

Navigating Hysterectomy Choices: A Retrospective Study On Non-Descent Vaginal And Total Abdominal Hysterectomy In Rural Women

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Abstract

Background

The aim of the study is to compare the results of non-descent vaginal and total abdominal hysterectomy procedures done in women in a tertiary care hospital. A retrospective study done by collecting the data from medical records who underwent non-descent vaginal and total abdominal hysterectomy done in women with fibroids, adenomyosis, endometrial atypical hyperplasia and abnormal uterine bleeding.

Materials and Methodology

This was a retrospective study done by collecting the data from medical record department of the hospital for the period of 6 months from April 2024 to September 2024. The total record of the study consisted of 400 patients out of which 200 patients underwent total abdominal hysterectomy and the rest 200 underwent non-descent vaginal hysterectomy. Those patients were pre-operatively assessed by physical, clinical, radiological evaluations as well as biochemical tests.

Results

The data of a total of 200 NDVH patients and 200 TAH patients was analysed which showed that NDVH patients had lower parity and BMI, smaller uterine sizes, and were more likely to have surgery for abnormal uterine bleeding. Intraoperative outcome was found to be better for NDVH, with less blood loss and shorter operative duration. The post-operative complications were significantly lower in the NDVH group, resulting in shorter hospital stays. Overall, NDVH outcomes were found to be superior to TAH.

Conclusion: The non-descent vaginal hysterectomy has much advantages when compared to total abdominal hysterectomy.

Keywords: Total abdominal hysterectomy, non-descent vaginal hysterectomy, gynaecological diseases, operative outcome

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I. Introduction

Hysterectomy is the most common operation performed all over the world¹. This procedure is often indicated for a variety of benign gynecological conditions, such as uterine fibroids, adenomyosis, endometrial atypical hyperplasia, and abnormal uterine bleeding (AUB). Although vaginal hysterectomy is the least invasive option, due to the convenience of the surgeon and the routine training many practitioners receive, abdominal hysterectomy remains popular. There is a prevailing myth related to the difficulty of performing vaginal hysterectomy in cases involving larger uteri, adhesions, endometriosis, particularly in patients with a history of previous surgeries².

On the contrary, in a non-prolapse uterus, even in the presence of these conditions, vaginal hysterectomy can be successfully performed. This is an important distinction, as it challenges the common misconceptions that may lead to an unnecessary preference for abdominal approaches. Studies indicate that, when executed by skilled surgeons, vaginal hysterectomy can be safe and effective, even for uteri up to 14 weeks in size.

Many surgeons may choose abdominal hysterectomy due to concerns about potential complications associated with vaginal procedures, including urinary tract injuries and longer operative times³. However, emerging evidence suggests that, with appropriate training and experience, these risks can be minimized.

In a rural healthcare setting, where resources may be limited, advocating for and training in vaginal hysterectomy techniques could significantly improve patient outcomes. This study aims to compare the results of non-descent vaginal hysterectomy and total abdominal hysterectomy in women with non-descent mobile uteri, contributing valuable insights into the effectiveness of vaginal approaches in diverse clinical settings.

II. Material And Methods

A retrospective study of the patients admitted in the department of obstetrics and gynaecology KMCH, Kerala was taken for study from April 2024 to September 2024. The medical record department of the hospital was approached and records were taken and data was collected.

Total patients who had NDVH were 200 and those who had TAH were 200.

Inclusion Criteria: comprised of all patients who had benign gynaecological conditions in the non-descent mobile uterus with size less than 14 weeks.

Exclusion Criteria: consisted of women who had vaginal prolapse associated with adnexal pathology, previous two LSCS and uterine size more than 14 weeks.

Ethical approval was obtained from the committee.

III. Results

An examination of 400 medical records was conducted, involving 200 patients who underwent non-descent vaginal hysterectomy (NDVH) and 200 who had total abdominal hysterectomy (TAH). The study compared the two groups' demographics (Table 1), reasons for surgery (Table 2), operative outcomes (Table 3), and post-surgery complications (Table 4). The demographic evaluation uncovered notable disparities between the groups in terms of parity, BMI, uterine dimensions, and coexisting health conditions. NDVH patients exhibited a lower mean parity than TAH patients ($p = 0.007$). Interestingly, individuals with more than three children were more common in the NDVH group. Body mass index also showed significant differences, with a higher proportion of NDVH patients having a BMI below 20 ($p = 0.038$). The NDVH group had markedly smaller uterine sizes, with a highly significant p-value of <0.0001 . The main reasons for surgery included abnormal uterine bleeding (AUB), with the NDVH group showing a considerably higher percentage of cases attributed to AUB caused by fibroids and adenomyosis ($p < 0.001$). In contrast, TAH was more commonly performed for large fibroid uteri and other complications. The NDVH group demonstrated superior intraoperative outcomes, with 72% of patients experiencing blood loss under 500 mL compared to 56% in the TAH group ($p < 0.001$). Moreover, the mean operative duration was briefer for NDVH ($p < 0.001$). Post-operative complications were substantially lower in the NDVH group, with only 31% reporting post-surgery pain versus 56% in the TAH group ($p < 0.001$). Hospital stays were also shorter for NDVH patients, with 92% discharged within four days compared to 81% of TAH patients ($p = 0.009$). The estimated blood loss for NDVH was significantly lower, with 72% of patients experiencing less than 500 mL compared to 56% in the TAH group ($p < 0.001$). Additionally, 73% of NDVH surgeries were completed in under one hour, contrasting with only 33.5% of TAH procedures ($p < 0.001$). Intraoperative complications were minimal, with no bladder injuries in the NDVH group, while TAH had one reported case ($p = 0.007$). Postoperatively, 31% of NDVH patients reported pain versus 56% of TAH patients ($p < 0.001$), and there were no significant instances of bleeding in the NDVH group, while TAH recorded two cases. The use of prophylactic anticoagulants was higher in the TAH group (28% vs. 14% in NDVH; $p = 0.003$). Overall, these findings indicate that NDVH is associated with significantly better intraoperative and postoperative outcomes compared to TAH, highlighting its advantages as a safer and less invasive surgical option.

Table 1. Demographic Variables

VARIABLE	CATEGORY	GROUP WISE				TOTAL		CHL SQUARE	P-VALUE
		NDVH(200)		TAH(200)		N	%		
		N	%	N	%				
AGE	<40 yrs	4	2	8	4	12	3	2.0865	0.724
	40-50 yrs	22	11	24	12	46	11.5		
	45-50 yrs	72	36	62	31	134	33.5		
	50-55 yrs	56	28	48	24	104	26		
	>55 yrs	46	23	58	29	104	26		
PARITY	1	14	7	31	15.5	45	11.25	9.98	0.007
	2	96	48	102	51	198	49.5		
	>3	90	45	67	33.5	157	39.25		
BMI	<20	12	6	6	3	18	4.5	8.41	0.038
	20-25	61	30.5	42	21	103	25.75		
	25-30	86	43	96	48	182	45.5		
	>30	41	20.5	56	28	97	24.25		
	NORMAL SIZE	108	54	12	6	120	30		
UTERINE SIZE	8-10 WKS	52	26	24	12	76	19	153.2	<0.0001
	10-12 WKS	16	8	44	22	60	15		
	12-14 WKS	16	8	43	24	64	16		
	<14 WKS	8	4	72	36	80	20		
	HYPERTENSION	72	36	68	34	140	35		
COMORBIDITIES	DIABETES MELLITUS	36	18	48	24	84	21	143.63	<0.0001
	CARDIAC DISEASE	8	4	8	4	16	4		
	THYROID DISORDERS	16	8	36	18	52	13		
	OTHERS	18	9	20	10	38	9.5		
	NONE	50	25	20	10	70	17.5		
PREVIOUS SURGERIES	PREVIOUS LSCS/LAPAROTOMY	16	8	40	20	56	14	0	1
	VAGINAL SURGERIES	0	0	0	0	0	0		
ANAESTHESIA	SPINAL	158	79	144	72	302	75.5	9.5	0.023
	EPIDURAL	34	17	36	18	70	17.5		
	GENERAL	8	4	12	6	20	5		
	COMBINED	0	0	8	4	8	2		

Table 2: Indications for Surgery

CATEGORY	GROUP WISE				TOTAL	
	NDVH(200)		TAH(200)			
	N	%	N	%	N	%
AUB - P	28	14	16	8	44	11
AUB - L	44	22	70	35	114	28.5
AUB - A	52	26	16	8	68	17
AUB - E	42	21	12	6	54	13.5
AUB - OTHERS	6	3	0	0	6	1.5
CIN	12	6	2	1	14	3.5
EIN	16	8	4	2	20	5
LARGE FIBROID UTERUS	0	0	48	24	48	12
ADNEXAL MASS	0	0	32	16	32	8

Table 3: Intra Operative Outcome

VARIABLE	CATEGORY	GROUP WISE				TOTAL	
		NDVH(200)		TAH(200)			
		N	%	N	%	N	%
ESTIMATED BLOOD LOSS	<500 ML	144	72	112	56	256	
	>500 ML	42	21	82	41	124	
	UNKNOWN	14	7	6	3	20	
OPERATIVE TIME (HRS)	<1 HR	146	73	67	33.5	213	
	1-1.5 HRS	40	20	21	10.5	61	
	>1.5 HRS	14	7	12	6	26	
INTRAOPERATIVE COMPLICATION	BLADDER INJURY	0	0	1	0.5	1	
	URETERIC INJURY	0	0	1	0.5	1	
	VESSEL INJURY	0	0	0	0	0	
	BOWEL INJURY	0	0	1	0.5	1	
	BED TRANSFUSION	1	0.5	5	2.5	6	

Table 4: Post-Operative Complications

VARIABLE	CATEGOR Y	GROUP WISE				TOTAL		CHI-SQUARE	P-VALUE
		NDVH (200)		TAH(200)					
		N	%	N	%	N	%		
EARLY COMPLICATION	PAIN	62	31	11	5.6	17	43.8	35.87	<0.001
	FEBRILE	16	8	12	6	28	7		
	BLEEDING	0	0	2	1	2	0.5		
	HEMATURIA	0	0	0	0	0	0		
	PARALYTIC	0	0	6	3	6	1.5		
	CYSTITIS	12	6	8	4	20	5		
LATE COMPLICATION	VAGINAL SPOTTING	12	6	28	14	40	10	11.53	0.021
	PELVIC CELLULITIS / ABSCESS	0	0	0	0	0	0		
	CYSTITIS	24	12	20	10	44	11		
	WOUND COMPLICATION	8	4	22	11	30	7.5		
	VTE	0	0	0	0	0	0		
POST OPERATIVE HOSPITAL STAY	<4 DAYS	18	9.2	16	8.1	34	8.6	6.86	0.009
	>4 DAYS	16	8	38	19	54	13.5		
PROPHYLACTIC ANTIBIOTIC	YES	20	100	20	100	40	100	0	1
	NO	0	0	0	0	0	0		
PROPHYLACTIC ANTICOAGULANT	YES	28	14	56	28	84	21	8.64	0.003
	NO	17	8.6	14	7.2	31	7.9		

Figure 1: Indications for Surgery (%) NDVH vs TAH

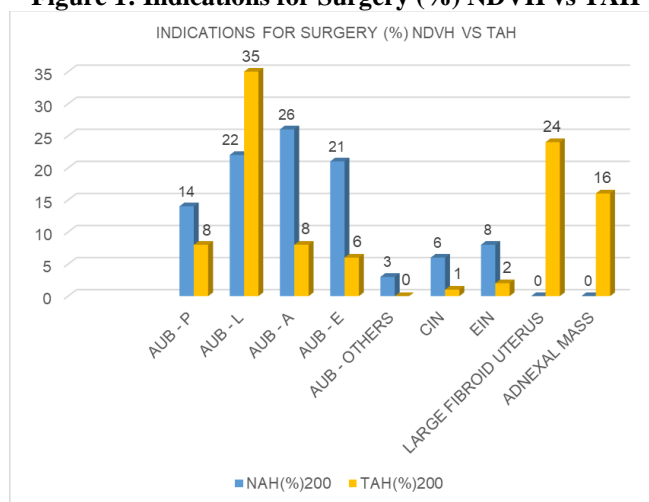
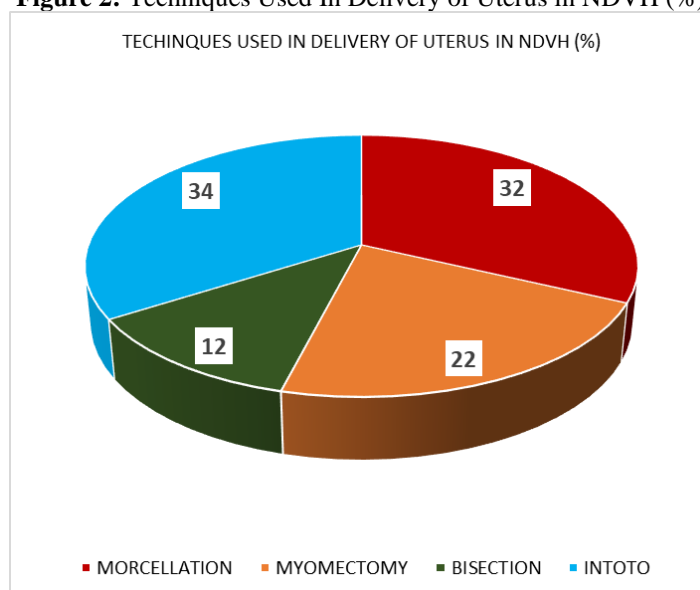


TABLE 5: Techniques Used For Delivery of Uterus

TECHNIQUES	NDVH (200)	
	N	%
MORCELLATION	64	32
MYOMECTIONY	44	22
BISECTION	24	12
CORING	0	0
IN TOTO	68	34

Figure 2: Techniques Used In Delivery of Uterus in NDVH (%)



IV. Discussion

The first elective hysterectomy was done by Conrad Hangerbeck in 1813. The NDVH has stood alone the technique above all. It was always the surgeon’s skill, choice and experience plays a major role in approach to hysterectomy. The surgeon usually opts for TAH due to uterine size bigger than 14 weeks, pelvic pathology, obesity and nulliparous patients. Previous caesarean is considered as a contra indication for NDVH. It is a myth. NDVH and tubectomy can be done in previous caesarean cases with expertise⁴. The injury to ureter is minimal with an experienced surgeon. In order to reduce the complications, it is essential to encourage special training and honing the skill in the methods of vaginal hysterectomy. In future, the resources can be improved by the political and governmental policies in the developing countries wherein the cost of newer methods like laparoscopic assisted vaginal hysterectomy, robotic hysterectomy may be affordable to the public in rural set up. The vaginal hysterectomy patients had less urinary complications compared to abdominal hysterectomy patients⁵. The shorter hospital stay, post-operative recovery much less of incidence of bowel and bladder injury in vaginal hysterectomy patients⁶. NDVH was superior to LH, TAH as the recovery was faster. The laparoscopic hysterectomy had more urinary tract injuries and also the intraoperative time was found longer than NDVH⁷. The most important study done on the cost for surgery had noted. The least expensive surgery was NDVH compared to robotic and TAH⁸.

The overall benefits were shorter operation time, shorter hospital stay, early morbidity, no need for pv analgesics and scarless simple surgery⁹. The NDVH was done easily in a rural setup especially with lower socioeconomic without any complication whereas the TAH was mostly done in hospital in urban areas where facilities were present¹⁰. Vaginal cuff dehiscence was noted more in TAH in a study as compared to NDVH¹¹. NDVH being a time-honoured method still has got its own merits. New techniques have been developed like feather in a cap for NDVH such as Natural Orifice Trans luminal Endoscopic Surgery (NOTE)¹². The Trans vaginal approach has taken further advance in surgeries because of the approachability towards abdominal surgeries for liver, spleen, oesophagus gall bladder and stomach¹³. The “Ten-Step Vaginal Hysterectomy” which is indicated for benign conditions of the uterus benefits the patients as well as the surgeons¹⁴. The non-descent vaginal hysterectomy has advantage in all aspects when compared to other modes of hysterectomy. It has advantage in all aspects especially in obese and morbidly obese patients where NDVH is safest¹⁵.

V. Conclusion

Ultimately, VH has emerged victorious in all aspects, proving superior to TAH. It has demonstrated its suitability, effectiveness, and popularity as the preferred method. This success can be attributed to the creation of innovative techniques built upon the foundation of VH. These advancements include NOS and NOTES. In the current era, this approach has been extended to general surgical procedures such as cholecystectomy. Any challenges in adopting this technique stem primarily from a lack of expertise. For young surgeons, mastering vaginal hysterectomy skills should be a crucial step towards success. Adequate training, mentorship, and oversight from experienced practitioners are essential.

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