

Comparative Study on Outcome of Vaginal and Abdominal Hysterectomy for Benign Non-prolapsed Uterus

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Abstract

Background: Vaginal hysterectomy is infrequently carried out when there is no utero-vaginal prolapse. The past few years have seen growing indications of vaginal hysterectomy which is now preferred over abdominal hysterectomy. Despite enough evidences in favour of vaginal hysterectomy, it is not the preferred route for hysterectomy in our country, probably due to lack of technical skill and expertise in non-descent vaginal hysterectomy in our country

Methods: This cross-sectional comparative study was done in the Department of Obstetrics & Gynaecology, in Institute of Child and Mother Health (ICMH), Dhaka.

The Study period was 6 months, from May 2015 to October 2015.

Results: Baseline characteristics were similar in both groups of patients. There was no intraoperative complication in either group. Operative time, intraoperative blood loss, time of out-of-bed activity, mean maximum postoperative body temperature and duration of fever were significantly shorter and less severe in the Vaginal Hysterectomy group compared to Abdominal hysterectomy group. In addition, vaginal length in the VH group was significantly shorter than AH group.

Conclusion: Despite the overwhelming evidence in favour of vaginal hysterectomy, it is not a preferred route for hysterectomy in case of undescended uterus in Bangladesh. The reason for this practice may be lack of controlled evidence in favour of vaginal hysterectomy and lack of expertise & skill of the surgeon in our country.

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Introduction

Hysterectomy belongs to the oldest surgical procedure in medicine. Hysterectomy is a very frequent pregnancy-unrelated surgical procedure performed in women, which may be accomplished either by abdominal or vaginal route.¹ Vaginal hysterectomy is infrequently carried out in this country when there is no utero-vaginal prolapse. The past few years have seen growing indications of vaginal hysterectomy which is now preferred over abdominal hysterectomy.² Vaginal hysterectomy is a safe and effective procedure for benign non-prolapsed uterus especially when its size is less than 12 weeks.³

With increasing concern over the containment of health care costs, there is a need for expanding the indications for performing hysterectomies via the vaginal non-laparoscopic method.⁸ This should be an important enough incentive for gynaecologist to obtain the skill necessary to carry out vaginal hysterectomy for non-descent uterus and enlarged uterus.⁴

Keeping in view that this vaginal approach could substantially decrease treatment cost, duration of hospital stay and morbidity, this study will be carried out to observe the advantage of vaginal hysterectomy over abdominal hysterectomy in women with benign gynaecological disorder other than prolapse.

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In our country, most of the gynaecologists are trained to do abdominal hysterectomy for non prolapsed uterine diseases. Recently vaginal hysterectomy is being encouraged for non descent uterine conditions. However a study on 3 years of performance data from ICMH showed that average 600 hysterectomy were performed annually and 65% of them were performed by abdominal route.⁵ At ICMH, vaginal hysterectomy is being practiced very recently and no study was carried out to evaluate its outcome.

A study advocates that all patients requiring a hysterectomy for menstrual problems with a moderate sized uterus can be offered the vaginal route of surgery with appropriate counselling.^{6,7} But a decision regarding the correct approach will depend on the technical skills and experience of the surgeon, the size of uterus and a careful assessment of certain patient parameters.

A non-descent hysterectomy may be advised for a number of conditions, like abnormal uterine bleeding (menorrhagia, metrorrhagia), fibroids, cervical abnormalities (precancer or carcinoma in situ of the cervix), endometrial hyperplasia, chronic pelvic pain etc.

A good mobility and small uterine size (not more than 16 weeks) are needed for non-descent vaginal hysterectomy.^{8,9,10} But with newer techniques like bisection, morcellation and myomectomy, it has become easy to perform vaginal hysterectomy even in enlarged uterus in benign cases.² Adnexal pathology, history of 2 or more serial abdominal surgeries or pelvic organ surgeries are to be exclude from the vaginal hysterectomy.^{11,12}

Despite enough evidences in favour of vaginal hysterectomy, it is not the preferred route for hysterectomy in our country, probably due to lack of technical skill and expertise in non-descent vaginal hysterectomy in our country. The objective of this study is to evaluate the outcome of vaginal hysterectomy for benign non-descent uterine conditions.

Objectives

General:

To find out the outcome of the vaginal hysterectomy comparing with total abdominal hysterectomy for the patients of benign conditions in the absence of uterine prolapse.

Specific:

- To compare the operative time between the two groups
- To assess the intra operative complications between the two groups
- To find out the post operative complications within early days.

Methods

Study design: The study was a cross-sectional comparative study.

Place of study: This study was carried out in the Department of Obstetrics & Gynaecology, Institute of Child and Mother Health (ICMH), Dhaka.

Study period: Six months-from May, 2015 to October, 2015.

Study population: The patients admitted in the in-patient Department of Obstetrics and Gynaecology, ICMH for hysterectomy with no utero vaginal prolapse during the study period. Total 60 cases were studied.

Selection criteria:

Patients admitted to the above mentioned hospital and after meeting the inclusion and exclusion criteria a probability sampling technique was applied for selecting the sample patients.

Inclusion criteria:

1. Benign uterine conditions (fibroid, dysfunctional uterine bleeding, adenomyosis, indicated for hysterectomy)
2. Uterine size less than 12 weeks.

Exclusion criteria:

1. History of previous pelvic surgery.
2. Uterine size more than 12 weeks.
3. Restricted uterine mobility, limited vaginal space, adnexal pathology, invasive carcinoma of cervix.

Method of data processing: All the 30 consecutive vaginal hysterectomy cases operated and was classified as Group A. At the same time 30 consecutive cases of abdominal hysterectomy patients were considered as Group B. All the data were then put in a computer and were processed by the computer. Statistical package for the social – science (SPSS) version 22.0 for windows was used to analyze the data.

Results

Table I. Comparison of age and parity between two groups of the patients (n=60)

Variables	Group A (n=30) Mean±SD	Group B (n=30) Mean±SD	p value
Age (years)	44.78±6.57	45.64±5.74	0.59 ^{ns}
Parity	3.24±0.74	2.89±0.71	0.07 ^{ns}

Table II. Comparison of operative time between two groups (n=60)

Operative time (minutes)	Group A (n=30) Mean±SD	Group B (n=30) Mean±SD	p value
Operative time (minutes)	49.78±4.21	74.22±6.74	<0.001*

Table III. Comparison of peroperative complication between two groups (n=60)

Peroperative complications	Group A (n=30) No. (%)	Group B (n=30) No. (%)	p value
Haemorrhage	3(10.0%)	5(16.7%)	0.31 ^{ns}
Others (Injury, Slip of ligature)	1(3.3%)	2(6.7%)	
No complications	26(86.7%)	23(76.7%)	
Total	30(100.0%)	30(100.0%)	

Table IV. Comparison of postoperative complication (n=60)

Postoperative complications	Group A (n=30) No. (%)	Group B (n=30) No. (%)	P value
No complications	25(83.3%)	20(66.7%)	0.14 ^{ns}
Complications	5(16.7%)	10(33.3%)	
Fever	3(10.0%)	6(20.0%)	
Urinary tract infection	1(3.3%)	0	
Haematuria	1(3.3%)	0	
Per vaginal bleeding	0	2(6.7%)	
Wound infection	0	1(3.3%)	
Wound dehiscence	0	1(3.3%)	
Total	30(100.0%)	30(100.0%)	

Table V. Comparison of hospital stays between two groups (n=60)

Hospital stays (days)	Group A (n=30) Mean±SD	Group B (n=30) Mean±SD	p value
Hospital stays (days)	3.12±0.37	4.75±0.52	<0.001*

Discussion

Hysterectomy, the most common major surgical procedure for gynaecological conditions, is used for both malignant diseases and benign conditions such as fibroids, endometrial hyperplasia, adenomyosis, endometriosis, uterine prolapse, dysfunctional uterine bleeding, and cervical intraepithelial neoplasia. There are many approaches to hysterectomy for benign diseases, including abdominal hysterectomy, vaginal hysterectomy, laparoscopic assisted vaginal hysterectomy (LAVH), total laparoscopic hysterectomy (TLH), and subtotal laparoscopic hysterectomy. With the constant modernization of minimally invasive concepts in obstetrics and gynaecology, doctors choose surgical routes by considering not only the patient's health status, but also the psychological needs of patient and the patient quality of life after surgery.¹³

Hysterectomy can be done by abdominal or vaginal route. Until recently the abdominal route was confined to nondescent cases with uterine pathology. Traditionally, the vaginal route is preferred for prolapsed uterus in our country, but this route can also be used for cases of benign conditions of the uterus without any descent.^{5,14} All large scale surveys of hysterectomy practice have shown that 70% to 80% of hysterectomies are performed by the abdominal approach.^{15,16} Vaginal route is normally used for utero vaginal prolapse, but this indication accounts for only approximately 10% of cases.¹⁷ The gynaecologist continues to use the abdominal approach for most hysterectomies that could be performed vaginally. Well-documented evidence proved that vaginal hysterectomy has distinct health & economic benefit in terms of fewer complications, better post operative quality of life and reduced hospital stay.¹⁸

The available evidence shows that since the widespread introduction of prophylactic antibiotics vaginal hysterectomy is associated with less febrile morbidity, less bleeding necessitating transfusion, shorter hospitalization and faster convalescence than abdominal hysterectomy.¹⁹

With the development of Gynaecological Laparoscopy, laparoscopy assisted vaginal hysterectomy (LAVH) came into vogue. LAVH, although introduced as an alternative to abdominal hysterectomy, needs expertise of specially trained personnel and is associated with higher cost and longer duration of operation.^{20,21} With increasing

concern over the containment of health care costs, there is a need for expanding the indications for performing hysterectomies via the vaginal non-laparoscopic method instead of confining it to the conventional uterine descent¹⁰. Usual limitation of vaginal hysterectomy in non descent uterus is its size but now with larger sizes uterus can be facilitated by bisection, myomectomy, wedge debulking and intramyometrial coring (morcellation)²². This approach could substantially decrease cost, duration of hospital stay, morbidity and faster convalescence than abdominal hysterectomy.

The enlarged uterus can be removed vaginally following the same principles as for a normal sized uterus. Once uterine pedicles are clamped the uterus is largely devascularized and can be bisected with a relatively little blood loss. Fibroids can be 'shelled out' or morcellated, reducing the size of the uterus to allow its removal.²³

A comparative study performing vaginal hysterectomy with or without morcellation provides that morcellation is safe and facilitates the vaginal removal of moderately enlarged uterus without increasing perioperative morbidity.²⁴

In this study, time being less needed in the vaginal route than abdominal route and the difference was statistically significant ($p < 0.001$). These findings are comparable with the study done by Dorsey et al and his group. In their study total abdominal hysterectomy took in average 30 minutes longer than vaginal hysterectomy, while in total abdominal hysterectomy more blood loss occurred compared to vaginal hysterectomy in that study but the study done by Ottosen et al perioperative blood loss was more in vaginal hysterectomy but the finding was not statistically significant²⁵. Similarly blood loss during total abdominal hysterectomy was more in the present study done by another study which is comparable to the present study.²⁶

The complication rate in case of total abdominal hysterectomy was more than that of vaginal hysterectomy in this study. Febrile state was commonest morbidity in each group. Fever was 2 times commoner in abdominal hysterectomy than vaginal hysterectomy. The main cause of the febrile condition was wound infection (8%) in case of total abdominal hysterectomy, whereas in vaginal hysterectomy it was UTI (4%). The study of Laventhal and Lazarus²⁷ contradict this study. They got it 28%

to 52% in vaginal hysterectomy group and 27.3% for total abdominal hysterectomy group. The main cause for morbidity was UTI (48%) in vaginal hysterectomy group, although the major complications like ureter injury, bladder injury were found in total abdominal group. The difference in morbidity may be attributed to current wide spread use of prophylactic antibiotic with vaginal hysterectomy. Several recently conducted double blind trials have shown that prophylactic antibiotic use substantially reduces morbidity among women undergoing vaginal hysterectomy.²⁸ The efficacy of prophylactic antibiotic with total abdominal hysterectomy is less well established.²⁹ Dicker and his associates in their study found that total abdominal hysterectomy has 1.7 times more risk of complications than vaginal hysterectomy. Febrile morbidity was also the major cause for morbidity but the cause for febrile morbidity could not be identified in 16.8% of total abdominal hysterectomy and 7.2% of vaginal hysterectomy group. After that in both the groups UTI was the commonest cause for febrile morbidity. The major operative complications like ureteric, bladder injuries were also found in total abdominal hysterectomy group.³⁰

Thus wound infection was the main cause for febrile morbidity in total abdominal hysterectomy in the present study. We can certainly reduce the morbidity of hysterectomy by improving the sterilization and aseptic methods.

The hospital stay was longer in total abdominal hysterectomy group in the present study. This finding is consistent with the study done by Ottosen and his associates³⁵ and Dicker & his associates.⁵ Early discharge even as early as within 24 hours after vaginal hysterectomy is possible. Reiner (1988) carried out a study of 41 cases for feasibility of early discharge (within 24 hours) after vaginal hysterectomy.³¹ In his study there were no cases of delayed infection, hemorrhage or other postoperative complication that could be attributed to early hospital dismissal. Some selective healthy patient even can have the option of ambulatory surgery, outpatient hysterectomy. A prospective trial evaluating the feasibility and safety of outpatient vaginal hysterectomy was conducted by Stovel and his group³¹ and Bran & his group.³² Majority of the patient were satisfied by their outpatient hysterectomy. Laparoscopy hysterectomy has been

shown to have significant advantage over total abdominal hysterectomy.^{32,33} But vaginal hysterectomy is lesser invasive and better operation than laparoscopic hysterectomy.⁴⁴ Laparoscopic hysterectomy is associated with long duration of operation, long recovery time & expensive due to disposable instruments.^{34,35}

In the present study, the cost of the operation was significantly lower in the vaginal hysterectomy than total abdominal hysterectomy. Reduction in postoperative analgesic required, less morbidity and shorter hospital stay are the factors for the reduced cost. A cost analysis for abdominal hysterectomy, laparoscopic assisted vaginal hysterectomy and vaginal hysterectomy by Ransom, SB³⁶ has revealed that vaginal hysterectomy was significantly more cost effective for permanent management of primary menorrhagia than laparoscopic assisted vaginal hysterectomy. Cost effectiveness of the vaginal route has also been described by Anthony Davies et al.³⁷

The reduction in morbidity would save additional money spent on therapeutic antibiotics, diagnostic tests, blood transfusion and hospital fees. So we should encourage vaginal hysterectomy as much as it is feasible and possible for the patient's benefit.

Conclusion

Vaginal hysterectomy is a safe, feasible and patient friendly method. It is less invasive technique having several benefits over abdominal hysterectomy which includes morbidity associated with incision (e.g. infection, dehiscence, discomfort or hernia) is avoided; fewer post operative adhesions, better tolerated by elderly patient, shorter hospital stay and faster convalescence. Despite the overwhelming evidence in favour of vaginal hysterectomy, it is not a preferred route for hysterectomy in case of undescended uterus in Bangladesh. The reason for this practice may be lack of controlled evidence in favour of vaginal hysterectomy and lack of expertise & skill of the surgeon in our country.

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