

CHANGING TRENDS OF VARIOUS ROUTES OF HYSTERECTOMY IN BENIGN UTERINE PATHOLOGIES-A COMPARATIVE STUDYS. Sharma¹, A. Sharma², R. Chanchlani³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: BACKGROUND: Hysterectomy is one of the most commonly performed obstetrics and gynecology surgical procedure worldwide, second only to cesarean section. Even with use of conservative therapies, approximately 6 lakh hysterectomies are performed each year in United States. **MATERIAL AND METHODS:** This was a comparative cross sectional study conducted in the Department of Obstetrics and Gynecology of Chirayu Medical College and Hospital, Bhopal from Jan 2011 to June 2013. A total of 50 patients were selected in each group using inclusion and exclusion criteria. Statistical software (SPSS version 20) was used to analyze the data and level of significance for all types of analytical data was set at 0.05 and p value less than 0.05 was considered significant. **RESULTS:** 64% patients in our study were in age group 36-45 years with mean age of 43.2 years and most of them were multiparous. Six patients were nulliparous with symptomatic large fibroids and failed medical management. Abnormal Uterine Bleeding (AUB) was the most common indication (43.3%) followed by fibroid uterus (33.3%) and pelvic pain (23.3%). The mean size of uterus in our study was 8.87 weeks. The mean operation time was significantly higher in laparoscopic method than other routes ($P < 0.05$). Among the intra operative complications two (1.3%) patients of abdominal hysterectomy with severe endometriosis had bladder injury and one (0.66%) patient of laparoscopic hysterectomy had ureteric injury diagnosed 10 days later. The intraoperative blood loss was significantly lower in LAVH (Laparoscopic Assisted Vaginal Hysterectomy) than NDVH (Non Descent Vaginal Hysterectomy) and AH (Abdominal Hysterectomy) ($P < 0.05$). In AH group, the requirement of blood transfusion, occurrence of febrile morbidity, paralytic ileus and wound dehiscence was much higher. These post-operative complications was much lesser in LAVH group than NDVH and AH and day of discharge was much earlier in LAVH patients. **CONCLUSION:** Laparoscopic hysterectomy is associated with short hospitalization, less intra operative and post-operative morbidity, quicker recovery, and early mobilization and is easy to perform especially in cases of previous laparotomies, big fibroids, and big ovarian and adnexal tumors.

KEYWORDS: Abdominal Hysterectomy, Laparoscopic Assisted Vaginal Hysterectomy, Non Descent Vaginal Hysterectomy.

INTRODUCTION: Hysterectomy is one of the most commonly performed obstetrics and gynecology surgical procedure worldwide and it is second only to cesarean section. Even with use of conservative therapies, approximately 6 lakh hysterectomies in United States are performed each year.¹ Hysterectomy may be performed vaginally, abdominally, laparoscopically or by robotic assistance, primarily on surgeons choice. Factors to be considered in choosing the route for hysterectomy should include safety, cost effectiveness and medical needs of patient. Most of the literature supports the view that vaginal hysterectomy, when feasible is the safest and most cost effective procedure for removal of uterus.² Although, the abdominal route 66% is the one of the most commonly chosen

ORIGINAL ARTICLE

route followed by vaginal and laparoscopic 22% and 12 % respectively.³ Kovac's et al proposed an algorithm that aids clinician in choosing routes of hysterectomy which favored transvaginal hysterectomy for uterine weight less than 280 grams.^{4,5} The most common indications for hysterectomy are symptomatic uterine leiomyomas, endometriosis and uterine prolapse.

A Cochrane review found that vaginal route compared with all other routes yields better outcomes and fewer complications.^{6,7} and when vaginal hysterectomy is not possible, LAVH (Laparoscopic Assisted Vaginal Hysterectomy) has better advantages over abdominal hysterectomy like faster return of activity, shorter hospital stay, reduced intra-operative blood loss and fewer wound infections, but there are some disadvantages like longer operative time and higher rate of urinary tract injury.⁸

MATERIAL AND METHODS:

Type: Cross sectional comparative study.

Place: Department of Obstetrics and Gynecology, Chirayu medical college and hospital, Bhopal.

Duration: January 2011 to June 2013.

Study population: Patients admitted for hysterectomy in the department of Obstetrics and Gynecology.

Inclusion criteria: (1) AUB, (2) Fibroid uterus, (3) adenomyosis (4) pelvic pain.

Exclusion criteria: (1) Patients with genital prolapse (2) Genital malignancies (3) Age > 60 yrs.

Sample size: Total 150 patients were included in the study and 50 patients were selected in each category.

Ethical clearance: After approval from the ethical committee.

Analysis: Statistical software (SPSS version 20) was used to analyze the data and level of significance for all types of analytical data was set at 0.05 and p value less than 0.05 was considered significant.

Surgical Procedure: The abdominal hysterectomy and vaginal hysterectomy was performed by clamp cut and ligation method under spinal anesthesia. LAVH was done under general anesthesia with electrocoagulation and transaction of bilateral round ligaments. In patients who desired to preserve the adnexa, the fallopian tube and ovarian ligament were transected, whereas in those who preferred a salpingo-oophorectomy, the infundibulo-pelvic ligaments were isolated, ligated and transected. Bilateral uterine arteries were identified and vesicouterine peritoneum was opened to make subsequent hysterectomy easier to perform. The vaginal procedure began with anterior and posterior colpotomy. The vesico-cervical, cardinal and utero-sacral ligaments were transected. After the uterine vessels and the adnexal collaterals have been secured uterus brought out and then the vault was repaired.

RESULTS: In our study 64% of patients were in age group of 36-45 years with mean age 43.2 years (Table no. 1) and most of them were multiparous. Six patients were nulliparous with symptomatic large fibroids and failed medical management. Abnormal Uterine Bleeding (AUB) was most common indication (43.3%) followed by fibroid uterus (33.3%) and pelvic pain (23.3%) (Table no. 2). The mean size of uterus in our study was 8.87 weeks (Table no. 3). The mean operation time was 103.2 minutes in laparoscopic method, 93 minutes in NDVH (Non Descent Vaginal Hysterectomy) and 90.6 minutes in AH (Abdominal Hysterectomy) ($P < 0.05$) (Table no. 4). Among the intra operative complications two patients (1.3%) of abdominal hysterectomy with severe endometriosis had

ORIGINAL ARTICLE

bladder injury and one patient (0.66%) of laparoscopic hysterectomy had ureteric injury diagnosed 10 days later. The intra operative blood loss was significantly lower in LAVH than NDVH and AH ($P < 0.05$). In AH group, the requirement of blood transfusion, occurrence of febrile morbidity, paralytic ileus and wound dehiscence was much higher. These post-operative complications was much lesser in LAVH group than NDVH and AH and day of discharge was much earlier in LAVH patients (Table no. 5).

DISCUSSION: In the present study, 50 patients were selected in each abdominal, vaginal and laparoscopic hysterectomy group and comparison was done. In our study Abnormal Uterine Bleeding (AUB) was most common indication (43.3%) followed by fibroid uterus (33.3%) and pelvic pain (23.3%), whereas in the study done by Ikram et al 85% of the AH was performed for leiomyomas and 15% for uterovaginal prolapse/Dysfunctional uterine bleeding.⁹

In our study the mean operation time was 103.2 minutes in laparoscopic method, 93 minutes in NDVH and 90.6 minutes in AH ($P < 0.05$), whereas in a study done by Jones J et al average operation time in LAVH was 102 minutes, in NDVH it was 63 minutes and in AH it was 82 minutes.¹⁰

In our study the intra operative blood loss was significantly lower in LAVH than NDVH and AH ($P < 0.05$). In AH group, the requirement of blood transfusion, occurrence of febrile morbidity, paralytic ileus and wound dehiscence was much higher. These post-operative complications was much lesser in LAVH group than NDVH and AH and day of discharge was much earlier in LAVH patients, similarly in the study of Roy et al occurrence of febrile morbidity, blood transfusion, hospital stay and bladder, bowel injuries higher in AH than NDVH and LAVH.¹⁰

Similarly in the study done by Roy et al, NDVH took least operative time and significantly less blood loss than TLH and NDVH in benign uterine conditions.¹¹ In other studies of Summit et al, Xiong et al, Marana et al, days of hospital stay, post-operative pain and occurrence of post-operative complications were significantly higher in AH as compared to LAVH group.^{12,13} In a study of Bhalero et al, NDVH has short hospitalization, less discomfort, fast recovery and less post-operative complications than AH.^{14,15} On analyzing the pain score on first post-operative day it was maximum (6-10) for AH which was taken according to Acute pain management performance toolkit, Melbourne.¹⁶ In our study febrile morbidity was reported to be highest for AH (8%) which is in accordance with the study done by James C pile et al.¹⁷

CONCLUSION: Laparoscopic hysterectomy is associated with short hospitalization, less intra operative and post-operative morbidity, quicker recovery, early mobilization and is easy to perform especially in cases of previous laparotomies, big fibroids, big ovarian and adnexal tumors where benefits of laparoscopy are incomparable,

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ORIGINAL ARTICLE

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ORIGINAL ARTICLE

Age in Years	AH (n=50)	NDVH (n=50)	LAVH (n=50)	Total
≤35	3	8	4	15 (10%)
36-45	30	31	35	96(64%)
46-60	17	11	11	39(26%)
Mean age in years	44.42	42.7	42.81	43.2

Table 1: Distribution of hysterectomy cases according to age and procedure

Indications	AH	NDVH	LAVH	TOTAL	Percentage
AUB	25	20	20	65	43.33
Fibroid uterus	20	10	20	50	33.33
Pelvic pain	5	20	10	35	23.33

Table 2: Comparison of indications of Surgery between groups

Size of uterus	AH	NDVH	LAVH	P value
≤8 weeks	35	38	31	P>0.05
9-12 weeks	10	10	15	P>0.05
≥12 weeks	5	2	4	P>0.05
Mean in weeks	8.9	8.34	9.07	

Table 3: Comparison of size of uterus between groups

Operation time	AH	NDVH	LAVH	P value
≤90	48	40	10	>0.05
90-120	2	10	36	<0.05
≥120	0	0	4	
Mean time in min.	90.6	93	103.2	

Table 4: Comparison of operation time in minutes between groups

Post-operative complications	AH	NDVH	LAVH	P value
Pain score on Visual analogue score on 1 st post operative day	6-10	4-6	1-3	
Day of discharge	7-10	3-8	2-5	
Febrile morbidity	4(8%)	1(2%)	0	P>0.05
Local wound complications	4(8%)	2(4%)	1(2%)	P>0.05
Blood transfusion required	8(16%)	1(2%)	0	P<0.05
Paralytic ileus	2(4%)	0	0	P>0.05
Blood loss(in ml)(mean)	315 ml	175 ml	100 ml	
Bladder, bowel or ureteric injuries	2(4%)	0	1(2%)	P>0.05

Table 5: Comparison of post-operative variables and complications between groups

ORIGINAL ARTICLE

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