Research Article

Postradical Hysterectomy Survival Rate in Early Stage Cervical Cancer Patients

Kesintasan Pasien Kanker Serviks Stadium Awal Pascahisterektomi

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Abstract

Objective: Determining the survival rate of early stage cervical cancer patients after radical hysterectomy.

Method: A retrospective cohort study was conducted on 24 early-stage cervical cancer patients who had performed radical hysterectomy in Prof. dr. R.D. Kandou Hospital Manado during the period between January 2008 and December 2010. We used Kaplan-Meier methods to observe the survival rate.

Result: The mean age of patients in this study was 47.8 (33-63) years old with a median of 45 years old. The largest proportion was less than 50 years old (66.7%) and stage IIA cervical cancer (66.7%) as the severity of cancer. Most histopathology type was the squamous cell carcinoma (50.0%). About 70.8% patients did not have lymph nodes metastasis and 62.5% patients did not receive adjuvant therapy. This study revealed that 1-year, 2-year, 3-year, 4-year, and 5-year survival rate were 100.0%, 100.0%, 95.8%, 83.0%, 70.8%; respectively.

Conclusion: The survival rate of early stage cervical cancer after radical hysterectomy in Manado is quite high.

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Keywords: cervical cancer, radical hysterectomy, survival rate

Abstrak

***Tujuan**: Mengetahui kesintasan pasien kanker serviks stadium awal yang dilakukan histerektomi radikal.*

***Metode**: Penelitian ini menggunakan desain penelitian kohort retrospektif yang menganalisa 24 pasien kanker serviks stadium awal yang dilakukan histerektomi di RSUP Prof. dr. R.D. Kandou Manado pada kurun waktu Januari 2008 hingga Desember 2010. Data yang diperoleh diolah menggunakan analisis kesintasan Kaplan-Meier.*

***Hasil**: Didapatkan rerata usia pasien adalah 47,75 tahun (rentang 33-63 tahun) dengan median 45 tahun. Proporsi terbanyak pada penelitian ini adalah pasien dengan usia < 50 tahun (66,7%) dan pasien kanker serviks stadium IIA (66,7%). Sebagian besar pasien memiliki jenis histopatologi karsinoma sel skuamosa (50,0%). Pada 70,8% pasien tidak terdapat penyebaran KGB dan 62,5% pasien tidak mendapatkan terapi adjuvan. Pada penelitian ini didapatkan kesintasan 1 tahun sebesar 100,0%, 2 tahun sebesar 100,0%, 3 tahun sebesar 95,8%, 4 tahun sebesar 83,0% dan kesintasan keseluruhan 5 tahun adalah sebesar 70,8%.*

***Kesimpulan**: Kesintasan pasien kanker serviks stadium awal pascahisterektomi radikal di Manado secara keseluruhan cukup tinggi.*

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***Kata kunci**: histerektomi radikal, kanker serviks, kesintasan*

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INTRODUCTION

Cervical cancer is the leading causes of death in gynecological cancers scope worldwide, which are nearly half a million cases diagnosed each year.[1,2] The current data estimated 493,243 women worldwide diagnosed with cervical cancer each year; while, 273,505 women died due to cervical cancer, and approximately 90% of these new cases and death was occurred in developing countries.[3,4] In Indonesia, based on data from 11 Pathology departments across Indonesia in 2002, cervical cancer was the top ten of most common cancers in men and women which was contributed as 24%.[5]

In North Sulawesi, there were 1,615 women diagnosed with cervical cancer in 2013. Based on registration data of patients in the Prof. dr. R.D. Kandou hospital from January 2014 to July 2015, there were 156 patients with cervical cancer who were treated.[6]

According to the increase of life expectancy around the world, especially for woman, it is essential to know the survival rate in patients with cervical cancer. Kim, et al. study in Korea in 2000 stated that through the 101-month follow up as the median, the 5-year survival rate in 292 patients diagnosed with stage Ib cervical cancer was 92%

and in 74 patients with stage IIa cervical cancer was 87%.[7] Study held by Bulk, et al. in 2003 reported that in Netherland, the 5-year survival rate in 1,441 patients with cervical cancer was 71%.[8] As well as the latest study in the United States by Brookfield, et al. in 2008 depicted that the median survival rate of the 5,367 cervical cancers was 43 months.[9] Meanwhile, according to study by Sirait, et al. in 1997, patients with cervical cancer in Dr. Cipto Mangunkusumo hospital had 5-year survival rate of 30% with a median survival of 213 patients was 934 days (31 months).[10]

Clinical classification system for cervical cancer by the International Federation of Gynecology and Obstetrics (FIGO) is considered effective in predicting the outcome of cervical cancer. Unfortunately, we usually observe the poor prognosis in cervical cancer patients with the same stage. To clarify this disparity, many studies have tried to identify the prognostic factors associated with cervical cancer. Several factors, such as pelvic lymph node metastasis, tumor size, depth of cervical stromal invasion, hematogenous or lymphatic dissemination, histopathologic type, and tumor extension to the corpus uteri, vagina, parametrial limit the surgical resection which were related to the prognostic value.[11,12] Therefore, this study aims to determine the survival rate of early stage cervical cancer patients after radical hysterectomy.

METHODS

The design of this study was a retrospective cohort study with Kaplan-Meier survival analysis. This study was conducted in Prof. dr. R.D. Kandou Hospital, Manado from July to December 2015. The population in this study were all patients with early stage cervical cancer who had performed radical hysterectomy in Prof. dr. R.D. Kandou Hospital, Manado over the period of 1 January 2008 to 31 December 2010.

We excluded the incomplete data on histopathology in medical record, cervical cancer as not the primary cancer, and unidentified medical records. The data were processed using Kaplan-Meier survival analysis to look for overall 1-year, 2-year, 3-year, 4-year, and also 5-year survival rate.

RESULTS

Based on the medical records in Prof. dr. R.D. Kandou hospital Manado and Pathology Department, Faculty of Medicine Universitas Sam Ratulangi, there were 24 patients recruited in this study. The mean age of patients was 47.8 (33-63) years old with the median of it was 45 years old. The highest proportion of patients was below 50 years old (66.7%) and stage II cervical cancer (66.7%). Most patients had histopathologic type of squamous cell carcinoma (50%). Of 70.8% patients, there were no lymph node metastasis and 62.5% patients did not receive adjuvant therapy.

The figure 1 described the analysis result of using the Kaplan-Meier on 24 subjects. We found that 1-year, 2-year, 3-year, 4-year, and 5-year survival rate were 100%, 100.0%, 95.8%, 83.0%, 70.8%; respectively.

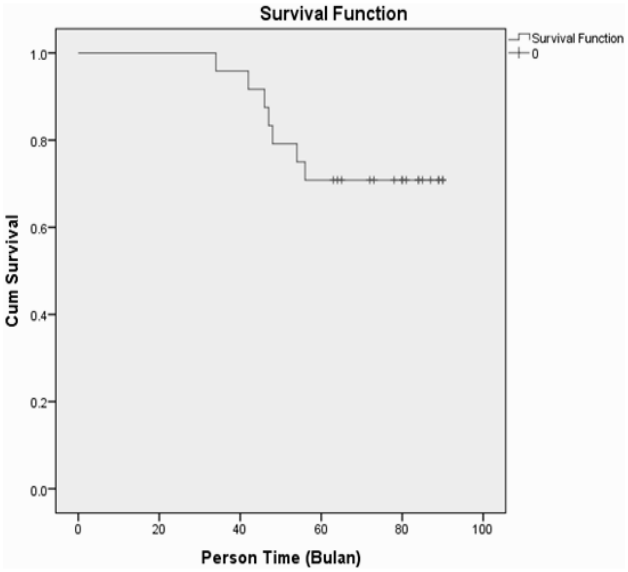

Figure 1. The 5-year Survival Rate of Early Stage Cervical Cancer Patients who had Performed Radical Hysterectomy

In addition, an analysis of the survival rate on some prognostic factors, it was found that 5-year survival rate of patients below 50 years old was 74.8% and the 5-year survival rate in stage II cervical cancer patients was 62.3% (Figure 2). Meanwhile, the 5-year survival rate of patients living with histopathological types of squamous cell carcinomas were 83.2% (Figure 3).

The 5-year survival rate of patients living without lymph node metastasis was 94%, whereas the 5-year survival rate of patients who received adjuvant therapy was 88.9% (Figure 4).

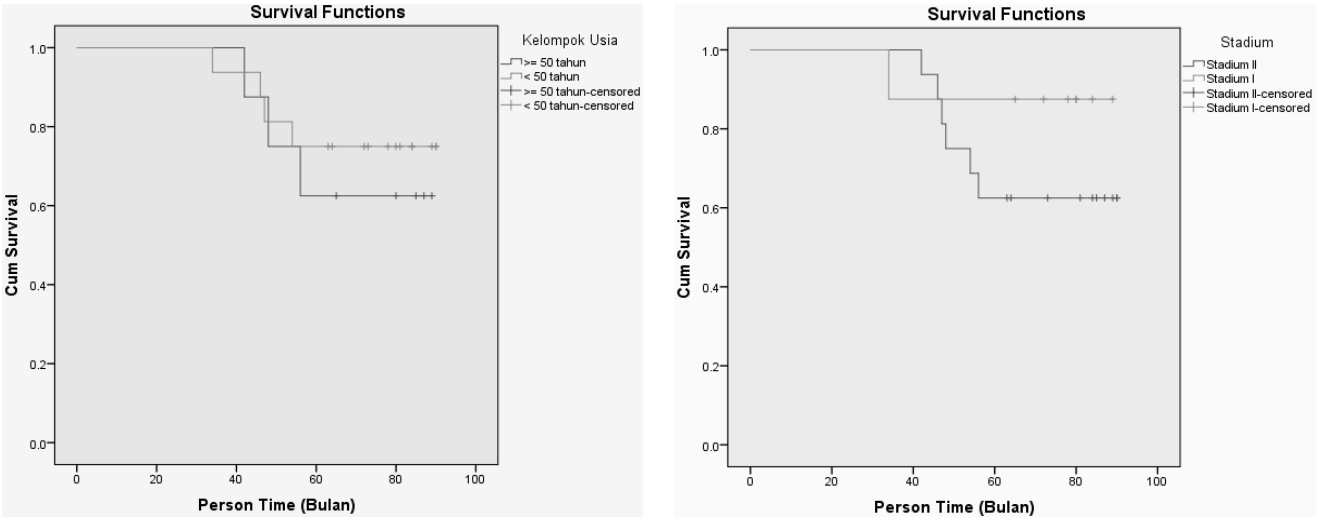

Figure 2. The 5-year Survival Rate Based on Age Group (left) and Stage of Cervical Cancer (right)

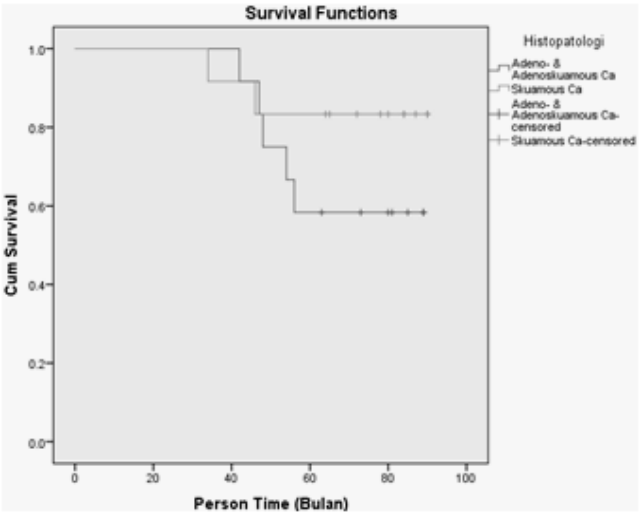

Figure 3. The 5-year Survival Rate Based on Histopathological Type

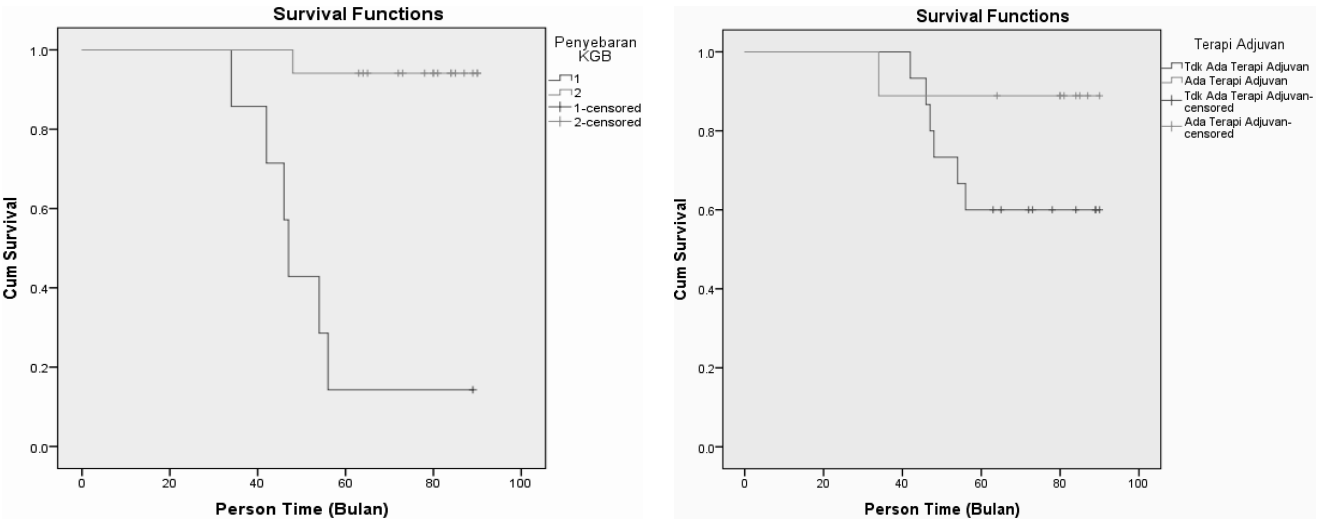

Figure 4. The 5-year Survival Rate Based on Lymph Node Metastasis (left) and Adjuvant Therapy (right)

DISCUSSION

In this study, we analyzed 24 cases of early stage cervical cancer who had performed radical hysterectomy in Prof. dr. R.D. Kandou Hospital Manado on the period of 1 January 2008 to 31 December 2010. The occurrence of information bias in this study was because the design of the study used a retrospective cohort, in which all the relevant events that had occurred at the commencement of the study; for example, the inaccurate data of patients' death remembered by family. Apart from that, there were also several missing cases (loss to follow up). We optimized the observation follow up less than 5 years through several ways, such as appropriate phone number listed in medical records or home visit. This primary data were obtained from medical records; therefore, the incomplete data would affect the overall result.

Overall, of 24 women in this study, there were 7 patients (29.2%) died so that the survival rate was 70.8%. In this study, there were 5 women (20.8%) who regularly undertook the treatment at the hospital for up to 5 years or until the patient dies. Unfortunately, most patients did not have good adherence to the treatment.

The survival rate of early stage cervical cancer patients who had performed radical hysterectomy showed the overall 1-year, 2-year, 3-year, 4-year, and 5-year survival rate were 100.0%, 100.0%, 95.8%, 83.0%, and 70.8%. Actually, the 5-year survival rate in this study was lower than other studies conducted in some developed and developing countries. The reasons for the difference in the survival rate are due to large number of patients who lost to follow-up for 5 years and the divergence among prognostic factors in every center.

In this study, the average age of patients was 47.75 years old with a median of 45 years old. This result was in accordance with study conducted by Ho, et al. They stated that the median age of patients with early stage cervical cancer was 47 years old.[1] Similarly, study held by Kim, et al. explained that the mean age of patients with early stage cervical cancer was 48.5 years old with a range of 22-71 years old.[7] Data from Canada also showed the mean age of 49 years old with the median age of 46 years old.[1]

Based on previous studies, there were relationship between age and survival rate of patients with cervical cancer. However, this study revealed the survival rate difference was found in both age groups.

According to study by Rijker, et al., the 5-year survival rate in patients with stage IB-IIA cervical cancer was not significantly different between age groups, but it had meaningful survival rate difference in patients with advanced stage cervical cancer.[13]

The results showed a tendency early stage cervical cancer patients with age below 50 years old had a 5-year survival higher than cervical cancer patients with age above 50 years old. Indeed, the study conducted by Tone Bjorge, et al. in Norway on 7,429 women with cervical cancer concluded that there was a tendency of worse prognosis in patients with cervical cancer in young age.[14] Atahan, et al. also got significant 5-year survival rate differences ($p = 0.001$) in women with cervical cancer aged less than 40 years old compared to patients with cervical cancer at age more than 40 years old.[15]

In this study, patients with cervical cancer diagnosed with stage IA, IB, and IIA were 4 (16.7%), 4 (16.7%), and 16 (66.7%) patients; contributively. Every region exhibited the various rates of it. Study conducted in Korea showed that patients with stage IB was 79.8% and patients with stage IIA was 20.2% in 2000.[7] Data from Taiwan in 2004 showed that the number of patients with stage IB and IIA were 81.7% and 18.3%.[11] Meanwhile, according to study by Chyong, et al. in 2007, the number of cervical cancer patients stage IB and IIA were 88.1% and 11.9%.[16] This distinction may be due to the differences in the number of samples and low coverage of Pap smear in Indonesia as an early detection of cervical cancer.

The 5-year survival rate of cervical cancer patients with stage I and II in this study were 87.5% and 62.2%; respectively. This finding was similar to other studies.

In this study, the number of cases with histopathological type of squamous cell carcinoma (SCC) were 12 patients (50.0%), adeno-squamous carcinoma were 4 patients (16.7%) and adenocarcinoma were 8 patients (33.3%). The proportion of the cases was opposite with several other studies. Based on the report by FIGO, the majority of cervical cancers are squamous cell carcinoma types histopathology (80%) followed by adenocarcinoma (11%) and adeno-squamous carcinoma (6%).

Based on study in Taiwan on early stage cervical cancer, they obtained the majority of cases were squamous carcinoma (83.2%) and the remaining were 16.8% of adenocarcinoma and adeno-squamous carcinoma.[16] This different distribution may be caused by distinction in the number of samples in this study and the risk factors according to different places and cultures; for example, the number of oral contraception which is used long term.

In this study, the 5-year survival rate of cervical cancer patients with a histopathologic type of squamous cell carcinoma was higher than other types of histopathology. The study by Chen, et al. concluded that the histopathologic type of adenocarcinoma had worse survival rate in patients with stage I and II after radical hysterectomy.[17] The histopathological type of adeno-squamous carcinoma showed lower survival rate than squamous cell carcinoma in the early stage.[18] According to FIGO, this only applies significantly in stage IV, other than the histopathologic type of squamous cell carcinoma and adenocarcinoma, it has worse survival, yet.[19] Contrary, study held by Look, et al. and Lee, et al. did not get the difference in survival rate between squamous cell carcinoma and adenocarcinoma.[20,21] Reis, et al. in their study also concluded that there was no evidence that the type of histopathology would affect the survival rate.[22]

In this study, the number of cases with lymph node metastasis were 7 patients (29.2%) and the number of cases without metastasis were 17 patients (70.8%). There were differences in survival rate of the presence and absence of lymph nodes metastasis in this study. These results were similar to a lot of study that the most dependent variables associated with survival rate was the status of lymph node metastasis. Patients without lymph node metastasis had 5-90% of survival rate, whereas if there were positive lymph node metastasis, the survival rate became 20-74% based on lymph nodes metastasis location and size.[12] Likewise, this study found the 5-year survival rate of cervical cancer patients without lymph node metastasis was 94% differed greatly in patients with lymph node metastasis (14.4%).

In this study, a total of 9 patients with cervical cancer (37.5%) received adjuvant therapy and 15 patients with cervical cancer (62.5%) cases did not get the adjuvant therapy. Giving adjuvant chemoradiation may improve survival rate up to 43 months compared with patients with similar characteristics who receiving radiotherapy adjuvant.[12] According to the study by Lahousen, et al., adjuvant chemotherapy or radiation did not improve survival rate or recurrence rate in patients with high risk of cervical cancer after radical hysterectomy.[23] In this study, the group of patients who received adjuvant therapy had a 5-year survival rate of 88.9%; while, the group of patients who did not get adjuvant therapy was around 60%.

CONCLUSION

The survival rate of early stage cervical cancer after radical hysterectomy in Manado is quite high. Several prognostic factors, such as age, stage of cervical cancer, the type of histopathology, lymph node metastasis and adjuvant therapy affect 5- year survival rate of cervical cancer patients who performing radical hysterectomy.

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