

# “Hysterectomy by Vaginal Route,” not a Pressure

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## ABSTRACT

Vaginal route of hysterectomy is a safe procedure with less morbidity and hospital stay. So there is a need to expand the indication for vaginal hysterectomy beyond uterovaginal prolapse.

**Aim:** To determine the feasibility and outcome of nondescent vaginal hysterectomy (NDVH) and to assess pre and postoperative complications, duration of surgery, and length of hospital stay.

**Materials and methods:** A prospective observational study was conducted between 2012 and 2014 at a tertiary care center. Two hundred fifty-six patients satisfying the selection criteria of hysterectomy for benign gynecological conditions, uterus size <16 weeks and excluding stage IV endometriosis, genital tract malignancy, and uterine prolapse were included. Nondescent vaginal hysterectomy was performed by the standard technique and the following parameters were recorded: age, parity, indication for surgery, duration of surgery, intra operative and postoperative complications, and hospital stay. The data were analyzed using SPSS version 16.0 by frequency and percentage analysis using Chi-squared test.

**Results:** All 256 patients were analyzed. The mean age was  $44.4 \pm 6.1$  years, fibroid uterus was the commonest indication, 89.4% had a uterine size  $\leq 12$  weeks, and 59% had uterine volume  $< 200 \text{ cm}^3$ . The mean duration of surgery was  $83.5 \pm 11.0$  minutes; salpingo-oophorectomy was performed in 25.8% of the patients. Intraoperatively 1.2% had bladder injury and 0.4% required conversion to laparotomy for pelvic hematoma. The mean duration of hospital stay was  $4.9 \pm 2.2$  days and the mean pain score in NRS pain scale was  $3.0 \pm 0.3$ . Intraoperative blood transfusion was required in 1.9% of the patients only.

**Conclusion:** Nondescent vaginal hysterectomy is a safe and feasible procedure for benign gynecological disorders.

**Clinical significance:** Nondescent vaginal hysterectomy is a boon in this techno-savvy era by reducing the morbidity and promising early return to work.

**Keywords:** Benign gynecological disorders, Hysterectomy, Nondescent vaginal hysterectomy, Non prolapsed uterus.

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## INTRODUCTION

Hysterectomy is one of the frequently performed surgeries in gynecology worldwide, only second to cesarean section.<sup>1</sup> Even though the vaginal route is associated with lower morbidity, less operative time, and faster recovery. The VALUE study suggested that 67% of surgeons still prefer abdominal approach especially when dealing with pelvic pathology or adnexal removal.<sup>2</sup>

## AIM

The aim of the present study was to determine the feasibility and outcome of nondescent vaginal hysterectomy (NDVH) and to assess the intraoperative and postoperative complications, duration of surgery, and length of hospital stay with NDVH.

## MATERIALS AND METHODS

This was a prospective observational study conducted at the Department of Obstetrics and Gynecology at a tertiary care center from July 2012 to July 2014. A total of 256 cases fulfilling the inclusion criteria of definitive indication for hysterectomy for benign gynecological disorders and uterine size up to 16 weeks were included. Women with uterine size more than 16 weeks, stage IV endometriosis, extensive pelvic adhesions, genital tract malignancy, uterine prolapse, and previous pelvic surgery other than sterilization were excluded. The baseline characteristics like age, parity, indication for hysterectomy, uterine size, intraoperative details like type of anesthesia, need for blood transfusion, visceral injury, and postoperative complications were recorded.

Nondescent vaginal hysterectomy was performed under regional or general anesthesia. A circular incision was made around

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the cervix; urinary bladder was pushed upward after cutting the pubovesicocervical ligament. The anterior and posterior pouches were opened. The uterosacral and Mackenrodt ligaments were clamped, cut, and ligated bilaterally. Then bilateral uterine vessels were secured after clamping, cutting, and ligating. In uteri of larger size with fibroid, adenomyosis, volume reduction techniques of bisection, myomectomy or intramyometrial coring were performed alone or in combination. The third clamps were placed on cornual structures (round ligament, fallopian tube, ovarian ligament) or infundibulopelvic ligament if ovary is removed. The vault was closed after removing the uterus and securing hemostasis.

## Statistical Analysis

The data were analyzed using SPSS version 16.0. For categorical data, frequency analysis and percentage analysis were used.

For continuous variables, mean and standard deviation were used. To find the significance, Chi-squared test was used. A *p* value <0.05 was considered as statistically significant.

## RESULTS

All 256 patients enrolled in the study were analyzed. The mean age of our patients was  $44.4 \pm 6.1$  years and the mean parity score was  $2.4 \pm 0.9$ . The most common indication for NDVH was fibroid uterus. Fibroid uterus was the commonest indication for surgery (Table 1). 89.4% of our patients had uterine size  $\leq 12$  weeks and 59% of the patients had uterine volume  $< 200 \text{ cm}^3$ . In 87.9% of the patients, NDVH was performed under spinal anesthesia. For reducing the volume of the uterus, 48.4% required bisection, 34% had myomectomy, 12.9% required coring, and uterus was removed in 4.7% of the patients. In 57.8% of the patients, bilateral salpingectomy and in 25.8% salpingo-oophorectomy were performed. The mean duration of surgery was  $82.5 \pm 11.0$  minutes. In our study, 4 (1.6%) patients had intraoperative complications: 3 (1.2%) patients with bladder injury were managed by the vaginal route itself and 1 (0.4%) with pelvic hematoma and was converted into laparotomy. The mean blood loss was 330 mL and 1.9% required blood transfusion. The mean hospital stay was  $4.9 \pm 2.2$  days with 57.4% having a duration of stay fewer than 5 days. In the postoperative period, 14 (5.5%) patients had morbidity and 3 of them required prolonged catheterization, 7 patients developed urinary tract infection, and the remaining 4 patients had respiratory tract infection. In the NRS pain scale, the mean pain score was  $3.0 \pm 0.3$ .

## DISCUSSION

Despite lower morbidity, less operating time for NDVH, a surgeon's reluctance to perform NDVH may be due to lack of training or fear of increased blood loss when dealing with larger uteri leading to the choice of hysterectomy by other routes. Prior to choosing the route of hysterectomy, physicians should consider how the procedure can be done safely and cost-effectively to fulfill the medical needs of the patient.<sup>3</sup>

According to ACOG, hysterectomy by the vaginal route is preferred if the size is up to 12 weeks.<sup>4</sup> However, the size of the uterus alone need not be the criterion as it also depends on the expertise of the surgeon. In our study NDVH was performed up to 16 weeks of size without any complications as we had the expertise of volume reduction techniques like myomectomy, bisection, and coring or a combination of these. Sheth et al. observed that hysterectomy was always feasible through the vaginal route for uteri less than 12 weeks of size and those with more than 12 weeks of size require expertise to perform the surgery. They also observed that the uterine volume up to  $300 \text{ cm}^3$  was feasible and if more than  $300 \text{ cm}^3$ , extra effort was needed to perform the procedure<sup>5</sup> and this is on par with our study. We did not include previous surgeries other than sterilization unlike Alokanda et al. study<sup>6</sup> as the surgeries

were performed by surgeons of varying caliber and hysterectomy by other routes were also performed equally.

The decision to electively perform salpingo-oophorectomy should not be influenced by the chosen route of hysterectomy and is not a contraindication to perform NDVH.<sup>3</sup> The same principle was followed even in our study and we did not use laparoscopic assistance for any of the patients. ACOG recommends laparoscopic assistance only for the difficult oophorectomy during vaginal hysterectomy.<sup>7</sup> The failure rate with vaginal route is 3–4%.<sup>8</sup>

The mean duration of surgery was higher when compared to various other studies. This might be due to the surgery being performed by the hierarchy of faculty of varying caliber as this study was conducted in a teaching hospital and also more time was required in patients with large volume of the uterus as we had included uteri up to 16 weeks of size unlike other studies that included up to 12 weeks only. Alokanda in their study observed a mean time of 72 minutes<sup>6</sup> but Garg et al. required only 41 minutes.<sup>9</sup> We also observed that the pain score was less and hence the need for analgesics was reduced and promoted early ambulation, reduced postoperative morbidity, and reduced duration of stay in the hospital. Another advantage with NDVH we observed in our study was that the amount of blood loss was considerably less and only 1.9% required blood transfusion. Overall, NDVH is both patient and doctor friendly if patients are selected properly. The limitation of our study was surgery being performed by surgeons of varying caliber and the cost-effectiveness could not be analyzed as the study was conducted in a teaching center.

## CONCLUSION

Hysterectomy by the vaginal route is a safe, cost-effective procedure with less morbidity and should be preferred in women requiring hysterectomy for benign gynecological conditions. So hysterectomy by the vaginal route is a pleasure and not a pressure.

## ACKNOWLEDGMENTS

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**Table 1:** Indications for nondescent vaginal hysterectomy

Characteristics	%
Fibroid uterus	28.5
Dysfunctional uterine bleeding (DUB)	27.7
Adenomyosis	26.95
Benign adnexal mass	1.95
Chronic cervicitis	14.8

