



**INCIDENCE AND CHARACTERISTIC OF BREAST CANCER IN VERY YOUNG WOMEN IN H. ADAM MALIK GENERAL HOSPITAL**

**Tri Budi Setiawan Nasution**

Resident of Department of Surgery, Faculty of Medicine, Universitas Sumatera Utara, Medan

**Kamal Basri Siregar\***

Consultant of Oncology Surgery, Department of Surgery, Faculty of Medicine, Universitas Sumatera Utara, Medan \*Corresponding Author

**Suyatno**

Consultant of Oncology Surgery, Department of Surgery, Faculty of Medicine, Universitas Sumatera Utara, Medan

**ABSTRACT**

**Background:** Breast cancer in adolescent and young adult women is defined as malignancy in the age  $\leq 35$  years old with an incidence of 18.8 of 100,000 women. Breast cancer diagnosed at  $\leq 35$  years old has a poor prognosis, with 5 years-survival-rate at 16% for stage IV. Until now, in Indonesia there's still a few research on breast cancer in young women. Therefore researchers want to see the incidence rate of breast cancer in very young women  $\leq 35$  years old in H. Adam Malik Medan General Hospital.

**Methods:** This research is a descriptive research conducted in the Division of Oncology Surgery, Department of Surgery, H. Adam Malik Medan General Hospital. The sample of this study was all women with breast cancer on January 1, 2013 - December 31, 2017 who met the inclusion and exclusion criteria. The data collected will be processed and presented in the distribution table with the analysis of SPSS ver. 22.

**Results:** In this study, 1,329 breast cancer patients, with very young breast cancer at age  $\leq 35$  years old were 168 patients (12.64%). Characteristics of very young breast cancer patients  $\leq 35$  years old majority of them came with lump in her breast (43.1%), no family history of breast cancer (94%), menarche at  $\geq 12$  years old (75.9%), have history of breastfeeding (62.1%), stage II (36.2%), tumor grade II (50.9%) and TNBC cancer subtype (38.8%)

**Conclusion:** The incidence of very young breast cancer patients  $\leq 35$  years old who went to H. Adam Malik Medan General Hospital since January 1, 2013 - December 31, 2017 is 9,08%.

**KEYWORDS :** Incidence, Breast Cancer, Women, Very young age,  $\leq 35$  years old, Characteristic

**BACKGROUND**

Breast cancer in adolescent and young adult women is defined as a malignancy of the breast in the  $\leq 35$  years age range with an incidence of 18.8 per 100,000 women. Breast cancer diagnosed at  $\leq 35$  years of age has a poor prognosis, with 5-years survival rate at 87% in women with stage I breast cancer, 60% for stage II, 42% for stage III and 16% for stage IV. Breast cancer in young women is more aggressive in general, with larger proportion of triple negative receptors, a higher incidence of high grade histopathology, and high rates of proliferation (Piccart et al., 2006). Cancer in women aged less than 35 years also tends to experience local recurrence after conservative surgery and radiotherapy 9 times more compared with cancer patients at older age (Keegan, 2013).

Research on the prevalence of breast cancer in adolescents has been done before in Bali in 2013 by Hartaningsih et Sudarsa, which found the number of breast cancer cases in this study is higher compared with other age group (22.7%), majority of the case was in 36-40 age group, invasive ductal carcinoma, stage III B and grade II. Until now in Indonesia there is not much research on breast cancer in very young women. Therefore researchers want to see the incidence and characteristic of breast cancer in very young women  $\leq 35$  years in H. Adam Malik Medan General Hospital.

**METHODS**

This research is a descriptive research to see the incidence of breast cancer in very young women  $\leq 35$  years old who went to H. Adam Malik Medan General Hospital. This research has been conducted in the Oncology Surgery Division, Department of Surgery H. Adam Malik Medan General Hospital from April to June 2018.

The sample of this study was all female breast cancer patients at H. Adam Malik Medan General Hospital on January 1, 2013 - December 31, 2017 that meet the inclusion and exclusion criteria. Inclusion criteria include: breast cancer in women  $\leq 35$  years old, and there has been histopathological examination. The exclusion criteria is an incomplete data source.

Data taken from this study were: age, major complaints, risk factors, family history, menarche age, history of breastfeeding, stage of

cancer, tumor grade, and immunohistochemistry (subtypes). The data collected will be processed and presented with frequency distribution table using SPSS program ver. 22.

**RESULTS**

This study was conducted on 1,277 samples of breast cancer patients, with proportion of breast cancer in very young age  $\leq 35$  years old as many as 116 patients (9.08%) in H. Adam Malik Medan General Hospital on January 1, 2013 - December 31, 2017.

Characteristics of patients with breast cancer at very young age  $\leq 35$  years old can be seen in table 1.

**Table 1. Characteristics of Breast Cancer Patients Very Young Age  $\leq 35$  years old**

Characteristic	Frequency (n)	Percentage (%)
Major Complaint		
Lump	50	43,1
Ulcer	42	36,2
Shortness of breath	15	12,9
Bone pain	1	9
Jaundice	2	1,7
Lump in contralateral	6	5,2
Menarche age (y.o)		
<12	28	24,1
$\geq 12$	88	75,9
Family history		
Yes	7	6
No	109	94
Breastfeeding history		
Yes	72	62,1
No	44	37,9
Stage		
II	42	36,2
III	38	32,8
IV	36	31
Grade		

I	11	9,5
II	59	50,9
III	46	39,7
Subtype		
Luminal A	23	19,8
Luminal B	34	29,3
HER-2 over expression	14	12,1
TNBC	45	38,8
Total	116	100

In this study, the majority of breast cancer patients in very young age  $\leq 35$  years old complained of lumps as many as 50 people (43.1%) and ulcers of 42 people (36.2%), menarche in the age group  $\geq 12$  years as many as 88 people (75.9%), did not have a family history of breast cancer that was 109 people (94%), had a history of breastfeeding as many as 72 people (62.1%), with stage II, III and IV not much different ie 42 (36,2%), 38 (32,8%) and 36 people (31%), respectively, had grade II as many as 59 people (50.9%), and had Triple Negative Breast Cancer (TNBC) subtype as many as 45 people (38.8%), followed by luminal B as many as 34 people (29.3%).

## DISCUSSION

Breast cancer in adolescent and young adult women is defined as malignancy of the breast in the  $\leq 35$  year age range (Gabriel, 2010). This study found the incidence of breast cancer in very young women  $\leq 35$  years old as many as 9.08%. Previous research found the incidence of breast cancer at age  $< 40$  years old was about 7% and at age  $< 35$  years about 4% (Fredholm et al, 2009). The incidence varies depending on the location of research. Other studies have also mentioned the proportion of breast cancer in young patients is higher in Asia than in the West (Lee et Han, 2014). This may be associated with advances screening in breast cancer (Villarreal-Garza et al, 2013).

In this study the majority of patients complained of lumps as many as 50 people (43.1%) and ulcers as many as 42 people (36.2%). In line with previous studies in Sweden stated that compared with patients aged 50-69 years old, patients aged  $< 35$  years old had larger-size tumors, ie 49% samples had tumors that  $\geq 21$  mm (Fredholm et al, 2009). In this study, other complaints encountered were complaints arising from metastasis to other organs. Breast cancer in young women tends to be more biologically aggressive, with higher triple negative receptors, higher incidence of high grade histopathology, and high rates of proliferation (Piccart et al., 2006).

This study states that the majority of samples menarche in the age group  $\geq 12$  years old as many as 88 people (75.9%). Younger menarche age are consistently associated with an increased risk of breast cancer in both pre- and post-menopausal age. This is because the body gets a longer exposure to endogenous hormones. Delay of menarche for every one year decreases the risk of premenopausal breast cancer by 9% and 4% in postmenopausal. (Sobri et al., 2017).

This study found the majority of patients have no family history of breast cancer as much as 109 people (94%). However, women under 35 years old should undergo screening for familial breast cancer syndrome suspicion and germline breast cancer gene (BRCA)1 and BRCA2 mutations, because in a previous case-control study the trend of women under 35 years old detected BRCA1/2 by 9,4% compared with population (0.2%) (Gabriel et al, 2010).

The study found 37,9% of the sample without history of breastfeeding. Breastfeeding can be a protective factor against breast cancer with 2 major biological mechanisms, breastfeeding can produce further terminal differentiation in the breast epithelium, and delay the ovulation cycle after delivery (Sobri et al, 2017).

In this study there is no  $\leq 35$  years old breast cancer patients with stage I, and it was seen that the number of patients with stage II, III and IV was not much different. Diagnosis of breast cancer in young women is often delayed, this is caused by less awareness of the breast cancer patients and less suspicious of the doctors about this

disease in young women. Current screening guidelines recommend mammograms in women  $> 40$  or  $> 50$  years old (Lee et Han, 2014). In addition, mammograms in young women have a low sensitivity to breast cancer because of the high density of breasts in this age group (Gabriel et al., 2010; Lee et Han, 2014, Reyna et Lee, 2014). Diagnosis also becomes difficult due to physiological changes and development of breast parenchyma that occur during pregnancy and lactation (Lee et Han, 2014).

This study found the majority of samples have grading tumor II that is as much as 50,9%, followed by grading tumor III that is as much as 39.7%. This is in line with previous studies which also found that patients with very young age ( $\leq 35$  years old) had higher grading tumors compared with age  $> 35$  years (Fredholm et al, 2009; Gabriel et al., 2010; Villarreal-Galza et al, 2013; Lee et Han, 2014). Similarly, in Sanglah Hospital, Bali, 46,2% of patients were diagnosed with grade II breast cancer, followed by grade III as much as 44,8% and grade I as much as 9,1% (Hartaningsih et Sudarsa, 2013).

Based on subtype of cancer, the majority of samples of this study have a subtype of TNBC that is as many as 45 people (38.8%). Triple negative breast cancer (TNBC) is breast cancer with low ER / PR, and HER2 expression on immunohistochemical examination (Sobri et al, 2017). A study by Boyle found that the risk of developing TNBC in pre-menopausal women 3 times higher than post-menopausal women (Boyle, 2012). TNBC has a worse biologic behavior ie highly invasive, high grade, has a high mitotic index and tends to be more aggressive (Sobri et al, 2017).

## CONCLUSION

This study found the incidence of breast cancer in very young women  $\leq 35$  years old who went to H. Adam Malik Medan General Hospital since January 1, 2013 - December 31, 2017 as many as 9.08% of all cases of breast cancer.

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