



TMSS Medical College Journal

July 2017

**An Official Publication
of
TMSS Medical College, Bogra**

TMSS Medical College Journal

Vol. 9, No. 2, July 2017

An Official Publication of TMSS Medical College, Bogra, Bangladesh

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Printed by

TMSS Printing Press
 Bogra, Bangladesh
 e-mail: tmssprintingpress@gmail.com

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Address of Correspondence

Executive Editor
 TMSS Medical College Journal
 TMSS Medical College
 Rangpur Road
 Thengamara, Bogra, Bangladesh.
 Phone: 051-61830
 Fax : 051-61830
 e-mail: editortmcjournal@gmail.com
 Web: www.tmssmedicalcollege.com

A comparative study between Vaginal and abdominal hysterectomy among women of reproductive age in a tertiary level hospital

Arman R^{1*}, Reza ABM², Akter S³ Khatoon R⁴, Banu SS⁵, Rahman MA⁶

1. Dr. Rumana Arman, Asstt. Prof. Obst & Gynae, TMSS Medical College, Bogra.
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6. Dr. Md. Azizar Rahman, Asso. Prof. & Head Dept. of Pathology, TMSS Medical College, Bogra.

*Corresponding author

Abstract

Background: Hysterectomy is the commonest gynaecologic operation performed worldwide not only for malignant disease but also for many benign conditions such as uterine fibroid, endometrial hyperplasia, adenomyosis, uterine prolapse, dysfunctional uterine bleeding and cervical intraepithelial neoplasia. Various approaches have been adopted by gynaecologist such as abdominal, vaginal and laparoscopic assisted hysterectomy. **Objective:** To compare the hysterectomies performed via the vaginal and abdominal routes in terms of indications and associated complications. **Materials & Methods:** This prospective comparative study was conducted in the department of Obstetrics and Gynaecology of TMSS Medical College & Rafatullah Community hospital, Bogra from January 2015 to December 2016. **Results:** A total of 100 patients were enrolled in this study with justified gynaecologic symptoms and signs and dividing them into two groups A and B (50 in each group). Group A underwent vaginal hysterectomy and group B abdominal hysterectomy. Operation time, intra-operative blood loss, time to out of bed activity, duration of hospital stay, wound infection and blood transfusion were minimum in the vaginal hysterectomy group (VH) compared with abdominal hysterectomy group (AH). In majority of cases, the age group of vaginal hysterectomy patients (Group A) were between 61 to 70 years and abdominal hysterectomy group (Group B) were 51 to 60 years. Parity was 3 to 4 in both groups. Indications for vaginal hysterectomy were dysfunctional uterine bleeding (DUB) and uterine prolapse with size of uterus less than 10 weeks while in abdominal hysterectomy were dysfunctional uterine bleeding (DUB) and uterine fibroid with size of uterus 12 weeks or above. The operation time in case of vaginal hysterectomy group was between 40-60 minutes (Mean 50 minutes) whereas in abdominal hysterectomy group was 60-80 minutes (Mean 70 minutes). Duration of hospital stay in vaginal hysterectomy group was 5-7 days (Mean 6 days) but in abdominal hysterectomy group was 6-10 days (Mean 8 days). Convalescent periods were 1-5 (mean 3) nights in abdominal hysterectomy group while 1-3 (mean 2) nights in vaginal hysterectomy group. Post operative complications such as urinary tract infection (UTI) 6 (12%) and wound infection 2 (4%) occurred in vaginal hysterectomy group while urinary tract infection (UTI) 22 (44%) and wound infection 12 (24) occurred in abdominal hysterectomy group. Post-operative followup was given to all patients for evaluating the complication. **Conclusion:** Vaginal hysterectomy has advantage over abdominal hysterectomy in the treatment of benign gynaecologic diseases, providing greater efficacy, safety, quick or early post-operative recovery, shorter hospital stay with minimal invasiveness.

Key words: Vaginal and abdominal hysterectomy, benign gynaecologic diseases.

Introduction

The term hysterectomy originates from two Greek Words “hystero” means uterus and “ectomy” means resection from human body. This surgical procedure is indicated in several gynaecologic problems. In United states, hysterectomy is

second to caesarean section delivery performed in women of reproductive age and one in three women has undergone a hysterectomy by age about 60 years. Approximately 600000 hysterectomies were performed annually in the United states¹. Routes for hysterectomy include

abdominal, vaginal and laparoscopic (LH) approaches. Abdominal hysterectomy is used for uterine fibroid, malignancies or when there are adhesions and removal of uterus is not possible through vaginal route. Vaginal hysterectomy was initially only used for prolapse or inversion but its indications are now increasing. Vaginal hysterectomy is least invasive than abdominal hysterectomy and results in better quality of life. Vaginal hysterectomy in true sense is a scar less hysterectomy. Iftikhar R et al reported better post operative quality of life that is functional capacity, physical aspect and higher satisfaction rate in the vaginal hysterectomy compared to abdominal hysterectomy². Miskry A et al found that vaginal hysterectomy was associated with significant benefits in terms of reduced hospital stay and improved patient recovery³. In this study minimum intra-operative complications occurred in patients of vaginal hysterectomy group and no vaginal approach was converted to abdominal approach. To ensure the efficacy and safety of operation, the most minimally invasive surgery should be chosen and vaginal hysterectomy appears to have advantages over abdominal hysterectomy in the treatment of benign gynaecological diseases.

Materials and Methods

This prospective and comparative study was conducted in the department of Obstetrics and

Gynaecology, TMSS Medical College and Rafatullah community Hospital, Bogra. Duration of study was from January 2015 to December 2016 among 100 patients with justified gynaecologic symptoms and signs for hysterectomy. These patients were divided into two groups A & B (50 in each group). Group A (n=50) underwent vaginal hysterectomy and group B (n=50) underwent abdominal hysterectomy. A detailed history was taken from each patient and diagnosis was made on the basis of clinical symptoms and signs, ultrasound and histopathological examinations of biopsy specimens. Routine blood examination, estimation of random blood sugar, blood grouping with Rh typing and urine examinations were also done. Patients were selected for vaginal and abdominal hysterectomy under following clinical criteria. Free mobile uterus and more than one vaginal delivery, selected for vaginal hysterectomy. Fixed uterus or no uterine descent and or vaginal stenosis, selected for abdominal hysterectomy

All operations were done under spinal anaesthesia. The following parameters such as patient's general information, operation time, intra-operative and post-operative complications, fever, number of days before out of bed activity, duration of hospital stay were assessed and data were plotted in tables.

Results

Table I: Shows the age and parity distribution of patients

Age (In Year)	Group A n=50	Percentage (%)	Group B n=50	Percentage (%)
31-40	04	08	04	08
41-50	06	12	10	20
51-60	10	20	28	56
61-70	30	60	08	16
Parity 3- 4 in both groups				

Table II: Shows distribution of patients according to indications of hysterectomy

Indications	Group A n = 50	Percentage (%)	Group B n= 50	Percentage (%)
Uterine fibroid	04	08	22	44
Dysfunction Uterine Bleeding (DUB)	30	60	24	48
Adenomyosis	2	4	4	8
Uterine prolapse	12	24	0	0
Cervical dysplasia (carcinoma in situ)	02	04	0	0

Table III: Shows distribution of patients according to size of uterus

Size of uterus (in weeks)	Group A n = 50	Percentage (%)	Group B n= 50	Percentage (%)
Bulky	04	08	04	08
12 weeks or above	06	12	30	60
Less than 10 weeks	40	80	16	32

Table IV: Comparison of operative times in both groups.

Variables	Operation times (minute)	Mean (minute)
Group A	40-60	50
Group B	60-80	70

Table V: shows post operative requirements of blood transfusion

Requirements	Vaginal hysterectomy (Gr.A)	Percentage (%)	Abdominal Hysterectomy (Gr.B)	Percentage (%)
Required	20	40	30	60
Not required	30	60	20	40

Table VI: shows post operative convalescent period and durations of hospital stay.

Variables	Group A n = 50	Mean	Group B n= 50	Mean
Convalescent period (nights)	1-3	02	1-5	03
Duration of hospital stay (days)	5-7	06	6-10	08

Table VII: shows post operative complications of patients undergone hysterectomy

Complications	Group A n = 50	Percentage (%)	Group B n= 50	Percentage (%)
UTI (Urinary Tract Infection)	06	12	22	44
Wound infection	02	04	12	24
Fever	06	12	10	20
Febrile morbidity	0	0	02	04
Dyspareunia	04	08	0	0
Scar pain	0	0	06	12

In this study, majority of vaginal hysterectomy patients (group A) were between 61 to 70 years of age and in abdominal hysterectomy patients (group B) were between 51 to 60 years. Indications for vaginal hysterectomy were dysfunctional uterine bleeding and uterine prolapse with size of uterus less than 10 weeks, while in abdominal hysterectomy were dysfunctional uterine bleeding and Uterine fibroid with size of uterus 12 weeks or above. The operation time for group A was between 40-60 (mean 50 minutes) minutes and for group B 60-80 minutes (mean 70 minutes). Post-operative blood transfusions were given in 30 (60%) patients of group B and 20 (40%) patients of group A respectively. Durations of hospital stay for group B was 6-10 days (mean 8 days) while in group A was 5-7 days (mean 6 days). Convalescent periods were 1-5 (mean 3) nights in abdominal hysterectomy group while 1-3 (mean 2) in vaginal hysterectomy group. Post operative complications such as Urinary Tract Infection (UTI), wound infection and fever developed more in group B patients than in group A patients. Dyspareunia was complained by 4 (8%) patients of group A and scar pain by 6 (12%) of group B patients.

Discussion

Routes for hysterectomy include abdominal, vaginal or laparoscopic assisted hysterectomy are the most commonly performed elective major gynaecological surgery. Though traditional abdominal hysterectomy (AH) is one of the most common gynaecological surgical procedure in the treatment of benign gynaecological diseases, but it may cause abdominal trauma, intra-operative and post-operative complications and slow post-operative recovery⁴. Earlier vaginal hysterectomy was usually done for uterine prolapse or inversion. According to medical historian Leonardo, vaginal hysterectomy was performed by saronus in 2nd century on a gangrenous uterus⁵. Majority of indications for vaginal hysterectomy in the past were related to prolapsed and abnormal uterine bleeding. In recent decade, increased expertise has been achieved by the gynaecologist and better compliance has been reported by the patients. This has led to increased number of vaginal hysterectomies compared to abdominal hysterectomies. In this study among 100 patients, 50 patients in Group A underwent vaginal hysterectomy and rest 50 patients in group B had undergone abdominal hysterectomy. Laparoscopic assisted hysterectomy was not done. Majority of vaginal hysterectomies were done between the age

of 61 – 70 years whereas abdominal hysterectomies were within the age of 51- 60 years. The parity of patients ranged from 3 to 4 in both groups. Parity distribution showed that most patients were grandmultipara. The indications of vaginal hysterectomy patients were dysfunctional uterine bleeding (DUB) in 30 (60%) and prolapse in 12 (24%) with uterine size less than 10 weeks, while in abdominal hysterectomy patients dysfunctional uterine bleeding in 24 (48%) and uterine fibroid in 22 (44) with uterine size 12 weeks or above. Mehata ST et al advocated vaginal hysterectomy in uteri upto 14 weeks size⁶. Begum et al stated that uteri of 3-4 months do not represent a contraindication to vaginal hysterectomy⁷. Needs for post-operative blood transfusion were significantly higher in abdominal hysterectomy patients 30 (60%) as compared to vaginal hysterectomy patients 20 (40%). Convalescent periods were 1-5 (mean 3) nights in abdominal hysterectomy group while 1-3 (mean 2) in vaginal hysterectomy group. Duration of hospital stay for vaginal hysterectomy group was 5-7 days (mean 6 days) whereas for abdominal hysterectomy group was 6-10 days (mean 8 days). The operative times were between 40-60 (mean 50 mins) and 60-80 (mean 70 mins) minutes for vaginal and abdominal groups respectively. The incidence of postoperative complications such as Urinary Tract Infection, fever, wound infection were more in abdominal hysterectomy group as compared to vaginal hysterectomy group. In vaginal group 4 (8%) patients developed dyspareunia while in abdominal group 6 (12%) patients developed scar pain.

Conclusion

Vaginal hysterectomy needs less post-operative blood transfusion, less operative time, minimum intra-operative and post-operative complications, short duration of hospital stay with early post-operative recovery as compared to abdominal hysterectomy.

Recommendations

As vaginal hysterectomy is feasible, safe and effective surgical treatment for benign gynaecologic diseases with minimum intra-operative and post-operative complications, hence vaginal hysterectomy is a better option for women requiring hysterectomy.

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