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Original Research Article

Evaluation of post-operative outcome of non-descent vaginal hysterectomies done in a year at a tertiary care centre

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ABSTRACT

Background: The aim of our study is to represent our experiences with non-descent vaginal hysterectomies (NDVH), the intraoperative and postoperative complications of NDVH, using suture less procedure and only energy sources like cautery, assess intra operative blood loss, operative time, risk of infection, post op hospital stay. The objective was to assess the outcomes of the safest and scar less method of hysterectomy i.e. NDVH, practised at a tertiary centre in one-year period of time.
Methods: This was a retrospective case study conducted in the department of obstetrics and gynaecology of NRI Medical College and Hospital, Mangalagiri, over a period of 12 months (October 2022 to October 2023). This includes 50 patients who underwent non-descent vaginal hysterectomy for benign indications with adequate vaginal access, with good mobility, without any suspected adnexal pathology and without uterine prolapse.
Results: All 50 cases were studied retrospectively. None of them had bladder injury, or need for conversion to abdominal route. Commonest indication for surgery was fibroid uterus. Average duration of surgery was 1.2 hours. Average blood loss was 49 ml. Post-operative complications were minimal. Average hospital stay was 4.3 days. Patient mobility and ambulation was early, with minimal need for pain relief.
Conclusions: The study concludes that patients requiring hysterectomy for benign uterine pathologies without prolapse can be given an option of non-descent vaginal hysterectomy, because of the advantages that it has, over the abdominal route.

Keywords: NDVH, Suture less, Safe

INTRODUCTION

Hysterectomy is the most commonly performed major gynaecological procedure.[1] It can be performed through various routes like abdominal, vaginal, or laparoscopy. The comfort and convenience that abdominal route provides has led to the predominance of abdominal hysterectomy over other routes.[2] But, abdominal hysterectomy is associated with risks like paralytic ileus, surgical site infections, prolonged hospital stay. Vaginal route was adopted eras back and was less successful then, due to lack of experience.[3] Vagina is the most ideal and natural route to reach uterus and, as the surgeon removes the uterus through natural orifice, it does not leave any visible scars.[4]

But, now days, due to emphasis on minimally invasive procedures and improved technology, where laparoscopy training is taking over the leap, here is our study mainly aimed at revival of the age-old skill of operating through the natural orifices and highlighting the feasibility and post-operative outcomes of this procedure.

METHODS

It was a retrospective case study conducted in the department of obstetrics and gynaecology, NRI Medical

College and Hospital, Mangalagiri, for a duration of 12 months (October 2022 to October 2023).

All the patients who underwent non-descent vaginal hysterectomy for benign indications with adequate vaginal accessibility, with good uterine mobility, without any adnexal pathology and without uterine prolapse were included in the study.

Pre-operatively investigations like complete blood picture, complete urine examination, blood grouping and typing, fasting and post- prandial blood sugars, liver function tests, renal function tests, endometrial biopsy, Pap smear, electrocardiography (ECG), 2D Echo, chest X-ray, and ultrasonography (USG) pelvis were done to all patients before the surgery.

Routine per speculum and vaginal examination is performed on all the patients to assess the uterine size, mobility, degree of traction, for any adnexal masses or pathologies.

In case of larger uterine size, morcellation techniques like bissection, myomectomy, and slicing were used to retrieve the uterus.

The data collected was entered into Microsoft excel and were analysed. Qualitative data was expressed in terms of percentages, while quantitative variables were expressed in terms of means and standard deviations Appropriate tables were drawn for the study variables and presented accordingly. Only descriptive analysis was done.

Inclusion criteria

This study includes women above the age of 40 years who have underwent non-descent vaginal hysterectomy for benign indications without prior major abdominal surgeries, without any uterine prolapse or any evidence of associated adnexal pathologies, having uterus with less than 14weeks size with adequate vaginal access and mobility on examination, during the specified study period.

Exclusion criteria

Women with prior bleeding disorders or major abdominal surgeries and restricted mobility of the uterus on examination are excluded from the study. Any women with associated adnexal pathologies or suspicion of malignancy or uterine size of more than 14 weeks are also excluded.

Procedure

All patients were operated under spinal or epidural anaesthesia.

Patients were placed in lithotomy position after painting and draping.

Anterior and posterior vaginal walls retracted with sim's speculum and anterior lip of cervix held with vulsellum.

Hydro dissection was done by injecting normal saline in para- cervical space. Circumferential incision given at vesico-vaginal junction.

Anteriorly, vesico-vaginal fold opened and pubovesico-cervical ligament was cut and bladder pushed up. Posteriorly, pouch of Douglas opened.

Bilateral uterosacral ligaments and Mackenrodt's ligaments were cauterised and cut. Bilateral uterine arteries were cauterised and cut. Bilateral round ligaments were cauterised and cut.[6]

In case of a bulky uterus, debulking procedures like bissection was done by cutting uterus into halves or enucleation of the fibroid is done before removing the specimen.

Bilateral salpingectomy done in indicated cases. Specimen retrieved vaginally and sent for histopathology. Vault closed and vagina packed.[7] Foley's catheter kept in-situ for 24 hours. Injectable antibiotics were given for 48 hours. Post-operative period was observed for any bleeding episodes, fever or any bowel disturbances and recorded.

RESULTS

Total of 50 patients operated for different benign causes fulfilling the criteria, were selected for the study.

Data was collected and the following tables were made.

Table 1 shows the age groups to which the patients belonged, where nearly 50% are around 45-49 years old, followed by 40-44 years age group (36%), with mean age of 46.3 years.

Table 1: Age group of patients.

S. no	Age group	No.	%
1	35-39	3	6
2	40-44	18	36
3	45-49	23	46
4	50-54	3	6
5	55-60	3	6

Table 2 describes about the parity distribution among the selected patients. Half of the study group belongs to parity-2 group, 14 cases with parity-3, and 3 cases with parity-4 and more.

Table 3 gives data about patients with previous history of abdominal surgeries, where tubectomy was the most commonly performed surgery, done in almost all the patients.

Table 2: Parity distribution among the selected patients.

S. no.	Parity	No.	%
1	Nulli	2	4
2	1	6	12
3	2	25	50
4	3	14	28
5	4	3	6

Table 3: Patients with previous history of abdominal surgeries.

S. no.	Previous abdominal surgery	No.	%
1	Tubectomy	41	82
2	1 LSCS	6	12
3	Others	2	4

Table 4 gives data regarding the associated comorbidities in the selected patients. Hypothyroidism is the major co-morbid condition accounting to 28%, followed by diabetes (26%).

Table 4: Associated comorbidities in the selected patients.

S. no.	Co-morbidities	No.	%
1	Anaemia	11	22
2	Hypertension	12	24
3	Hypothyroidism	14	28
4	Diabetes mellitus	13	26

Table 5 above represents the data regarding approximate uterine sizes of the patients on examination, where 19 cases have a uterine size corresponding to 8-14 weeks and only 1 case with size more than 14 weeks.

Table 5: Approximate uterine sizes of the patients on examination.

S. no.	Uterine size (weeks)	No.	%
1	Normal	12	24
2	Up to 8	18	36
3	8-14	19	38
4	>14	1	2

Table 6 provides information regarding the various indications for which the surgery has been performed. From the above data, most common reason for abnormal bleeding and surgery is leiomyoma with 42% cases, and followed by adenomyosis with 34% cases.

Table 7 provides information regarding the type of surgery that the selected patients group have underwent after intra-op assessment of the status of the fallopian tubes and ovaries. 52% of the patients needed only hysterectomy, while 20% needed either unilateral or bilateral salpingectomy.

Table 6: Various indications for which the surgery has been performed.

S. no.	Indications for surgery	No.	%
1	Polyp	6	12
2	Adenomyosis	17	34
3	Leiomyoma	21	42
4	AUB	3	6
5	Cervicitis	3	6

Table 7: Type of surgery that the selected patients group have underwent.

S. no.	Type of surgery	No.	%
1	NDVH alone	26	52
2	NDVH + U/L salpingectomy	9	18
3	NDVH + B/L salpingectomy	11	22
4	NDVH + B/L salpingo-oophorectomy	4	8

Table 8 provides information regarding the technique used intra operatively for delivering the uterus. In this study, nearly 38% cases were around 8-14 weeks size, 24% cases were of normal size.

In this study, for nearly 36% cases, uterus is delivered intact without the need for bisection or myomectomy. Only 10% of them needed myomectomy for delivering the uterus. The need for conversion of the procedure to laparotomy was zero in our study.

Table 8: Technique used intra operatively for delivering the uterus.

S. no.	Technique used	No.	%
1	Intact uterus	18	36
2	Bissection alone	20	40
3	Bissection+myomectomy	5	10
4	Bissection+morcellation	7	14

In Table 9, data regarding intra-operative and post-operative variables were being described precisely.

According to the above data, the average time taken for the surgery is around 1.2 hours, mean blood loss of 49 ml.

Intra-op complications like bowel injury, bladder injury were nil.

While, the post-operative variables like pain score on day 3 was around a mean of 2.08, and average duration of hospital stay was 4.32 days.

Table 9: Intra-operative and post-operative variables.

S. no.	Variables	Mean	SD	Median
1	Duration of surgery (hours)	1.2	0.43	2
2	Intra-op blood loss (ml)	49.30	14.21	50
3	Post op pain	2.08	0.78	2
4	Duration of stay	4.32	1.36	7

Table 10 signifies the data about patients who needed blood transfusion post-operatively, where 90% of them needed no transfusion. Transfusion needed only in patients with anaemia pre-operatively. Post-operative morbidities like fever and urinary tract infections are noted in only 14% of the patients (Table 11).

Table 10: Patients who needed blood transfusion post-operatively.

S. no.	Intra-op blood transfusions	No.	%
1	1 unit given	4	8
2	2 units given	1	2
3	Nil	45	90

Table 11: Post-operative morbidities.

S. no.	Post-op morbidity	No.	%
1	Fever	1	2
2	UTI	6	12
3	Nil	43	86

DISCUSSION

Vaginal hysterectomy done using equipment like bipolar cautery, ligature vessel sealing system, without the need for suturing of the pedicles, has made it a less cumbersome procedure. It is also called as minimal bowel hysterectomy as the risk of intra operative damage to the bowel, urinary bladder and surrounding adnexa are relatively less compared to abdominal route.

In our study with 50 patients, most of them were around 41-49 years old, with mean age of 46.3 years. The commonest indication for non-descent vaginal hysterectomy in our study was leiomyoma (AUB-L) followed by adenomyosis (AUB-A), similar to Sara et al study, that reported as 41-45 years was the common age group with leiomyoma (63%) as the common indication.[8] This observation was in contrary to Shinde et al study which reported DUB as the common indication followed by leiomyoma.[9] The mean duration of surgery was 1.2±0.43 hrs with mean blood loss of 49.3±14.2 ml, which is much less than reported by Bharatnur et al.[10] There were no intra operative complications like bowel, bladder or ureteric injury. Only 10 out of the 50 patients needed blood transfusion, where 6 were already anaemic prior to the surgery. The VAS pain assessment scoring done on post-operative day 3 were around 2 in most of the patients. The mean post-operative hospital stay was 4.32±1.3 days. In our study, most of the cases operated were around 8-14 weeks size, i.e. 38%, while those of >14 weeks size were only 2%. Deshpande et al did a study on 100 patients, with uterine size of <12 weeks with mean age of 46.12 years, and mean duration of surgery of 39.7 min.[11] However, there were higher intra-operative complications in this study, unlike our study. Post-operative complications like wound infection, gaping, paralytic ileus are absent in our study. But, 2% cases with fever and 12% cases of uncomplicated urinary tract infections were noted.

Regarding the procedure done, NDVH was alone needed in almost 52% cases, followed by 22% cases requiring the need of bilateral salpingectomy along it. In 8% cases, NDVH along with bilateral salpingo-oophorectomy was done.

Removal of the uterus intact, was possible only in 36% of the cases, while bisection with myomectomy in 10% cases, and bisection with morcellation in 14% cases. These additional manueuvers are needed in cases where retrieval of the specimen vaginally, becomes cumbersome.

In the study done by in 80 women for NDVH by Kumar et al, the success rate of 95% noted, with the need for laparotomy conversion and intra-operative blood loss was proportional to the uterine size, and concluded that it is a safe and effective procedure in <12 weeks size.[12]

Nielboer et al conducted a systematic Cochrane review on nine RCT's and concluded that vaginal hysterectomy is better in terms of intra-operative and post-operative outcomes.[13]

Therefore, the success of the procedure mainly depends on indication for surgery, patient anatomy and their preferences, surgeon's expertise and training. Proper patient selection gives the desired outcomes.

Limitations

The sample size of the study was relatively small, which may limit the generalizability of the findings to a broader population. The study was conducted in a single centre, which may reflect the diversity of practices and patient populations in different healthcare settings. The procedure done may not provide an idea about the intra-abdominal viscera and adnexae, which is a procedural limitation, that is inevitable.

CONCLUSION

From our study variables and the data analysed, it can be justified that non descent vaginal hysterectomy is a better and safer option in uterus up to 14 weeks size than the conventional abdominal method, provided selection of patient plays a key role. Therefore, training and hands-on of this procedure should be imparted in the training period itself, to bring back the glory of this procedure.

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