Research Article

Bladder Function after Hysterectomy

Fungsi Berkemih setelah Histerektomi

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Abstract

Objective: To determine the effect of hysterectomy on bladder function pre- and post-radical hysterectomy in early stage of cervical cancer.

Method: This study was a pre-post intervention study. Data were collected through questionnaires from women who had radical hysterectomy and total hysterectomy in Prof. Dr. R. D. Kandou Manado general hospital and other networking hospitals since January 1st, 2014 to November 31st, 2014. We analyzed the data using Wilcoxon and Mann-Whitney statistical test.

Result: There were each 18 respondents for the radical and total hysterectomy group in Prof. Dr. R. D. Kandou general hospital and networking hospitals. The age distribution of radical hysterectomy was 41-45 years old for 44.4%. The parity was dominated by second parity for 38.8%. In pre- and post-surgery, there were significant differences for urinary incontinence disorder (p=0.003), emptying disorder (p=0.008), urinary pain (p=0.034), and total urinary disorder (p=0.001). While, between radical and total hysterectomy, there was no significant difference in bladder function (p>0.05).

Conclusion: There is an association before and after surgery to urinary function. However, there is no association between the radical and total hysterectomy group.

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Keywords: bladder function, cervical cancer, radical hysterectomy

Abstrak

Tujuan: *Untuk mengetahui pengaruh histerektomi terhadap fungsi berkemih pada pasien kanker serviks stadium awal.*

Metode: *Penelitian ini merupakan studi pre-pascaintervensi. Data dikumpulkan melalui pengisian kuesioner oleh wanita yang telah dilakukan histerektomi radikal maupun total di RSU Prof. Dr. R. D. Kandou Manado dan rumah sakit jejaring lainnya sejak tanggal 1 Januari 2014 hingga 31 November 2014. Kami menganalisis data menggunakan tes statistik Wilcoxon dan Mann-Whitney.*

Hasil: *Terdapat 18 sampel yang telah dilakukan histerektomi radikal dan total di RSU Prof. Dr. R. D. Kandou dan rumah sakit jejaring. Kebanyakan dari yang dilakukan histerektomi radikal berusia 41-45 tahun (44,4%). Kebanyakan sampel pernah melahirkan 2 kali (38,8%). Hasil uji statistik menunjukkan terdapat perbedaan bermakna pre dan pascahisterektomi pada gangguan inkontinensia urin (p=0,003), gangguan pengosongan urine (p=0,008), nyeri berkemih (p=0,034), dan total gangguan berkemih (p=0,001). Pada histerektomi total dan radikal, tidak terdapat perbedaan bermakna pada fungsi berkemih (p>0,05).*

Kesimpulan: *Terdapat hubungan sebelum dan setelah pembedahan pada fungsi berkemih. Tidak ada hubungan diantara kelompok histerektomi radikal dan total.*

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Kata kunci: *fungsi berkemih, histerektomi radikal, kanker serviks*

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INTRODUCTION

Cancer is one of the most frightening condition in the human life. This condition can impact to both physical and psychological aspects. Although advanced technology in medicine can longer the survival rate of cancer patients, we should pay attention to the quality of life.[1,2]

Cervical cancer as a part of gynecological cancer has a great influence on women's life. The early stage of cervical cancer treatment consists of radical hysterectomy with pelvic lymphadenectomy with or without adjuvant radiation.[1,2]

Radical hysterectomy has good survival rate; however, it contributes to several consequences such as infertility, urinary disorders, bowel movement disorders, lymphedema and also sexual disorder.[2-4] Autonomic nerve damage is the consequence of this surgery.[3]

Autonomic nerves in the pelvis can be divided into four components: hypogastric nerves, pelvic splanchnic nerves, inferior hypogastric plexus and branching of three neural structures.[5] Therefore, this study aims to determine the effect of radical hysterectomy on bladder function in pre- and post-surgery condition.

METHODS

This pre-post interventional study was conducted in Prof. Dr. R. D. Kandou Manado Hospital and other networking hospitals, Manado from January 1st, 2014 to November 31st, 2014. We included all women who underwent radical and total hysterectomy by assessing bladder function scores before and three months after surgery. This study was carried out in respondents' house by filling the questionnaire. The variables consisted of independent variable (radical and total hysterectomy) and dependent variable (bladder function results).

Data were collected by using a questionnaire translated from Urogenital Distress Inventory (UDI-6 Short Form) questionnaire. It was contained of some questions that necessary to determine the bladder function. We took each 18 women who underwent radical and total hysterectomy. The data were processed and analyzed statistically.

RESULTS

Of the study, the most respondents who had radical hysterectomy were at 41-45 years old (8/18 respondents); while 7/18 respondents were at 46-50 years old. Both radical and total hysterectomy respondents had the most parity of 2 (Table 1).

The bladder function consists of urinary incontinence disorders, emptying disorder, urinary pain, and total urinary disorder. Table 2 and 3 showed the comparison of bladder functions between radical and total hysterectomy.

Table 1. Characteristics of Participants.

Characteristics	Radical Hysterectomy N=18	Total Hysterectomy N=18
Age (years old) (n(%))		
31-35	1 (5.5)	0 (0)
36-40	2 (11.1)	3 (16.6)
41-45	8 (44.4)	4 (22.2)
46-50	6 (33.3)	7 (38.8)
51-55	4 (5.5)	4 (22.2)
Parity (n(%))		
0	0 (0)	3 (16.6)
1	4 (22.2)	4 (22.2)
2	7 (38.8)	6 (33.3)
3	4 (22.2)	5 (27.7)
>3	3 (16.6)	0 (0)

Table 2. Comparison of Bladder Functions between Patients Performed Radical and Total Hysterectomy.

	Group	Mean (SD)		Median		p*
		Pre	Post	Pre	Post	
Urinary Incontinence Disorder	Radical Hysterectomy	14.9 (0.8)	14.2 (1.3)	15.0	14.0	0.003
	Total Hysterectomy	14.7 (0.7)	14.3 (1.0)	15.0	14.0	
Emptying Disorder	Radical Hysterectomy	3.7 (0.5)	3.4 (0.7)	4.0	3.5	0.008
	Total Hysterectomy	3.7 (0.5)	3.4 (0.7)	4.0	4.0	
Urinary pain	Radical Hysterectomy	3.4 (0.5)	3.2 (0.6)	3.0	3.0	0.034
	Total Hysterectomy	3.4 (0.5)	3.3 (0.5)	3.0	3.0	
Total Urinary disorder	Radical Hysterectomy	22.1 (1.1)	20.7 (1.7)	22.0	21.0	0.001
	Total Hysterectomy	21.8 (0.9)	21.1 (1.4)	22.0	21.0	

**Wilcoxon statistical test*

Table 3. Comparison of Bladder Functions between Radical and Total Hysterectomy.

	Group	p*
Incontinence Pre-surgery	Radical Hysterectomy	0.418
	Total Hysterectomy	
Incontinence Post-surgery	Radical Hysterectomy	0.973
	Total Hysterectomy	
Emptying disorder Pre-surgery	Radical Hysterectomy	0.721
	Total Hysterectomy	
Emptying disorder Post-surgery	Radical Hysterectomy	0.778
	Total Hysterectomy	
Urinary pain Pre-surgery	Radical Hysterectomy	0.739
	Total Hysterectomy	
Urinary pain Post-surgery	Radical Hysterectomy	0.881
	Total Hysterectomy	
Total Pre-surgery	Radical Hysterectomy	0.355
	Total Hysterectomy	
Total Post-surgery	Radical Hysterectomy	0.584
	Total Hysterectomy	

Mann-Whitney statistical test

DISCUSSION

In this study, we found that the most distribution age of radical hysterectomy was 41-45 years old and 46-50 years old for total hysterectomy. It was similar to study by Brooks, et al. which showed that the mean age of respondents who performed radical hysterectomy was 44 years old and 49 years old for total hysterectomy.[6] Study by Charoenkwan revealed the similar result where the mean age of the respondents who performed radical hysterectomy was 44.6 years old.[7]

This study showed that the most parity both in radical and total hysterectomy was two times. Brooks, et al. found that the mean parity of the cervical cancer patients who performed radical hysterectomy was 2.3 and 2 for total hysterectomy.[6] It was also similar to the result by Charoenkwan whereas patients' parity was 2.3 for radical hysterectomy.[7]

The bladder function consists of urinary incontinence, emptying, urinary pain, and total urinary disorder. In our study, respondents who performed radical hysterectomy got the mean result of urinary incontinence disorders before surgery 14.9 and after surgery 14.2. Meanwhile, in total hysterectomy respondents, the mean result of urinary incontinence disorders before and after surgery were 14.7 and 14.3. The Wilcoxon statistical test found that there was significant difference in urinary incontinence disorder before and after surgery (p=0003). Brooks, et al. in their study showed mild incontinence disorder in 50% of patients who performed radical hysterectomy and 43% for the control group. Severe incontinence disorder occurred in 33% of radical hysterectomy patients compared with 36% in control group. This occurrence was coming from sympathetic nerve disorder causing incompetence of the bladder neck.[6]

Our study stated that there was significant difference in urine emptying disorders before and after surgery (p=0.008). The result was similar to study conducted by Charoenkwan[7] and Brooks, et al.[6] Charoenkwan revealed 13.4 subjects suffering from urine emptying disorder[7]; while Brook, et al. found urine emptying disorder happened in 18.2% subjects after radical hysterectomy and 14.5% after total hysterectomy.[6] Otherwise, Rana, et al. stated the urinary retention incidence post radical hysterectomy was higher, namely 42.2%.[8]

Another indicator for bladder function test is the urinary pain. There was significant difference in urinary pain before and after surgery (p=0.034). Study by Charoenkwan presented subjects who experience pain during urination after radical hysterectomy were 6.4%.[7] Brooks found the result of the subjects who experienced urinary pain after hysterectomy radical was 21.2%, and 11.8% after total hysterectomy.[6]

There was significant difference in total urinary disorder before and after surgery. Similar to this study, Cheeveewat, et al. found that 64% patients experienced urinary problem after radical hysterectomy.[9]

Table 3 showed there was no statistically significant difference between subjects in bladder function who performed radical and total hysterectomy (p>0.05). This statistical test result was similar to study done by Brooks, et al. They found that there was no significant difference in bladder function after radical and total hysterectomy.[6]

CONCLUSION

We can conclude that there is an association between radical hysterectomy and urination function. However, there is no association between the radical and total hysterectomy group.

Before performing a radical hysterectomy, the gynecologist should do counseling and explain the operation procedure and complication so that patients can understand clearly for the bladder functions complication after radical hysterectomy. Apart from that, good counseling before surgery can support the psychology of the patients.

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