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Original Research Article

Comparative Evaluation of Non-Descent Vaginal Hysterectomy and Total Abdominal Hysterectomy in Benign Uterine Disorders at Tertiary Care Hospital

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Abstract:

Background: Hysterectomy is the second most common operation, other than caesarean section. Various factors that may influence the mode of hysterectomy for benign disorders include the size and shape of the uterus and vagina, extent of extra uterine disease, accessibility to the uterus, the need for concurrent procedures, available hospital technology, surgeon training and experience, devices and support, emergency or scheduled cases and patient preference.

Material & Methods: The present observational study was conducted at department of surgery of our tertiary care hospital. The study was an observational study conducted during a period of six months. One hundred patients who required hysterectomy for benign disorders other than uterine prolapse were included in the present study according to inclusion and exclusion criteria.

Results: The mean duration of surgery was 46.8 minutes in the vaginal group, whereas, it was 64.6 minutes in the abdominal group, implying a statistically significant difference (P value <0.05). Similarly, a significantly higher blood loss [242.7 ml) was noted in the abdominal hysterectomy group, compared to 184.1 ml in the vaginal group [P value <0.05). Postoperatively, the abdominal group required more analgesia in comparison to the vaginal group (pain score on day 3 was 2.84). The mean length of hospital stay was 7 days in the abdominal group while the duration was 3 days in the vaginal group. Mean time to postoperative mobility and mean maximum postoperative body temperature in the vaginal hysterectomy group were significantly shorter (1.34) and less severe respectively than those in the abdominal group (2.4) (P value <0.05). Significantly lesser number of patients required postoperative blood transfusion in the vaginal group (postop Hb 10.4) compared to the abdominal group (postop Hb 8.2).

Conclusion: We concluded from the present study that that vaginal hysterectomy is associated with less blood loss during surgery, fast recovery, and early mobilization, less postoperative morbidity when compared to abdominal hysterectomy. The avoidance of an abdominal wound is a remarkable advantage of vaginal hysterectomy.

Keywords: Vaginal hysterectomy, Abdominal hysterectomy, Uterine disorders.

Introduction

Hysterectomy is the second most common operation performed by the gynecologist, other than caesarean section. The first abdominal hysterectomy was conducted by Charles clay in 1843 at Manchester. However, there are reports that tells vaginal hysterectomy dates to ancient times [1]. Advances in surgical techniques, anesthesia, availability of antibiotics and transfusion services leads to hysterectomy towards the most common non-pregnancy related major surgical operation performed by the gynecologist [2]. Various factors that may influence the mode of hysterectomy for benign disorders include the size and shape of the uterus and vagina, extent of extra uterine disease, accessibility to the uterus, the need for concurrent procedures, available hospital technology, surgeon training and experience, devices and support, emergency or scheduled cases and patient preference [3].

Currently, three main types of hysterectomy operations are being conducted in routine practice for benign disorders - Abdominal hysterectomy, vaginal hysterectomy and Laparoscopic hysterectomy. Abdominal hysterectomy remains the predominant method of uterine removal [4]. This route is used for bulky uteri, malignancies or when there are adhesions which disable the removal of uterus through vaginal route. Overall mortality rates for abdominal hysterectomy, vaginal hysterectomy is 0.1-0.2%. Vaginal route for non-descent uterus is an acceptable method of hysterectomy inspite of previous reports of its contraindication in certain conditions [5]. Vaginal route of hysterectomy has certain health and economic benefits in terms of better postoperative outcomes, fewer morbidities, lesser hospital stay and better patient satisfaction [6].

Various previous studies and randomized trials of abdominal, laparoscopic and vaginal hysterectomy reported that vaginal hysterectomy has the best outcomes among these three routes. Cost analysis has also demonstrated that vaginal hysterectomy procedure is the most cost-effective among all three routes [7]. Hence, the present study was conducted to assess and comparatively evaluate the non-descent vaginal hysterectomy and total abdominal hysterectomy in benign uterine disorders at our tertiary care hospital.

Materials & methods

The present cross sectional, observational study was conducted at department of surgery of our tertiary care hospital. The study was an observational study conducted during a period of six months. The study done at 95% confidence interval at 5% of maximum allowable error. The sample size of 100 patients was calculated by epi info software. One hundred patients who required hysterectomy for benign disorders other than uterine prolapse were included in the present study according to inclusion and exclusion criteria. Study participants were enrolled by simple random sampling. Clearance from hospital ethics committee was taken before start of study. Written informed consent was taken from each study participant.

Out of those 100 patients, 50 females who were subjected to vaginal hysterectomy were labeled as group A. The remaining 50 females who underwent abdominal hysterectomy were labeled as group B. All the study participants were subjected to general physical and clinical examination and menstrual history, obstetric history, past medical history, family history, personal and social history was recorded from all of them. All the study participants were subjected to routine blood investigation. All the patients received prophylactic antibiotic therapy prior to surgery. The main parameters used for comparison in two groups were: duration of surgery, intraoperative injury if any was

noted, intraoperative blood loss, ambulation, post-operative wound infection, Hb, fever, postoperative pain, duration of hospital stay and follow-up. All the recorded data was entered in an Excel spread sheet on Microsoft Excel 2016. The statistical analysis was done using the Statistical software package SPSS v22 and Epi Info v7.2. A p-value <0.05 with 95% confidence intervals were considered statistically significant.

Results

In present study we enrolled a total one hundred patients who required hysterectomy for benign disorders other than uterine prolapse in the present study according to inclusion and exclusion criteria. Out of those 100 patients, 50 females who were subjected to vaginal hysterectomy were labeled as group A. The remaining 50 females who underwent abdominal hysterectomy were labeled as group B. Among the study participants, the mean age was 45.6 ± 4.7 years. Majority of study participants were in the age group of 40-50 years of the age and no participant in present study was below 18 years. The mean BMI of cases was 26.4 ± 2.8. On the assessment of parity status, it was found that 46% of study participants had parity status ≥P4, 35% are P3, 16% are P2 and 3% are P1. (Table 1).

Table 1: Distribution of study participants according to the study parameters.

Study parameters		
Mean age		45.6 ± 3.7 years
BMI (Kg/m2)		26.4 ± 2.8
Parity status	P1	3%
	P2	16%
	P3	35%
	≥P4	46%

In present study, on the basis of previous surgery, in group A 6% patients had history of previous LSCS and in group B 8% patients had history of previous LSCS and 2% had history of previous pelvic surgery. On the basis of Indications of hysterectomy, among group A most common indication was dysfunctional uterine bleeding in 54% patients which was followed by chronic cervicitis in 20% patients. Among group B most common indication was fibroids in 68% patients which was followed by dysfunctional uterine bleeding in 24% patients. (Table 2)

Table 2: Distribution of study participants according to the study parameters.

Study parameters		**Group A**	**Group B**
Previous surgery	LSCS	6%	8%
	Pelvic surgery	-	2%
Indications of hysterectomy	Fibroid	10%	68%
	DUB	54%	24%
	Adenomyosis	4%	2%
	Adnexal mass	0	4%
	Chronic cervicitis	20%	0
	Endometrial hyperplasia	12%	2%

In the present study on the basis of intraoperative and postoperative observations, there were no intraoperative complications such as bladder, urethra injuries or rectum injuries and re-laparotomies in any groups. The mean duration of surgery was 46.8 minutes in the vaginal group, whereas, it was 64.6

minutes in the abdominal group, implying a statistically significant difference (P value <0.05). Similarly, a significantly higher blood loss (242.7 ml) was noted in the abdominal hysterectomy group, compared to 184.1 ml in the vaginal group (P value <0.05). Postoperatively, the abdominal group required more analgesia in comparison to the vaginal group (pain score on day 3 was 2.84). The mean length of hospital stay was 7 days in the abdominal group while the duration was 3 days in the vaginal group. Mean time to postoperative mobility and mean maximum postoperative body temperature in the vaginal hysterectomy group were significantly shorter (1.34) and less severe respectively than those in the abdominal group (2.4) (P value <0.05). Significantly lesser number of patients required postoperative blood transfusion in the vaginal group (postop Hb 10.4) compared to the abdominal group (postop Hb 8.2). (Table 3)

Table 3: Distribution of study participants according to the intraoperative and postoperative observations.

Variables	Group A	Group B
Duration of surgery (min)	46.8	64.6
Blood loss (ml)	184.1	242.7
Pain score on day 3 (cm)	1.82	2.84
Ambulation (days)	1.34	2.40
Duration of hospital stay (days)	3	7
Postop Hb (gm%)	10.4	8.2

In the present study on the basis of postoperative complications it was found that significantly high febrile morbidity and postoperative wound infection rates in 12% & 8% among patients of the abdominal group, compared to the vaginal group (4% & 2%) (P value <0.05). However, there was no significant difference in the rates of systemic infection like urinary tract infection, respiratory tract infection, paralytic ileus and acute gastroenteritis postoperatively in both the groups. (Table 4)

Table 4: Distribution of study participants according to the Postoperative complications.

Postoperative complications	Group A	Group B
Febrile morbidity	4%	12%
Wound infection	2%	8%
UTI	2%	4%
Respiratory infection	2%	4%
Paralytic ileus	0	4%
Vaginal discharge	2%	2%
Vault haematoma	0	2%

Discussion

In present study we enrolled a total one hundred patients who required hysterectomy for benign disorders other than uterine prolapse in the present study according to inclusion and exclusion criteria. Out of those 100 patients, 50 females who were subjected to vaginal hysterectomy were labeled as group A. The remaining 50 females who underwent abdominal hysterectomy were labeled as group B. Among the study participants, the mean age was 45.6 ± 4.7 years. Majority of study participants were in the age group of 40-50 years of the age and no participant in present study was below 18 years. The mean BMI of cases was 26.4 ±

2.8. On the assessment of parity status, it was found that 46% of study participants had parity status ≥P4, 35% are P3, 16% are P2 and 3% are P1. Similar result to present study were obtained in a study conducted by Banasree B et al among 158 patients who required hysterectomy for benign disorders. They reported nearly similar results to the present study [8].

In present study, on the basis of previous surgery, in group A 6% patients had history of previous LSCS and in group B 8% patients had history of previous LSCS and 2% had history of previous pelvic surgery. On the basis of Indications of hysterectomy, among group A most common indication was dysfunctional uterine bleeding in 54% patients which was followed by chronic cervicitis in 20% patients. Among group B most common indication was fibroids in 68% patients which was followed by dysfunctional uterine bleeding in 24% patients. Similar result to present study were obtained in a study conducted by Abrol S et al among 100 patients who required hysterectomy for benign disorders. They reported the diseases in both groups were comparable. In group A, the most common indication for NDVH was dysfunctional uterine bleeding [56%) and in group B, the most common indication of hysterectomy was fibroid (66%). None of the patients in the vaginal group were converted to abdominal route [9].

In the present study on the basis of intraoperative and postoperative observations, there were no intraoperative complications such as bladder, urethra injuries or rectum injuries and re-laparotomies in any groups. The mean duration of surgery was 46.8 minutes in the vaginal group, whereas, it was 64.6 minutes in the abdominal group, implying a statistically significant difference (P value <0.05). Similarly, a significantly higher blood loss (242.7 ml) was noted in the abdominal hysterectomy group, compared to 184.1 ml in the vaginal group (P value <0.05). Postoperatively, the abdominal group required more analgesia in comparison to the vaginal group (pain score on day 3 was 2.84). The mean length of hospital stay was 7 days in the abdominal group while the duration was 3 days in the vaginal group. Mean time to postoperative mobility and mean maximum postoperative body temperature in the vaginal hysterectomy group were significantly shorter (1.34) and less severe respectively than those in the abdominal group (2.4) (P value <0.05). Significantly lesser number of patients required postoperative blood transfusion in the vaginal group (postop Hb 10.4) compared to the abdominal group (postop Hb 8.2). Similar result to present study were obtained in a study conducted by S Mehla et al among 105 patients who required hysterectomy for benign disorders. They reported nearly similar results to the present study [10].

In the present study on the basis of postoperative complications it was found that significantly high febrile morbidity and postoperative wound infection rates in 12% & 8% among patients of the abdominal group, compared to the vaginal group (4% & 2%) (P value <0.05). However, there was no significant difference in the rates of systemic infection like urinary tract infection, respiratory tract infection, paralytic ileus and acute gastroenteritis postoperatively in both the groups. Similar result to present study were obtained in a study conducted by S Murali et al among 80 patients who required hysterectomy for benign disorders. They reported nearly similar results to the present study [11,12].

Conclusion

We concluded from the present study that that vaginal hysterectomy is associated with less blood loss during surgery, fast recovery, and early mobilization, less postoperative morbidity when compared to abdominal hysterectomy. The avoidance of an abdominal wound is a remarkable

advantage of vaginal hysterectomy. Duration of hospital stay is significantly less for vaginal hysterectomy when compared to abdominal hysterectomy.

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