malignant Skin Tumors

Diagnosis	Degree of Severity			Frequency	Percentage (%)
	Mild	Moderate	Severe		
Basal Cell Carcinoma	1	3	0	4	100

According to research by Astrid et al. (2022), the most common malignant skin tumor diagnosed by skin biopsy in dr. Soetomo General Hospital is basal cell carcinoma.[16] Although the risk of developing basal cell carcinoma significantly rises after the age of 40, women at younger ages become more likely to develop basal cell carcinoma as a result of greater UV exposure.[17] According to Devine et al. (2017), basal cell carcinoma develops in areas that are frequently exposed to sunlight.[18] Benign skin tumors are the most common cases. Proper prevention and treatment can give good results and prevent the risk of skin cancer.

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