STUDY OF SAFETY AND FEASIBILITY OF NON-DESCENT VAGINAL HYSTERECTOMY IN MODERN GYNAECOLOGICAL PRACTICE

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ABSTRACT

BACKGROUND

Vaginal route of hysterectomy is being reinvented as a part of enhanced recovery with advantages of reduced operating time, lesser hospital stay, reduced morbidities and better patient satisfaction as scarless surgery. The aim of our study was to evaluate the safety and feasibility of non-descent vaginal hysterectomy.

MATERIALS AND METHODS

In this study, 78 cases with uterine size from normal to 18 weeks selected and operated after complete evaluation with valid consent. Operating time, blood loss, duration of hospital stay, intraoperative and postoperative complications were noted. Patients were followed up after two and six weeks.

RESULTS

The commonest age group in the study was 41-45 years (58.97%). Most common indication of hysterectomy was fibroid uterus (61.53%). The average operating time was 62 minutes with average blood loss of 220 mL and average hospital stay of 3-4 days. Only 2 cases developed major complications. One had primary haemorrhage requiring laparotomy, other developed ureterovaginal fistula requiring further surgery for repair.

CONCLUSION

NDVH is feasible, safe and can also be utilised for enlarged uterus upto 18 weeks, but descent and mobility of uterus, adequate vaginal space, uterine dimensions in both antero-posterior and transverse directions should be taken into account before contemplating NDVH.

KEYWORDS

NDVH, Debulking, Myomectomy, DUB.

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BACKGROUND

Hysterectomy is the most commonly performed gynaecological operative procedure. Routes for hysterectomy are abdominal, vaginal, laparoscopic and with robotic-assisted vaginal hysterectomy was first performed by Langenbeck in 1813.[1] Non-descent vaginal hysterectomy was pioneered by Haene'y in 1934. Since the introduction of laparoscopic hysterectomy, the conventional methods are in debate due to greater emphasis on minimally invasive surgery.

A Cochrane review found that the vaginal route compared with all other routes yields better outcomes and lesser complications.[2] Complications like major haemorrhage, ureteric injury, bladder injury and anaesthetic complications were more in laparoscopic hysterectomies compared to abdominal and vaginal hysterectomies.[3] Furthermore, more time is required for laparoscopic hysterectomy than vaginal hysterectomy.[4,5]

Vaginal route is advantageous over abdominal and laparoscopic routes in terms of lesser operating time and morbidity, lesser duration of hospital stay and cost.[6,7] By choosing the vaginal route the significant complications like paralytic ileus, incisional hernia, infection associated with abdominal route can be avoided.[8,9] Major advantage of vaginal route is of being a scarless procedure.[9]

The objective of this study was to assess the possibility of vaginal route as the primary route for hysterectomy for benign conditions in absence of prolapsed uterus and exclusion of adnexal pathology.

MATERIALS AND METHODS

This is a prospective study carried in Department of Obstetrics and Gynaecology, M.K.C.G. Medical College, Berhampur, Odisha conducted from 1st January 2015 to 31st December 2016. Patient requiring hysterectomy for

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benign gynaecological disorders like DUB, Fibroid, Adenomyosis, Chronic leucorrhoea without prolapse were posted for NDVH. Prerequisites were set as size of uterus not exceeding 18 weeks of gravid uterus, adequate access with good uterine mobility. Exclusion criteria included severely restricted mobility of uterus, suspicion of malignancy, more than 2 previous caesarean sections, pelvic endometriosis and complex adnexal mass. After proper history taking, pelvic examination was done to assess size and position of uterus, degree of descent, mobility of uterus and vaginal capacity was noted. All necessary investigations for surgical fitness was done. USG of abdomen and pelvis was done to rule out adnexal pathology. Doubtful cases were evaluated by endometrial and cervical biopsy whichever required. Cases were taken for NDVH after written informed consent.

Operative Technique

All cases were done under spinal anaesthesia. Antiseptic cleaning and draping was done in lithotomy position; circumferential incision was made around cervix, pubovesico cervical ligament was cut and bladder pushed upwards. Posterior pouch was opened first followed by anterior one. Uterosacral and Mackenrodt's ligaments followed by uterine vessels of both sides were clamped cut and ligated. Various techniques like uterine bisection and debulking was done whenever required in larger size uterus. Lastly round ligament ovarian ligament and fallopian tube were clamped, cut and ligated, vault closure was done with Vicryl No. 1. Foley's catheter was removed after 24 hours. Patients discharged after 48 - 72 hours. Patients were followed up to 2 weeks and after 6 weeks (Figure 1, 2, 3).

All data regarding age, parity, uterine size, indications of hysterectomy, duration of surgery, amount of blood loss and complications were documented.

RESULTS

In this study, a total of 78 cases prepared for NDVH were enrolled. NDVH was successfully performed on 76 cases. Two cases were abandoned and abdominal route was undertaken due to various reasons.

Age (Yrs.)	Number of Patients	Percentage
35 - 40	8	10.25
41 - 45	46	58.97
46 - 50	19	24.35
> 50	5	6.41

Table1. Age-Wise Distribution of Cases

Most common age group undergoing NDVH was 41 - 45 years. Only 5 patients were more than 50 years.

Parity	Number of Patients	Percentage
Nullipara	4	5.12
Para 1	15	19.23
Para 2	15	19.23
Para 3	38	48.71
≥ Para 4	6	7.69

Table 2. Parity-Wise Distribution of Cases

Most of the patients were Para 3.

Indications	Number of Patients	Percentage
Fibroid uterus	48	61.53
AUB	12	15.38
Adenomyosis	8	10.25
Chronic leucorrhoea	4	5.12
Submucous fibroid polyp	3	3.84
Cervical polyp	3	3.84

Table 3. Indications of NDVH

The commonest indication in our study was fibroid uterus. Other indications were AUB which included post-menopausal bleeding, adenomyosis, chronic leucorrhoea, submucous fibroid polyp and cervical polyp.

Size of Uterus (wks.)	No. of Patients	Percentage
Normal Size- 6 wks.	12	15.38
> 6 - 8	28	35.89
> 8 - 10	12	15.38
> 10 - 12	9	11.53
> 12 - 14	7	8.97
> 14 - 16	6	7.69
> 16 - 18	4	5.12

Table 4. Uterine Size in Cases Selected for NDVH

Majority of cases had uterine size 6 - 8 weeks. Seventeen patients had uterine size more than 12 weeks where different techniques like bisection, coring, wedge resection, myomectomy and debulking were adopted.

Type of Surgery	Number of Cases
Previous one LSCS	5
Previous Two LSCS	2
Previous unilateral salpingo-oophorectomy	4
Tubectomy	52

Table 5. NDVH done in Cases with Previous Surgeries

NDVH can also be performed in cases where previous surgeries like LSCS and salpingo-oophorectomy has been done.

Type of Surgery	Number of Cases
Ovarian cystectomy	2
Salpingo-oophorectomy (Unilateral)	1

Table 6. Associated Surgery Performed with NDVH

Technique	No. of Patients	%
Bisection with myomectomy	42	53.84
Bisection only	14	17.94
Bisection with morcellation (Debulking)	13	16.66
Removal of intact uterus	9	11.53

Table 7. Techniques used in Removal of Uterus

As most of the cases in our study were fibroid uterus and of size 6 - 14 weeks, uterine removal was with bisection without myomectomy in most of the cases.

Average operating time	...	62 Minutes
Average blood loss	...	220 mL
Average hospital stay	...	3 - 4 Days

Table 8. Surgical Parameters

Complications	Number of Patients	Percentage
Bladder injury	0	0
Rectal injury	0	0
Conversion to TAH	2	2.56
Primary haemorrhage requiring laparotomy and blood transfusion	1	1.28
Vault haematoma	1	1.28
Secondary haemorrhage	0	0
Post-operative pyrexia	8	10.25
UTI	4	5.12
Urinary tract fistula	1	1.28
Vaginal cuff infection	0	0
Anaesthesia complication	0	0
Mortality	0	0

Table 9. Complications

In our study, bladder and bowel injuries were nil. In two cases, NDVH was abandoned and proceeded for abdominal hysterectomy. Reasons were difficulty in opening pouch of Douglas in one case and in other difficulty in reaching fundal myoma, which prevented uterine descent.

In one case, laparotomy was done after 6 hours of NDVH due to primary haemorrhage. One case presented with ureterovaginal fistula 9 days after NDVH.

	Number of Patients	Percentage
Fully satisfied and confident	59	75.64
Not satisfied	19	24.35

Table 10. Patient Satisfaction Feedback on NDVH, the Scarless Surgery

Most of the patients (75.64%) were satisfied with NDVH.

Figure 1. Removal of Uterus by Debulking Method

Figure 2. Removal of the Uterus Bisection Technique

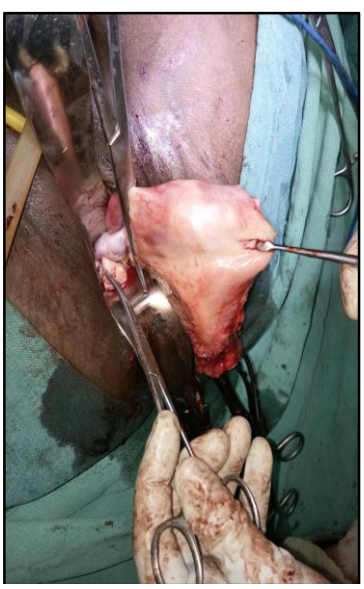

Figure 3. Removal of Intact Uterus

DISCUSSION

Most gynaecologists prefer abdominal route for hysterectomy and vaginal route is usually reserved for uterocervical descent. The common limitations for vaginal hysterectomy in non-prolapsed uterus include size of the uterus, nulliparity, previous pelvic surgery and LSCS, pelvic adhesions.

This prospective study was performed over a period of two years at tertiary care teaching hospital over 78 patients. NDVH could be completed successfully in 76 patients, only 2 cases converted to abdominal hysterectomy. In this study, majority age group undergoing hysterectomy was of 41 - 45 years. Tissue laxity, roomy vagina, availability of free pelvic space, uterine mobility are the factors contributing to successful NDVH. Previous pelvic surgery is not a contraindication for NDVH.[5,10] We too did not encounter any difficulty, only careful bladder dissection was needed in these cases.

In our study commonest indication was fibroid uterus similar to study by Goel et al, Dewan et al,[11] and Bharatnur

et al.[12] Mean blood loss in our series was 220 mL, which was lesser than that reported in other studies like 268 mL, 290 mL,[11] 316.4 mL,[12] but it is more compared to a study by Bhadra B in 201114 whose mean blood loss was 100 mL. Mean operating time in our study was 62 minutes which is more compared to Goel et al, Dewan et al,[11] Bharatnur et al[12] and Bhadra et al.[13]

In present study, on analysing the failed case there was difficulty in opening POD in one case and in other case was difficulty in reaching fundal myoma and the transverse diameter of uterus was very large. Similar reasons were cited by Goel et al. Hence, dimensions of uterus in both antero-posterior and transverse directions should be taken into account. Among all bisection with myomectomy remained the first and foremost technique (Goel et al).

Major complications were seen in two cases. In one case, laparotomy was done for primary haemorrhage after 6 hours of NDVH. In the other case, we encountered ureterovaginal fistula after 9 days which was due to cautery use.

There are some SOGC guidelines for hysterectomy, which includes vaginal hysterectomy. It should be considered as a first choice for all benign conditions.[14] In a study by Dr. Sarita Sahoo,[15] vaginal hysterectomy is advantageous over abdominal route with respect to short operating time, lower morbidity, less post-operative study and less cost.

NDVH is an almost entirely extraperitoneal operation. The peritoneum is opened to only a minimal extent and little packing and handling of intestines is required. Post-operative ileus is much less common, thus oral intake and mobilisation of the patient is earlier, thus reducing the duration of hospital stay.

Laparoscopic hysterectomy requires general anaesthesia, whereas NDVH can be performed under regional anaesthesia. The main value of laparoscopy remains the assessment and treatment of suspected adhesions or adnexal pathology.[7]

As NDVH is more acceptable to patients and the safety and feasibility with increasing experience, it is highly acceptable in modern gynaecological practice.

CONCLUSION

This study concludes that NDVH is feasible, safe and can also be utilised for enlarged uterus upto 18 weeks, but descent and mobility of uterus and uterine dimensions in both antero-posterior and transverse directions should be taken into account before contemplating NDVH. A combination of bisection, myomectomy and morcellation techniques often needed with experience, operative time, blood loss and complications can be reduced considerably.

Modern gynaecological practice demands minimally invasive surgery, early discharge, early resumption of work, avoidance of disfiguring scar and cost-effective procedure. NDVH is a part of enhanced recovery.

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