OPEN ACCESS
Scholars International Journal of Obstetrics and Gynecology
Abbreviated Key Title: Sch Int J Obstet Gynec
ISSN 2616-8235 (Print) |ISSN 2617-3492 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://scholarsmepub.com/sijog/

Original Research Article

Comparative Study of Laparoscopic Assisted Vaginal Hysterectomy versus Total Abdominal Hysterectomy in Benign Gynecological Conditions

Dr Amatunnafe Naseha*

Assistant Professor, Department of Obstetrics and Gynaecology, Shadan Institute of Medical Sciences, Teaching Hospital & Research Centre, Hyderabad

DOI: 10.36348/sijog.2019.v02i12.006 | **Received:** 10.11.2019 | **Accepted:** 18.12.2019 | **Published:** 30.12.2019

***Corresponding author:** Dr Amatunnafe Naseha

Abstract

Introduction: The term "hysterectomy" though means removal of uterus, in practice it has a much wider classification depending upon the indication. At times, it is done without removal of cervix (Supracervical hysterectomy) or with removal of adnexa (Hysterectomy with salpingooopherectomy). It can also be a part of staging laparotomy or radical hysterectomy. Hysterectomy can be performed abdominally, vaginally or through abdominal ports with the help of laparoscope. ***Materials and Methods:*** This is a Prospective and Comparative Study conducted in the Department of Obstetrics and Gynaecology, Shadan Institute of Medical Sciences, Teaching Hospital & Research Centre over a period of 1 year. Total 100 patients undergoing hysterectomy for benign uterine pathology meeting the inclusion and exclusion criterion will be included in the study. 50-Laparoscopic assisted vaginal hysterectomy and 50-Total abdominal hysterectomy. ***Results:*** 95% of women of TAH group needed spinal anaesthesia and only 5% needed general anaesthesia. On the other hand, all the women of LAVH group needed general anaesthesia. Duration of surgery was little more in patients who underwent LAVH when compared to patients who underwent TAH. The average duration of surgery in TAH group is 50 minutes and it is 75 minutes in LAVH group. Only 2 patients in LAVH group needed conversion into laparotomy because of adhesions and uncontrollable haemorrhage. Fever and wound infection was more with TAH group 11.6% compared to LAVH group 5% and 3.3%. UTI was also comparatively more with TAH group., which was the reason for longer hospital stay in TAH group. RTI was observed in 3 patients of LAVH group. ***Conclusion:*** LAVH is associated with less blood loss and decreased intra operative complications when compared to TAH. Length of hospital stay is significantly less for LAVH when compared to TAH. Post-operative pain, complications and blood transfusions are more with TAH group, because of which patient had longer hospital stay and took longer time for recovery and return to work.

Keywords: Laparoscopic, Vaginal Hysterectomy, Total Abdominal Hysterectomy, Benign.

INTRODUCTION

The term "hysterectomy" though means removal of uterus, in practice it has a much wider classification depending upon the indication. At times, it is done without removal of cervix (supracervical hysterectomy) or with removal of adnexa (hysterectomy with salpingooopherectomy). [1] It can also be a part of staging laparotomy or radical hysterectomy. Hysterectomy can be performed abdominally, vaginally or through abdominal ports with the help of laparoscope. [2]

Total Abdominal Hysterectomy (TAH) is the most common gynaecological procedure performed in India. The numbers have increased over the past decade. The procedure involves abdominal access following a liberal abdominal incision. [3] For the same reason which is very much influenced by a cosmetic concern, Laparoscopic Assisted Vaginal Hysterectomy (LAVH) has become very popular and a commonly sought-after surgery these days. [4]

Moreover, within the past decade, acceptance of minimally invasive techniques has changed the traditional approach to hysterectomy from open abdominal procedures to laparoscopy. In 1989 laparoscopic approach of doing hysterectomy stimulated great interest in proper scientific evaluation of all forms of hysterectomy. [5] The idea of Laparoscopic assisted vaginal hysterectomy (LAVH) is to convert a potential abdominal hysterectomy to vaginal one, thus decreasing associated morbidity and hastening recovery. Since the very beginning LAVH has been considered a useful adjunct for transvaginal hysterectomy for lysis of adhesions and concomitant adnexal surgery. [6]

In LAVH, steps of hysterectomy in part or whole is performed laparoscopically and the removal of uterus and vault closure done vaginally. The 1995 American College of Obstetricians and Gynecologists (ACOG) criteria set for LAVH states that the indication for LAVH is: "To assist in the performance of a vaginal hysterectomy in a situation in which an abdominal approach might otherwise be indicated". [7] Indications for LAVH may be the same as those for TAH, but there may be some limitations, such as large fibroids, which have typically been the main reason for conversion to TAH. [8]

ACOG acknowledges that the choice of approach should be based on the surgical indication, the patient's condition, and data supporting the approach, informed patient preference, and the surgeon's expertise and training. [9]

This study allows the comparison of Total Abdominal Hysterectomy (TAH) and Laparoscopic Assisted Vaginal Hysterectomy (LAVH) for benign uterine pathology.

Aim of the study is to compare the effectiveness and safety of Laparoscopic assisted vaginal hysterectomy with Total abdominal hysterectomy

MATERIALS AND METHODS

This is a Prospective and Comparative Study conducted in the Department of Obstetrics and Gynaecology, Shadan Institute of Medical Sciences, Teaching Hospital & Research Centre over a period of 1 year. Total 100 patients undergoing hysterectomy for benign uterine pathology meeting the inclusion and exclusion criterion will be included in the study. 50-Laparoscopic assisted vaginal hysterectomy and 50-Total abdominal hysterectomy.

INCLUSION CRITERIA: All women undergoing hysterectomy for benign Uterine pathology. Uterine size not exceeding 14 weeks size.

EXCLUSION CRITERIA: Woman with Uterine size>14 weeks size, Woman with associated Ovarian mass, Woman with associated Pelvic inflammatory disease, Uterine descent-2nd &3rd degree, Genital malignancy.

From patient for pre-operative evaluation, surgical procedure, post operative evaluation and willingness to participate in the study. 50 Consecutive patients who give consent for LAVH and 50 consecutive patients who give consent for TAH will be taken up for the study.

All women undergoing hysterectomy meeting the inclusion criteria will be divided into 2 groups - LAVH group and TAH group.

RESULTS

95% of women of TAH group needed spinal anesthesia and only 5% needed general anaesthesia. On the other hand, all the women of LAVH group needed general anaesthesia.

Table 1: Comparison of type of Anaesthesia between two groups

Type of Anaesthesia	TAH		LAVH	
	No.	%	No.	%
Spinal	57	95	0	0
G/A	3	5	60	100
TOTAL	60	100.0	60	100.0

Chi-Square test, $\chi 2 = 184.6$, $P < 0.05$, significant

Table 2: Comparison of Duration of surgery in two groups studied:

Duration (Min.)	TAH		LAVH	
	No.	%	No.	%
<35	5	8.3	0	0
35-60	35	58.3	31	51.6
60-90	17	28.3	23	38.3
90-120	3	5.0	6	10
Total	60	100	60	100

Chi-squaretest, $\chi 2 = 13.4$, $P < 0.05$, significant

Duration of surgery was little more in patients who underwent LAVH when compared to patients who underwent TAH. The average duration of surgery in TAH group is 50 minutes and it is 75 minutes in LAVH group.

Table 3: Blood Loss (ml) in two groups of patients studied

Blood Loss(ml)	TAH		LAVH	
	No.	%	No.	%
<250	37	61.6	53	88.3
250-500	19	31.6	7	11.6
>500	4	6.6	0	0
Total	60	100	60	100

Chi-Square test, $\chi 2 = 21.39$, $P<0.01$, highly significant

In TAH group, blood loss was more (250-500ml) in 31.6% of patients, where as it was <250 ml in 88.3% of patients in LAVH group. Average blood loss is 238 ml and 130 ml in TAH and LAVH group respectively.

Table 4: Intra Operative Complications in two groups of patients studied

Intraop injuries	TAH		LAVH		p-value
	No.	%	No.	%	
Bowel injury	0	0	2	3.3	>0.05
Bladder injury	3	5	2	3.3	>0.05
Ureteric injury	0	0	0	0	>0.05

Chi-Square test, $\chi 2 = 1.33$ $p > 0.05$, Not significant

Only two patients (5%) in TAH group had bladder injury where as in LAVH group one patient (3.3%) had bladder injury and one patient (3.3%) had bowel injury. No bowel and ureteric inuries in TAH group.

Table 5: Laprarotomy in two groups of patients studied

Laparotomy	TAH		LAVH	
	No.	%	No.	%
No	60	100.0	57	95.0
Yes	0	0.0	3	5.0
Total	60	100.0	60	100.0

Chi-square test, $\chi 2 = 2.04$, $P > 0.05$, Not significant.

Only 2 patients in LAVH group needed conversion into laparotomy because of adhesions and uncontrollable haemorrhage.

Table 6: Post-operative Complications in two groups of patients studied

Post op Complications	TAH		LAVH		p-value
	No.	%	No.	%	
Fever	7	11.6	3	5	> 0.05
Wound Infection	7	11.6	2	3.3	> 0.05
Bowel disturbances	0	0	0	0	> 0.05
UTI	5	8.3	3	5	> 0.05
RTI	2	3.3	3	5	> 0.05

Chi-square test, $\chi 2 = 0.181$, $P > 0.05$. Not significant.

Fever and wound infection was more with TAH group 11.6% compared to LAVH group 5% and 3.3%. UTI was also comparatively more with TAH group., which was the reason for longer hospital stay in TAH group. RTI was observed in 3 patients of LAVH group.

DISCUSSION

In our study, data of all cases of TAH and LAVH performed by the same team of gynaecologists during the study period was analysed. This reduced the risk of varying surgical skill among the surgeons influencing our data. The patient demography in our study was matching. This made the data analysis more convincing and convenient.

In the present study, it has been noted that, among the patients who underwent TAH, spinal anaesthesia was given to 96% of patients and remaining 4% of patients were given general anaesthesia. Among the patients who underwent LAVH, all patients (100%) were given general anaesthesia. In the study by Zesmin et al, it has been noted that 88% of patients who underwent TAH were given spinal anaesthesia and all the patients (100%) who underwent LAVH received general anaesthesia. [10]

The present study inferred that only 4% of patients who underwent TAH needed general anesthesia because of dense adhesions which lead to extended operative time. Duration of Surgery in our study was taken from the first surgical incision to the time when the last skin suture was applied in TAH and skin incision to vaginal dressing in LAVH.

Though there are many factors influencing the duration of hysterectomy, the two most important ones are mode of hysterectomy and the expertise of the surgeon. In our study in majority patients the operating time for TAH was 35-60 mins and for LAVH was 60-90 mins.

All previous studies have stated that the operating time for LAVH is more than TAH, though the time disparity comes down with expertise and also the use of advanced technology such as harmonic scalpels where in cutting and coagulation occurs concurrently. [11]

Blood loss during the laparoscopic phase in LAVH was calculated as the difference between the volume of fluid aspirated and that of the fluid introduced into the pelvic cavity. Blood loss during the vaginal phase of LAVH or during abdominal hysterectomy was determined directly from the aspirated fluid collected in the calibrated container. Sponges used for mopping were also taken into consideration and one fully soaked sponge was calculated as 50 ml of blood loss.

Upon studying outcome of surgery in relation to blood loss in the present study, it is noted that, intra operative blood loss was more in TAH group (250- 500 ml) when compared to intra operative blood loss in LAVH group (< 250 ml). In the post operative period, the pain was assessed either by Visual Analogue Scale or by estimating the amount of analgesics (mg) required for pain relief.

In the present study, significant difference was observed in patients between TAH and LAVH group in terms of pain (VAS) on 3rd post operative day. VAS was 6-10 in majority of patients who underwent TAH, where as it was less 2-5 in patients of LAVH group. The present study was supported by Lal Manju et al, Prasong et al. These studies had concluded that there was less need of analgesics in LAVH group when compared to TAH group. [12, 13]

In the present study, it is found that most common complication is fever followed by wound infection. Other complications being UTI and RTI. Post operative fever was considered as body temperature more than 38.20 C for two consecutive measurements at least 6 hours apart, excluding the first 24 hours following surgery. Fever seen in TAH group could be a manifestation of wound infection and UTI. Fever seen in LAVH group of patients following general anaesthesia is mostly due to wound infection and could be a manifestation of upper respiratory tract infection following intubation.

Urinary tract infection following TAH could be due to prolonged catheterization. This is subsidized by the fact that there were less UTI following LAVH as stated in the study by Roy et al. [14] The present study is in agreement with study by Candiani M, et al and many others have documented UTI after TAH at more or less the same incidence. [15]

Another most common complication being wound infection. 6 patients had wound infection following TAH as compared to 2 patients in LAVH group in the present study.

CONCLUSION

LAVH is associated with less blood loss and decreased intra operative complications when compared to TAH. Length of hospital stay is significantly less for LAVH when compared to TAH. Post-operative pain, complications and blood transfusions are more with TAH group, because of which patient had longer hospital stay and took longer time for recovery and return to work. Thus it can be concluded that LAVH is safe with less blood loss, shorter duration of hospital stay, early recovery to work and other intra-operative and post-operative complications.

REFERENCES

1. Sutton C. Past, Present and Future of Hysterectomy. J Minim Invasive Gynecol 2010; 17(4):421-35.
2. Baskett TF. Hysterectomy: evolution and trends. Best Pract Res Clin Obstet Gynaecol 2005; 19:295-305.
3. Othersen HB Jr. Ephraim McDowell: the qualities of a good surgeon. Ann Surg 2004; 239:648-50.
4. Singh KC, Barman SD, Rinku Sengupta. Choice of Hysterectomy for Benign Disease. Department of Obstetrics and Gynaecology, University College of Medical Sciences, Delhi. J. Obstet. GynecoL Ind. 2004;54(4):365-370.
5. Rock John.A, Jones Howard W; Laparoscopic hysterectomy. In: Te Linde's operative gynecology, 10th edition, Wolters Kluwer,

Lippincott Williams and Wilkins, Philadelphia 2008,763-773.

6. Jyotsana et al. Clinical Trial Of Laparoscopically Assisted Vaginal Hysterectomy Versus Total Abdominal Hysterectomy. Department OF Obstetrics and Gynaecology, SMGS Hospital and Government Medical College, Jammu, India. Jk Science Vol.8, No. 2, April- June 2006, Pg 97-100.
7. Nisha k et al. Laparoscopic assisted Vaginal Hysterectomy (LAVH)- An effective alternative to conventional hysterectomy. Fortis escorts Hospital, Faridabad. J Obstet Gynecol India Vol. 60, No.5, September- October 2010, Pg 429-435.
8. Anjuliene R et al. A Comparative analysis of hysterectomies. Medicina (Kaunas). 2007;43(2):118-24.
9. A Lata Agarwal et al. A case control study to compare laproscopically assisted vaginal hysterectomy and total abdominal hysterectomy.,Int J Med Sci Public Health.2012;1(2):93-96.
10. F Zesmin et al. Lapraroscopic Assisted Vaginal Hysterectomy: A Case Control Comparative Study with Total Abdominal Hysterectomy., Department of Gynae & Obstetrics, (SSMC & MH), Dhaka, Faridpur Med. Coll.J.2013;8(2):59-62.
11. Nambiar KPM et al. LAVH or TAH- choosing it wise and making it safe. Department of Obstetrics and Gynaecology, Kastuba Medical College, Manipal University,Mangalore, India.Int J Reprod Contracept Obstet Gynecol. 2016 Mar;5(3):659-662.
12. Lal Manju et al. Laproscopic assisted vaginal hysterectomy (LAVH)- truly an advance in gynaecological surgery. Department of Obstetrics & Gynaecology, Swami Rama Himalayan University, Dehradun.,Int J Biol Med Res.2014; 5(3):4346-4349.
13. Prasong Jaturasrivilai MD et al. A Comparative study between Laproscopically Assisted Vaginal Hyaterectomy and Abdominal Hysterectomy. Department of Obstetrics and Gynaecology, Uttaradit Hospital, Uttaradit., J Med Assoc Thai 2007;90(5): 837-43.
14. Roy, Kallol Kumar;Goyal, Manu; Singla Shilpa; Sunesh Kumar,et al. A prospective randomized study of total laparoscopic hysterectomy, laparoscopically assisted vaginal hysterectomy and non descent vaginal hysterectomy for the treatment of benign disease of uterus. Archives of Gynaecology and Obstetrics October 2011;284(4): 907- 991.
15. Candiani M, Izzo S, Bulfoni A, et al. Laparoscopic versus vaginal hysterectomy for benign pathology. Am J Obstet and Gynecol April 2009; 200:368.e1-368.e7.