

COMPARATIVE STUDY OF VAGINAL HYSTERECTOMY WITH ABDOMINAL HYSTERECTOMY IN A TERTIARY CARE HOSPITAL

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Abstract

Background: To compare vaginal hysterectomy with abdominal hysterectomy in a tertiary care hospital. **Materials and Methods:** This prospective comparative cross-sectional study was conducted at the Department of Obstetrics and Gynecology of our Institute. The study sample included 60 subjects equally divided into two groups. Group I underwent TAH (50 %) and Group II underwent VH (50 %). **Result:** The mean age of subjects in TAH group were higher than VH group. The size of the uterus was smaller in the VH group (6.98 ± 1.92) cm than the TAH group (9.65 ± 3.84) cm. The operative time was shorter in VH (33.45 min) than in TAH groups (70.20 min). The blood loss was less in the VH (40.10 ml) group than the TAH group (120.30 ml). Postoperative complications were significantly higher in TAH than VH. **Conclusion:** VH has significantly less rate of late postoperative complications and length of hospital stay.

INTRODUCTION

Hysterectomy is the surgical removal of uterus and is the second most common gynecological surgical procedure done after caesarean section. There are several indications for hysterectomy. Various techniques and approaches are advocated for the surgical uterus removal, of which abdominal and vaginal hysterectomy are the commonest. The route for surgical removal of uterus is largely dependent on patients preference, surgeon's expertise and the available resources at hospital. The other factors deciding the route of hysterectomy is size of vagina, size of uterus, shape of uterus, extent of disease, nature of disease etc.^[1-2]

Any surgical procedure should be minimally invasive and should yield maximum patients satisfaction. The ideal hysterectomy procedure should have low morbidity, small operative time, less consumption of hospital resources and should require less hospital stay.^[3]

For years the abdominal hysterectomy has remained most popular and preferred route of choice, not only for the malignant lesions but also for the benign ones and cysts. The advantages of abdominal hysterectomy includes, better accessibility and visibility and short surgical time. The disadvantages of this technique includes more blood loss, longer hospital stay and higher chances of wound infection. The vaginal route for hysterectomy was initially preferred for prolapsed uterus. With the advancement

of technology and gradually higher expertise of the operator now warrants other simpler procedures including non-descent uterus for vaginal route. The available scientific literature also suggest the evidence for shorter hospital stay, less patient discomfort, lower morbidity, rapid recovery, and numerous other advantages. The major limitation for vaginal hysterectomy is narrow vagina, narrow pubic arch, large uterus, previous history of cesarean section and immovable uterus.^[4-5]

Technically no surgical procedure is ideal. The final route of choice for hysterectomy is not optional rather is decided by the triad of patient factor, hospital expertise and hospital facilities. Therefore this study was conducted to compare vaginal hysterectomy with abdominal hysterectomy in a tertiary care hospital.

MATERIALS AND METHODS

Study Design

This prospective comparative cross-sectional study included 60 subjects (divided equally into two groups) who underwent total abdominal and vaginal hysterectomy, in the Department of Obstetrics and Gynecology, at Anugrah Narayan Magadh Medical College and Hospital, Gaya, Bihar. The study was conducted over a period of 22 months from October 2021 to July 2023. A written and informed consent was obtained from all the participating subjects before the commencement of the study.

Inclusion Criteria

1. Uterine size not exceeding 12 weeks of gravid uterus.
2. Adequate uterine mobility.
3. Fibroid Uterus.
4. Abnormal uterine bleeding(AUB)
5. Chronic cervicitis.
6. Adenomyosis.
7. Postmenopausal Bleeding.

Exclusion Criteria

1. Advanced gynecological malignancy,
2. Intractable procidentia, and
3. Complications of childbirth such as uterine rupture / intractable haemorrhage.

Study sample: The study was recruited from Obstetrics and Gynecology OPD of our Institute and was advised for hysterectomy. The study sample consisted of 60 subjects, who fulfilled the inclusion and exclusion criteria. The study samples were divided into two groups –

Group-I: Total Abdominal Hysterectomy (TAH)

Group-II: Vaginal Hysterectomy (VH)

Pre operative evaluation:

The subjects were studied for age, body mass index (BMI), parity, indication for surgery, medical co-morbidities, previous operations, size of the uterus (confirmed by ultrasound), operative bleeding/estimated blood loss (EBL), pre- and post-operative hemoglobin (HB) level, operative time (time from the first incision to the last stitch), hospital stay, and postoperative complications.

Technique

Group I included 30 subjects who underwent TAH (50 %) and group II included 30 subjects who underwent VH (50 %). All surgeries were performed by expert gynecologists who had a minimum of 5 years' experience in gynecological surgery and has performed at least 50 gynecological surgery procedures per year. The surgical route was decided by whether the uterus was mobile when traction was done by clamping the cervix with tenaculum. VH was performed when mobile, whereas TAH was performed in other cases.

All operations were done under spinal anesthesia. In all surgeries, the vaginal cuff was closed using polyglactin 910 suture. The outcome in both TAH and VH groups was reviewed regarding the hospital stay, operating time, estimated blood loss, pain scale, and complications.

Statistical Analysis

The obtained data was tabulated in a Microsoft excel sheet and was subjected to statistical analysis using SPSS Software, version 16.0.

RESULTS

A total of 60 subjects equally divided into two groups were evaluated. 30 subjects underwent abdominal hysterectomy (Group-I) and 30 subjects underwent vaginal hysterectomy (Group-II). The mean age of subjects in total abdominal hysterectomy group was 48.12 years and the same in vaginal hysterectomy group it was 46.74.was years.

The associated co-morbidities like hypertension, diabetes mellitus, bronchial asthma were also higher in total abdominal hysterectomy group.

The distribution of study subjects is shown in [Table 1].

Of the subjects underwent hysterectomy, maximum number of cases were of fibroids, followed by Abnormal uterine Bleeding (AUB), chronic PID, and least were in Endometrial Hyperplasia.

The size of the uterus was smaller in the VH group (6.98 ± 1.92) cm than the TAH group (9.65 ± 3.84 cm). [Table 2]

The mean duration of surgery was longer and almost double in the Group-I compared to Group-II. This difference was highly statistically significant. The mean duration of surgery in Total Abdominal hysterectomy group was 70.20 mins while it was 38.45 mins in vaginal hysterectomy group. [Table 3] The amount of intraoperative blood loss in group I was 120.30 ml and the same in Group II was 40.10 ml. this difference again was highly statistically significant. [Table 4]

The post-operative pain was measured on Visual analogue scale (VAS) at day 0, day 1, 2 and 3. The overall VAS score for Group I was greater compared to Group II. This difference was both clinically and statistically highly significant. [Table 5]

The intra operative complications included 02 cases of ureteric injury, 01 case of bladder injury in Group I, and 01 case of bladder injury in Group II. [Table 6]

The post operative complications included fever, urinary tract infection, wound infection, burst abdomen, wound gap and paralytic ileus. [Table 7]

Table 1: Distribution of subjects

	AUB	Fibroid	Chronic PID	Chronic cervicitis	Adenomyosis	Endometrial Hyperplasia	Total
TAH	05	15	06	01	02	01	30
VH	13	07	05	03	02	00	30
Total	18	22	11	04	04	01	60

Table 2: Mean Uterus size (in cm).

	Mean	SD	p-value
TAH	6.98	1.92	0.001
VH	9.65	3.84	

Table 3: duration of surgical procedure.

	Time in mins	p-value
TAH	70.20	0.001
VH	33.45	

Table 4: Intra operative blood loss.

	Blood loss in ml	p-value
TAH	120.30	0.001
VH	40.10	

Table 5: Post operative pain on VAS Score

	0	1	2	3
TAH	10	07	06	05
VH	10	05	03	02

Table 6: Intra operative complication

	Ureteric injury	Bladder injury	Total
TAH	02	01	04
VH	00	01	

Table 7: distribution of subjects

	Fever	UTI	Wound Infection	Burst Abdomen	Wound Gap	Paralytic ileus.
TAH	08	02	06	02	03	03
VH	04	04	01	00	00	01

The mean hospital stay in Group I was 7.25 days compared to 3.12 days in Group II. This difference again was both clinically and statistically significant.

DISCUSSION

This prospective study was carried to compare the indication for abdominal and vaginal hysterectomy and also to compare the intra operative and postoperative complications in vaginal and abdominal routes of hysterectomy. The advantage and disadvantage for both the techniques are also evaluated.

The mean age of the subjects was compared and it was found to be more amongst the Group I subjects compared to Group II. The mean age of Total abdominal hysterectomy group was 48.12 yrs and the same in vaginal hysterectomy group it was 46.74. A similar and comparable age group subjects were studied by L. Benassiet al, who compared 59 cases of abdominal hysterectomies with 60 cases vaginal hysterectomies. No major difference was found inpatient age, weight, parity, and uterine weight between the two groups.^[6]

A comparison of complications in of abdominal and vaginal hysterectomy was conducted by Asnafi N, et al, they also found to have a similar age group for the subjects who had undergone abdominal hysterectomy and vaginal hysterectomy as a participant of their study.^[7]

In the present study, co-morbidities like Hypertension, Diabetes mellitus, anaemia, bronchial asthma and cardiac diseases were not found to be significantly associated with Total abdominal or vaginal hysterectomy. A similar finding was also observed in a study reports of Hoffman MS et al.^[8]

In the current study the most common indications for hysterectomy was fibroid, AUB and chronic

cervicitis. In the present study Total abdominal hysterectomy was preferred for fibroid, chronic PID and endometrial hyperplasia, while vaginal hysterectomy was preferred for chronic cervicitis and AUB.

Similar report was observed in the study result of S Bharatnur, in which they compared the risks and complications of abdominal and vaginal hysterectomies. They concluded that DUB, Fibroid and chronic cervicitis as the common indications for hysterectomy. Other indications were cervical dysplasia, adenomyosis and cervical polyp.^[9]

In the present study, the mean duration of surgery was significantly lesser in vaginal hysterectomy group compared to Total abdominal hysterectomy group. The mean duration of surgery was found to be 70.20 min in Total abdominal hysterectomy group and the same was 38.45 min in vaginal group. A comparable study was found in the study of Bing Chen et al, where the surgical time in Vaginal hysterectomy group was significantly lesser compared to total abdominal hysterectomy group.¹⁰ Similarly S Bharatnur also found a larger mean operating time in abdominal hysterectomy compared to vaginal hysterectomy.^[9]

Our study, the mean blood loss was both clinically and statistically significantly lesser amongst vaginal hysterectomy group compared to Total abdominal hysterectomy group. A similar and comparable result was reported by Bing Chen et al.^[10]

Our study also found that ureteric injury was significantly higher amongst total abdominal hysterectomy group compared to vaginal hysterectomy group as the Intraoperative complication, on the other hand bladder injury was observed in one case in vaginal hysterectomy group and one case had bowel injury in Total abdominal hysterectomy group.

A similar report was published by N. Fatima Shanthini et al. They concluded that vaginal hysterectomy is associated with less operative and postoperative morbidity, early mobilization, quick recovery, and shorter hospitalization, when compared to abdominal hysterectomy.^[11]

In the current study, mean hospital stay in days was significantly less among group II compared to Group I. Bing Chen et al publisher a similar result.^[10]

CONCLUSION

In subjects with adequate vaginal accessibility, satisfactory uterine mobility and operator expertise, vaginal hysterectomy should be preferred and can be performed with safety in Non-Prolapsed uterus. The vaginal route of hysterectomy may be declared as a preferred route of choice.

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