

## RESEARCH ARTICLE

# Pattern and Frequency of Skin Malignancies at Laboratory of Pathology Anatomy Dr. Kariadi General Hospital in 2008-2009

Susilorini<sup>1</sup>, Udadi Sadhana<sup>2</sup>, Indra Widjaya<sup>3</sup>

<sup>1</sup> Medical Faculty of Sultan Agung Islamic University

<sup>2,3</sup> Anatomical Pathology Department of Medical Faculty of Diponegoro University

### ABSTRAK

**Pendahuluan:** Kebutuhan *database* tentang penyakit kulit sangat diperlukan untuk data epidemiologi penyakit. Pencatatan dan pelaporan yang periodik sangat penting dilakukan untuk mengetahui perubahan pola dan frekuensi keganasan kulit.

**Tujuan :** mengetahui gambaran pola dan frekuensi lesi kulit yang dilakukan pemeriksaan di laboratorium Patologi Anatomi Rumah Sakit dr. Kariadi selama tahun 2008-2009.

**Metode:** Penelitian ini adalah penelitian deskriptif *cross sectional* yang mengambil data sekunder histopatologis rekam medik rumah sakit. Variabel yang diteliti adalah data sekunder meliputi: umur, jenis kelamin, lokasi pengambilan spesimen, dan diagnosis histopatologi. Sampel yang diambil secara *consecutive sampling* sebanyak 381 pasien berasal dari rekam medik jaringan kulit yang diperiksa pada Laboratorium Patologi Anatomi RSDK pada periode tahun 2008-2009.

**Hasil:** Data rekam medis dari 381 pasien yang didiagnosis dengan lesi neoplastik mencapai 246 (65%) dan lesi non neoplastik mencapai 135 (35%). Terdapat 120 lesi keganasan kulit dan 126 lesi jinak kulit. Keganasan kulit terbanyak pada perempuan yaitu mencapai 75 orang (62,5%), terjadi pada kategori umur 15-39 tahun mencapai 78 orang (65%). Lesi keganasan kulit yang tersering adalah karsinoma sel basal 58 orang (48,3%), sedangkan karsinoma sel skuamosa pada urutan ke-2 mencapai 40 orang (33,3%), dan melanoma maligna menduduki urutan ke-3 mencapai 12 orang(10%), karsinoma apendiks kulit 3 orang (2,5%), serta 7 orang (4,9%) adalah jenis keganasan lain.

**Kesimpulan:** Data keganasan terbanyak di RSDK sebelum tahun 2008 yang juga sesuai dengan data di Indonesia dari 13 center Patologi Anatomi adalah *squamous cell carcinoma*.

**Kata kunci:** lesi kulit, kelainan neoplastik dan non neoplastik

### Abstract

**Introduction:** A periodical database is important including for skin cancer. Periodical registration is needed to acknowledge changes in pattern and frequencies of skin lesion. **Objective:** The purpose of this study was to describe the pattern and the frequency of skin lesion in RSUD Kariadi.

**Method:** A cross-sectional study was conducted through analysis of the medical records of patients diagnosed skin lesion in the pathology laboratory of RSUD Kariadi between 2008 and 2009. The variables were secondary data including age, gender, specimen area, dan histopathology diagnosis. Data was chosen by consecutive sampling from 381 medical records of skin tissues examined at laboratorium of pathology anatomy of Dr. Kariadi general hospital during 2008-2009.

**Result:** 381 cases were recorded comprising of 246 (65%) neoplastic and 135 (35%) non neoplastic lesion. 120 patients presented with skin cancer, and 126 with benign skin lesion. Most malignancy was observed among female patients (62.5%) on age category of 15-39 (65%). The most common lesion was basal cell carcinoma (48.3%) followed by squamous cell carcinoma (33.3%), malignant melanoma (10%), skin appendix carcinoma (2.5%), other malignancies (4.9%).

**Conclusion:** the most common malignancies in Dr. Kariadi general hospital before 2008 was similar to data from 13 laboratory of pathology anatomy in Indonesia, which is *squamous cell carcinoma*.

**Keywords:** skin lesion, neoplastic and non neoplastic lesion

### INTRODUCTION

Skin cancer is one of the most common malignancies in the world. Recent reports indicates a rising incidence on skin cancer globally (DEPKES, 2007). The prevalence of malignant skin cancer varies among countries (Leebolt P.E *et al*, 2006). Skin malignancy accounts for over 25% of all malignancies in the Netherland and United State. In Australia, the skin cancer accounts for over than 50% all malignancies. Thirteen million white non-Hispanic living in the US at

the beginning of 2007 had at least one non melanoma skin cancer, typically diagnosed as basal cell carcinoma (BCC) or squamous cell carcinoma (SCC) (Lebolt.P.E., *et al*, 2005; Elder *et al*, 2005).

The data on the skin malignancies pattern and frequency are of importance in government's program evaluation and policy for the diagnosis and a long term prevention. Studies on skin malignancy are important because most of it has a high risk of recurrence and increases the risk for different malignancies such as in

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lungs, colon and mammae. In addition, malignancy like melanoma can be fatal if not treated early because it can causes metastasis in various organs. Thus, the prevention and early diagnosis is crucial. In the US, melanoma skin cancer affects more than 2 million in the US and its incidence has increased by 300 times compared to the incidence in the year of 1994 (Lebolt. P.E. *et al*, 2005; Departement of health and human services USA; 2006).

The data on the incidence of skin malignancy is needed to decrease the mortality and morbidity. This efforts require an information and data for planning, evaluation, and also monitoring (Schwartz R.A., 2008). However, the data on the incidence of skin lesion, especially skin malignancies, in Indonesia is not sufficient. One role of pathological anatomy diagnostic center is to develop a data base for an accurate data bank for the planning, promotive, preventive and curative measures for skin diseases (DEPKES, 2007). There has been no database and analysis on the pattern and frequency of skin malignancies diagnosed in the laboratorium of pathology anatomic of Dr. Kariadi general hospital (RSDK) for the period of 2008-2009. This study is aimed at analyzing the pattern and the

frequency of skin malignancies for developing data base and prediction of skin cancer and lesion of pre cancer incidence in RSDK.

## METHOD

A *cross-sectional* study was conducted through analysis of the medical records of patients diagnosed skin lesion in the laboratory of pathology anatomy of RSDK between 2008 and 2009. The medical records of the patients were consecutively included. The variables of age, gender, location of samples origin and histopathological diagnosis were assessed. The data were tabulated, edited and subjected to a discriptive analysis using SPSS.14. The result was presented in table, procentage and distribution.

## RESULT

This study showed that there were 381 patients diagnosed with skin lesion in laboratorium of pathology anatomy in RSDK for the period of 2008-2009. The number of samples and its frequency based on gender, age and histopatological diagnosis is presented in table 1.

**Table 1. The skin specimen's frequency of patients diagnosed in anatomy pathology laboratory in RSDK.**

TYPE	FREQUENCY	%
<b>Type of lesion</b>		
Neoplastic		65
- Malignat	120	
- Benign	126	
Non neoplastic	135	35
<b>Gender</b>		
male	45	37,5
female	75	62,5
<b>age (y)</b>		
0-14	-	0
15-39	3	65
40-60	75	29,17
>60	1	5,83
<b>Diagnosis</b>		
basal cell carcinoma	58	48,3
squamous <i>cell carcinoma</i>	40	33,3
malignant melanoma	12	10,0
skin appendix	3	2,5
others	7	4,8
<b>location %</b>		
head	39	32.5
face	52	43.3
upper extremity	3	8.3
Lower extremity	14	11.6
Body	7	5.8
Genetalia	5	4.1

381 cases were recorded comprising of 246 (65%) neoplastic and 135 (35%) non neoplastic lesion. 120 patients presented with skin cancer, while 126 patients with benign skin lesion. More malignancy was observed among female patients (62.5%) on age category of 15-39 (65%). The most common lesion was basal cell carcinoma (48.3%) followed by *squamous cell carcinoma* (33.3%). The common site of malignancies is at facial region (43,3%), followed by head, and lower extremities.

## DISCUSSION

This present study showed that the incidence of skin malignancy in RSDK Semarang between 2008 and 2009 account for 120 (31.5%), cases which is mostly diagnosed in female patients (65%) and highest in the patient aged 15-39 (65%).

The most common skin malignancies is basal cell carcinoma (BCC) (48,3%), followed by squamous cell carcinoma (SCC) (33,3%), and melanoma (10%). The most common site is facial area (43,6%), followed by head (32,5%), and lower extremities (11,6%). This results is differ from datas of 13 other pathology anatomy laboratory in Indonesia, which are SCC accounts for 42,9% and BCC accounts for 32,9%. Data from black-skinned race showed SCC was more frequent than BCC. According to cancer data on 1990-1999, skin malignancies in Indonesia ranked number sixth on male (3,62%), and number seventh on female (4,6%). While in Semarang during years of 1985-1989, skin malignancies ranked as number three on female and second on male (DEPKES, 2008). Until nowadays, there is no data on skin malignancies pattern and frequencies in RSDK.

Referring to this study, there is a shift on skin malignancies's type from SCC to BCC, might be due to this study limitation-by only using a histopatological based data. This result is similar to data in USA, which was the most prevalent incidence on skin malignancy was BCC (Rogers H. W. *et al*, 2006). SCC ranked as the second type of skin malignancy in USA, and predicted 700.000 newly diagnosed case annually. By 2012, there will be 3.010 deaths of skin malignancy (ASCP,2012; Howlader Net al, 2012). One of 40-50% 65 years old American BCC or SCC ( Howlader N *et al*, 2012).

Age distribution in this study is similar to many countries previous researches. Melanoma's insidency in 1970-2009 increasing up to 800% in younger woman and 400% in younger man. 76.250 new case of invasive melanoma predicted on the year of 2012 in USA, and cause death for approximately 9.180 patients (American Cancer Society, 2012). Melanoma considered as a

disease with bad prognosis because its ability of fast metastase and able to cause death. On black-skinned race, melanoma's insidence vary from 0,5-1,1/100.000 compared to caucasian race from 2-17/100.000. Research conducted in peoples of New Zealand, Maori, and Asia Pacific showed lower incidence, but then increasing in 1966-2006. The incidence on melanoma of people in Maori was higher than people in Asia-Pacific in all ages (Sneyd M.J and Cox B., 2009). Based on the distribution of the most common site of skin lesion is on facial area, differ from literature stated that the most common site of skin lesion are head and neck. This might be due to the frequent exposure on sun rays on facial area comparing to head and neck (Elder D *et al*, 2005; WHO, 2006, Singh B. *et al*, 1998).

Melanoma is the most common malignancy found in young adult (25-29 tahun) and ranked as second malignancies occurred at 15-29 years of age (Bleyer A *et al*, 2006; WHO,2006). Five years survival rate on early detected melanoma patients before infiltrating skin approximately 98%. It will decrease up to 62% if any lymph nodes involved and 15% if far metastase occurred (Cress R dan Holly EA, 1997; Bleyer A, *et al*).

Skin malignancies rarely found in black-skinned race (Lloyd H. W., 2012). This phenomenon may be due to the effect of melanin photo protection (Abbas F, Kumar V.,2007; Bleyer A *et al*). Black-skinned race whom suffer from skin cancer, having a higher morbidity and mortality than other races (Abbas F, Kumar V., 2007). The incidence of non melanoma skin malignancies on white-skinned race was 232,6/100, while on black-skinned race was 3,4/100 (Lebolt.P.E. *et al*, 2005; Elder D *et al.*, 2005). Aktinik keratosis is a pre cancerous lesion affecting in more than 58 million american people (Criscione V.D. *et al*, 2009). About 65% of SCC and 36% of BCC developed from aktinik keratosis lesion (Criscione V.D. *et al*, 2009). Non melanoma malignancies are related to ultraviolet radiation from sunlight (90%) (Christenson LJ, *et al*, 2005).

## CONCLUSION

This present study concludes that among 381 skin preparation assessed in the pathology anatomy laboratory of RSDK in 2008-2009, the most common lesion was neoplastic (65%), consisting of 120 malignant dan 126 benign cases.

Most malignant lesion was present in the skin samples obtained from female patients (62.5%), on young adult 15-39 years (65%). The most common malignancy was basal cell carcinoma (48.3%), followed

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by squamous cell carcinoma and melanoma maligna. Most common site of skin malignancies is identified in facial area (43.3%).

There is a shift on previous data in RSDK and other 13 centre of pathology anatomy laboratory in Indonesia, which the previous common skin malignancy data was SCC. Periodical analysis on malignancies registry data was needed on local or national level. The possible reason that cause this shift also needed to be analyzed.

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