

A Prospective Randomised Study for Comparison of Total Laparoscopic Hysterectomy and Non Descent Vaginal Hysterectomy for the Treatment of Benign Diseases of Uterus

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Abstract: To compare the surgical outcome of two techniques of hysterectomy-TLH and NDVH. 40 women with benign diseases of uterus were randomized into two groups, 20 in each group. In these patients, intraoperative parameters were compared like total duration of surgery, amount of blood loss, intraop complications and total duration of hospital stay. Duration of surgery, amount of blood loss, intraop complications, total duration of hospital stay and overall cost were less for NDVH whereas postop pain was less for TLH. NDVH came out to be the better route for hysterectomy compared to TLH.

Keywords: TLH: total laparoscopic hysterectomy, NDVH: non descent vaginal hysterectomy, DUB: dysfunctional uterine bleeding.

INTRODUCTION

Hysterectomy is the second most common major surgical procedure performed on women after caesarean section [1]. In India, the incidence of hysterectomy is 4-6% out of which 90% are performed for benign indications [2]. While the incidence of hysterectomy in the Western countries is 10-20% with the highest rate in the United states and the lowest in Norway and Sweden. There are various possible approaches to hysterectomy for benign diseases of uterus- Abdominal hysterectomy (AH), vaginal hysterectomy (VH), Laparoscopic hysterectomy (LH).

Although laparoscopic hysterectomy (LH) takes longer time, its proponents have emphasized several advantages over abdominal hysterectomy in terms of intraoperative blood loss, less postoperative morbidity, rapid recovery time, shorter hospital stay, fewer febrile episodes and early return to normal activities [3].

It is done with the advantage of avoiding a major abdominal scar (small incision reduces the risk of wound infection) but is more expensive and above all needs special training.

The only formal guideline available is the uterine size guideline by ACOG in 1989, which suggest that VH is most appropriate in women with mobile uteri not larger than 12 weeks gestational size (approximately 280gms). ACOG also acknowledges that the choice of approach should be based on the surgical indication, the patient's anatomic condition, and data supporting the approach, informed patient preference, the surgeon's expertise and training [4].

TLH is a recent advance in the field of gynecological surgery in which operation is done

laparoscopically as against NDVH. TLH facilitates better anatomical views, allows performance of concomitant surgery, and is suitable for larger uteri and those with little or no descent, which may prove difficult to be removed vaginally [5].

On the other hand NDVH is cheaper, cosmetic (stitchless surgery) and associated with decreased morbidity.

AIMS AND OBJECTIVES

Aim

To compare the surgical outcome of two techniques of hysterectomy for women with benign diseases of uterus, by the same surgeon

Objectives

To compare the following parameters in two techniques of hysterectomy:-

- Total duration of Surgery
- Amount of blood loss during Surgery
- Intraoperative Complications
- Post-operative pain
- Total duration of hospital stay

MATERIALS AND METHODS

This study was carried out in the Department of Obstetrics and Gynaecology of Dr. Susheela Tiwari Memorial Hospital, Haldwani, District Nainital of Uttarakhand.

Inclusion criteria

All diagnosed haemodynamically stable cases of “benign” diseases of uterus not amenable to or failed medical management.

Exclusion criteria

- Malignant diseases of uterus and cervix

- Severe endometrioses
- IInd and IIIrd degree UV prolapsed
- Acute PID
- 50 patients were screened for the study. Out of these, 43 patients agreed to provide informed written consent. Of 43 operated patients, three patients were excluded as they required adnexal removal. This was done to minimize the selection bias leading to interference in operative time and blood loss. Three women did not come for follow up. Hence, 40 women (20 in both groups) were statistically analysed for present study.
- Patients in group A underwent TLH in which whole procedure was performed laparoscopically.
- Vaginal hysterectomy in a non- prolapsed uterus without laparoscopic assistance, termed as non-descent vaginal hysterectomy constituted group B.

OBSERVATIONS AND RESULTS

Table-1: Comparison of Age, Diagnosis, Complications, Duration of surgery, Amount of blood loss, Postop pain, Duration of hospital stay

Parameters	Group A	Group B	P value
Age	44.8	46.25	0.554
Diagnosis			
<ul style="list-style-type: none"> • 1 deg Cx descent • DUB • Fibroid uterus • Postmenopausal bleeding • Uterine myohyperplasia 	20% 55% 20% 5% 0%	15% 65% 10% 5% 5%	0.711
Intraop Complications			
Ureteric injury	5%	0%	0.366
Bladder injury	0%	0%	
Haemorrhage	5%	10%	
Duration of surgery	142.5±27.3	70 ±15.3	0.0001
Amount of blood loss	284.5±18.7	242.5±43.8	0.001
Postop pain	5.35 ±1.39	5.95 ±0.89	0.378
Duration of hospital stay	6.45 ±1.54	5.5 ±0.61	0.0155

DISCUSSION

Comparison of age

In this study majority of patients belong to age group of 40 – 49 years since incidence of menstrual disorders is more during this age group.

Comparison of indications of hysterectomy

Most common indication for hysterectomy in present study as DUB 58.33% (35 in 60)

Table-2: Comparison of age with other studies

Mean age (yrs)	Our study	KK Roy <i>et al.</i> 2010	Raxita Patel <i>et al</i>	Nurun Nahar Khanam <i>et al</i>	Koike <i>et al.</i> 2014
TLH	44.8±6.91	41.9	43.87	-	46.8
NDVH	46.25±5.49	43.7	42.07	44.2±4.0	-

Table-3: Comparison of various Indications of hysterectomy with other studies

	Our study (n=40)	KK Roy <i>et al.</i> , 2010 (n=90)	Raxita Patel <i>et al.</i> (n=100)	Mathew Morton <i>et al.</i> (n=152)
DUB	(58.33%)	32	41	23
Fibroid	(20%)	52	33	84
1 deg Cx descent	(16.66%)		-	-
Adenomyosis	-	04	18	23
Myohyperplasia	(1.67%)		-	-
Post-menopausal bleeding	(3.33%)	-	04	-
Chronic pelvic pain	-	-	05	-
Others	-	02	-	22

Comparison of operating time

In our study operating time of TLH varied between 180 min (max) to 100 min (min); the mean

time being 142.5±27.31 min. The mean operating time for NDVH being 70±15.3 min. So, TLH took more operating time than NDVH.

Table-4: Comparison of operating time with other studies

		OUR STUDY	KK Roy <i>et al.</i> 2010	Matteson <i>et al.</i> 2009
1	TLH	142.5±27.31	105±23	99±25
3	NDVH	70±15.3	67±29	81±30

Comparison of amount of blood loss

In our study, when we compared the amount blood loss among both groups, we found that the blood

loss for NDVH was minimum, which was clinically significant (p=0.001).

Table-5: Comparison of blood loss with other studies

Mean Amount of blood loss(min)	Our study	KK Roy <i>et al.</i> 2010	Raxita Patel <i>et al.</i>	Mathew Morton <i>et al.</i> 2008
TLH	284.5±18.77	250	204.4	141
NDVH	242.5±43.87	200	187.01	114

COMPARISON OF COMPLICATIONS

Intraoperative complications

Urinary tract injury (bladder and ureter) is the most common visceral injury encountered in laparoscopic hysterectomy. Laparoscopic uterine artery ligation is the most common procedure likely to increase the risk of ureteric injury.

In our study, incidence of ureteric injury was in 1 case of TLH group. These complications occurred in laparoscopic surgeries during initial period of learning curve. Ureteric injuries were identified intraoperatively and were repaired by the surgeon

during surgery. In KK Roy *et al.* there were no visceral injuries in any of the groups.

Comparison of postoperative pain

Post-operative pain was determined by Visual Analogue Scale (VAS) on a grade of 1-10 as no pain to worst pain possible. Pain scoring was done in all the patients after 48 hrs of operation. In our study, TLH group had less pain as compared to NDVH (p=0.0001) which was statistically significant.

Comparison of duration of hospital stay

In our study, duration of hospital stay was least for NDVH and statistically significant (P value=0.0155).

Table-6: Comparison of postoperative pain with other studies

Pain score on VAS scale	Our study			KK Roy <i>et al.</i> 2010			Raxita Patel <i>et al.</i>		
	0-3	4-6	>6	0-3	4-6	>6	0-3	4-6	>6
TLH	12	08	-	14	14	02	02	05	01
NDVH	-	14	06	18	12	0	13	34	10

Table-7: Comparison of duration of hospital stay with other studies

Mean duration of hospital stay (days)	Our study	KK Roy <i>et al</i> , 2010	Nurun Nahar Khanam <i>et al</i>	Mani K <i>et al</i> .
TLH	6.45 ±1.54	2	-	4.63 ± 1.2
NDVH	5.50 ±0.61	2	4.20 ± 0.6	-

CONCLUSION

Our study showed that laparoscopic hysterectomies had advantage of better visualization of pelvic structures during surgery and occasional dissection and adhesiolysis, lesser postoperative pain and morbidity, while it is more time consuming (i.e. longer learning curve), requires training and is costly (expensive instruments are needed). Laparoscopic procedures are never performed in seropositive patients. There is always risk of conversion to laparotomy.

NDVH is done through naturally created route so gives no scar, lesser handling of intestine, quicker, cheaper surgery, with lesser intraoperative complications so patients were discharged early. In seropositive patients NDVH is preferred as compared to laparoscopic surgeries.

So on the basis of above discussion NDVH comes out to be the better route for hysterectomy. The future place of LH will be determined by the increased familiarity and skill of surgeons.

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