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ORIGINAL ARTICLE

Non Descent Vaginal Hysterectomy (NDVH): Personal Experience in 158 Cases

Banasree Bhadra[1*], Arun Paul Choudhury[2], Amit Tolasaria[3] and Nandi Nupur[3]

[1]Department of Obstetrics & Gynaecology, KPC Medical College, Kolkata, India Ex-Registrar Silchar Medical College, Assam, India, [2]Department of Obstetrics & Gynaecology, Silchar Medical College, Assam, India and [3]Department of Obstetrics & Gynaecology, KPC Medical College, Kolkata India

Abstract: *Aims*: To report personal experience of NDVH in 158 cases. *Methods:* All patients requiring hysterectomy for benign gynecological disorders who did not have any uterine descent were recruited for this study. NDVH was performed in cases where the uterus was mobile, with size not exceeding 20 weeks gestation, and with adequate vaginal access. Morcellation techniques like bisection, myomectomy, wedge debulking or combinations of these were employed in bigger sized uterus. Patients not fitting the prerequisites for NDVH underwent abdominal hysterectomy. *Observations:* Total 198 hysterectomies were performed during the study period. Vaginal route was employed in 158 patients and abdominal in 35 cases. Out of 158 vaginal hysterectomies, 78 cases (49.4%) were in the age group of 41 to 45 years. Dysfunctional uterine bleeding was the commonest indication (60 cases, 37.9%). Morcellation techniques were employed in 126 cases (79.74%). Vaginal hysterectomy was successful in all although in one case laparoscopic help was needed for tackling infudibulopelvic hematoma. Mean operating time was 55 minutes, with average blood loss 100 ml, and hospital stay 3 days. Complications were minimal. *Conclusion*: Vaginal hysterectomy for non-descent large uterus is safe and feasible provided one is familiar with the morcellation techniques.

Key Words: non-descent vaginal hysterectomy, abdominal hysterectomy, morcellation.

Introduction

Hysterectomy is the most common major gynecological surgical procedure. It can be done by abdominal or vaginal or laparoscopic route. Laparoscopy assisted vaginal hysterectomy (LAVH) and total laparoscopic hysterectomy (TLH) although gaining more popularity, is associated with higher cost [1], longer duration of operation, and specially trained personnel. On the other hand, vaginal hysterectomy is associated with reduced morbidity and lower health care costs compared to laparoscopic techniques [2]. It is preferred in high risk cases like obesity and is cosmetic (scarless surgery). Vaginal hysterectomy in larger sized uterus is facilitated by bisection, myomectomy, bisection debulking, coring and clampless approach [3].In modern India Sheth [4] has brought forth new dimension in NDVH with his experience of 5655vaginal hysterectomies. The aim of the present study is to report the personal experience in performing non-descent vaginal hysterectomy (NDVH) for benign gynecological indications and to explore different surgical techniques that make vaginal hysterectomy simpler and easier to perform.

Materials and Methods

The study was approved by the Ethics Committee of Silchar Medical College hospital**.** All patients requiring hysterectomy for benign gynecological disorders without prolapse (DUB, leiomyoma, ademyosis, PID etc) were studied for a period of two years from May 2007 to April 2009 at Silchar Medical College hospital, Assam. Prerequisites for vaginal hysterectomy were set as uterine size not exceeding 20 weeks of gravid uterus (by clinical judgement), adequate access with good uterine mobility. Exclusion criteria included uterus with severely restricted mobility, suspicion of malignancy and complex adnexal mass. Those patients who were not fulfilling the prerequisites for non descent vaginal hysterectomy underwent abdominal hysterectomy. Detailed history and thorough clinical examination was done in each case. A written informed consent was taken from patient's husband/ guardian in each case. All cases were re-assessed in operating theater after patient was anaesthetized, to see the size, mobility of the uterus, vaginal accessibility and laxity of the pelvic muscles.

Operative Technique: All cases were done under regional anesthesia, either spinal or epidural. After cleaning and draping, cervix was held with volsellum. Saline infiltration was done in all cases. Circumferential incision was made around the cervix, pubo-vesico-cervical ligament was cut and bladder mobilized upwards. Both anterior and posterior pouches were opened one after another. Uterosacral and cardinal ligaments were clamped, cut and ligated. Clamping of uterine vessels was done bilaterally. Next in bigger sized uterus morcellation techniques like uterine bisection, debulking, myomectomy or combinations of these were performed as and when required. In case of fibroid with bigger sized uterus bisection was done after ligating the uterine arteries and myomectomy was done to ease limitation of space for further proceedings. In case of fundal fibroid only those myomas were removed which were interfering with delivery of the fundus. In total hysterectomy, last clamp was on uterine cornu containing round ligament, ovarian ligament and medial part of fallopian tube. To remove ovaries, round ligament was clamped separately followed by clamping of infundibulopelvic ligament. After delivery of the uterus (with ovaries) hysterectomy was completed in usual fashion. Data regarding age, parity, uterine size, estimated blood loss, length of operation, complications and hospital stay were recorded. All patients received 3 doses of prophylactic injectable antibiotics. Cephazolin injection1gm intravenous twice daily after negative skin test was given along with Metronidazole 500mg intravenous thrice daily (one intraoperatively and 2 post-operatively). Postoperative catheterization with foley's catheter was done in all cases for 24 hours.

Results

Total number of hysterectomies carried out during the study period was 193. Vaginal route was employed in 158 patients and abdominal in 35cases. Table 1 shows various indications for which non descent vaginal hysterectomy (NDVH) and abdominal hysterectomy were performed. It shows dysfunctional uterine bleeding (37.9%) to be the commonest indication for NDVH followed by fibroid (19%), adenomyosis

Table-1: Indications For Performing NDVH And Abdominal Hysterectomy		
Surgical indication	Abdominal	NDVH
	N (%)	
Dysfunctional uterine bleeding	NIL	60 (37.9%)
Fibroid	13 (37.14%)	30 (19%)
Adenomyosis	3 (8.57%)	21 (13.3%)
Pelvic inflammatory disease	5 (14.3%)	17 (10.8%)
Cervical intraepithelial neoplasia	4 (11.4%)	10 (6.3%)
Cervical polyp	NIL	7 (4.4%)
Complex adnexal mass	8 (22.8%)	0 (0%)
Endometrial polyp	0 (0%)	8 (5%)
Postmenopausal bleeding	2 (5.7%)	5 (3.1%)
Total number of cases	35	158
N= number of patients		

(13.3%) and Pelvic inflammatory disease (10.8%).

Fibroids in the vaginal hysterectomy group had sizes varying between 2 to 12 cms and were multiple with numbers varying from 2 to 6. In abdominal hysterectomy, fibroid (37.1%) was the commonest indication followed by complex adnexal mass (22.8%).

Table-2: Age Of Patients	
Age	Number of patients (%)
35-40	39 (24.6%)
41-45	78 (49.4%)
46-50	33 (20%)
>50	8 (5%)

Table 2 shows distribution of cases according to age. 78 cases (49.4%) were in the age group 41-45yrs.

Table 3 shows distribution of cases according to parity. 64 cases (40.5%) had parity three, a favorable factor for vaginal route of surgery. Out of 7 patients with uterine size more than 16 weeks (Table5), 4 patients had parity 3 and the rest 3 patients had parity 2.

Table-3: Parity Of Patients	
Parity	Number of patients (%)
1	9 (5.6%)
2	28 (17.7%)
3	64 (40.5%)
=>4	57 (36.2%)

Table 4 shows different morcellation techniques used during the surgery to remove bigger sized uterus. Different morcellation techniques were employed successfully in 126 patients (79.74%).Bisection (43.03%) was used most frequently.

Table-4: Morcellation Techniques	
Morcellation techniques	Number of patients (%)
Bisection	68 (43.03%)
Bisection myomectomy	26 (16.45%)
Bisection debulking	32 (20.25%)

Only hysterectomy was done in 104 cases while salpingo-ophorectomy with hysterectomy was done in 54 cases. Out of these 54 cases, bilateral salpingo-ophorectomy was done in 38 cases while unilateral salpingo-ophorectomy was done in the rest 16 cases. Surgery was successful in all but one patient where laparoscopic help with bipolar cautery was taken for tackling infudibulopelvic hematoma.

Table-5: Size Of Uterus	
Size of uterus	Number of patients (%)
Upto 8weeks	123 (77.84%)
>8 weeks upto 12 weeks	19 (12.02%)
>12 weeks upto 16 weeks	9 (5.96%)
>16 weeks upto 20weeks	7 (4.43%)

Data of size of uterus is shown in Table 5. Most of the patients (77.84%) had uterine size less than or equal to 8 weeks.

Table-6: Surgical Results	
Parameters	
Average Operating Time	55mins
Average Blood Loss	100ml
Average Hospital Stay	3 days

Table 6 shows the surgical results. Operation could be completed in an average time of 55 minutes (from incision to completion of surgery) with average blood loss 100 ml. Women could be discharged in 3 days time (3 to 5 days). Only four patients required blood transfusion.

Table-7: Surgical Complications	
Complications	Number of patients
Intraoperative	
Vault haematoma	1
Ovarian vessel bleeding	1
Post-operative	
Secondary haemorrhage	2
UTI	12
Backache	7

Table 7 shows the various complications (Intra-operative and Post-operative).

Discussion

It is a well-known fact that 70% to 80% of hysterectomies are performed by abdominal route and vaginal approach is usually reserved for uterovaginal prolapse [5]. The usual contraindications for vaginal hysterectomy are absence of significant uterovaginal prolapse, presence of uterine enlargement, adhesions and the need for oophorectomy. With adequate vaginal access and good uterine mobility, vaginal hysterectomy can be easily performed. The uterosacral and cardinal ligaments, situated in close proximity to the vaginal vault once clamped and cut produce first degree descent. Multiparity, lax tissues following multiple deliveries and decreased tissue tensile strength provide comfort to vaginal surgeon even in the presence of uterine enlargement. The other important reason for the lower proportion of hysterectomies performed vaginally is the presence of uterine enlargement with leiomyomas or adenomyosis. However, bulky uteri can be dealt with techniques like bisection, myomectomy or debulking. In our study, 126 patients without descent underwent these procedures for successful removal of the uterus. Davies et al [6] and Mazdisnian et al [7] also resorted to these techniques. We were successful in removing uteri of up to 20 weeks pregnancy size vaginally without any increase in surgical complications, blood loss, operative time or hospital stay. Similar findings were reported by Unger [3] who operated upon uteri weighing 200 to 700 gm, without any increase in complications as compared to abdominal hysterectomies. Complications in our study were minor and few. Kumar and Antony [8] successfully carried out vaginal hysterectomies in 95% (76/80) and 60 of their patients needed morcellation or hemisection or myomectomy. They consider vaginal hysterectomy safe upto 12 weeks size. Das and Sheth[9] use ultrasongraphic calculation of uterine volume for assessing the feasibility of vaginal hysterectomy. They needed debulking for uteri with a volume of more than $300cm^3$.It has been demonstrated that ovaries are visible and accessible to transvaginal removal in most cases [10].

The length of hospital stay reported by Dorsey JH et al [11] was 3.5 and 4.5 days for total vaginal and total abdominal hysterectomy respectively. In our series hospital stay was 3 days. Vaginal hysterectomy in women with non-descent and moderately enlarged uteri is safe. A combination of morcellation techniques is often needed and the surgeon needs to be familiar with them. With experience, operative time, blood loss and complications can be reduced considerably. Thus this scarless approach should be chosen as a preferred method of hysterectomy.

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*All correspondences to: Dr.Banasree Bhadra, 8A/2 Anupama Housing Complex, 1st Floor, Haldiram, VIP Road, Kolkata700052, West Bengal, E-mail: banasree22@yahoo.com

