



POST OPERATIVE OUTCOMES OF TOTAL LAPAROSCOPIC HYSTERECTOMY VERSUS NON DESCENT VAGINAL HYSTERECTOMY IN ABNORMAL UTERINE BLEEDING PATIENTS: A PROSPECTIVE RANDOMIZED CONTROL STUDY.

Gynaecology

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ABSTRACT

Background: Hysterectomy is one of the most commonly performed major gynecological surgery. The decision depends on indications for operation, surgeon's training and preference, uterine size, adnexal pathologies and patient choice. There is increasing trend towards minimally invasive, less painful and cosmetic surgeries. Thus, Total laparoscopic hysterectomy (TLH) and Non descent vaginal hysterectomy (NDVH) have gained popularity.

Objectives: To compare post-operative outcomes in form of blood loss, ambulation time, post-operative pain and complications between TLH and NDVH in patients having abnormal uterine bleeding.

Methods: Patients undergoing above operation during December 2018 to June 2019 at GCS medical college, hospital and research center, Ahmedabad, were included in the study. All patients having Abnormal uterine bleeding were thoroughly examined and investigated. Option for medical management was provided to all patients. Patients were observed minutely during post-operative period for any complications.

Results: Twenty five patients underwent NDVH and twenty five underwent TLH. Intra operative blood loss, post-operative pain and ambulation time are slightly more in NDVH patients as compared with TLH.

Conclusions: TLH is associated with less morbidity and post-operative complications than NDVH. However, the approach of hysterectomy shall depend upon the technologies available in hospital, skill of surgeon, size and pathological nature of uterus and preference of surgeon as well as the patient.

KEYWORDS

Hysterectomy, NDVH, TLH, AUB

INTRODUCTION

Hysterectomy is the second most common operation performed on women after Caesarean Section worldwide.¹ The incidence of hysterectomy in India is about 4-6% of adult Indian women out of which 90% are performed for benign indications.² In India approximately 2,310,263 women undergo hysterectomy every year.³ Most of these women from rural side, belong to the working class and are financially challenged. Keeping this demographic profile of Indian population in mind, it is important that the procedure of hysterectomy for Indian population should be cost-effective and with minimum duration of hospital stay. There have been several studies and debates to search for the optimum route of hysterectomy, which would aid in the ease of operation with minimum complications and best cosmetic results. Recent reviews have suggested that whenever feasible Vaginal Hysterectomy is to be preferred over Total Abdominal Hysterectomy & when Vaginal Hysterectomy is not possible, Total Laparoscopic Hysterectomy is the approach of choice.⁴ Vaginal Hysterectomy is considered the gold standard compared to Total Laparoscopic Hysterectomy has been a general consensus.⁵ Non-Descent Vaginal Hysterectomy is a simple yet effective technique for tackling benign pathologies of the uterus. It is easy to master, causes less blood loss, pain and discomfort to the patient when compared to the conventional total abdominal hysterectomy. Total Laparoscopic Hysterectomy is a modern concept. It has a steep learning curve, requires modernized OT set-ups & special laparoscopic instruments and poses a greater financial burden for the patient when compared to vaginal hysterectomy. Yet it is gaining recognition because of its minimal invasiveness and dissection under direct laparoscopic vision.

METHODS

Patients undergoing above operation during December 2018 to June 2019 at GCS medical college hospital and research center, were included in the study. All patients were thoroughly examined and investigated, and malignancies were excluded by Pap smear and or D&C. All patients were observed minutely during post-operative period for any complications. Patients were serially recruited from the Gynecology OPD of GCS medical college hospital and research center as per the inclusion and exclusion criteria.

Patients with odd serial numbers will be taken up for NDVH and those

with even numbers will undergo TLH. Selection of patients on the basis on inclusion and exclusion criteria and randomizing them into 2 groups with 25 patients in each arm. Post-operative parameters were recorded, tabulated and statistically analyzed. For each parameter a P value was calculated and a value of <0.05 will be considered significant. Patients will be subsequently followed up in Gynecology OPD at 1 month and 3-month interval and assessed for quality of life and satisfaction. Investigations for pre-anesthetic check-up which includes complete hemogram, liver function test, kidney function test (urea, creatinine), fasting and post- prandial sugar levels, serology which includes Hepatitis B surface antigen and HIV screening test, chest x-ray & ECG 12 leads. Thyroid profile and 2D echocardiography will be done where ever applicable depending on the patient profile. Drop in hemoglobin level in terms of mg/dl will be compared between preoperative hemoglobin and post operative day 3 hemoglobin. Visual analog scale will be used in the 3rd post-operative hour, 1st & 2nd post-operative days. Ambulation 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 from admission up to the day of discharge.

Post-operative complications

Complications like febrile illness, UTI, vaginal bleeding or vaginal cuff infection, abdominal distension and relaparotomy will be recorded for each case. Patients will be followed up at 1 month in gynecology OPD to note: Number of days required since OT to resume professional activities, presence of rectal or vaginal fistula, vault complications like vault prolapsed, urinary complications like incontinence, chronic lower abdominal pain as measured in terms of visual analog scale. Patients will be followed up again at 3rd month in gynecology OPD to note the presence of pain measured in terms of visual analog scale and any other problems. The outcome for each surgical procedure was analyzed by statistical methods e.g. tabulation, proportion & percentage, mean & SD. Appropriate test for significance was applied (t-test & Chi square test as applicable). P value of <0.05 was considered significant.

Inclusion criteria

Cases of benign diseases of the uterus not responding to medical management for at least 6 months & requiring hysterectomy will be

selected for this study. Diseases included are cases of AUB including Polyps, leiomyoma, adenomyosis, endometriosis, dysfunctional uterine bleeding. Age >40 years, clinically uterus of less than 12 weeks size, having at least 1 child.

Exclusion criteria

Genital malignancy, genital prolapse, acute pelvic inflammatory disease, any condition for which patient is not declared fit for anesthesia., uterine size > 12 weeks, pelvic bony malformations.

RESULTS

Most women in TLH and NDVH group belonged to age group between 45 to 55 years with parity ≥ 2. Table 1 shows the drop-in hemoglobin level in NDVH group is 1.20 and in TLH 0.91 and it is not statistically significant.

Table 1: Distribution of patients according to surgical method & drop in hemoglobin level.

Surgical Method	Drop in hemoglobin level (Mean ± Standard deviation)	Significance value (P value)
NDVH	1.20 ± 0.518	>0.05
TLH	0.91 ± 0.385	

Table 2: Distribution of patients according to surgery type and post-operative vas scores.

Post operative pain by Visual Analogue scale	NDVH (Mean ± Standard deviation)	TLH (Mean ± Standard deviation)	Significance value (P value)
At 3 rd post-operative hour	9.45 ± 0.642	9.10 ± 0.752	<0.05
At post-operative day 1	6.50 ± 0.899	5.32 ± 0.820	<0.05
At post-operative day 2	2.90 ± 1.166	1.79 ± 1.118	<0.05

Table 2 shows postoperative pain measured by VAS (Visual Analogue Score). At third post operative hour, average pain was 9.45 and 9.10 in NDVH and TLH group respectively. Pain on 1st post operative and 2nd operative day in NDVH group was 6.50 and 2.90 respectively whereas in TLH group it 5.32 and 1.79 respectively. This value was statistically significant.

Table 3 shows ambulation time in NDVH is 23.30 hours and TLH it is 18.45 hours which is statistically significant.

Table 4 shows distribution of patients according to the average duration of hospital stay which is 6.13 days in NDVH group and 5.60 in TLH group which is statistically significant.

In Table 5, the post-operative complication is slightly more in case of NDVH than in TLH.

Table 3: Distribution of patients according to the type of surgery and ambulation time.

Surgical method	Ambulation time (hours) (Mean ± Standard deviation)	Significance value (P value)
NDVH	23.30 ± 3.560	<0.05
TLH	18.45 ± 2.452	

Table 4: Distribution of patients according to average duration of hospital stay

Surgical method	Duration of hospital stay(days) (Mean ± Standard Deviation)	Significance value (P Value)
NDVH	6.13 ± 2.50	<0.05
TLH	5.60 ± 1.25	<0.05

Table 5: Distribution of patients according to the type of surgery and the post-operative complications.

Complications	NDVH (n = 25)	TLH (n=25)	Significance value (P Value)
Fever	1	1	>0.05
Vaginal Bleeding	1	0	
Vaginal infection	1	0	
UTI	1	0	
Abdominal distension	0	1	
Relaprotomy	0	0	NA

DISCUSSION

In our study, the mean blood loss in terms of the drop in hemoglobin level (as measured by the difference in hemoglobin levels between the pre-operative and post-operative values) in the NDVH group was 1.20 gm. /dl and in the TLH group was 0.91 gm. /dl. The p value was >0.05, which is not significant. This observation is similar with the studies of Müller A. et al, Aniuliene R et al, Mortom M et al as opposed to Roy et al.^{6,9} The average pain recorded after the 3rd hour of surgery for NDVH was 9.45, while that for TLH was 9.10 according to VAS score. The P value is <0.05 which is statistically significant. While comparing the pain scores for the 1st post-operative day, the mean value for NDVH was 6.50 and that for TLH was 5.32. Again, the P value came to be <0.05 which is statistically significant. The mean of pain scores on the 2nd post-operative day for NDVH is 2.88, while that for TLH is 1.8. The P value is <0.05 which is again statistically significant. Overall, we found that patients who underwent TLH had significantly lower post-operative pain compared to patients undergoing NDVH. This finding is consistent with what Karantanis E et al.¹¹ In present study, the mean ambulance time for NDVH is 23.30 hrs. while that for TLH group is 18.45 hrs. The P value is <0.05 which is statistically significant, denoting that patients who underwent TLH had early ambulation compared to the other group. Also, the average duration of hospital stay for patients undergoing NDVH is 6.13 days compared to 5.60 days of TLH. We calculated the P value for this parameter is <0.05 which is statistically significant. Slack M, et al also found TLH is associated with shorter hospital stay. Beckmann MW, et al tallied with our finding by stating longest hospital stay was observed after abdominal hysterectomy (AH; 10 days), followed by vaginal hysterectomy (VH; 7.8 days) and laparoscopy-assisted vaginal hysterectomy (LAVH; 7.2 days). The shortest stays in hospital were seen after (LASH 5.9 days) and total laparoscopic hysterectomy (TLH; 5.7 days). But Aniluliene R, et al stated that the difference in the mean length of hospital stay was insignificant comparing laparoscopic and vaginal hysterectomies(p>0.05).⁸

There were no major complications during the operative procedures in our intervention which is consistent with the findings of Walsh CA, et al.¹¹

LIMITATIONS

25 patients were taken in each arm for the present study. But this sample size of 50 patients might be inadequate considering the bigger picture and the appropriateness of statistical outcomes. Post-operative sexual satisfaction and dyspareunia is not considered in this study. This is a single (tertiary) hospital-based study and cannot be correlated with general population. There are always endless possibilities of future studies in regard to recent advancements in surgical fields like robotic surgeries.

CONCLUSION

These days we are concentrating more and more on minimally invasive surgeries like TLH and NDVH. NDVH is better in its approach through natural orifice, faster and less expensive. On the other hand, TLH is associated with smaller scar of surgery, less morbidity and less post operative pain. In our final statement we will like to state that at what stage transition from one approach to the other takes place will depend on the pathology and the size of the uterus, as well as the availability of modernized equipment and surgical skills of the operator.

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