SURVIVAL RATE ANALYSIS OF EARLY STAGE CERVICAL CANCER PATIENTS AFTER RADICAL HYSTERECTOMY IN ULIN BANJARMASIN GENERAL HOSPITAL, INDONESIA

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Abstract: Cervical cancer is a gynecologic disease that has a high level of malignancy and is a major cause of death from cancer in women. *To be used as educational material for patients with cervical carcinoma when if there is known outcome of radical hysterectomy in patients with IB-IIA cervical carcinoma, it can be used as a basic data to know the success rate of radical hysterectomy.The sample was collected by consecutive sampling and we found a total of 55 IB-IIA cervical carcinoma patients who underwent a radical hysterectomy. The samples that met the inclusion criteria are 30 people. Data analysis using Chi-square/Fisher method (significant p-value <0.05).In this study, 16.7% of patients with cervical carcinoma from IB to IIA died in 3 years after radical hysterectomy was performed. The average age of patients with stage IB to IIA cervical carcinoma was 48.03 ± 12.21 years with ages ranging from 23 to 78 years. Stage IIA is 16 times more significantly at risk for mortality in cervical carcinoma patients than stage IB. The 3-year survival rate for patients with stage IB to IIA cervical carcinoma after radical hysterectomy was 83.3% with an average life span of 32.8 months. Patients with stage IB to IIA cervical carcinoma after radical hysterectomy have an average disease-free interval (DFI) of 33.0 ± 5.74 months.*

Keywords: *Cervical Cancer, Radical Hysterectomy, Survival Rate*

INTRODUCTION

Cervical cancer is a gynecologic disease that has a high level of malignancy and is a major cause of death from cancer in women. Half a million cases are reported each year and their incidence is higher in developing countries.[1-3] Based on Globocan data, the International Agency for Research on Cancer (IARC) in 2002, every minute there is 1 new cervical cancer case and every 2 minutes occurs 1 case of death in the world caused by this cancer. This resulted in the second-highest incidence of cervical cancer in women in the world after breast cancer, with an estimated 493,000 new cases and 274,000 of them died.[4] In Indonesia, cervical carcinoma is the most common gynecological malignancy with an incidence of 25-40 / 100,000 per year, of which 70% is found at an advanced stage.[5-8] Until now the main choice of treatment for uterine carcinoma is surgery, radiation, and chemotherapy which results in a 5-year survival rate and the same disease-free interval with a cure rate of 75% - 80% (can reach 85% - 90% in tumors of the size) small).[9-13]

A recurrence case is a hopeless situation because 80-100% of patients will die less than a year since the recurrence and until now there is no effective therapeutic option to overcome it. Overall five-year survival of recurring cases is less than 5% and almost 90% occur in the first 2 years.[6] The IB-IIA cervical cancer without KGB involvement, 10% - 20% can experience a recurrence after primary therapy either radical or radiation hysterectomy.[14] Limited data regarding radical hysterectomy outcomes in patients with IB cervical stage carcinoma up to IIA in Ulin Banjarmasin General Hospital. That is why this research needs to be done. Research that specializes in radical hysterectomy outcomes in patients with stage IB to IIA cervical carcinoma in Ulin Banjarmasin General Hospital. This research is expected to be one of the materials explained to the patients with cervical carcinoma, about the known outcome of radical hysterectomy in patients with IB to IIA cervical carcinoma at Ulin Banjarmasin General Hospital. It can be showed to tell the success rate of radical hysterectomy.[14,15,16]

MATERIALS AND METHOD

This research is a survival rate analysis study in patients with stage I B to II A cervical carcinomas who undergo a radical hysterectomy at Ulin Banjarmasin General Hospital. Data was taken from inpatients in Cempaka rooms and oncology obstetrics outpatient clinic medical records in Ulin Banjarmasin General Hospital in the period of January 2012 to December 2016. Data collection began from July 2019 to September 2019. This research method is intended to assess the dependent variables and independent variables at a certain time. The independent variables in this study were cervical carcinoma patients, the dependent variable was the outcome of radical hysterectomy and the universal variable was the cause of death, age, complications of surgery. Samples were selected by the time limitation method.Sampling technique by consecutive sampling, there are a total of 55 patients with cervical carcinoma stage I B to II A who underwent radical hysterectomy from January 2012 to December 2016. The samples who met the inclusion criteria are 30. The sample of this study was patients with cervical carcinoma stage I B to II A who underwent radical hysterectomy from January 2012 to December 2016 at Ulin Banjarmasin General Hospital and met the inclusion criteria. The inclusion criteria are patients with cervical carcinoma stage IB to IIA who were treated with radical hysterectomy in January 2012 to December 2016, the diagnosis was established based on the results of pathology anatomy and clinical staging evaluation by an obstetric

gynecologist with oncology sub-specialist and patients who have completed medical record data.

The exclusion criteria are patients who suffers from other malignancies other than cervical cancer, suffering from other severe systemic diseases, patients who died due to causes other than cervical cancer and their complications, and cervical carcinoma stage IB2 to IIA with bulky tumors undergoing incomplete neoadjuvant chemotherapy and adjuvant radiation therapy and patient who cannot be contacted resulting in incomplete data. Data were analyzed using SPSS with Chi-square / Fisher method with a significant p-value<0.05.

RESULTS AND DISCUSSION

In this study, 55 data from cervical carcinoma stage IB to IIA patients who underwent a radical hysterectomy at Ulin Banjarmasin General Hospital from January 2012 to December 2016 Were collected, and 30 samples that met the criteria for exclusion and inclusion. The demographic characteristics of the research subjects can be seen in table 1. As clinical characteristics of research subjects in patients with stage IB to IIA cervical carcinoma can be seen in table 2.

Table1. Demographic Characteristics of The Research Subjects

Variable	Population	Death	Live	p *value*
Age (Years), Mean ± SD	48,03 ± 12,21	57,2 ± 12,07	46,2 ± 11,61	0,065*
Age, n (%)				
• ≥ Mean	16 (53,3)	4 (80)	12 (48)	0,336**
• < Mean	14 (46,7)	1 (20)	13 (52)	
Education, n(%)				
• Elementary	4 (13,3)	1 (20)	3 (12)	0,308***
• Junior High	9 (30)	3 (60)	6 (24)	
• Senior High	12 (40)	1 (20)	11 (44)	
• Graduate (D3/S1)	5 (16,7)	0 (0)	5 (20)	
Job				
• Housewives	22 (73,3)	5 (100)	17 (68)	0,336***
• Civil servants	6 (20)	0 (0)	6(24)	
• Entrepreneur	2 (6,7)	0 (0)	2 (8)	
Parity				
• 1	2 (6,7)	0 (0)	2 (8)	0,866**
• 2	6 (20)	1 (20)	5 (20)	
• 3	8 (26,7)	1 (20)	7 (28)	
• > 3	14 (46,7)	3 (60)	11 (44)	

**Independent T Test*, p < 0,05
***Fisher Exact Test*, p < 0,05
****Pearson Chi-Square*, p < 0,05

Table 2. Clinical Characteristics of Research Subjects

Variable	Population	Death	Live
Stage			
• IB	3 (10)	0 (0)	3 (12)
• IB1	9 (30)	0 (0)	9 (36)
• IB2	12 (40)	1 (20)	11 (44)
• IIA	6 (20)	4 (80)	2 (8)
Histopathology Cell Type			
• Adenocarcinoma	10 (33,3)	3 (60)	7 (28)
• Squamous Cell Carcinoma	20 (66,7)	2 (40)	18 (72)
Lymphnode Involvement			
• Positive	23 (76,6)	4 (80)	19 (76)
• Negative	7 (23,3)	1 (20)	6 (24)
Vaginal Incision Limits			
• Positive	3 (10)	1 (20)	2 (8)
• Negative	27 (90)	4 (80)	23 (92)
Chemotherapy			
• Not Complete	11 (36,7)	4 (80)	7 (28)
• Complete	19 (63,3)	1 (20)	18 (72)
Recurrence			
• Yes (Recurrence)	7 (36,8)	1 (100)	6 (33,3)
• No (Complete)	12 (63,2)	0 (0)	12 (66,7)
Free Disease Interval (FDI)	33,0 ± 5,74	32,4 ± 8,05	33,12 ± 5,38
Free Disease Interval (Months)			
• < Mean FDI	7 (23,3)	1 (20)	6 (24)
• ≥ Mean FDI	23 (76,7)	4 (80)	19 (76)

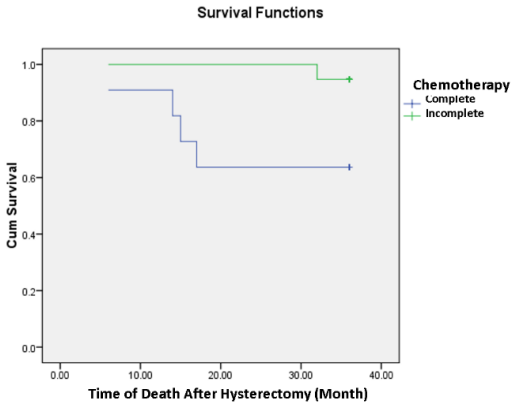

Figure 1. Kaplan meier chart survival analysis

Carcinoma is the growth of new cells that are malignant consisting of epithelial cells that tend to infiltrate the surrounding tissue and cause metastasis. Cervical carcinoma is a malignant tumor that grows inside the cervix or the cervix which is located at the lowest part of the uterus attached to the top of the vagina. The current stage of cervical cancer is clinically determined to be strongly related to treatment and prognosis and to the potential for invasion and metastasis where the gold standard is histopathological examination. The stage of cervical cancer according to the American Joint Committee on Cancer (AJCC) and the International Federation of

Gynecology and Obstetrics (FIGO) in 2018 based on the results of clinical examination evaluations include stage I, IA (IA1 and IA2), IB (IB1,IB2 and IB3), II, IIA (IIA1 and IIA2), IIB, III, (IIIA, IIIB,IIIC), IV (IVA and IVB), but in the research stage is limited to stages IB to IIA.[17-19]

In principle, surgery as a treatment for cervical cancer is done if cancer has not spread. The standard surgery for operable cervical cancer is radical hysterectomy which removes uterine, cervical, vaginal, right and left parametrium, bilateral salphingo-oophorectomy, and regional lymph node lymphadenectomy.[44] In this study, as many as 16.7% of patients with cervical carcinoma from IB to IIA died 3 years after radical hysterectomy was performed. The percentage of deaths in patients with age older than the average age (80%) in this study was greater than patients with age lower than the average age (20%). Age is one of the factors that is considered to influence the prognosis of patients and affect the maturity of the immune system in the body. From a young age to adulthood, the capacity of immunity will reach its peak and will gradually decline, especially in old age.[20.21]

The highest parity in this study was > 3 (46.7%) wherein patients with death outcomes the percentage of parity was > 3 (60%) more than patients with live outcomes (44%). The results of this study are not much different from the research of Hidayat in the RSUD Dr. Moewardi in 2013 which found cervical cancer patients who had a parity of > 3 as much as 64.3%. In addition, Hidayat's research also found that there was a significant relationship between women with a parity number > 3 and cervical cancer where women with parity > 3 had a 16 times greater risk of cervical cancer compared to women with parity ≤ 3 (OR = 16, 03 (95% CI; 4.77-53.85) and p = 0.000). In addition, research that supports the results of this study is a Setyarini study in 2009 which showed the most parity is > 3 (57.9%) where from this study also found that there was a significant relationship between women with a parity number> 3 with cervical cancer incidence where women with parity> 3 have a 5.5 times greater risk of cervical cancer than women with parity ≤ 3 (OR = 5.5 (95% CI; 1.02-29.45) and p = 0.033).[22,23]

Women who have given birth more than 3 times can increase the incidence of cancer by 3 times. Postpartum injuries can lead to early cervical cancer if not treated immediately. It is not only postpartum injuries that cause cervical cancer but too close labor can also cause cervical cancer. This illustrates that the more children the more the risk of cervical cancer. Someone who has many children, especially those who give birth more than 3 times will be a high risk of cervical cancer. Due to injury after giving birth and the distance of labor that is too close will cause the virus that causes cervical cancer to enter.[24,25] The number of children born affects cervical cancer. Parity is one of the risk factors for cervical cancer with a 4.55 times greater risk of cervical cancer in women with parity > 3 compared to women with parity 3. This is related to the occurrence of cervical colonic epithelial eversion during pregnancy which causes new dynamics of immature metaplastic epithelium which can increase the risk of cell transformation and trauma to the cervix to facilitate HPV infection.[26,27]

In this study the majority of cervical carcinoma patients present in stage IB (80%) with details of stage IB (10%), IB1 (30%) followed by stage IB2 (40%). These results are not much different from the Rahul Samlal study in Amsterdam in 2007 where patients with IB stage were 92.3%. Whereas Xi-Shi research in 2006 showed the number of IB stage cervical carcinoma patients was 75.5%.[28] Besides, patients with death outcomes found 80% of patients with stage IIA while in patients with living outcomes

80% had stage IB1 (36%) and IB2 (44%). With statistical analysis, the results of stage IIA have a significantly higher risk of mortality (16 times) in cervical carcinoma patients than in stage IB (RR = 16,000 (CI95% 2,165-118,270); p = 0.003).[29,30]

In this study, adenocarcinoma was a risk factor for recurrence. In the literature, varying results have been reported concerning prognostic relationship with tumor histology. In some studies, adenocarcinoma tumor invasion associated with tumor size and cervical penetration is a poor prognostic factor. The experts found an association of cervical adenocarcinoma with a worse prognosis than squamous cell carcinoma, especially in patients with positive lymph nodes and have shorter recurrence intervals than squamous cell carcinoma. Malignant adenoma, a rare and poorly differentiated adenocarcinoma subtype, is known to be associated with a poor prognosis.48 In this study, we found differences in 5-year survival between patients with incomplete and complete chemotherapy where patients with incomplete chemotherapy for 5-year survival 63.6% with an average life span of 27.64 months while in patients with complete chemotherapy the 3-year survival rate of patients was 94.7% with an average life span of 35.79 months. It can be seen that the 5-year survival of patients with complete chemotherapy is greater than that for patients with incomplete chemotherapy so that it can be concluded that chemotherapy affects the survival and life span of patients with stage IB to IIA cervical carcinoma after radical hysterectomy.[30]

CONCLUSIONS

Patients with stage IB to IIA cervical carcinoma post radical hysterectomy at Ulin Banjarmasin General Hospital have an average age of 48.03 ± 12.21 years with an age range of 23 - 78 years, the education of the majority of senior high school students, the majority of occupations are housewives and the most parity is > 3. Three years of survival rate for patients with stage IB to IIA cervical carcinoma after radical hysterectomy in Ulin Banjarmasin General Hospital was 83.3% with an average life span of 32.8 months. Patients with stage IB to IIA cervical carcinoma after radical hysterectomy at Ulin Banjarmasin General Hospital have an average disease-free interval (DFI) of 33.0 ± 5.74 months.

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