

Original Research Article

Total laparoscopic versus hysterectomy

B. Sandhya Rani*

Senior Consultant, Laxmi Narasimha Hospital, Hanumakonda, Warangal, India

*Corresponding author email: shobhanachu@gmail.com

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Abstract

Background: Total laparoscopic hysterectomy (TLH) is now emerging as a safe procedure even in patients suitable for vaginal hysterectomy (VH) due to its advantages like better visualisation, less post-operative pain and shorter hospital stay. This study was conducted to compare between laparoscopic hysterectomy and vaginal hysterectomy in females with benign disorders.

Materials and methods: This was retrospective study conducted in Department of Obstetrics and Gynaecology, Laxmi Narasimha Hospital, Warangal. The patients who were indicated for vaginal hysterectomy or total laparoscopic hysterectomy were included. This study was conducted during the period of July 2015 to October 2016. Forty eight patients were included in the TLH group who underwent total laparoscopic hysterectomy and forty three patients were included in the VH group who underwent vaginal hysterectomy.

Results: Operation time was higher in TLH group which was 112.56 hours when compared to VH group which was 101.42 hours ($p<0.001$). Hospital stay was more in VH group which was 5.77 days when compared to TLH group which was 4.05 days ($p<0.001$). Analgesia dosage was higher in VH group which was 1.64 when compared to that in TLH group which was 1.28 ($p<0.001$). The rate of complications in both the groups was found to be non-significant statistically. One woman who was undergoing VH had bladder injury which was recognised intraoperatively and treated and another one had vault hematoma in post-operative period which was also managed. In one case of VH, conversion to laparotomy was done due to difficulty but all cases were posted for TLH.

Conclusion: Compared to Vaginal hysterectomy, total laparoscopic hysterectomy was more advantageous as it showed lesser hospital stay and lesser analgesia dose.

Key words

Vaginal hysterectomy, Total laparoscopic hysterectomy, Removal of the cervix as well as the uterus.

Introduction

Vaginal hysterectomy is a surgical procedure to remove the uterus through the vagina. During a vaginal hysterectomy, the surgeon detaches the uterus from the ovaries, fallopian tubes and upper vagina, as well as from the blood vessels and connective tissue that support it. The uterus is then removed through the vagina [1]. Vaginal hysterectomy involves a shorter time in the hospital, lower cost and faster recovery than an abdominal hysterectomy, which requires an incision in your lower abdomen [2]. However, if your uterus is enlarged, vaginal hysterectomy may not be possible and your doctor will talk to you about other surgical options, such as an abdominal hysterectomy. Hysterectomy often includes removal of the cervix as well as the uterus. It can be done with the assistance of robot, laparoscopy, or vaginally or abdominally. Indication for surgery, uterus size, associated pelvic pathology present or absent, surgeon's training, patients choice are the factors that influence the route of hysterectomy [3]. Generally, vaginal hysterectomy is associated with better outcomes and fewer complications when compared to laparoscopy [4]. It is also the safest and cost-effective procedure to remove the uterus. Total laparoscopic hysterectomy provides better anatomical views when compared to vaginal hysterectomy and it also allows concomitant surgery performance, and is suitable for larger uteri and for those with non-descent uterus [5]. This study was conducted to compare between laparoscopic hysterectomy and vaginal hysterectomy in females with benign disorders.

Aim

This study was conducted to compare between laparoscopic hysterectomy and vaginal hysterectomy in females with benign disorders.

Materials and methods

This was retrospective study conducted in Department of Obstetrics and Gynaecology, Laxmi Narasimha Hospital, Warangal. The patients who were indicated for vaginal hysterectomy or total laparoscopic hysterectomy.

This study was conducted during the period of July 2015 to October 2016. Forty eight patients were included in the TLH group who underwent total laparoscopic hysterectomy and forty three patients were included in the VH group who underwent vaginal hysterectomy. Exclusion criteria were prolapse of vagina of first degree and malignancy suspicion. All the patients were evaluated for fitness for surgery. All the baseline characteristics were recorded such as age, parity, any caesarean section previously, BMI (Body mass index), size of uterine and hysterectomy indication. Intra-post-operative parameters such as vault haematoma, DVT/pulmonary embolism, any infections, hospital stay, injury to bowel, bladder and ureter were recorded. Doses of analgesics on the surgery day were recorded. Antibiotics were given to all patients at the beginning of the surgery and it was repeated every 10 hours. T test and chi square test was used to analyse the data. P value of <0.05 was considered as significant.

Results

Table - 1 shows that the mean age of TLH group was 46.87 years and mean age of VH group was 43.59 years. The women undergoing TLH had a higher BMI of 25.32 kg/ m² compared to women undergoing VH of 24.85 kg/ m². Uterine size was 12.03 weeks in women undergoing TLH and it was 7.99 weeks in women undergoing VH. The difference between the two groups of uterine size was statistically significant.

Table - 2 shows that operation time was higher in TLH group which was 112.56 hours when compared to VH group which was 101.42 hours (p<0.001). Hospital stay was more in VH group which was 5.77 days when compared to TLH group which was 4.05 days (p<0.001). Analgesia dosage was higher in VH group which was 1.64 when compared to that in TLH group which was 1.28 (p<0.001).

Table - 3 shows that the rate of complications in both the groups were found to be non-significant statistically. One woman who was undergoing

VH had bladder injury which was recognised intraoperatively and treated and another one had vault hematoma in post-operative period which

was also managed. In one case of VH, conversion to laparotomy was done due to difficulty but all cases were posted for TLH.

Table - 1: Demographic distribution in both the groups in the study.

Demographics	TLH group		VH group	
	Mean	Standard Deviation	Mean	Standard Deviation
Age (Years)	46.87	5.22	43.59	5.01
BMI (Kg/m ²)	25.32	4.21	24.85	3.52
Uterine Size (Weeks)	12.03	4.18	7.99	3.58

Table - 2: Intra-operative and post-operative parameters.

Parameters	TLH group		VH group	
	Mean	Standard Deviation	Mean	Standard Deviation
Operation time (Hours)	112.56	40.25	101.42	57.35
Hospital Stay (Days)	4.05	1.27	5.77	1.09
Analgesia Dosage	1.28	0.29	1.64	0.50

Table - 3: Intra-operative and post-operative complications and conversion to laparotomy.

Complications	TLH group(48)		VH group (43)		
	N	%	N	%	
Intra-operative	Nil	48	100	42	97.7%
	Visceral injury	0	0	1	2.3%
Conversion to Laparotomy	Nil	48	100	42	97.7%
	Visceral injury	0	0	1	2.3%
Post-operative	Infection	0	0	0	0
	Vault Hematoma	0	0	1	2.3%
	Vesicovaginal fistula	1	2.08%	0	0

Discussion

Jayashree S, et al. [6] reported that the mean time taken to perform TLH was significantly longer, i.e. 113.46 minutes compared with VH, i.e. 61.18 minutes ($p < 0.0001$). But the duration of stay in the hospital was shorter for the women undergoing TLH, mean duration being 3.74 days as opposed to 5.85 days in women undergoing VH ($p < 0.0001$). Also, women undergoing VH required more analgesic doses (mean 1.79) than those undergoing TLH (mean 1.36). The rate of complications in both the groups were studied, it was found that there was no statistically significant difference. Sandberg EM, et al. [7] study observed that no difference between the 2 groups for overall complications (OR 1.24 [.68, 2.28] for major complications; OR .83 [.53, 1.28] for minor complications), risk of ureter and bladder injuries

(OR .81 [.34, 1.92]), intraoperative blood loss (mean difference [MD] -30 mL [-67.34, 7.60]), and length of hospital stay (-.61 days [-1.23, -.01]). VH was associated with a shorter operative time (MD 42 minute [29.34, 55.91]) and a lower rate of vaginal cuff dehiscence (OR 6.28 [2.38, 16.57]) and conversion to laparotomy (OR 3.89 [2.18, 6.95]). Although not significant, the costs of procedure were lower for VH (MD 3889.9 dollars [2120.3, 89 000]). Patients in the TLH group had lower postoperative visual analog scale scores (MD -1.08, [-1.74, -.42]) and required less analgesia during a shorter period of time (MD -.64 days, [-1.06, -.22]). Morton M, et al. [8] showed that One hundred nine women underwent TLH, and 43 women underwent VH. There was no statistically significant difference between groups in the mean age of patients, estimated

blood loss, or mean postoperative hemoglobin change. TLH took significantly longer to perform (104.4 vs. 54.4 minutes, $P < 0.001$); however, the mean postoperative duration of hospital stay was greater in the VH group (2.2 vs. 1.2 days, $P < 0.001$). Mean uterine mass was significantly greater in the TLH group (290.9 vs. 151.6 g, $P < 0.001$). The incidence of intraoperative and postoperative complications was slightly higher in the TLH group than in the VH group, but the difference did not reach statistical significance. V Dacosta, et al. [9] reported ten patients underwent TLH, and were compared with 22 women who underwent VH. There was no statistically significant difference between groups in uterine weight, estimated blood loss, postoperative analgesic requirement, or length of hospitalization. Total laparoscopic hysterectomy took significantly longer to perform (209.9 vs 145.6 minutes, $p = 0.004$). One patient in the TLH group had to be brought back to the operating theatre after three months because of bowel prolapse secondary to vault dehiscence. With the exception of one case of bladder injury in the VH group, there were no significant differences between the groups in terms of intraoperative and postoperative complications. Christina Nogueira Silva, et al. [10] reported that Patient average age was 48.9 ± 9.0 years and 49.2% had previous abdominopelvic surgery. The average body mass index was 26.5 ± 4.5 kg/m² and 42% of women were either overweight or obese. The mean operating time during the total study period was 77.7 ± 27.5 minutes, but it decreased significantly as the surgical team's training increased. Average uterine weight was 241.0 ± 168.4 g and average hospital stay was 1.49 ± 0.9 days. The mean postoperative hemoglobin variation was -1.5 ± 0.8 g/dL. The major and minor complication rates were 1.5% ($n = 4$) and 11.5% ($n = 30$), respectively. One procedure was converted to laparotomy and two women had a vaginal vault dehiscence. No important urinary tract or bowel injuries occurred.

Conclusion

Compared to Vaginal hysterectomy, total laparoscopic hysterectomy was more advantageous as it showed lesser hospital stay and lesser analgesia dose and it affords patients like less peri-operative morbidity, better life quality, and faster return to activity.

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