ORIGINAL RESEARCH PAPER

Volume-7 | Issue-11 | November-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A COMPARATIVE STUDY BETWEEN CLAMPLESS NON DESCENT VAGINAL HYSTERECTOMY AND TOTAL LAPROSCOPIC HYSTERECTOMY

Gynecology

Dr. Arghya Maitra Associate Professor, Calcutta National Medical College, Department of Obstetrics and Gynaecology.

Dr. Sandhya Das* Assistant Professor, Calcutta National Medical College, Department of Obstetrics and Gynaecology. *Corresponding Author

Dr. Soumen Patra MS PGT, Calcutta National Medical College Department of Obstetrics and Gynaecology.

ABSTRACT

Hysterectomy is the most common surgical procedure worldwide, in gynecology 3,4. It is the second most common operation performed on women after Caesarian Section worldwide13 . In India, the incidence of hysterectomy is about 4-6% of adult Indian women and approximately 2,310,263 women undergo hysterectomy every year7,11. However, the several routes of hysterectomy such as abdominal, vaginal and laparoscopic hysterectomy have been explored and debated in search for the optimum one which would aid in the ease of operation with minimum complications and best cost-effective results.

The present study is confined to the comparison between clampless non descent vaginal hysterectomy (NDVH) and total laproscopic hysterectomy (TLH). The comparative analysis is based in terms of operating time, intra-operative blood loss, post-operative complications and duration of hospital stay.

Aim of the study was > an assessment of the scope of clampless NDVH and its advantages outweighing those of TLH.

Materials and Method > This study was carried out at CNMCH , Kolkata, in a group of 60 patients presented with benign pathology in a time period of 6 months from July,2017 to December,2017.

Out of the total 60 patients, half of them underwent clampless NDVH (Group A) and the other half had Total Laparoscopic Hysterectomy =TLH (Group B).

Study Design was > A Randomized Controlled Trial.

The Conclusion was > in favour of clampless NDVH in comparison to TLH, in terms of cost effective outcome mainly.

KEYWORDS

Hysterectomy , Clampless NDVH and Lateral Window approach , TLH , costeffective outcome.

BACKGROUND

Once a hysterectomy is indicated for the treatment of gynecologic disease,the surgeon must determine the safest and most efficient route > abdominal, vaginal or laporoscopic[12]. Actually, selection of the route of surgery largely depends on the indication of surgery, surgeon's training and preference, uterine size, presence or absence of any associated pelvic pathologies and patient's choice[1]. Vaginal and Laparoscopic procedures are considered " minimally invasive" surgical approaches[1]. Several recent reviews have put forward the idea that a vaginal hysterectomy should always be preferred , wherever feasible. However where there are technical difficulties, laparoscopic route holds prime value[1]. Laparoscopic hysterectomy facilitates better anatomical visualisation, allows performance of concomitant surgery, and is suitable for larger uteri and those with little or no descent, which may prove difficult to remove vaginally. Here comes the essential role of clampless non descent vaginal hysterectomy which can be successfully performed in comparison to the conventional non descent vaginal hysterectomy, in cases of narrow vagina and even in uteri enlarged transversely in volume[14]. As in these circumstances application of clamps laterally, poses technical difficulty due to lesser available space, where simple doubly applied polyglycolic acid no.1 (Vicryl No.1) to secure the pedicles allows wider and spacious operative field, less intra-operative bleeding and minimal tissue handling resulting in decreased risk of post-operative pain, and lesser operating time[2].

The present study also introduces the concept of lateral window technique to carry out difficult NDVH with past history of surgery. The concept of approaching the vesicouterine peritoneum through the **new surgical space** has been introduced by **Dr. Shirish S. Sheth**. The similar technique has been employed in the present study in cases with a previous history of abdominal or pelvic surgery anticipating adhesions in the midline between the bladder and the uterus.

The **boundaries** of this space is as follows : the **anterior wall** is formed medially by the undersurface of the lowermost portion of the bladder and laterally by the anterior leaf of the broad ligament. The **posterior wall** is formed medially by the uterocervical surface as it slopes laterally toward the uterocervical border and laterally by the posterior leaf of the broad ligament.

Medially this space ends where the bladder comes in close contact with the uterocervical surface.

Laterally this space is bounded by a tangential line joining the maximal bulging point on the uterine body and cervix. The uterocervical border with the isthmic notch as its center has two thirds of space medially and one third laterally. The two leaves of the broad ligament are clearly separated apart near the uterocervical border and they run close together for some distance before fanning out laterally.

Contents of this window are as follows:

1. Loose areolar tissues
2. Lymphatics
3. Uterine vessels at the site of entry into the uterine wall

As this space is safely away from the ureter it can be easily entered its access being termed as the **"lateral window"** approach thereby avoiding the dense adhesions anticipated in the midline and hence avoiding bladder injury. This knowledge has been approached in other studies as well and in this study also, successfully. Laproscopic route is not cost effective, it requires costly set up, costly disposable instruments trained and expert team plus because of heavy operation charges, it is not within the reach of majority of patients in our Indian scenario. That is why, clampless vaginal hysterectomy and the lateral window approach, where it is needed, is seriously taken as a challenge.

AIM AND OBJECTIVE

The present study aims at assessing the scope of clampless non descent vaginal hysterectomy and its advantages outweighing those of laproscopic hysterectomy.

MATERIALS AND METHODS

The study was carried out in Gynecology Department, CNMCH, Kolkata , registering a group 60 patients presenting with benign pathology, who failed the medical therapy and eventually required surgery. After proper counseling and taking their consent, the patients were divided into two groups, study Group A and study Group B.

Group A comprising of 30 patients underwent clampless NDVH.

The **inclusion criteria** being: (a) Patients with adequate lateral vaginal space allowing good uterine mobility both anterior-posteriorly and sideways. (b) Up till first degree uterine prolapsed were taken in for vaginal route, including nulliparous women who did not exhibit obvious descent but all nulliparous women had the physiological

descent enabling surgery. (c) Patients with past history of surgery, up to previous two LSCS. (d) Uterine size upto 16 weeks or 300 cumm

Group B comprising of another 30 patients underwent total laparoscopic hysterectomy with following –

inclusion criteria : (a) All of that of NDVH (b) No incisional hernia (c) No abdominal skin infection.

The study was carried out over a period of 6 months, from July, 2017 to December, 2017.

RESULTS AND ANALYSIS

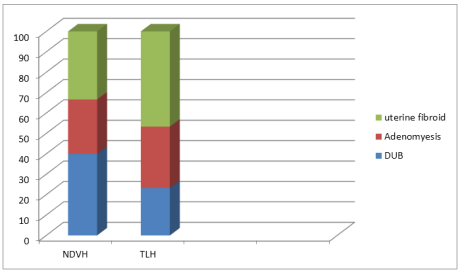
Majority of the women were of peri-menopausal age group 41-50 years in botht the groups. The mean average age under group A was 44.5 years and that under group B was 47.6 years.

Under Group A, out of 30 cases 3 were nulliparous and the rest were either primiparous or multiparous, the average mean parity being para 3,multiparity being a favourable feature. However, NDVH was successfully carried out in the nulliparous women despite the less available vaginal space as usually physiological descent, coupled with relaxation subsequent to anaesthesia, provide sufficient space for the start of vaginal hysterectomy. Uteri upto 16 weeks size could successfully operated with the aid of debulking procedures and the surgeon's expertise.

Under group B on the other hand 5 patients were nulliparous and the average mean parity of rest of the cases, being para 2.

Table 1: comparison between the indications between the two groups

INDICATIONS	Group A (NDVH) n=30	Group B (TLH) n=30
AUB	12 (40%)	7 (23.33%)
Adenomyesis	8 (26.66.%)	9 (30%)
Uterine fibroid	10 (33.33%)	14 (46.66%)
Total	30 (100)	30 (100)

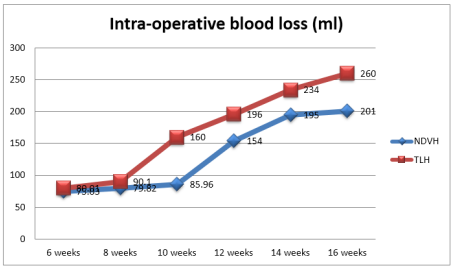


Most common indication for clampless NDVH was AUB (DUB) and the most common indication for TLH was Uterine fibroid. The difference was not statistically significant.

Table 2: Comparison between mean blood loss and operating time

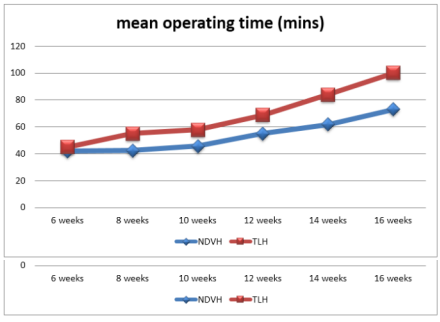
	Group A (NDVH)	Group B (TLH)	P value
Mean blood loss (ml)	201 +/- 268.4	260 +/- 293.5	0.842
Mean operating time (mins)	8 (26.66.%)	100.21 +/- 47.5	0.005
Hospital stay (days)	3.2 +/- 1.5	5.15 +/- 1.2	0.17
Post operative pain (VAS)	4.4 +/- 0.8 (slight pain)	6.12 +/- 0.86	0.15

The average mean blood loss was significantly greater 260 ml in the patients undergoing TLH whereas it was 201 ml in patients undergoing clampless NDVH.



A gradual rise in the intra-operative blood loss was observed in accordance to the uterine size in both the procedures TLH and NDVH. The difference was statistically significant hence with the increase in the size of the uterus the amount of blood loss depicts a significant increment.

About time management, significantly greater time was taken to carry out TLH 100.21 mins in comparison to the operating time for NDVH which was 65 mins. The mean operating time for both the procedures also showed a significant increment with the increasing uterine size as can be depicted below.



The mean duration of hospital stay was significantly more in case of TLH 5.15 days whereas in case of clampless NDVH it was 3.2 days enabling faster recovery of the patients.

The post operative pain assessment based on visual analogue scale showed significantly more pain in patients undergoing TLH 6.12 moderate pain in comparison to patients undergoing clampless NDVH 4.4 slight pain.

Out of the 30 patients of group A, 10 patients had a previous history of surgery of which 6 had a history of previous LSCS. In these patients great caution was taken as dense adhesions were anticipated in the vesico-uterine pouch, hence the “lateral window” technique was employed.

There difference in reference to post-operative complications was not statistically significant in both the groups.

DISCUSSION

The major objective of the current study was to compare total laparoscopic hysterectomy and clampless non descent vaginal hysterectomy. The mean intra-operative blood loss was significantly greater in TLH as compared to the clampless NDVH group, though the case selection in terms of bigger uterine size and the intra-abdominal adhesions were bagged in TLH procedure. The clampless techniques involves lesser instrumentation and lesser tissue handling as it mainly comprises of double application of vicryl no 1 suture to secure the pedicles. Similar results were seen in other studies conducted[5,6,9].

Similarly the mean operating time was also significantly shorter for clampless NDVH in comparison to TLH. The results were same in other studies conducted [5,6].

Morcellation techniques like coring, wedge resection and bisection were carried out in clampless NDVH to successfully removed large sized uteri specifically >12 weeks.

The concept of lateral window technique was employed to successfully deal with cases with previous history of surgery in whom dense adhesions were anticipated in the vesico-uterine pouch.
Relatively faster recovery and lesser hospital stay was observed in patients undergoing NDVH than in those undergoing TLH. Similar results were obtained in other studies carried out 5,9.
The post-operative pain assessed on the basis of visual analogue scale was more for the group undergoing TLH than for NDVH. And no statistical difference was noticed in terms of post-operative complications in both the groups.

CONCLUSION

During the study period, we observed that while considering the minimally invasive surgery for hysterectomy, the clampless NDVH bagged more points than TLH, mainly because of its cost-effective character along with less operative time and less post-operative complications. However, the laparoscopic procedure also was

effectively tackling the adhesions, the big-sized uterine fibroid, the endometriotic tissues- more comfortably than NDVH. So to conclude, we must admit that - the individualization of the case for selection of the route of the surgery, is the gold standard for the success.

REFERENCES

(1) The vaginal approach is preferred among the minimally invasive procedures: American College of Obstetrics and Gynecology/Committee opinion/ Number 701, June 2017.
(2) Clampless non descent vaginal hysterectomy : " A novel art" Neelam Nalini et al. Int J Reprod Contracept Obstet Gynecol. 2015 June ; 4 (3) : 725 – 729 www. ijrcog.
(3) Global epidemiology of hysterectomy . . . . . / Hammer A, et al. Am J Obstet Gynecol, 2015.
(4) Hysterectomy is the most common surgical procedure worldwide : American College of Obstetrics and Gynecology : July 2015.
(5) Arts JWM, Nieboer TE, Johnson N, Tavender E, Garry R, Mol BJ, kluivers KB. Surgical approach to hysterectomy for benign gynecological diseases. Cochrane Database Syst Rev. 2015.
(6) Muller A, Thiel FC, Renner SP, Habenle, Beckmann MW. Hysterectomy - a comparison of approaches. Dtsch Arztebl Int. 2010 ; 107 (20) ; 353 – 9.
(7) Drahonovsky J, Haakova L, Otcenasek M, Krofta L, Kucera E, Feyereisl J. A prospective randomized comparison of vaginal hysterectomy, and total laparoscopic hysterectomy in women with benign disease. Eur J Obstet Gynecol Reprod Biol. 2010 ; 148 (2) : 172-6.
(8) Overview of Current trends in Hysterectomy. Santiago Domingo ; Antanio Pellicer / Expert Rev of Obstet Gynecol 2009 ; 4 (6) : 673-685.
(9) US Census Bureau, International Data Base, 2004
(10) Sengupta R : Choice of hysterectomy for benign disease. Department of Obstetrics and Gynaecology, College of Medical Sciences, Delhi J Obstet Gynaecol. 2004 ; 54 : 365 – 70
(11) Sing AJ, Arora AK. Effect of uterine prolapsed on the lines of rural North Indian women. Singapore, J Obstet Gynecol , 2003 ; 34 : 52–8.
(12) Determining the best route for hysterectomy / OBG Mang. 2002 July ; 14 (7) : 24 -38 by Richard J Cardosi, Mitchel S. Hoffman.
(13) Keshavarz H, Hillis SD, Kieke BA, Marchbanks PA. Centre for disease control (CDC) MMWR. Hysterectomy Surveillance – United States, 1994 – 1999. Surveillance Summaries, 2002 ; 51 : 1 – 8.
(14) Unger JB. Vaginal hysterectomy for the women with moderately enlarged uterus weighing 200 – 700 grams. Am J Obstet Gynecol 1999 ; 180 : 1337 – 44.