



COMPARATIVE STUDY OF LAPAROSCOPIC VAGINAL HYSTERECTOMY (LVH) AND NON-DESCENT VAGINAL HYSTERECTOMY (NDVH) IN A TERTIARY CARE CENTRE: A PROSPECTIVE STUDY

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ABSTRACT

Objectives: This study aimed to compare the clinical profiles, intraoperative parameters (operative time, blood loss, complications), and post-operative outcomes of patients undergoing Laparoscopic Vaginal Hysterectomy (LVH) versus Non-Descent Vaginal Hysterectomy (NDVH). **Materials And Methods:** This was a prospective comparative study involving 50 patients who underwent LVH or NDVH for benign gynecological conditions at a tertiary care center between July 2023 and July 2024. Patients were selected based on specific inclusion criteria. Data on intraoperative blood loss, operative time, post-operative ambulation, pain scores, and complications were collected and analyzed. **Results:** Adenomyosis was the most common indication for hysterectomy (56%). The NDVH group experienced significantly higher blood loss (174.8 mL vs. 66.8 mL, $p = 0.001$). The LVH group had a significantly longer operative time (108.8 minutes vs. 80 minutes, $p = 0.001$). NDVH patients had a significantly longer ambulation time (23.1 hours vs. 17 hours, $p = 0.001$). LVH patients reported lower pain scores (VAS scale score) on POD 2, 3, and 4 compared to NDVH, leading to earlier ambulation. **Conclusion:** LVH was associated with less intraoperative blood loss and faster recovery due to reduced post-operative pain, although it required longer operative times and more specialized equipment. NDVH, on the other hand, is a viable alternative for less experienced surgeons, with fewer intraoperative complications.

KEYWORDS : Lvh, Ndvh, Blood Loss, Operative Time, Post Op Pain.

INTRODUCTION

Hysterectomy is the second most common major surgery performed on women in India, primarily for conditions such as dysfunctional uterine bleeding (DUB), fibroids, pelvic organ prolapse, endometriosis, adenomyosis, and certain cancers. Approximately 50% of these procedures are performed in women under 40. In rural India, rising hysterectomy rates, particularly in younger women, have raised concerns about its overuse in cases where non-invasive treatments could suffice⁽¹⁾⁽²⁾

Laparoscopic Vaginal Hysterectomy (LVH) and Non-Descent Vaginal Hysterectomy (NDVH) are two common surgical approaches for hysterectomy. LVH is often favored for its minimal invasiveness, while NDVH remains popular due to its ease of performance without advanced technology. This study compares the outcomes of LVH and NDVH performed at our tertiary care center.

MATERIALS AND METHODS:

Study Design:

This was a prospective comparative study conducted at a tertiary care hospital. The study period was 12 months, from July 2023 to July 2024, and involved 50 patients who underwent hysterectomy for benign gynecological conditions.

Inclusion Criteria:

- Uterine size < 14 weeks or uterine volume < 450 cc by USG pelvis.
- Benign gynecological conditions requiring hysterectomy.

Exclusion Criteria:

- Genital malignancies.
- Uterine prolapse.
- Acute pelvic inflammatory disease.
- Uterine size > 14 weeks.
- Previous two lower segment cesarean sections (LSCS).
- Pelvic bone malformation.

Data Collection:

Patient demographics, surgical parameters (blood loss, operative time), post-operative outcomes (pain scores,

ambulation time), and complications were recorded. Pain was assessed using a numerical rating scale (0-10) on post-operative days (POD) 0, 1, 2, 3, and 4.

Statistical Analysis:

Descriptive statistics were used to summarize patient characteristics. Independent samples t-tests and chi-square tests were applied to compare continuous and categorical variables, respectively.

RESULTS:

Age Distribution:

In the LVH group, 57.1% of patients were aged between 40-60 years, while 40.9% were younger than 40 years. In the NDVH group, 42.9% were aged 40-60 years, and 59.1% were younger than 40 years.

Urban vs. Rural Distribution:

The LVH group had a higher percentage of patients from urban areas (52.9%), while 47.1% of patients in the NDVH group were from urban areas.

Intraoperative Parameters:

Blood Loss:

The NDVH group had significantly higher blood loss (174 ± 31.51 ml) compared to the LVH group (66.8 ± 19.41). Statistical analysis showed a significant difference ($p = 0.001$) compared with but compared to Chattopadhyay S et al.⁽³⁾ in which hemoglobin drop is 0.90 gm/dl in LVH and 1.15 gm/dl in NDVH suggesting higher blood loss.

Operative Time:

The mean operative time for LVH was significantly longer (108.8 ± 14.68 min) compared to NDVH (80 ± 17.02 min), with a p-value of 0.001. That is compared with another studies Chattopadhyay S et al.⁽³⁾ have 99.24 ± 9.448 min and 94.76 ± 8.941 min and Raxita Patel et al.⁽⁴⁾ have 190 and 97.71 min respectively for LVH and NDVH. This reflects the more complex nature of LVH procedures.

Postoperative Outcomes:

Ambulation Time:

The NDVH group showed delayed ambulation (23.1 ± 58 hours) compared to the LVH group (17 ± 6.02 hours), with a significant difference ($p = 0.001$). compared with Chattopadhyay S et al⁽³⁾ have ambulation time of 23.1 ± 58 hours and 17 ± 6.02 hours respectively for NDVH and LVH. This suggests that LVH patients recover faster and can resume mobility sooner.

Pain Scores:**Vas Scale Score**

There was no statistically significant difference in pain on the day of surgery (POD 0). However, LVH patients experienced significantly less pain on POD 2, 3, and 4, resulting in earlier recovery and reduced postoperative morbidity

Table 1

BLOOD LOSS (ML)			
SURGERY	Present study	Chattopadhyay S et al	
LVH	66.8 ± 19.41	0.90 gm/dl	
NDVH	174±31.51	1.15 gm/dl	
OPERATIVE TIME (MIN)			
SURGERY	Present study	Chattopadhyay S et al	Raxita Patel et al
LVH	108.8± 14.68	99.24±9.448	190
NDVH	80± 17.02	94.76±8.941	97.71
AMBULATION TIME (HOURS)			
SURGERY	Present Study	Chattopadhyay S et al	
LVH	17±6.02	19.32±2.193	
NDVH	23.1±58	24.12±3.456	

Table 2 (pain Score) Vas Scal Score

POD 0				
PAIN SCORE_0	LVH	NDVH	Total	Statistics
3--4	4	0	4	Chi square (2) =4.8, p=0.091
5--6	13	13	26	
7--8	8	12	20	
Total	25	25	50	
POD 1				
PAIN SCORE_1	LVH	NDVH	Total	Statistics
1--2	3	0	3	Chi square (3) =10.5, p=0.015
3--4	18	11	29	
5--6	4	13	17	
7--8	0	1	1	
Total	25	25	50	
POD 2				
PAIN SCORE_2	LVH	NDVH	Total	Statistics
0--0	5	0	5	Chi square (3) =13.3, p=0.004
1--2	17	11	28	
3--4	3	13	16	
5--6	0	1	1	
Total	25	25	50	
POD 3				
PAIN SCORE_3	LVH	NDVH	Total	Statistics
0--0	21	10	31	Chi square (3) =10.7, p=0.005
1--2	4	13	17	
3--4	0	2	2	
Total	25	25	50	
POD 4				
PAIN SCORE_4	LVH	NDVH	Total	Statistics
1--1	0	1	1	Chi square (1) =0.44, p=0.505
1--2	1	2	3	
Total	1	3	4	

CONCLUSION:

Adenomyosis is most common diagnosis for patient undergoing hysterectomy LVH is associated with less blood loss compared to NDVH. NDVH group had significantly longer ambulation time compared to the LVH group. LVH patient have early ambulation because of less post-operative pain

compared to NDVH having more ambulation time In this study 0th post-operative day both with laparoscopic hysterectomy and non-decendent hysterectomy having the same result in view of post-operative pain. On 2nd 3rd and 4th post-operative day laparoscopic hysterectomy patient has lesser pain score compared to non-descend vaginal hysterectomy. That lead to early ambulation of the subject and lesser morbidity. Laparoscopic hysterectomy has a steep learning curve, requires modernized OT set-ups & special laparoscopic instruments and poses a greater financial burden for the patient when compared to vaginal hysterectomy Despite years of experience more intra op complications are there in LVH group compared to NDVH. So NDVH is preferred with less surgical experience with less equipment with very less Intra operative complication.

REFERENCES:

1. Patterns of hysterectomy in India: a national and state level analysis of the Fourth National Family Health Survey. S Desai, A Shuka, D Nambiar, and R Ved. s.l.: BJOG, 2016, Vol. 126.
2. Prevalence, sociodemographic determinants and self-reported reasons for hysterectomy in India. Chander Shekhar, Balram Paswan & Abhishek Singh. s.l.: Reproductive health, 2019, Vol. 118.
3. Chattopadhyay S et al. Int J Reprod Contracept Obstet Gynecol. 2017 Mar;6(3):1109-1112
4. Patel R, Chakravarty N. Comparative study of laparoscopic hysterectomy versus vaginal hysterectomy. Int J Med Sci Public Health 2014; 3:335-337.