

# Comparison of Outcome between Vaginal and Abdominal Hysterectomy

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## ABSTRACT

**Aim:** To evaluate the outcome between abdominal and vaginal hysterectomy in terms of mean operative time, hospital stay and complication rate.

**Methods:** A total of 76 patients who had required hysterectomy for benign pathology with uterus of less than 14 weeks size, utero-vaginal prolapse or those with failed medical treatment in dysfunctional uterine bleeding were included. Patients were grouped in I and II with 38 patients in each group. Vaginal hysterectomy was done for group I and abdominal hysterectomy for group II. Mean Operative time, hospital stay and post-operative complications were noted. Follow up period was 1-4 weeks with mean follow up of  $1.25 \pm 0.70$  weeks for group I and  $1.79 \pm 2.12$  weeks for group II.

**Results:** Mean Operative time was  $72.27 \pm 10.32$  minutes for group I and  $89.31 \pm 12.45$  minutes for group II ( $p < 0.0001$ ). Mean hospital stay was  $2.12 \pm 0.71$  for group I and  $3.78 \pm 1.67$  for group II with  $p$ -value  $< 0.0001$ . In group I, only 06 (15.7%) patients i.e. hemorrhage in 01 (2.63%), urinary tract infection in 02 (5.26%) and vaginal vault hematoma/infection in 03 (7.89%) patients, had complications while in group II, 15 (39.47%) patients developed complications i.e. bladder or ureteric injury in 01 (2.63%) patients, hemorrhage in 03 (7.89%), wound infection in 04 (10.53%) and urinary tract infection in 04 (10.53%) patients. **Conclusion:** Vaginal route is more effective and reliable method for hysterectomy in benign conditions because of its less mean operative time, hospital stay and complications rate compared to abdominal hysterectomy.

**Keywords:** fibroids, dysfunctional uterine bleeding, wound infection, hemorrhage.

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## INTRODUCTION

Hysterectomy is the surgical removal of the uterus.<sup>1</sup> It may be total (removing the body, fundus, and cervix of the uterus; often called "complete") or partial (removal of the uterine body while leaving the cervix intact; also called "supracervical").<sup>2</sup> It is one of the most commonly performed gynaecological procedure and second most frequent gynaecological operation, after Caesarean section<sup>1,3</sup>. Almost more than half million hysterectomies are performed in United States each year<sup>4</sup>.

Currently, three main types of hysterectomy operations are in practice for benign diseases i.e. abdominal hysterectomy, vaginal hysterectomy and laparoscopic hysterectomy.<sup>1</sup> Abdominal hysterectomy remains the predominant method of uterine removal because of its use for malignancies, bulky uteri or when there are adhesions and removal of uterus is not possible through vaginal route. A large scale survey of hysterectomy has shown that 70-80% of

hysterectomies are performed by the abdominal route, only 10% of hysterectomy done by vaginal route<sup>5</sup>. There are reports which shows that vaginal route is preferable when there is no contraindication because of lower morbidity and quicker recovery<sup>6,7</sup>.

Therefore, we have conducted a study to report our experience of outcome between abdominal and vaginal hysterectomy in terms of mean operative time, hospital stay and complication rate.

## MATERIALS AND METHODS

After approval from the hospital ethical review committee, this prospective, randomized controlled trial was conducted at the Department of Obstetrics & Gynecology, Bahawal Victoria Hospital/Quaid-e-Azam Medical College, Bahawalpur from June 2012 to May 2013. Total number of 76 patients who had required hysterectomy for benign pathology with uterus of less than 14 weeks size, utero-vaginal prolapse or those with failed medical treatment in dysfunctional uterine bleeding was selected for the study by taking 80% power of study and 5% level of significance. Patients in which indication for hysterectomy was malignancy, endometriosis, pelvic inflammatory disease, cardiac diseases, bronchial asthma and those with conversion of vaginal

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hysterectomy to abdominal hysterectomy were excluded.

Detailed history and physical examination of every patient was done. The investigations done before the procedure were Blood Complete examination, Urine routine examination, Serum Creatinine level, X-ray chest, screening for Hepatitis B & C and abdominal ultrasonography. The selected patients were placed randomly into two equal groups i.e. Group I & Group II, by using random number tables. First, all the patients were consecutively assigned to one group and then to the next group. Before procedure, informed written consent was taken from all patients, explaining the nature of the disease, risks and complications of the procedures.

Vaginal hysterectomy was performed for group I and abdominal hysterectomy was done for group II patients. All the hysterectomies were performed by same consultant gynecologist and intra-operative outcome variables were measured in terms of operative time in minutes, bladder or ureteric injury and haemorrhage. The operative time in minutes was measured from the incision to the time at which all wounds were closed and dressed. Prophylactic IV antibiotics i.e., inj. co-amoxiclav (40mg/kg/day) and inj. Gentamycin (5mg/kg/day), were given and continued for 3 days postoperatively in every patient. Post-operative complications i.e., wound infection, paralytic ileus, urinary tract infection and vaginal vault hematoma/infection were measured in ward and on follow up. Minimum follow up period was one week and four weeks with mean follow up of 1.25±0.70 weeks for group I and 1.79±2.12 weeks for group II. There was no patient who had lost to follow up in both groups because all patients were personally followed by contacting them. The collected information was analyzed by computer software SPSS version 16. The outcome variables of the two study groups were compared for difference. Student's

t test was applied to compare quantitative variables while Chi Square was applied to compare the complication rate. P value ≤ 0.05 was considered as significant.

**RESULTS**

Mean age was 53.89±6.65 years and 50.23±4.55 for group I and group II respectively (p<0.0001). Most common indication for hysterectomy was fibroid uterus in 40(52.63%) patients followed by UV prolapsed in 26(34.21%) and dysfunctional uterine bleeding in 10(13.16%) patients. %age of patients according to indication for both groups has been shown in Table I. Mean Operative time was 72.27±10.32 minutes for group I (vaginal hysterectomy) and 89.31±12.45 minutes for group II (abdominal hysterectomy) (p<0.0001). Mean hospital stay was 3.12±0.71 for group I and 4.78±1.67 for group II with p-value <0.0001 which is statistically significant.

The intra- & post-operative complications are shown in Table-II. There was hemorrhage in 01 (2.63%), urinary tract infection in 02 (5.26%) and vaginal vault hematoma/infection in 03 (7.89%) patients in group I while in group II, 15(39.47%) patients developed complications i.e., bladder or ureteric injury in 1(2.63%) patients, hemorrhage in 03 (7.89%), wound infection in 4(10.53%) and urinary tract infection in 4(10.53%) patients. Paralytic ileus and vaginal vault hematoma/infection was seen in 2(5.26%) and 1(2.63%) patients respectively. All these complications were managed conservatively. Overall 6(15.7%) patients of group I (vaginal hysterectomy) and 15(39.47%) of group II (abdominal hysterectomy) developed complications post-operatively (p=0.021).

Table 1: Indications of hysterectomy for both groups

Indication	Group I (n=38)	Group II (n=38)	Total
Fibroids	16 (42.11%)	24 (63.16%)	40 (52.63%)
UV prolapsed	20 (52.63%)	06 (15.79%)	26 (34.21%)
Dysfunctional uterine bleeding (DUB)	02 (5.26%)	08 (21.05%)	10 (13.16%)

Table 2: Complication rate for both groups

Complications	Group I (VH) (n=38)	Group II (AH) (n=38)	P value
Urinary bladder or ureteric injury	00	01(2.63%)	0.3141
Haemorrhage	01(2.63%)	03(7.89%)	0.3042
Wound infection	0	04(10.53%)	0.0399
Urinary Tract infection	02(5.26%)	04(10.53%)	0.3949
Paralytic ileus	00	02(5.26%)	0.1518
Vaginal vault hematoma/infection	03(7.89%)	01(2.63%)	0.3042

P-value for overall complication rate is = 0.021 which is statistically significant.

## DISCUSSION

It is well known fact that abdominal route is preferred in 70-80% of hysterectomies done for benign conditions. Vaginal route is preferred mostly for UV prolapsed cases due to inadequate technical skills and presence of uterine enlargement makes this approach difficult<sup>8</sup>. But many studies conclude that surgeons should perform vaginal rather than abdominal hysterectomies whenever possible in order to cut down complications and the length of hospital stay<sup>3</sup>. In our study, the commonest indication for hysterectomy observed was fibroid uterus in 52.63% patients as was also found by Dawood NS et al<sup>1</sup> and Saha R et al<sup>9</sup> While Iftikhar R et al<sup>3</sup> and Bharatnur S et al<sup>8</sup> found uterovaginal prolapsed and dysfunctional uterine bleeding respectively as the major indication for hysterectomy. However, UV prolapse has also found as the main indication for vaginal hysterectomy in our study which was also observed by Da Costa Vet al<sup>10</sup> and Ikram M et al<sup>11</sup> in their studies.

Mean age was 53.89±6.65 years and 50.23±4.55 for group I (vaginal hysterectomy) and group II (abdominal hysterectomy) respectively in this study which is very much comparable to study of Dawood NS et al<sup>1</sup>. On the other hand, Bharatnur S et al<sup>8</sup> has found much lower mean age i.e., 44 years for both vaginal and abdominal hysterectomy. Mean duration of surgery was 72.27±10.32 minutes for vaginal hysterectomy and 89.31±12.45 minutes for abdominal hysterectomy. Our study shows that mean operative time and hospital stay was much shorter for vaginal hysterectomies compared to abdominal hysterectomies as reported in many previous studies<sup>1,8,9,12</sup>.

Kayastha S et al<sup>12</sup> had observed intra-operative hemorrhage in 4% patients after abdominal hysterectomy and 2% after vaginal hysterectomy. Iftikhar R et al<sup>3</sup> had found this difference as 2.0% and 2.0% respectively and we had come across this difference as 7.89% in abdominal hysterectomy and 2.63% in vaginal hysterectomy. This hemorrhage was managed conservatively by hemostatic agents and blood transfusion. Intra-operative adjacent organ injury was only seen in abdominal hysterectomy in 2.63% patients which was also observed in many previous studies<sup>3,8,9</sup>. This injury to adjacent organs was repaired during the operation.

Reported incidence of urinary tract infection by Bharatnur S et al<sup>8</sup> is 12% in vaginal hysterectomy and 20% in abdominal hysterectomy. Warren L et al<sup>13</sup> and Iftikhar R et al<sup>3</sup> reported this difference as 14%, 8% for vaginal hysterectomy and 18%, 12% for abdominal hysterectomy respectively while we have come across this difference as 5.26% in vaginal

hysterectomy and 10.53% in abdominal hysterectomy. Wound infection is reported 0-2% after vaginal hysterectomy and 4-15% after abdominal hysterectomy in many previous studies<sup>1,3,12</sup> while in this study it is found in 0% and 10.53% patients respectively. The urinary tract infection was managed by injectible antibiotics according to urine culture/sensitivity and wound infection was also managed by conservatively by antibiotics and daily dressing.

Incidence of paralytic ileus in different studies was from 0-1% for vaginal hysterectomy and 6-8% for abdominal hysterectomy<sup>3,11,14</sup> while in our study, it was 0% and 5.26% respectively. Vaginal vault hematoma/infection was the only complication which was found more in vaginal hysterectomy (7.89%) patients compared to abdominal hysterectomy (2.63%) as also found in many national and international studies. Deshpande H et al<sup>15</sup> noted vaginal vault hematoma/infection in 11% for vaginal hysterectomy and 7% for abdominal hysterectomy. Miskry T et al<sup>16</sup> reported its incidence as 27% and 11.1% respectively while Bharatnur S et al<sup>8</sup> has found this difference as 44% and 24% respectively which is much higher than our study and previous studies.

The overall complication rate is 15.7% for vaginal hysterectomies and 39.47% for abdominal hysterectomies in this study which is very much comparable to many previous studies<sup>1,3,8,11,12,17</sup>. So, this study has shown that there is a significantly lower rate of complications with vaginal hysterectomy than with abdominal hysterectomy.

Nowadays the type of hysterectomy is mostly dependent upon experience and expertise of the surgeon with different approaches. Only few surgeons can perform hysterectomy by all routes, and most are comfortable with one route only. So there is a need to train young trainees in abdominal as well as vaginal surgery, although teaching hysterectomies take a bit longer to perform, but it does not have greater adverse outcomes<sup>18</sup>.

## CONCLUSION

This study concludes that vaginal route is more effective and reliable method for hysterectomy in benign conditions because of its less mean operative time, hospital stay and complications rate compared to abdominal hysterectomy. So, we recommend that every gynecologist should prefer the vaginal route first for hysterectomy when there is no contraindication because of its quick recovery and less post-operative morbidity.

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