



Original Article

## Study of Non-Descent Vaginal Hysterectomy

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### ABSTRACT

**Background:** Hysterectomy is one of the most commonly performed gynecological operations for benign uterine disorders. Traditionally, abdominal hysterectomy has been the preferred route; however, vaginal hysterectomy has consistently shown advantages such as reduced operative trauma, less postoperative pain, early ambulation, shorter hospital stay, faster recovery, and no abdominal scar. Non-descent vaginal hysterectomy (NDVH) has emerged as a safe and effective minimally invasive alternative in women with benign uterine pathology without uterine prolapse. With improved surgical expertise and the use of debulking techniques, NDVH can be performed successfully even in enlarged uteri and difficult cases.

**Aim:** To study the feasibility, surgical outcomes, and postoperative recovery of non-descent vaginal hysterectomy in women with benign uterine pathology.

**Methodology:** A prospective observational study was carried out in the Department of Obstetrics and Gynecology at Shri Guru Gobind Singhji Memorial Hospital and Dr. Shankarrao Chavan Government Medical College, Nanded, from August 2007 to August 2009. A total of 125 women with benign uterine pathology and non-descent uterus less than 16 weeks size were included. Patients with uterine prolapse, restricted uterine mobility, adnexal pathology, and malignant uterine lesions were excluded. Clinical profile, operative details, intraoperative findings, postoperative recovery, complications, and hospital stay were studied.

**Results:** The most common uterine size was normal uterus in 53 cases (42.4%), followed by 6–8 weeks size in 29 cases (23.2%). The maximum size uterus removed vaginally was 16 weeks. Bisection was the most commonly used morcellation technique in 33 cases (26.4%). Most surgeries were completed within 1–2 hours in 71 cases (56.8%). Spinal anaesthesia was used in 120 cases (96%). Conversion to laparotomy was required in 4 cases (3.2%). Bladder injury occurred in 1 case (0.8%), while no bowel or ureteric injury was observed. Recovery within 24 hours occurred in 113 patients (90.4%). Most patients were discharged after 3 days in 54 cases (43.2%). Postoperative complications were minimal.

**Conclusion:** Non-descent vaginal hysterectomy is a safe, feasible, and effective minimally invasive procedure for benign uterine disease. It is associated with low complication rate, shorter hospital stay, and favourable postoperative recovery.

**Keywords:** Non-descent vaginal hysterectomy, NDVH, vaginal hysterectomy, benign uterine pathology, surgical outcome.

### INTRODUCTION

Hysterectomy is the commonest major gynecological operation performed worldwide for a variety of benign uterine conditions. Traditionally, different surgical routes have been used for removal of the uterus, including abdominal, vaginal, and laparoscopic approaches. Among these, abdominal hysterectomy has remained the most frequently performed procedure for many years. However, vaginal hysterectomy is increasingly recognized as a superior surgical approach in appropriately selected patients because of its minimal invasiveness and better postoperative recovery. Although abdominal

hysterectomy has historically been more popular, evidence accumulated over the years has shown that vaginal hysterectomy is associated with less operative morbidity, reduced postoperative pain, shorter hospital stay, faster recovery, fewer complications, and better patient satisfaction. Despite these well-recognized benefits, the vaginal route continues to be underutilized in many gynecological practices.

Laparoscopic-assisted vaginal hysterectomy gained popularity over the past decades and was considered an important advancement in minimally invasive gynecology. However, it was later observed that much of the surgery was still completed vaginally and that the laparoscopic component often increased operative time and cost. Several comparative studies have shown higher rates of hemorrhage, hematoma, urinary tract injury, and anesthesia-related complications with laparoscopic-assisted vaginal hysterectomy when compared with conventional vaginal hysterectomy. In addition, operative duration for laparoscopic procedures has been reported to be nearly double that of vaginal hysterectomy in many cases. This renewed interest in vaginal surgery and reinforced the value of non-descent vaginal hysterectomy as an effective surgical technique for benign uterine disorders.

Non-descent vaginal hysterectomy refers to removal of the uterus through the vaginal route in the absence of uterine prolapse. Earlier, lack of prolapse, enlarged uterus, previous pelvic surgery, or associated pelvic pathology were often considered limitations for vaginal hysterectomy. With improved surgical skill, better understanding of pelvic anatomy, and the use of debulking techniques such as bisection, coring, and myomectomy, these limitations have gradually been overcome. NDVH is now considered feasible in a wide range of benign uterine conditions with good outcomes. It avoids abdominal incision, reduces postoperative discomfort, allows early ambulation, and offers cosmetic benefit due to absence of visible scar.

Sheth contributed significantly to the wider acceptance of NDVH and demonstrated its successful use in a large number of patients without prolapse. His concept of “trial vaginal hysterectomy” expanded the indications of the vaginal route and gave surgeons confidence to attempt vaginal removal even in potentially difficult cases. He emphasized that proper case selection, adequate experience, and mastery of debulking techniques can make NDVH possible in the majority of women requiring hysterectomy for benign disease. Other authors including Barter, Brown, Cravello, Dorsey, and Kovac also supported vaginal hysterectomy as a preferred route whenever feasible.

In many routine hospital settings, especially where advanced endoscopic facilities are not widely available, NDVH provides an effective, practical, and economical surgical alternative. It requires standard surgical instruments and can be safely performed by trained gynecologists without dependence on expensive equipment. The technique has a learning curve, but once mastered, it offers excellent operative and postoperative outcomes.

The present study was undertaken to evaluate the role of non-descent vaginal hysterectomy in women with benign uterine pathology. The study focuses on surgical feasibility, operative details, complications, postoperative recovery, and overall outcome of NDVH. It also aims to assess the practical usefulness of this technique as a minimally invasive surgical option in routine gynecological practice.

## AIM AND OBJECTIVES

### Aim:

To study the feasibility and outcomes of non-descent vaginal hysterectomy in women with benign uterine pathology.

### Objectives:

1. To note the benefits of non-descent vaginal hysterectomy.
2. To assess the possibility and feasibility of performing NDVH in benign uterine pathology.
3. To evaluate postoperative recovery and patient outcome following NDVH.

## MATERIALS AND METHODS

This prospective observational study was carried out in the Department of Obstetrics and Gynecology at Shri Guru Gobindsinghji Memorial Hospital and Dr. Shankarrao Chavan Government Medical College, Nanded, over a period of two years from **August 2007 to August 2009**. The study included **125 patients** diagnosed with benign uterine pathology who were planned for non-descent vaginal hysterectomy. All patients admitted through the gynecology outpatient department were evaluated clinically and selected according to predefined inclusion and exclusion criteria. Women with **non-descent uterus**, benign uterine pathology, and uterine size less than **16 weeks** were included in the study. Patients with uterine prolapse, uterine enlargement greater than 16 weeks, restricted uterine mobility, associated adnexal pathology, and malignant uterine lesions were excluded. A detailed history was recorded in every patient including age, parity, menstrual complaints, abnormal uterine bleeding, pelvic pain, and associated gynecological symptoms. All patients underwent thorough general physical examination, systemic examination, and pelvic examination. Routine investigations including hemoglobin estimation, urine examination, blood grouping, ultrasonography, and pre-anesthetic assessment were performed before surgery. Written informed consent was obtained from all patients before the procedure. To reduce operator bias, all surgeries were performed by senior gynecologists using a uniform surgical approach. Patients were

followed during the postoperative hospital stay and later on outpatient basis and through telephonic follow-up to assess recovery and postoperative wellbeing. The procedure of non-descent vaginal hysterectomy was performed under strict aseptic precautions, predominantly under spinal anesthesia. The patient was placed in lithotomy position and operative parts were painted and draped. A labial stitch was taken, Foley's catheter was inserted, and the cervix was held with vulsellum. A self-retaining weighted vaginal speculum was introduced into the vagina. Saline-adrenaline infiltration was given around the cervix using six drops of adrenaline diluted in 200 ml normal saline. A circumferential incision was made over the cervix and the bladder was dissected upward with the help of Sim's speculum. The posterior pouch was opened first, followed by gradual opening of the anterior peritoneal reflection. Sequential clamping, cutting, and ligation of uterosacral ligament, cardinal ligament, uterine vessels, round ligament, and fallopian tube were performed vaginally. Usually after the third clamp, the loose uterovesical fold of peritoneum opened laterally and allowed complete upward displacement of the bladder. The uterine fundus was then delivered vaginally with the help of tenaculum. In cases where delivery of the uterus was difficult due to size or limited space, debulking procedures such as **bisection, coring, or myomectomy** were used to facilitate removal. If vaginal completion was not possible or uncontrolled hemorrhage occurred, laparotomy was performed to complete hysterectomy. Intraoperative details including uterine size, operative duration, type of anesthesia, need for morcellation, and complications were recorded. Postoperative parameters such as recovery time, duration of intravenous fluids, postoperative complications, and duration of hospital stay were also documented. The main outcome measures evaluated were **feasibility of NDVH**, duration of surgery, requirement of debulking procedures, intraoperative complications, postoperative recovery, postoperative morbidity, and duration of hospital stay. Feasibility was assessed by successful completion of hysterectomy through the vaginal route without need for abdominal hysterectomy. Surgical outcome was evaluated based on operative time, complications, postoperative recovery, and discharge status. Data were compiled and analysed using descriptive statistical methods. Results were expressed in frequency, percentage, and proportion according to the objectives of the study to assess the safety, feasibility, and clinical outcome of non-descent vaginal hysterectomy in women with benign uterine pathology.

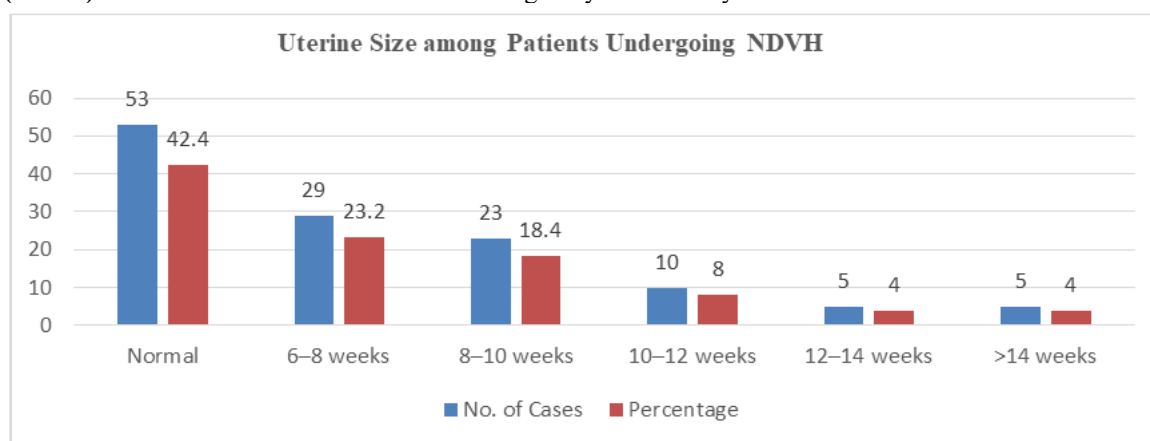
## RESULTS

A total of **125 women** with benign uterine pathology underwent non-descent vaginal hysterectomy during the study period. The results were analysed according to the study objectives to evaluate the feasibility of NDVH, operative details, postoperative recovery, and surgical outcome.

**TABLE 1 Uterine Size among Patients Undergoing NDVH (n = 125)**

Sr. No.	Size of Uterus	No. of Cases	Percentage
1	Normal	53	42.4
2	6–8 weeks	29	23.2
3	8–10 weeks	23	18.4
4	10–12 weeks	10	8.0
5	12–14 weeks	5	4.0
6	>14 weeks	5	4.0

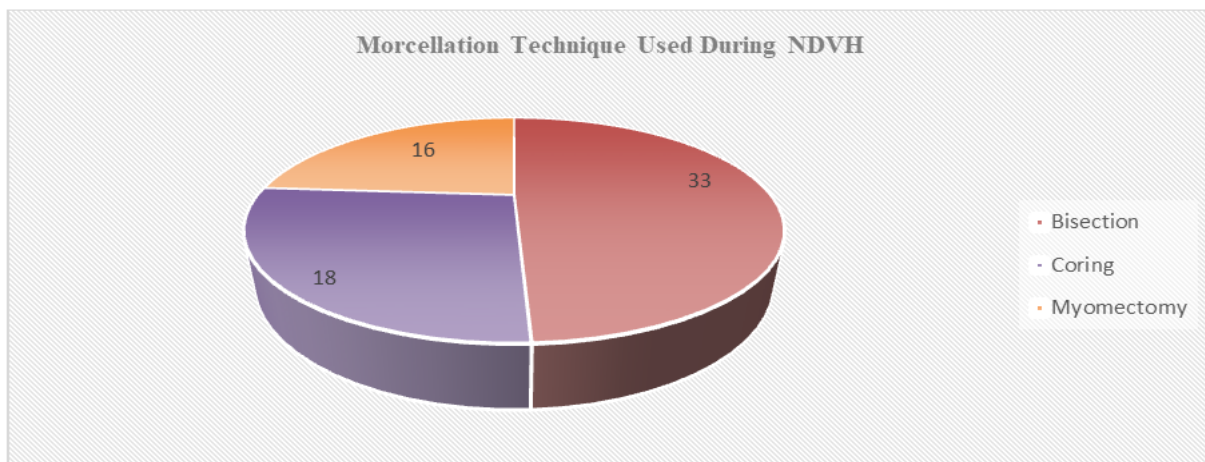
The most common uterine size was **normal size uterus**, observed in **53 cases (42.4%)**, followed by **6–8 weeks size in 29 cases (23.2%)**. The maximum uterine size removed vaginally in this study was **16 weeks**.



**TABLE 2 Morcellation Technique Used During NDVH (n = 125)**

Sr. No.	Debulking Method	No. of Cases	Percentage
1	Bisection	33	26.4
2	Coring	18	14.4
3	Myomectomy	16	18.4

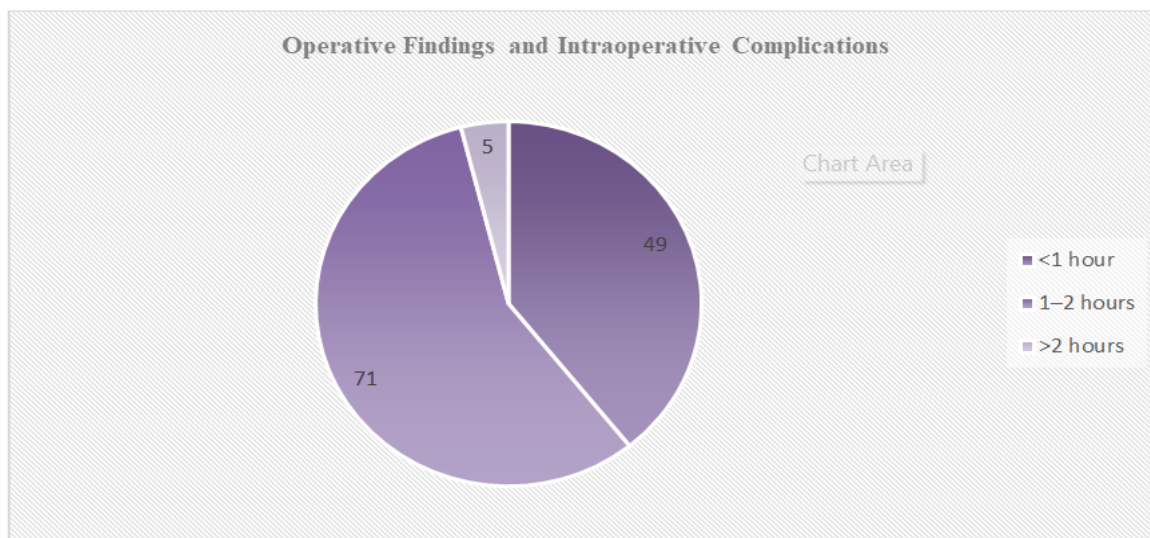
Among the debulking procedures used during surgery, **bisection was the most commonly performed technique in 33 cases (26.4%)**, followed by **coring in 18 cases (14.4%)** and **myomectomy in 16 cases (18.4%)**. These procedures helped facilitate vaginal removal of enlarged uterus and improved the feasibility of non-descent vaginal hysterectomy.



**TABLE 3 Operative Findings and Intraoperative Complications (n = 125)**

Parameter	No. of Cases	Percentage
<b>Duration of Surgery</b>		
<1 hour	49	39.2
1–2 hours	71	56.8
>2 hours	5	4.0
<b>Type of Anaesthesia</b>		
Spinal anaesthesia	120	96.0
General anaesthesia	2	1.6
Spinal + General	3	2.4
<b>Intraoperative Complications</b>		
Required laparotomy	4	3.2
Bowel injury	Nil	0.00
Bladder injury	1	0.8
Ureteric injury	Nil	0.00
Hemorrhage requiring blood transfusion	5	4.0
Slippage of pedicle	4	3.2

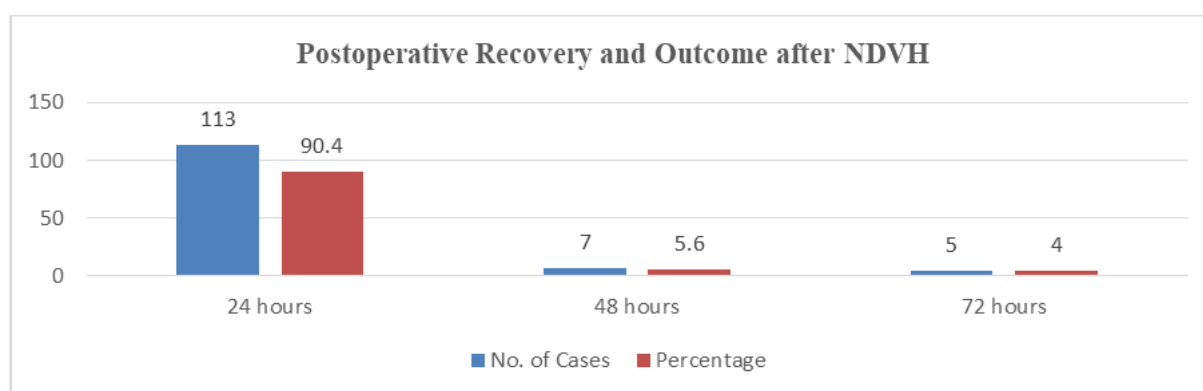
Majority of surgeries (**71 cases; 56.8%**) were completed within **1–2 hours**. Most procedures (**120 cases; 96%**) were successfully performed under **spinal anaesthesia**. Intraoperative complications were minimal. **Bladder injury occurred in only one case (0.8%)**, while **no bowel or ureteric injury** was noted.



**TABLE 4 Postoperative Recovery and Outcome after NDVH (n = 125)**

Parameter	No. of Cases	Percentage
Postoperative recovery time		
24 hours	113	90.4
48 hours	7	5.6
72 hours	5	4.0
Duration of IV Fluids		
12 hours	113	90.4
24 hours	8	6.4
36 hours	4	3.2
Duration of Hospital Stay		
3 days	54	43.2
4–5 days	50	40.0
>5 days	21	16.8

Postoperative recovery was satisfactory in the majority of patients. **113 patients (90.4%)** recovered within **24 hours** and required IV fluids for only **12 hours**. Most patients (**54 cases; 43.2%**) were discharged on the **third postoperative day**.



The present study demonstrates that non-descent vaginal hysterectomy is a feasible and effective surgical procedure in women with benign uterine pathology. NDVH could be successfully performed in patients with normal-sized uterus as well as enlarged uterus up to **16 weeks**. Debulking procedures were useful in facilitating vaginal removal, with **bisection** being the most frequently used technique. The majority of surgeries were completed within **1–2 hours**, indicating good operative feasibility. Most procedures were performed under **spinal anesthesia**, reducing anesthesia-related morbidity. Intraoperative complications were minimal, with only **one bladder injury (0.8%)** and no bowel or ureteric injury. Postoperative recovery was favorable, with most patients recovering within **24 hours**, requiring minimal intravenous fluid support, and being discharged within **3 days**. These findings support NDVH as a safe, minimally invasive, and effective surgical option with good operative and postoperative outcomes in selected benign uterine conditions.

## DISCUSSION

The present study was conducted to evaluate the feasibility, operative outcomes, and postoperative recovery of non-descent vaginal hysterectomy in women with benign uterine pathology. Vaginal hysterectomy remains one of the most effective minimally invasive gynecological procedures and offers several advantages over abdominal hysterectomy, including reduced operative trauma, shorter hospital stay, faster recovery, minimal postoperative pain, and no abdominal scar. With improved surgical expertise and the use of uterine debulking techniques, NDVH has become increasingly feasible even in women without prolapse and in moderately enlarged uterus. The present study confirms that NDVH can be safely performed in selected patients with favourable operative and postoperative outcomes.

In the present study, analysis of uterine size showed that the most common uterine size was **normal size uterus in 53 cases (42.4%)**, followed by **6–8 weeks in 29 cases (23.2%)**, **8–10 weeks in 23 cases (18.4%)**, **10–12 weeks in 10 cases (8%)**, **12–14 weeks in 5 cases (4%)**, and **greater than 14 weeks in 5 cases (4%)**. The largest uterus removed vaginally in this study measured **16 weeks**. These findings are comparable with **Sheth**, who demonstrated successful vaginal hysterectomy in enlarged uterus through appropriate case selection and surgical technique. **Hoffman** also reported that uterine size alone should not be considered a contraindication for vaginal hysterectomy. Similar observations were made by **Doucette** and **Richardson**, who concluded that enlarged uterus can be safely removed vaginally using proper debulking procedures. The present study supports the view that uterine size should not be the sole deciding factor for abdominal hysterectomy in benign disease.

**Debulking techniques played an important role in successful completion of NDVH in this series. Among the methods used, bisection was the commonest technique in 33 cases (26.4%), followed by coring in 18 cases (14.4%) and myomectomy in 16 cases (18.4%).** These findings are comparable with Sheth, who described bisection as the most useful and practical debulking technique during difficult vaginal hysterectomy. These findings are comparable with Sheth, who described bisection as the most useful and practical debulking technique during difficult vaginal hysterectomy. Thompson also highlighted the importance of uterine volume reduction procedures in facilitating removal of enlarged uterus through the vaginal route. Robinson and Hoffman similarly noted that techniques such as coring, bisection, and myomectomy significantly improve feasibility of NDVH and reduce the need for laparotomy. In the present study, these techniques contributed greatly to successful vaginal completion in patients with enlarged uterus and limited vaginal space.

Regarding operative time, the majority of surgeries in the present study were completed within **1–2 hours in 71 cases (56.8%)**, while **49 cases (39.2%)** were completed within **less than 1 hour**, and only **5 cases (4%)** required more than two hours. These findings are similar to observations by Kore, who reported shorter operative duration with vaginal hysterectomy compared with abdominal hysterectomy. Garg also found that NDVH requires less operating time in most benign uterine conditions. Comparable findings were noted by Brown and Sheth, both reporting that with increasing surgical experience, NDVH can be completed efficiently with shorter operative time and reduced tissue trauma. Shorter operative duration contributes to better patient recovery and reduced perioperative morbidity.

With respect to anesthesia, **120 patients (96%)** in the present study underwent surgery under **spinal anaesthesia**, while only **2 patients (1.6%)** required general anaesthesia and **3 patients (2.4%)** required combined spinal and general anaesthesia. Similar findings were reported by Barter, who emphasized the usefulness of regional anaesthesia in vaginal hysterectomy. Navratil also found spinal anaesthesia to be suitable for most vaginal hysterectomy procedures because of better postoperative recovery and reduced anaesthetic complications. Comparable results were observed by Sheth and Kovac, who reported that most NDVH procedures can be successfully completed under spinal anaesthesia. The high proportion of spinal anaesthesia in the present study further supports the practicality of NDVH in routine surgical settings.

Intraoperative complications were minimal in the present study. **Laparotomy was required in 4 cases (3.2%), bladder injury occurred in 1 case (0.8%), hemorrhage requiring blood transfusion occurred in 5 cases (4%), and slippage of pedicle occurred in 4 cases (3.2%).** There were **no bowel injuries or ureteric injuries**. These findings are comparable with Dicker, who reported lower complication rates with vaginal hysterectomy than abdominal hysterectomy. Cravello also documented low intraoperative morbidity with NDVH in large series. Similar findings were observed by Kore and Sheth, both reporting minimal visceral injury and low conversion rates during vaginal hysterectomy. The low rate of intraoperative complications in the present study demonstrates that NDVH is a safe surgical procedure when performed with proper technique and careful case selection.

Postoperative recovery in this study was highly satisfactory. **113 patients (90.4%)** recovered within **24 hours**, **7 patients (5.6%)** within **48 hours**, and **5 patients (4%)** within **72 hours**. Similarly, **113 patients (90.4%)** required intravenous fluids only for **12 hours**, while **8 patients (6.4%)** required 24 hours and **4 patients (3.2%)** required 36 hours. These findings are comparable with Hancock, who reported early ambulation and rapid recovery following vaginal hysterectomy. Robinson observed similar reduction in postoperative morbidity with vaginal surgery. Sheth and Garg also noted rapid recovery and early return to normal activity following NDVH. Faster recovery is one of the strongest advantages of vaginal hysterectomy over abdominal surgery and was clearly demonstrated in the present study.

Postoperative complications in the present study were minimal. **Spinal headache was the commonest complication in 12 cases (9.6%),** followed by **hip joint pain in 8 cases (6.4%), febrile illness in 5 cases (4%), and vault hematoma in 5 cases (4%).** Paresis of lower limb occurred in **3 cases (2.4%),** while **paralytic ileus and sepsis were seen in 1 case (0.8%)** each. No patient developed urinary retention or deep vein thrombosis. Similar findings were reported by Cravello, Kore, Dicker, and Brown, all of whom described low postoperative morbidity following NDVH. These results indicate that postoperative complications after NDVH are usually minor, manageable, and associated with good recovery.

Hospital stay was short in the present study. **54 patients (43.2%)** were discharged after **3 days**, **50 patients (40%)** stayed **4–5 days**, and **21 patients (16.8%)** required hospital stay of more than 5 days. These findings are consistent with those reported by Hancock, who demonstrated shorter hospital stay following vaginal hysterectomy. Similar observations were reported by Sheth, Garg, and Kovac, all noting early discharge and shorter hospitalization after NDVH. Reduced hospital stay lowers treatment cost, improves patient comfort, and supports earlier return to daily activities.

Overall, the findings of the present study demonstrate that non-descent vaginal hysterectomy is a safe, feasible, and effective minimally invasive procedure for women with benign uterine pathology. It can be successfully performed in normal as well as moderately enlarged uterus with the help of appropriate debulking techniques. Operative duration is acceptable, complications are minimal, recovery is rapid, and hospital stay is short. The results are comparable with those reported by Sheth, Kore, Garg, Hoffman, and Hancock. With proper surgical training, experience, and careful patient

selection, NDVH can be considered a preferred route of hysterectomy in benign uterine disease and may reduce the need for unnecessary abdominal hysterectomy.

## CONCLUSION

Non-descent vaginal hysterectomy is a safe, feasible, and effective surgical procedure for women with benign uterine pathology without uterine prolapse. It is associated with minimal intraoperative and postoperative complications, shorter operative duration, rapid postoperative recovery, and shorter hospital stay. With proper patient selection, surgical skill, and use of debulking techniques, NDVH can be successfully performed even in enlarged uterus and should be considered a preferred minimally invasive alternative to abdominal hysterectomy in routine gynecological practice.

## LIMITATIONS

The present study was conducted at a single institution with a relatively small sample size of 125 patients. A comparative group undergoing abdominal or laparoscopic hysterectomy was not included. Long-term follow-up regarding quality of life, recurrence of symptoms, and detailed sexual outcome assessment could not be studied extensively.

## RECOMMENDATIONS

Non-descent vaginal hysterectomy should be encouraged as a preferred route for hysterectomy in women with benign uterine pathology whenever feasible. Increased training in vaginal surgical techniques and careful patient selection can improve surgical success. Further studies with larger sample size and long-term follow-up are recommended to strengthen evidence regarding NDVH outcomes.

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