



AN OBSERVATIONAL STUDY SHOWING MERITS AND DEMERITS OF HYSTERECTOMIES THROUGH VAGINAL AND ABDOMINAL ROUTES FOR GYNAECOLOGICAL CONDITION WITHOUT UTERINE DESCENT

Obstetrics & Gynaecology

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ABSTRACT

BACKGROUND: Hysterectomy is the most common gynaecological Surgery performed on women next to caesarean section. Hysterectomy remains one of the most frequently performed gynaecological operations. The introduction of antisepsis, anaesthesia, antibiotics and blood transfusion has made hysterectomy a safe procedure. **METHODS:** This study was an observational and cross sectional study conducted in the Department of Obstetrics & Gynaecology of Burdwan Medical College & Hospital, Burdwan, West Bengal a tertiary teaching institute, from April 2019 – March 2020. 100 patients were included in the study after informed consent from the patient about being a part of this study. Of them 50 patients underwent vaginal and rest 50 patients underwent abdominal hysterectomy. Template was generated in MS excel sheet and analysis was done on SPSS software. **RESULTS:** Majority 50 (50%) patients belonged to age group 41-45 years. In group A (TAH) out of 50 patients 40 had no injury, 5 had bladder injury, 5 had bowel injury. In group B (VH) out of 50 patients undergoing hysterectomy 48 patients had no injury 2 had bladder injury and none had bowel injury. In group A 2 people had wound infection post operatively. In group B none had wound infection post operatively. **CONCLUSIONS:** It can be concluded that NDVH is safe, more comfortable to the patient, is associated with lesser blood loss, lesser intraoperative injury, lesser duration of surgery, lesser post operative morbidity and should be conducted wherever feasible.

KEYWORDS

Abdominal hysterectomy (AH), Hysterectomy, Non-descent vaginal hysterectomy (NDVH)

INTRODUCTION:

One of the most primitive operations known to be performed on a female pelvis is hysterectomy. Hysterectomy dates back to a time even before anesthesia and antibiotics were known.

“Hysterectomy” comes from the word “hysteria”. In those days premenstrual symptoms, one of which was mood swings, anxiety or general discontent associated with that particular time of menstruation was considered to be a form of “hysteria”. Removal of uterus and ovaries was thought to treat these conditions and hence the term was coined.

Hysterectomy thus is an operation done to remove the uterus of a woman, and one of the most commonly performed operation by a gynecologist, just after caesarean section.

Hysterectomy is the surgical removal of uterus. Hysterectomy is the most common operation performed by the gynecologist, and it is the second most common major surgical procedure after cesarean section.^{1,2,3}

Approximately one in three women has undergone a hysterectomy by age 60, with approximately 600 000 hysterectomies performed annually in the United States.⁴

Routes for hysterectomy include abdominal, vaginal, laparoscopic, or combined approaches. Traditional abdominal hysterectomy (AH) is one of the most common gynaecological surgical procedures in the treatment of benign gynaecological diseases. However, AH as the most invasive procedure, is associated with some limitations such as abdominal trauma, intraoperative and postoperative complications, and slow postoperative recovery.⁵

Compared with traditional open gynaecological surgeries, minimally invasive gynaecological surgery provides less postoperative pain, more rapid recovery, and shorter hospital stay.⁶ Vaginal hysterectomy (VH) is the method of choice for removal of the uterus in patients with benign gynaecological diseases.⁷

Uterus or womb is the organ specific to a female body for implantation and growth of a baby. Also its endometrial lining is subject to regular proliferation and denudation in response to various sex hormones in female body which is manifested outside as menstruation. Removal of uterus or hysterectomy is commonly indicated for some common conditions in women like, dysfunctional uterine bleeding, uterine leiomyomas, prolapse, adenomyosis, pre malignancies and malignancies.

Removal of tubes and ovaries along with depends on many factors which includes the condition for which the patient is being operated, her age, whether her family is complete, her expectations from the operation etc.

There are many routes using which the uterus can be removed which includes, abdominal, vaginal and laparoscopic. ACOG however, stresses on the fact that the approach to reach uterus should depend on surgical indication, the patient's anatomical condition, data supporting the approach, informed patient preference, and surgeon's expertise and training.

Although all around the world hysterectomy, specially for non descent cases the route mostly practiced is abdominal only, still comparing to a vaginal approach, which is actually approaching the uterus through a natural orifice, abdominal hysterectomy has always shown to cause increased length of hospital stay and a delayed return to normal life and daily activities.

Only trouble with vaginal approach seems to be lack of expertise and also in 1990 ACOG has established the guidelines which does not allow uterus larger than 12 weeks size to be removed by vaginal route. Also when the operation is carried out for cases of malignancies that have spread to the pelvic walls abdominal approach is chosen.

During this observational study which compares abdominal route to vaginal for non descent conditions that require hysterectomy, I have observed that vaginal hysterectomy is associated with lesser duration of operation, lesser blood loss, lesser morbidity, lesser hospital stay and quick recovery back to normal life, in comparison to abdominal hysterectomy.

OBJECTIVES :

To show that vaginal hysterectomy requires :

- Shorter duration of surgery
 - Less blood loss
 - Less operative complication
 - Less duration of hospital stay
- when compared with abdominal hysterectomy and is a better choice than abdominal hysterectomy wherever feasible.

METHOD AND MATERIALS:

Study procedure was started after permission was granted by ethical committee of the institute.

1. Study Area : Department of Obstetrics & Gynaecology of Burdwan Medical College & Hospital, a tertiary teaching institute. Study was approved by the ethical committee.

2. Study Population : 100 patients requiring hysterectomy for benign gynaecological disorders without prolapse were included in the study after informed consent from the patient about being a part of this study. Of them 50 patients underwent vaginal and rest 50 patients underwent total abdominal hysterectomy according to surgeon's preference after thoroughly assessing the following parameters:

- Estimated uterine size
- Previous caesarean section or pelvic surgery performed
- Need for oophorectomy
- Presence of PID or endometriosis
- Mobility of the uterus
- Contracted bony pelvis with narrow vagina
- Skill of the surgeon through vaginal route

These factors are considered in detail before assigning a patient for hysterectomy through a specific route.

Inclusion criteria:

1. uterine size not more than 12 weeks
2. adequate uterine mobility
3. Benign conditions of uterus without descent:
 - fibroid uterus
 - DUB
 - Adenomyosis
 - Chronic cervicitis
 - Endometrial hyperplasia

Exclusion criteria:

1. Gravid uterus more than 12 weeks
2. Restricted uterine mobility
3. Prolapsed uterus
4. Laparoscopic assisted vaginal hysterectomy
5. Patients with complex adnexal mass
6. Patient who underwent LUCS twice before.

3. Study Period-April 2019 – March 2020**4. Study Design**

Study Type: observational

Study Design: cross sectional study

Allocation: Randomized

Endpoint Classification: Efficacy Study

Intervention Model: Parallel Assignment

5. Parameters to be studied

A. Intraoperative Blood Loss: Swabs were weighed in dry state. Then immediately after the operation they were measured in wet state. At first dry weight of any unused swab was subtracted. Then the dry weight of remaining used swab was subtracted from the weight of wet swab. For each 19 gm blood loss was found to be 1ml. To this the volume of blood in the the suction apparatus was added.

B. Time Taken for Surgery: Time duration is calculated from the time of making the first incision to the end of the procedure marked by skin closure.

C. Intraoperative Injury: Intra operative injury to bladder and bowel is noted

D. Post-Operative Blood Transfusion: Number of units of blood transfusion is noted post operatively

E. Post-Operative Fever: Temperature is charted 8 hourly in the post-operative period. Temperature of more than 38 degree Celsius is taken as fever.

F. Pain Perception on Day 3: To assess pain perception on day 3 Pain Point System Scale is used. It is based on the analgesic administered on day 3 to control the pain.

DRUG	PPPS SCORE
1.PARACETAMOL (600mg)	1
2.PARACETAMOL(500mg) + CODEINE (10mg)	3
3.NSAIDs (diclofenac 75mg)	3
4.OPIOIDS (Tramadol 50mg)	7

G. Wound Infection: Patient were followed up till the day of discharge in ward and then after 6 weeks in out patient department to look for any induration, discharge or wound separation and noted.

H. Duration of Hospital Stay: Duration of hospital stay was noted in number days spent in hospital following the operation.

I. Study Procedures : 100 patients, satisfying the inclusion criteria were selected whose age and BMI were be comparable. Then they were assigned two groups, A and B. A consisted of group of women who underwent total abdominal hysterectomy for their condition and group B consisted of those who underwent vaginal hysterectomy. This allocation was done post operatively on the basis of the surgery the particular woman went through. After a proper preoperative evaluation by proper clinical and laboratory investigations, and consent for the operation, patients will received antibiotic prophylaxis by ceftriaxone 1gm I.V. Then the underwent the operation chosen for them by the operating surgeon after clinically evaluating them. The operating procedure was observed thoroughly for noting down various parameters.

Patients in group A were those who went through total abdominal hysterectomy followed by thorough postoperative care through antibiotic and pain control medications and proper diet.

Patients in group B were those who went through non descent vaginal hysterectomy followed by same postoperative care like the patients included in group A. Following the operation the patients were followed up till the day of discharge in the ward and after 6 weeks in the out patient department.

7. Plan for Analysis Of Data

For the analysis of the study chi-square test and 't' test were applied. Continuous variables are expressed as Mean, Median and Standard Deviation and compared across the groups using Mann-Whitney U test. Categorical variables are expressed as Number of patients and percentage of patients and compared across the groups using Pearson's Chi Square test for Independence of Attributes/ Fisher's Exact Test as appropriate. The statistical software SPSS version 20 has been used for the analysis. An alpha level of 5% has been taken, i.e. if any p value is less than 0.05 it has been considered as significant.

RESULTS :

Table 1: Demonstrating some of the basic parameters

Type of surgery		AGE	Blood loss in ml.	Duration of surgery in min	Duration of hospital stay in number of days
Total abdominal hysterectomy	Mean	42.20	229.00	90.88	8.20
	Median	42.00	200.00	90.00	6.00
	Std. Deviation	3.18	65.54	24.59	3.95
Vaginal hysterectomy	Mean	43.32	127.00	62.12	5.56
	Median	44.00	100.00	60.00	4.00
	Std. Deviation	2.66	39.40	23.17	4.24
	p Value	0.082	<0.001	<0.001	<0.001
	Significance	Not Significant	Significant	Significant	Significant

Table 1 compares some of the basic parameters between group A and group B. according to this table median value of blood loss in ml is 220 ml in group A and 100 ml in group B.

p value is <0.001 which is significant. Median value of duration of surgery in group A is 90.00mins while in group B is 60.00mins. p value is <0.001 which is significant. Median value of duration of hospital stay is 6 in group A and 4 in group B. p value is < 0.001 which is

significant.

Table 2: Distribution according to age, Previous surgical history (caesarean section), according to parity and Height of uterus

		Type of surgery		Total	p Value	Significance
		Total abdominal hysterectomy	Vaginal hysterectomy			
Age	36-40	19(38)	10(20)	29(29)	0.127	Not Significant
	41-45	21(42)	29(58)	50(50)		
	46-50	10(20)	11(22)	21(21)		
Total		50(100)	50(100)	100(100)		
Previous surgical history (caesarean section)	Present	12(24)	13(26)	25(25)	0.817	Not Significant
	Absent	38(76)	37(74)	75(75)		
	Total	50(100)	50(100)	100(100)		
Parity	1	15(30)	8(16)	23(23)	0.113	Not Significant
	2	23(46)	22(44)	45(45)		
	3	9(18)	9(18)	18(18)		
	4	3(6)	10(20)	13(13)		
	5	0(0)	1(2)	1(1)		
Total		50(100)	50(100)	100(100)		
Height of uterus	>10 weeks	30(60)	13(26)	43(43)	0.001	Significant
	<10 weeks	20(40)	37(74)	57(57)		
	Total	50(100)	50(100)	100(100)		

Table 2 shows that majority of cases were within the age group of 41-45 years in both abdominal hysterectomy and vaginal hysterectomy group, p value is 0.127 which is not significant (>0.05 , not significant). Both groups show maximum patient without any history of previous surgery. Out of the 50 patients who underwent total abdominal hysterectomy 12 i.e 24% had history of previous surgery. Out of 50 patients who went for vaginal hysterectomy 13 had history of previous surgery. p value is 0.817, which is statistically not significant.

In both group A and B maximum patients had parity 2. In group A, 15 patients had parity 1, 23 had parity 2, 9 had parity 3, 3 had parity 4. In group B, 8 patients had parity 1, 22 had 2, 9 had 3, 10 had 4, 1 had 5. p value is 0.113 which is not significant.

Maximum women with uterine height more than 10 weeks underwent total abdominal hysterectomy. Out of 50 women in group A 30 had uterine height >10 weeks while 20 had uterine height <10 weeks. In group B 13 women had uterine height > 10 weeks and 37 had <10 weeks. p value is 0.001 which is significant

Table 3: Distribution according to addiction, Type of anesthesia used, Oophorectomy and Intraoperative injury.

		Type of surgery		Total	p Value	Significance
		Total abdominal hysterectomy	Vaginal hysterectomy			
Indication	Dysfunctional uterine bleeding	19(38)	16(32)	35(35)	0.858	Not Significant
	Adenomyosis uterus	7(14)	8(16)	15(15)		
	Endometrial hyperplasia	7(14)	10(20)	17(17)		
	Leiomyoma uterus	12(24)	13(26)	25(25)		
	Chronic cervicitis	5(10)	3(6)	8(8)		
	Total	50(100)	50(100)	100(100)		
Type of anesthesia used	Spinal Anesthesia	41(82)	49(98)	90(90)	0.008	Significant
	General Anesthesia	9(18)	1(2)	10(10)		
	Total	50(100)	50(100)	100(100)		
Oophorectomy	Done	32(64)	44(88)	76(76)	0.005	Significant

		Not Done	18(36)	6(12)	24(24)		
Total			50(100)	50(100)	100(100)		
Intraoperative injury	None		40(80)	48(96)	88(88)	0.026	Significant
	Bladder		5(10)	2(4)	7(7)		
	Bowel		5(10)	0(0)	5(5)		
Total			50(100)	50(100)	100(100)		

Table 3 shows maximum women undergoing hysterectomy for benign disease is having the indication of dysfunctional uterine bleeding. In group A out of 50 women, 19 women underwent hysterectomy for dysfunctional uterine bleeding, 7 for adenomyosis, 7 for endometrial hyperplasia, 12 for leiomyoma uterus, 5 for chronic cervicitis. In group B 16 women underwent hysterectomy for Dysfunctional uterine bleeding, 8 for adenomyosis, 10 for endometrial hyperplasia, 13 for leiomyoma uterus and 3 for chronic cervicitis. type of anesthesia used in both group A and B is spinal anesthesia. In group A 41 patients were operated under spinal anesthesia whereas 9 patients were operated under general anesthesia.

In group B 49 patients underwent spinal anesthesia whereas 1 patient underwent general anesthesia. p value is 0.008 which is significant, because percentage of woman being operated under general anesthesia is significantly more in group A than B.

oophorectomy is done in maximum number of patients in both groups. Number of patients undergoing oophorectomy in group A is 32 and not going oophorectomy is 18. In group B number of patients undergoing oophorectomy is 44 and not undergoing oophorectomy is 6. Here p value is 0.005 which is significant. Thus percentage of patients undergoing oophorectomy is significantly more in group B than group A.

Maximum patients undergoing surgery did not have any injury. In group A out of 50 patients 40 had no injury, 5 had bladder injury, 5 had bowel injury. In group B out 50 patients undergoing hysterectomy 48 patients had no injury 2 had bladder injury and none had bowel injury. p value is 0.026 which is significant. This shows that intraoperative injury was more in group A than group B.

Table 4: Distribution according to Blood transfusion done in number of units, Post operative fever, perception of pain on day 3 and post operative wound infection.

		Type of surgery		Total	p Value	Significance
		Total abdominal hysterectomy	Vaginal hysterectomy			
blood transfusion done in number of units	0	24(48)	39(78)	63(63)	0.005	Significant
	1	23(46)	10(20)	33(33)		
	2	3(6)	1(2)	4(4)		
Total		50(100)	50(100)	100(100)		
Post operative fever	Present	8(16)	2(4)	10(10)	0.046	Significant
	Absent	42(84)	48(96)	90(90)		
Total		50(100)	50(100)	100(100)		
Pain	Paracetamol (600mg)	0(0)	40(80)	40(40)	0.000	Significant
	NSAIDS (diclofenac 75mg)	30(60)	5(10)	35(35)		
	Opioids	20(40)	5(10)	25(25)		
Total		50(100)	50(100)	100(100)		
Wound infection	Yes	2(4)	0(0)	2(2)	0.495	Not Significant
	No	48(96)	50(100)	98(98)		
Total		50(100)	50(100)	100(100)		

Table 4 shows number of patients receiving blood transfusion following surgery. In group A number of patients receiving no blood transfusion is 24, 1 unit of blood transfusion is 23 and 2 units of blood transfusion is 3. In group B number of patients receiving no blood is 39, those receiving 1 unit of blood transfusion is 10 and those needing 2 units of blood transfusion is 1. p value is 0.005 which is significant. Thus group A patients needed more blood transfusion than group B patients.

In group A 8 out of 50 patients had post operative fever following surgery. In group B 2 out of 50 patients had fever. p value is 0.046 which is significant. Hence post-operative fever was significantly more in group A patients than group B patients.

In group A none of the patients were relieved by paracetamol (650mg) on day 3 post operatively, 30 patients needed NSAIDs and 30 needed opioids to relieve their pain. In group B 40 patients were relieved by paracetamol (650mg) on day 3, while 5 needed NSAIDs and another 5 needed opioids. p value is 0.000 which is significant. This shows post operative pain perception on day 3 is significantly less in group B than group A.

majority of patients undergoing surgery in both group did not have wound separation. In group A 2 people had wound infection post operatively. In group B none had wound infection post operatively. p value is 0.0495 which is not significant.

DISCUSSION

In this observational study 100 patients were underwent hysterectomy, of them 50 patients underwent abdominal and rest underwent vaginal hysterectomy. We recorded all the parameters of the patient during admission. We recorded all the surgical parameters of the patient as well as patient profile during the post operative period.

Mean age of the patients were 42.20 and 43.32 with a median value of 42.00 and 44.00 in the abdominal and vaginal hysterectomy group respectively with a p value of 0.082. the value between the two groups were not statistically significant. We also classified the age group of the patients under three groups, i.e from 36-40, from 41-45 and from 46-50. The study showed that, majority (50%) of the patients belonged to the age group of 41-45, whether 29% and 21% patients were in the age group of 36-40 and 46-50 age group respectively. This subdivision was also divided into two test groups, abdominal and vaginal and it was seen that the values between the two groups were not statistically significant. (p value: 0.127)

AGE DISTRIBUTION

Study	VH	TAH
Kovac SR ⁸	43	47.2
Garg P ⁹	41	43
Present study	42.20	41.96

The age is comparable among the standard studies

It has been seen that total 75% of the patients did not have any previous surgical history, whereas 25% patient had history of surgery. This data was also classified into two test groups, abdominal and vaginal and it was seen that the values between the two groups were not statistically significant. (p value: 0.817)

PREVIOUS SURGICAL HISTORY

Study	VH	TAH
Garg P ⁹	1	0
Present study	13	12

In the study by Pradeep kr. Garg there was only one case of previous caesarean section in NDVH group, while in the study by Abha Singh there was history of 14 previous caesarean sections and 1 tubectomy in both group. In our study we had 11 patients with previous history of caesarean section and 1 with only tubectomy in abdominal group, while in the vaginal group all 13 cases had previous history of tubectomy.

We also classified the patients according to their parity. It has been seen that majority (45%) patients had previous two pregnancies, whether 16% patients were primipara, 18% patients had a parity of 3, 13% patients had a parity of 4 and only 1 % patient had a parity of 5. This data was also classified into two test groups, abdominal and vaginal and it was seen that the values between the two groups were not statistically significant. (p value: 0.113)

DISTRIBUTION ACCORDING TO PARITY

Study	VH	TAH
Kovac SR ⁸	2.25	0.83
Present study	2	2

The parity is comparable among the standard studies,

In this study, patients were classified according to the height of the uterus. It was seen that 57% patients had an uterine height less than uterus corresponding to 10 weeks, and 43% patients had an uterine height more than uterus corresponding to 10 weeks. This data was also classified into two test groups, abdominal and vaginal and it was seen that the values between the two groups were statistically significant. (p value: 0.001). It clearly suggested that uterine height more than 10 weeks mostly underwent abdominal hysterectomy.

With respect to size of uterus and delivery of uterus, we did not face any difficulty in removing the uterus through the vaginal route, as most of the patients chosen by the surgeon for this route had uterus below 10 weeks. For abdominal hysterectomy patients with huge fibroids and much more anticipated adhesions were chosen which have at times caused difficulty in removing the uterus and had required previous myomectomy or adhesiolysis.

In the study by Chandrasekhar S, Singh N, Charla S, difficulty in removing uterus by vaginal route was faced. Debulking surgeries like morcellation and myomectomies were carried out previously.

According to Seth SS, preoperative sonography and examination under anesthesia helped them choose the route of delivering the uterus out, or deciding the need for debulking surgeries.

We also classified the patients according to the indication for which they underwent hysterectomy. It was clearly justified that majority (35%) of the patients underwent hysterectomy for having dysfunctional uterine bleeding, where as 15 % for having adenomyosis, 17% for having endometrial hyperplasia, 25% for having leiomyoma and 8 % for having chronic cervicitis. This data was also classified into two test groups, abdominal and vaginal and it was seen that the values between the two groups were not statistically significant. (p value: 0.858)

It was seen that 90% patients underwent spinal anesthesia, and 10% patient underwent general anesthesia. This data was also classified into two test groups, abdominal and vaginal and it was seen that the values between the two groups were statistically significant. (p value: 0.008). It clearly suggests that general anesthesia was needed more in abdominal hysterectomies in comparison to vaginal hysterectomies.

We also recorded the number of oophorectomies associated with hysterectomies. It has been seen that 76% patients underwent oophorectomy where as 24% patient did not undergo oophorectomy. This data was also classified into two test groups, abdominal and vaginal and it was seen that the values between the two groups were statistically significant. (p value: 0.005). It signifies that more patients who underwent vaginal hysterectomy also underwent oophorectomy than who underwent abdominal hysterectomy.

In our study, mean blood loss was 229.00ml and 127.00ml with a median value of 200.00ml and 100.00ml respectively in abdominal and vaginal hysterectomy group with a p value of <0.001. the value between the two groups were statistically significant, suggesting that in case of vaginal hysterectomy blood loss is lesser than that of abdominal hysterectomy. All the values were expressed in ml.

DISTRIBUTION OF BLOOD LOSS IN ml

Study	VH	TAH
Garg P ⁹	286	310
Present study	229	127

In our study, mean duration of surgery was 90.88 and 62.12 with a median value of 90.00 and 60.00 in abdominal and vaginal hysterectomy group respectively with a p value of <0.001. the value between the two groups were statistically significant, suggesting that in case of vaginal hysterectomy duration of surgery is lesser than that of abdominal hysterectomy. All the values were expressed in minutes.

DISTRIBUTION OF DURATION OF SURGERY IN MINS

Study	VH	TAH
Garg P ⁹	41	92
Christian Oftosen et al ¹⁰	81	68
Present study	90.88	62.12

- We classified the patients according to the need for blood transfusion and divided them into two groups accordingly. 63%

patients did not need any blood transfusion, where as 33 % patients needed 1 unit of blood transfusion and 4 % patients needed 2 unit of blood transfusion. This data was also classified into two test groups, abdominal and vaginal and it was seen that the difference in need of blood transfusion between the two groups is statistically significant. (p value: 0.005). It signifies that patients who underwent abdominal hysterectomy needed more blood transfusion than the vaginal hysterectomy group.

- We kept proper record about all the intra operative injuries and it has been classified among the two assigned groups. It was noted that 88 % patients did not have any intra operative injury whether 7% patient suffered from bladder injury, of them only 2% belonged from the vaginal hysterectomy group and the rest to abdominal hysterectomy group and 5 % patient developed intra operative bowel injury and all of them belonged to the abdominal hysterectomy group. It was seen that the values between the two groups were statistically significant. (p value: 0.005). This clearly suggests that intra operative injuries are more prone to develop in cases of abdominal hysterectomy than cases of vaginal hysterectomy.
- We recorded occasions of post operative fever in both groups and it has been seen that only 10 % patients developed post operative fever and of them only 2% was from the vaginal hysterectomy group and rest from the abdominal hysterectomy group. It was seen that the values between the two groups were statistically significant. (p value: 0.046). This suggests that patients who underwent abdominal hysterectomy were more prone to develop post operative fever in contrast to vaginal hysterectomy.

Study	CH	TAH
Garg P ⁹	11.5%	17.6%
Present Study	2%	8%

- We incorporated pain point system scale for determination of post operative pain. It has been seen in cases of 40% patient pain was subsided by administration of paracetamol (600 mg) post operatively and all of them belonged to the vaginal hysterectomy group. 35% patients NSAIDs (Diclofenac) for pain management, of them 5 were in the vaginal hysterectomy group and 30 were in the abdominal hysterectomy group. In 25 % patients application of opioids were needed for pain management and of them only 5 patients were in the vaginal hysterectomy group and rest were in the abdominal hysterectomy group. It was seen that the values between the two groups were statistically significant. (p value:0.000). It signifies that post operative pain is much less in vaginal hysterectomy in comparison to abdominal hysterectomy.
- We recorded all cases of wound infection in the form of discharge, seroma, abscess, separation and divided accordingly in two groups. Only 2 % cases developed post operative wound infection and both of them lied in the abdominal hysterectomy group. The values between the two groups were not statistically significant. (p value: 0.495)
- In our study, mean duration of staying in hospital was 8.20 and 5.56 with a median value of 6.00 and 4.00 in both abdominal and vaginal hysterectomy group with a p value of <0.001. The value between the two groups were statistically significant, suggesting that in case of vaginal hysterectomy duration of staying in hospital is lesser than that of abdominal hysterectomy. All the values were expressed in days.

DISTRIBUTION OF DURATION OF HOSPITAL STAY

Study	VH	TAH
Garg P ⁹	1.2	4.3
Taylor KD ¹¹	2.6	3.9
Present study	5.56	8.20

CONCLUSION AND RECOMMENDATIONS :

1. NDVH is associated with lesser blood loss during operation.
2. NDVH is associated with lesser intra operative injury.
3. NDVH is associated with lesser post operative blood transfusion.
4. NDVH is associated with lesser post operative febrile morbidity.
5. NDVH is associated with lesser duration of stay in hospital.
6. No significant difference in post operative wound infection is seen between both the groups of NDVH and TAH.

Thus it can be concluded that NDVH is safe, more comfortable to the patient, is associated with lesser blood loss, lesser intraoperative injury, lesser duration of surgery, lesser post operative morbidity and should be conducted wherever feasible

ACKNOWLEDGEMENTS

Authors would like to acknowledge the patients who participated in this research study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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