

**Brief Report****Non-descent vaginal hysterectomies: a brief report**

Sampath Gnanaratne

Department Gynaecology and Obstetrics, Faculty of Medicine, University of Peradeniya, Sri Lanka.


**Abstract**

Hysterectomy is the most common gynecological procedure carried out worldwide. The objective of this study is to provide evidence for the safety, efficacy, and cost-effectiveness of hysterectomy through the vagina for a non-descent uterus. Natural Orifices Transluminal Endoscopic Surgery is an alternative for non-descent uteruses. However, performing Non-Descent Vaginal Hysterectomy (NDVH) in Sri Lanka is not popular due to various reasons.

This case series includes seven patients who have undergone NDVH for benign gynecological conditions. The median age was 47. The median hemoglobin difference was 0.7 g/dl (IQR = 0.4), and the median time for the surgery was 40 minutes (IQR = 10). All of them were discharged within 24 hours except one which was retained to optimize her medical condition. The largest uterus which was removed in this study weighed 312 grams and the longest time spent was recorded as 72 minutes in the same case. The use of new technology like Ligature and Bi Clamp vessel sealer helped to reduce the operation time. Factors in favor of NDVH include large pelvis mobile, smaller uterus (less than 14 weeks), previous vaginal births, and multiparity, experience, and training of the surgeon.

The study concludes that non-descent vaginal hysterectomy is a safe and effective surgical treatment for benign gynecological diseases.

**Keywords:** Non-descent vaginal hysterectomies, Total laparoscopic hysterotomies, Natural orifice transluminal endoscopic surgery

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\*✉ **Correspondence:** [sgresearchuop@gmail.com](mailto:sgresearchuop@gmail.com)

 <https://orcid.org/0000-0007-6023-502X>

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**Introduction**

Hysterectomy is a common gynecological surgery for benign and malignant conditions [1]. Various surgical approaches such as vaginal, abdominal, laparoscopic, and robotic-assisted laparoscopic hysterectomy, are used. The choice depends on the indication, uterus size, available facilities, and surgeon competency [2].

Vaginal hysterectomy is generally better in terms of intraoperative and postoperative outcomes [3-5].

Performing hysterectomy in a non-descent utero as a natural orifice transluminal endoscopic surgery (NOTES) has emerged as an alternative approach for

conducting hysterectomies recently. However, performing a vaginal hysterectomy in a non-descent utero is challenging due to the limited space to perform the surgery, the blind approach to the peritoneal cavity, the risk of adjacent organ damage from previous surgeries (e.g., a caesarean section), difficulty in removal of fallopian tubes, ovaries and delivering the large uterus through the limited space in the vagina. It is quite a common and normal procedure to perform a vaginal hysterectomy on a prolapsed uterus, but NDVH is not popular in Sri Lanka. In the literature review, there are only a few articles published related to this topic globally. Performing alternative methods of hysterectomies such as TLH, LAVH, and robotics-assisted laparoscopic hysterectomy is becoming challenging because of the economic crisis in Sri Lanka. At the same time, it has been proven repeatedly that NOTES are safe as well as cost-effective for the patient.

This brief case series presents non-descent vaginal hysterectomies (NDVH) performed on a wide range of women with different indications in the professorial gynaecological ward, Teaching Hospital Peradeniya, from May 1st, 2023, to August 31st, 2023.

**Methodology**

Patients having benign causes for hysterectomy and uterine size not exceeding 14 weeks size gravid uterus were selected. Each patient was examined under anesthesia to assess the size of the uterus adnexa and pouch of Douglas (POD) and traction was applied from the uterine cervix to some patients to assess the

adhesion of the uterine body to the anterior abdominal wall, especially after cesarean section.

An indwelling catheter is used with 20 ml water to inflate the catheter bulb. Vesical reflection was identified and a heavy mayo scissor was used for initial dissection. A point scissor or no.11 scalpel is used to enter into the vesico uterine space in difficult cases like patients with previous cesarean sections.

POD was entered while using two tissue forceps and vertically dragging the posterior fornix. Blunt finger dissections were used where POD was completely obliterated with endometriosis or adhesions. Ligature or Bi-clamp vessel sealers were used to cauterize the uterosacral and transverse cervical ligament, round ligament, ascending branch of the uterine artery, and parametrium. Stitches were used only to secure the ovarian ligament. Bilateral salpingectomies were done with the help of right-angle forceps with Bi-clamp or ligature electrocautery. The vault was closed vertically by using No Note vicryl. Here laparoscopic hysterectomy electrocautery was used to seal the vessels and clamp the utero sacral and transverse cervical ligaments. Stitches were used only in clamping and dividing the parametrium at the level of the ovarian ligament.

Ethical approval was obtained from the Ethical Review Committee, Faculty of Medicine, University of Peradeniya, and the data were gathered anonymously using patients' clinical notes without divulging patients' identities or personal information.

**Table 1:** Selected cases of NDVH for the study.

Case	Age	Duration	Indication	Weight of the uterus	Hb difference
1	43	72 mins	Adenomyosis	312g	1.3
2	24	42 mins	Endometrial polyp	272g	0.8
3	54	24 mins	Submucosal fibroid	180g	0.7
4	60	32 mins	Post-menopausal bleeding	102g	0.4
5	47	42 mins	Simple ovarian cyst, Deep Vein Thrombosis	164g	0.7
6	70	40 mins	Moderate cystocele	147g	0.1
7	43	33 mins	Heavy menstrual bleeding	274g	0.4

## Results

Seven patients underwent NDVH during the study period. The median age was 47 years, and it ranged from 24 to 70 years, as mentioned in Table 1. There were various indications for hysterectomy, and the weight of the uterus and Hb differences are mentioned in Table 1.

The median hemoglobin difference was 0.7 g/dl (IQR = 0.4-0.75), and the median time for the surgery was 40 minutes (IQR = 32.5-40). The largest uterus which was removed in this study weighed 312 grams and the longest time spent was recorded as 72 minutes in the same case.

Case number 01 was a patient with a previous cesarean section and adenomyotic uterus, having difficulties entering POD as well as vesico cervical space. The patient in the second case had a previous anterior colporrhaphy and bladder dissection was difficult thus, the point scissor and the number 11 scalpel blade were used to reach tissue planes. Case number 06 was on warfarin for DVT as she had an affected left leg and a left ovarian simple cyst size 7cm x 8cm. As tumor markers were normal and ultrasonic features of a benign nature, this cyst too has been managed under NDVH.

All these patients had a total hysterectomy and B/L salpingectomy. No major incidents were reported such as ICU admission, blood transfusion, conversion to open abdominal surgeries, recourse to theater for re-exploration, or re-admission. The catheter was removed after 12 hours and all patients were discharged within 24 hours except the patient with DVT as she was switched back to warfarin.

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## Discussion

Evaluation of this case series has shown that NDVH can be performed safely in a wide range of patients without having significant intra-operative and post-operative complications, which is equally or superior to other modalities of hysterectomy.

The vaginal approach to hysterectomy is widely used by gynecological surgeons as it is the least invasive route and is popular among patients due to its convenience. Non-descent vaginal hysterectomy is a better alternative to conventional abdominal hysterectomy and laparoscopic hysterectomy for selected benign gynecological conditions. Factors for a non-descent vaginal hysterectomy include a mobile uterus, large pelvis, single, large accessible fibroid, previous vaginal births, and multiparity. In case of enlarged uteri due to fibroids, adenomyosis techniques like bisection [6], myomectomy [7], wedge resection [8], slicing method [9], coring, and Ligasure Vessel sealing system [10] can be used to achieve better outcomes. If deciding the route of hysterectomy is uncertain, a tentative vaginal hysterectomy is recommended.

Studies have shown a significant decrease in blood loss, duration of surgery, postoperative pain, time to postoperative mobility, wound infection, febrile morbidity, length of hospital stay, and postoperative blood transfusion in the vaginal group compared to the abdominal group [4,5]. The study concludes that vaginal hysterectomy is a safe and effective surgical treatment for benign gynecological diseases and recommends offering it whenever possible

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