

Mode of hysterectomy in non descent uterus-comparison of vaginal and laparoscopic route

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Abstract

Introduction: Hysterectomy is the most common gynecological procedure performed after caesarean section. Our study was designed to evaluate laparoscopic and vaginal hysterectomies in non-descent uterus.

Material & methods: This is a prospective hospital based comparative study done at Amaltas Institute of Medical Sciences Dewas (MP). Comparative analysis of 100 hysterectomies was done for a period of 12 months form July 2021 to June 2022, with 50 cases in each group i.e, Non descent vaginal hysterectomy (NDVH) and laparoscopic hysterectomy (LH) group Comparisons were made between the two groups on the basis of surgical indications, operating time, intra-operative blood loss, intraoperative complications, post-operative analgesic needs and post-operative hospital stay

Results: The most common age in both groups was 41-50 years. Fibroid was the most common indication for surgery in both groups. The mean operative time in NDVH group was 40 minutes while it was 75 minutes in LH group. Intra operative complications were there in LH group but not found in NDVH group Intra operative blood loss and Post-operative analgesia requirement was more in NDVH group. Post-operative hospital stay was similar in both the groups.

Conclusion: Which route to approach the uterus will depend on the surgeon's expertise, the size and pathology of the uterus, availability of laparoscopic setup and the preferences of surgeons and patients.

Keywords: Hysterectomy, Laproscopic, Vaginal, Uterus

Introduction

Hysterectomy is the most common gynecological procedure performed after caesarean section. Our study was designed to evaluate laparoscopic and vaginal hysterectomies in non-descent uterus. An enormous number of women have hysterectomies every year, and 70% of them are done for benign reasons such as leiomyoma, adenomyosis, endometriosis and uterine prolapse.[1]

At present 4 methods of hysterectomy are available abdominal, vaginal, laparoscopic, and robotic assisted. Vaginal hysterectomy has advantages to abdominal hysterectomy, including a shorter hospital stay, quicker recovery and fewer fever spells [2] but require more expertise.

The widespread adoption of LH is due to a number of factors. First, LH has an advantage over NDVH in cases of severe endometriosis or when there is a history of pelvic inflammatory illness by facilitating a better anatomical picture. Second, LH makes it easier to separate the uterus from its connection to the pelvic wall in situations where the uterus is big or has little to no descent.[3] but it has a long learning curve and is more technology dependent. Additionally, NDVH allows us the choice between a relatively safe spinal anesthesia and general anesthesia, The size of a non-descending uterus is typically a barrier to vaginal hysterectomy, although currently techniques like bisection, myomectomy, wedge debulking, and intra-myometrial coring can help.[4]

Hence the present study is done to evaluate the mode of hysterectomy in non descent uterus and to compare the vaginal and laparoscopic route.

Material & Methods

This was a prospective comparative study done at Amaltas Institute of Medical Sciences Dewas (MP). Comparative analysis of 100 hysterectomies was done for a period of 12 months form July 2021 to June 2022with 50 cases in each group i.e. NDVH and LH group. Approval of Ethical Committee of the institute was taken. All the hysterectomies were done by same unit of doctors with same technique and relatively same expertise. NDVH was done with traditional suturing method. Comparisons were made between the two groups on the basis of surgical indications, operating time, intra-operative blood loss, intraoperative complications, post-operative analgesic needs and post-operative hospital stay

Inclusion criteria

1. Benign diseases of the uterus mainly: fibroid and polyps, adenomyosis, endometriosis, dysfunctional uterine bleeding not responding to medical management for at least 6 months
2. Age > 40 years
3. Clinically uterus < 16 weeks size
4. Non descended uterus

Exclusion criteria

1. Adenexal cyst > 5cm
2. Uterine prolapse
3. Restricted Mobility of uterus
4. Suspicion of malignancy

Throughout the whole preoperative, surgical, and postoperative phases, every patient was closely monitored for potential issues. Demographic information about the patient, the duration of the operation, the estimated blood loss, Intra operative complication, postoperative analgesia and the length of hospital stay were all recorded. Data from both groups were compared on basic statistical analysis methods, using Chi-square tests by analyzing through SPSS version 21.

Results

Table 1 shows number of patients operated according to their parity in both the groups. Major number of patients operated were having parity between 1 to 3. Among total NDVH operated patients 58% were having parity between 1 to 3, while among total LH operated patients 50% were also having parity between 1 to 3.

Table 1: shows comparison of patients according to parity.

Parity	NDVH	LH
Nulliparous	1 (2%)	1 (2%)

Para 1 to para 3	29(58%)	25(50%)
Parity > 3	20 (40%)	24 (48%)

Table 2 shows the indication of the hysterectomies like endometrial hyperplasia, fibroid uterus, adenomyosis, postmenopausal bleeding, endometriosis among which major number of patients were operated for fibroid uterus in both the groups i.e. 56% in NDVH group and 40% in LH group followed by endometrial hyperplasia which is 26% in NDVH group and 30% in LH group respectively.

Table 2 shows distribution of hysterectomies according to their cause

Indication	NDVH	LH
Adenomyosis	5 (10%)	4 (8%)
Endometrial hyperplasia	13 (26%)	15 (30%)
Fibroid uterus	28 (56%)	20(40%)
Postmenopausal bleeding	0 (0%)	2 (4%)
DUB	4 (8%)	6(12%)
Endometriosis	0(0%)	3 (6%)

Table 3 shows that major age group undergoing hysterectomy in both type of surgery were between 41-50 years.

Table 3 shows age distributions between both groups.

Age groups (years)	NDVH	LH
41-50	35 (70%)	32 (64%)
51-60	15(30%)	16 (32%)
>60	0 (0%)	2 (4%)

Table 4 represents the comparisons of various parameters among the 2 surgeries. Significant difference was observed in the average duration of the surgeries; while LH took ~75 minutes, NDVH took only 40 minutes ($P < 0.005$). On the other hand, intra operative blood loss was significantly less in the LH group than in the NDVH group as per visual estimation.(70 versus 160 ml) $P < 0.001$. The average duration of hospital stay in both the groups was similar. Post operative analgesia requirement was more with NDVH (3 days) compare to LH(1.5 days). Intra operative organ injury was witnessed in LH group but not in NDVH. 1 Bowel injury and 1 ureteric stricture occurred in LH group which was managed surgically and conservatively respectively.

Table 4 shows comparison of different parameters amongst the two surgeries

Parameters	NDVH	LH	P value
Average duration of surgery (minutes)	40	75	<0.01*
Average blood loss (ml)	160	70	<0.01*
Average duration of hospital stay (days)	4.3	3.5	0.06
Average post Operative analgesia requirement (days)	3	1.5	0.008*
Intra operative organ injury	0	2	0.19

*: statistically significant

Discussion

Most gynaecologists prefer abdominal over vaginal hysterectomy when there is no uterine prolapse. The size of the uterus, nulliparity, prior pelvic surgery or lower segment caesarean

section (LSCS), pelvic adhesions and endometriosis, as well as restricted exposure during their career's learning phase, are common restrictions for vaginal hysterectomy in non-prolapsed uteri.[5] Uterine size, mobility, accessibility, and pathology confined to the uterus are among the variables that may influence the method of hysterectomy for any surgical rationale.

The age range for surgery in our study was 40 to 50 years, and Dewan's et al study [4] also found a similar trend. In our analysis of fibroid uterus, 30% had a size of 12 to 16 weeks which accounted for 26 percent of surgical reasons in the VH group. Similar results were obtained by research done by Davies et al. [5] and Mazdisian et al. [6].

Insignificant difference in the amount of intra operative blood loss and Hb changes post operatively were reported by Fuzayel AB et al, Shanthi S et al. [7,8] In our study, the average amount of blood loss in the LH group was found to be 70 ml in comparison to the VH group with an average blood loss of 160 ml and hence the difference was found to be statistically significant ($p < 0.05$). This finding is similar to the findings of Patel R et al, and Roy KK et al. [9,10] There were 2 major organ injury noted in LH group which is inconsistent with the findings of Chattopadhyay S et al. [11]

In this study, major number of patients were operated for fibroid uterus in both the groups i.e. 56% in NDVH group and 40% in LH group followed by endometrial hyperplasia which is 26% in NDVH group and 30% in LH group respectively. Similar results were reported by Nimbannavar H et al [12] and Alamelu DN [13].

Conclusion

The importance of LH and NDVH has grown as time goes on, due to authors are focusing more and more on minimally invasive procedures. NDVH is quicker, less expensive, and better at approaching through natural orifices. NDVH outperforms LH at remote hospitals with little resources because it is more affordable, takes less time, and necessitates fewer surgical methods. Which route to approach the uterus will depend on the surgeon's expertise, the size and pathology of the uterus, availability of laparoscopic setup and the surgeon's and patient's preferences. There is still a tonne of room for research and development in this subject.

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