



**ORIGINAL RESEARCH PAPER**

**Obstetrics & Gynaecology**

**A COMPARATIVE STUDY OF TOTAL LAPROSCOPIC HYSTERECTOMY AND NON-DESCENT VAGINAL HYSTERECTOMY FOR BENIGN UTERINE PATHOLOGY.**

**KEY WORDS:** Hysterectomy, NDVH, Pap smear, TLH

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**ABSTRACT**

**INTRODUCTION: BACKGROUND:** Hysterectomy is the most common gynaecological procedure, it can be performed by various methods such as Total abdominal hysterectomy, Vaginal hysterectomy and total laparoscopic hysterectomy. Laparoscopic surgeries requires high tech operation theatre set up, sophisticated instruments and surgical skills. Vaginal hysterectomy -descent or non descent is simple, effective and economical.

**OBJECTIVES:** This study compares indication of hysterectomy, duration of operation, blood loss, intra-op complications, duration of post-op mobilisation, post-operative complications between total laparoscopic hysterectomy (TLH) and non descent vaginal hysterectomy (NDVH).

**METHODS:** A prospective study was conducted over 40 patients undergoing above operation (20 cases of TLH and NDVH each) over duration of 6 months from July 2018 to December 2018 at Saint George's Hospital, Mumbai. All patients were examined and investigated in terms of blood investigations, ultrasound, chest Radiograph, Urine examination, and malignancies were ruled out by Pap smear and /or D&C. All patients who underwent the surgery were observed during pre-operative, intra operative and post-operative period.

**RESULTS:** NDVH procedure takes lesser operative time, has lesser complications, is less expensive than TLH but intra operative blood loss and ambulation time is slightly more in NDVH cases.

**CONCLUSION :** NDVH is preferred over TLH as it takes lesser time to operate, has an easier approach i.e. through genital orifice. It is economically a better choice in government hospitals due to limited resources whereas TLH requires greater surgical skills, takes longer operative time, and has more operative complications as compared to NDVH.

**INTRODUCTION**

Hysterectomy is the second most common gynaecological operation done after Caesarean Section<sup>1</sup>. In India, majority of hysterectomies are performed for benign pathology of uterus (90%)<sup>2</sup>. As most of the Indian women belongs to lower socioeconomic class, it is important that the procedure of hysterectomy for Indian population should be cost-effective and with minimum duration of hospital stay. Hysterectomies can be performed by various routes such as Abdominal, Vaginal and Laparoscopic. As time passes patient prefers surgery which is less painful, minimally invasive, having less complications and cosmetically better. Non descent vaginal hysterectomy is very simple, easy to learn, has lesser complications. Total Laparoscopic Hysterectomy is a modern concept, requires sophisticated OT set-ups & special laparoscopic instruments and greater surgical skill. Still it is gaining popularity because of its minimal invasiveness and dissection under direct laparoscopic vision.

**METHODS**

This is a prospective observational study, conducted on patients undergoing hysterectomies during July 2018 to December 2018 at Saint George's Hospital, Mumbai. Sample size- 40 patients undergoing hysterectomy, 20 undergoing TLH and 20 undergoing NDVH.

All patients were properly examined and investigated and malignancies were excluded by Pap smear and / or D&C. All patients were under close observation during pre-operative, intra operative and post-operative period for any complications.

**AIMS AND OBJECTIVES**

To compare and study Total Laparoscopic hysterectomy and non-descent vaginal hysterectomy for benign uterine pathology.

**Inclusion criteria**

Age >35 years, having at least 1 child, uterus size <14 weeks, patients not responding to medical management for at least 6

months, patient having only benign uterine pathologies such as fibroid and polyps, adenomyosis, endometriosis, dysfunctional uterine bleeding.

**Exclusion criteria**

Uterine size >14 wks, history of more than one LSCS, prolapse uterus, Genital malignancy, Acute PID. Patient selected as per inclusion and exclusion criteria and divided into 2 groups, 20 in each. Pre operative Investigations included complete haemogram, liver function test, kidney function test, fasting and post-prandial sugar levels, serology, chest radiograph & ECG 12 leads. Thyroid profile and 2D echocardiography and Pulmonary function tests were done as per the patient's medical history. Intra-operative & post-operative parameters were recorded and analysed by statistical methods and appropriate test for significance was applied (t-test & Chi square test as applicable). P value of <0.05 was considered significant.

Intra operative assessment include time required for surgery, amount of blood loss and complications such as bowel/ bladder injury. During post operative period, post operative mobilisation time was measured in terms of hours from the time the patient is shifted to bed after surgery till she starts walking. Duration of hospital stay was measured as number of days from day of admission to the day of discharge. Post-operative complications like febrile illness, UTI, urinary retention after removal of catheter, pelvic hematoma or vaginal cuff infection were recorded for each case.

**Results**

**Table 1: Distribution of patients according to the type of surgery and age group**

Type of Surgery	Age Group(Yrs)	Mean±SD	P value
NDVH	44.3±3.77		0.6
TLH	43.25±5.02		

Table 1 shows mean age group undergoing hysterectomy, for NDVH it is 44.3 years and for TLH it is 43.25 years. The difference is statistically insignificant.

**Table 2: Distribution of patients according to the type of surgery and duration of operation.**

Type of Surgery	Duration of Operation (mins) Mean±SD	P value
NDVH	70±9.03	0.000
TLH	99±9.03	

Table 2 recorded that duration of operation in NDVH is 70 minutes and in TLH it is 99 minutes. It is statistically significant, as P value is 0.000.

**Table 3: Distribution of patients according to type of surgery & intra operative blood loss**

Type of Surgery	Intraoperative blood loss (ml) Mean±SD	P value
TLH	40±7.94	0.000
NDVH	70±12.56	

Table 3 shows intra operative blood loss in NDVH is 70ml and in TLH is 40 ml. This is statistically significant as p value is 0.000.

**Table 4: Distribution of patients according to the type of surgery and ambulation time.**

Type of Surgery	Ambulation time (hrs) Mean±SD	P value
NDVH	19±1.25	0.06
TLH	17.25±1.29	

Table 4 shows post operative ambulation time in NDVH is 19 hours and in TLH is 17.25 hours. This is statistically not significant as p value is 0.06.

**Table 5: Distribution of patients according to the type of surgery and duration of hospital stay**

Duration of Hosp stay	NDVH	TLH	P value
<5 days	8	2	0.02
>5 days	12	18	

Table 5. Shows duration of hospital stay, in NDVH and TLH duration of hospital stay less than 5 seen in 8 and 2 patients respectively while more than 5 seen in 12 and 18. This is statistically significant since p value is 0.02.

**Table 6: Distribution of patients according to the type of surgery and the post-operative complications**

Complications	TLH	NDVH	P value
Retention of urine	1	0	0.322
Fever	1	1	1.00
UTI	1	2	0.560
PV Bleeding/Vault Hematoma	1	0	0.322
Vault Infection	0	0	NA
Conversion to open surgery	1	0	0.322

**Table 7: Distribution of patients according to the type of surgery and indication of surgery**

Indication of Surgery	NDVH	TLH	P value
DUB	9	9	0.6
Fibroid	7	9	

Table 7 shows the distribution of NDVH and TLH as per indication of hysterectomy, NDVH done in 9 patients with DUB, 7 with fibroid and 4 with other indications such as CIN, PMB and AUB etc. Whereas TLH done in 9 patients with DUB, 9 with FIBROID and 2 with other indications. The difference is statically insignificant as the p value is 0.6.

**DISCUSSION**

This study shows that the mean age of hysterectomy (in both NDVH and TLH) is nearly equal i.e. 44.3 and 43.25 years respectively. Goswami D, Kumari N, Gupta V, Chaudhary P, et al shows that the mean age of hysterectomy is nearly same in both NDVH and TLH<sup>3</sup>.

The duration of NDVH and TLH is 70 minutes and 99 minutes. It is statistically significant, as P value is 0.000. The study conducted by Bobin L, et al shows that, time required for LAVH is more than 90 minutes<sup>4</sup>. The study conducted by Nur Naher Khanam, et al concluded that NDVH requires less than 90 minutes whereas LAVH requires more than 2 hours<sup>5</sup>.

This study shows that intra operative blood loss in NDVH is 70ml and in TLH is 40 ml. This is statistically significant since p value is 0.000. However, the study conducted by Nur Naher Khanam, et al concluded that need of blood transfusion is more in patient undergoing LAVH as compared to NDVH.5 Roy KK, et al study concluded that study blood loss in NDVH group is significantly lesser<sup>6</sup>.

This study shows that post operative ambulation time in NDVH is 19 hours and in TLH is 17.25 hours. This is statistically not significant since p value is 0.06.

A B Fuzayel, Banasree Bhadra, N Choudhury, D J Shyam, et al, conducted a study which concluded that, post operative ambulation time is less in LAVH<sup>7</sup>.

This study shows duration of hospital stay, in NDVH and TLH of less than 5 is seen in 8 and 2 patients respectively while more than 5 is seen in 12 and 18. This is statistically significant since p value is 0.02. However Candiani M et al., concluded that laparoscopic hysterectomy has shorter hospital stay as compared to Vaginal hysterectomy<sup>8</sup>.

This study concluded that complications such as retention of urine, vault hematoma and conversion to open were seen in TL while fever and UTI seen in both groups.

This study concluded that most common indication of NDVH and TLH are DUB and fibroids. The study conducted by Goswami D, Kumari N, Gupta V, Chaudhary P, et al, recorded that Most common indication of hysterectomy in NDVH group was DUB and fibroid whereas in LAVH Fibroid was most common and second most common indication was DUB.

**CONCLUSION**

This study concluded that, NDVH has lesser duration of operation, lesser duration of hospital stay and has fewer complications. Whereas TLH has less blood loss and early ambulation in postoperative period but has more complications. Most of the Indian population belong to the rural area so NDVH has gained importance because it is less expensive, faster and requires less learning skill as compared to TLH. TLH requires high tech OT set up, expensive laparoscopic instruments and great learning skill.

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