

SURGICAL OUTCOME OF NON DECENT VAGINAL HYSTERECTOMY (NDVH) FOR BENIGN UTERINE PATHOLOGY AT TERTIARY CARE TEACHING HOSPITAL

Gynaecology

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ABSTRACT

Aims: To study the surgical outcome of non decent vaginal hysterectomy (NDVH) for benign uterine pathology at teaching hospital.

Methods: Prospective study of 97 cases of NDVH performed for benign conditions in absence of uterine prolapse. Information regarding age, parity, uterine size, blood loss, duration of operation, intra-operative, post-operative complications, duration of hospital stay were recorded.

Results: Commonest indication for non decent vaginal hysterectomy was dysfunctional uterine bleeding. Mean duration of surgery was 60 ± 15 min. Mean blood loss was 150 ± 20 ml. Post-operative complications were minimal. Patient mobility, resumption of daily activities was fast with minimal need for pain relief. Average hospital stay was 4 days. One case had minor bladder injury.

Conclusion: Non decent vaginal hysterectomy for benign uterine condition was safe .It was associated with short hospital stay, minimal blood loss, less post operative morbidity and short convalescence period.

KEYWORDS

Non decent vaginal hysterectomy, Benign uterine pathology, Surgical outcome

INTRODUCTION

Hysterectomy is the most common operation performed by gynaecologist, next to caesarean section¹. Non decent vaginal hysterectomy (NDVH) is removal of uterus through vagina in the absence of uterine descent. Vaginal route is preferred for removing uterus as it is a natural route, surgery is scar less and is safer than conventional laparotomy.² Because of increased incidence of caesarean deliveries, women subsequently undergoing hysterectomies with caesarean sections are increasing³. The risk of complications with abdominal hysterectomy is more than vaginal hysterectomy. The risk of intra-operative complications like injury to bowel, bladder, ureters and postoperative complications like paralytic ileus, surgical site infections, incisional hernia are significantly less with vaginal route⁴. Total Laparoscopic Hysterectomy (TLH) an alternative, requires highly skilled surgeon, special endoscopic equipments, trained medical and paramedical staff, skilled anaesthetist, long duration of operation and high cost⁵. Patient preference, skill and expertise of the surgeon are important in determining the route of surgery⁶. This study will help in assessing the feasibility, safety and clinical outcome in women who have undergone non decent vaginal hysterectomy for benign uterine pathology, with or without previous caesarean section, in the absence of uterine prolapse.

MATERIAL AND METHODS:

Present prospective observational study was carried out in a teaching hospital over a period of four years from January 2017 to December 2020. All patients who were admitted in Gynaecology ward and who had undergone vaginal hysterectomy for various benign gynaecological conditions except uterine prolapse, were included in the study. Operations were performed by team of surgeons using same technique as described below. All cases were admitted few days before surgery for pre-operative evaluation and or for stabilization of associated co-morbidities. All operations were performed under spinal or epidural anaesthesia.

Operative technique - Per vaginal examination was done under regional anaesthesia before starting the surgery for better assessment of size, mobility of uterus and any adnexal mass. With aseptic measures the patient was cleaned and draped. The anterior lip of cervix was held with vulsellum. Circular incision was made around the

cervix at utero-vesical junction. Pubo-vesico-cervical ligament was clamped using bipolar clamp and cauterised . Urinary bladder was mobilized upwards, till the utero-vesical (anterior) peritoneum covering the uterus was reached. The anterior peritoneum was opened by applying two artery forceps and cutting in between. Posterior pouch was opened in similar fashion by sharp dissection. Uterosacral and cardinal ligaments were clamped and cut using bipolar clamp. Bilateral clamping and cauterisation of uterine vessels was done. If the size of uterus was big then de-bulking techniques like bisection, coring, myomectomy or a combination of these methods were done to facilitate vaginal delivery of uterus. After delivering the uterus, hysterectomy was completed by applying bipolar clamp at both cornual pedicles. All the pedicles were inspected for any oozing. Vaginal vault was closed. Figure 1 and 2 shows specimen following coring technique of debulking Figure 3 shows myomectomy for debulking and figure 4

shows specimen of uterus removed by bisection technique. NDVH was considered successful if it was not abandoned or converted to laparotomy. Operating time was calculated from the start of incision at cervico-vaginal junction to end of surgery. Estimation of blood loss was done by counting the number of mops used during surgery and amount of blood in suction bottle. Foley's catheter was kept in all patients for 24 hours. All patients received broad spectrum antibiotic (third generation cephalosporins) for five days. On post-operative day 2, haemoglobin estimation was done in all patients. Any post-operative complications, if present were noted. All patients were discharged on postoperative day 3 and were asked to come for follow up after 15 days of discharge. Information regarding age, parity, size of uterine, amount of blood loss, duration of operation, complications and hospital stay were recorded in study proforma. Data was compiled and entered in excel sheet and analysed using descriptive methods of statistical analysis.

RESULTS:

In the present study, 97 women had undergone NDVH for various benign gynaecological conditions are shown in Table 1. The NDVH was mainly performed for conditions like dysfunctional uterine bleeding (27%), uterine fibroid (17%), adenomyosis (6%) or cervical conditions like chronic cervicitis (28%) or cervical intra epithelial

neoplasia (4%). All the 97 women in the present stud had successful NDVH without any major complications. Majority (72%) of the women belonged to age group of 40-50 years. Majority (92%) of the women were para 2 and above. Out of 97 cases 10 percent women had history of one previous caesarean and 4 percent had history of previous two caesarean. In 78% cases, size of uterus was up to 10 weeks and remaining 22% cases had uterine size of above 10 weeks. Most common presenting complaint was menorrhagia (76%). Other being dysmenorrhoea, meno-metrorrhagia, per vaginal discharge, chronic pelvic pain. Four patients presented with post-menopausal bleeding.

Table 2 shows clinical and surgical outcome of cases of NDVH. Different de-bulking procedures like bisection (20%), myomectomy (11%), coring or combination of these techniques (3%) were used to remove the bigger size uterus. In 66% cases, uterus was removed intact. The mean operating time in our study was 60 ± 15 min in 75% cases. Mean blood loss was 100 ± 20 ml in 95% cases. The average hospital stay was 4-5 days. Post-operative period was uneventful in most of these women. Only a few women had fever, pain lower abdomen, retention of urine and mild hematuria.

Table 3 shows intra-operative and post operative complication of NDVH surgery in the present case series. There was mild bladder injury in one case and bleeding up to 250 ml in four cases. During post operative period, three cases had urinary tract infection and two cases had vault sepsis, which was treated by an additional course of antibiotics and anti inflammatory drugs.

Tables

Table I- Showing patient characteristics

Sr No	Patient characteristics	% (N=97)
1	Age wise distribution	
	Below 40	20.6
	40-45	43.2
	46-50	28.8
	Above 50	07.2
2	Parity wise distribution	
	Nullipara	02.0
	P1	06.1
	P2	12.3
	P3 and above	79.3
3	Indication wise distribution	
	DUB	27.8
	Chronic cervicitis	28.8
	CIN	04.1
	Cervical polyp	04.1
	Fibroid uterus	17.5
	Adenomyosis	06.1
	Endometrial Hyperplasia	11.3
4	Size of uterus	
	Less than 6 weeks	12.3
	6-8 weeks	36.0
	9-10 weeks	29.8
	11-12 weeks	15.4
	Above 12 weeks	06.1

Table II- Showing clinical and surgical outcome

Sr No	Patient characteristics	(%) (N=97)
1	Duration of surgery	
	Less than 60 minutes	75.2
	60-90 minutes	18.5
	91-120 minutes	04.1
	121-150 minutes	02.0
2	Debulking technique	
	Bisection	19.5
	Myomectomy	11.3
	Coring and Myomectomy	03.0
	Uterus delivered intact	65.9
3	Intra operative blood loss	
	Less than 100 ml	95.8
	100-250 ml	04.1
4	Post operative hospital stay	
	Less than 3 days	68.0
	4 Days	28.8
	5 days	03.0

5	Post op morbidity	
	Fever	03.0
	Pain lower abdomen	04.1
	Vomiting	03.0
	Dysuria	01.0
	Mild Hematuria	03.0

Table 3-Showing intra operative and post operative complications

Sr.No	Complications	(%) (N=97)
1	Intra-operative complications	
	Injury to bladder	01.0
	Primary haemorrhage (up to 250 ml)	04.1
2	Post operative complications	
	Urinary tract infection	03.0
	Vault sepsis/ cellulitis	02.0

Clinical Photographs of different operative techniques used for delivery of uterus by vaginal route

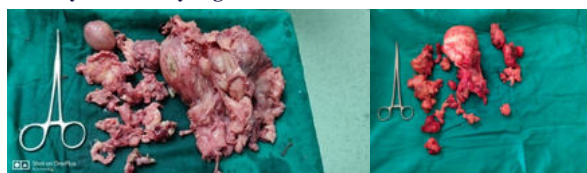


Figure- 1-Coring technique

Figure -2-Coring technique



Figure- 3-Myomectomy

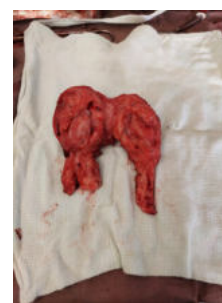


Figure -4-Uterine bisection

DISCUSSION-

Non decent vaginal hysterectomy for benign uterine pathologies has many advantages over other two modalities of surgery like open abdominal surgery or laparoscopic hysterectomy. Vaginal surgery in the form of NDVH also requires skill. The use of bipolar clamp helps in reducing the complications like excessive blood loss. It also saves time and minimizes the use of surgical suture material. It reduces the cost of surgery as well as reduces the rate of infection of the vault. Careful selection of cases and proper pre operative evaluation is needed for the successful completion of the surgery. Surgeon must know his surgical skill and limits of his surgical skills to avoid complications and emergency converting NDVH to laparotomy. Surgical skill gets developed over a period of time. Gynaecologist must learn the procedure in un-complicated cases with normal size uterus and then slowly switch over to large size uteri. Different de-bulking techniques help in delivery of the uterus. (Fig 1,2,3,4) These procedures may be used either singly or in combination as need arises.

A major factor in determining the route of hysterectomy is trans-vaginal accessibility of the uterus⁷. Two factors limit accessibility, an un-descended, immobile uterus and a vagina narrower than 2 fingerbreadths, especially at the apex. Previous vaginal delivery favours successful NDVH. Majority of the women were in the age group of 40 – 50 years and multipara as noted by Saha R. *et al*⁸. The commonest indication was fibroid uterus (40%). Fibroid uterus was also the commonest indication reported by Dewan R. *et al*⁹. On the contrary DUB (52%) was the commonest indication followed by fibroid (22%) as reported by Shinde *et al*¹⁰, and Mehta *et al*¹¹. The mean blood loss was 150 ± 20 ml and amount of loss depend on uterine size and duration of surgery. Similar results were reported by Bharatnur *et al*¹². Mean duration of surgery was 60 ± 15 min as compared to Dewan *et al*. (54.5 min), Bharatnur *et al*. (65 min), Bhadra *et al*¹³ (55 min), and N.Kumar *et al*¹⁴ (50 ± 20 min). The operative time was definitely more in cases with dense bladder adhesions and also dependent on the size of uterus and experience of the surgeon. In our

study there was bladder injury in one case. A very low incidence of bladder injury 7/5655 (0.1%) was also reported by Sheth SS *et.al*¹⁵. Post-operative complications were minimal. Mean hospital stay was 4-5 days.

CONCLUSION:

Vaginal hysterectomy was found to be feasible, safe and cost effective alternative to abdominal hysterectomy and laparoscopic hysterectomy in women with previous caesarean section scar requiring hysterectomy for benign conditions with fewer complications and shorter hospital stay. The vaginal route should be considered primary, unless a specific contraindication is recognized. A scarred uterus should not be a deterrent to NDVH. Gynaecologist should be well trained in proper selection of cases and different de-bulking techniques in cases of big sized uterus, so that vaginal hysterectomy which is the need at this time can be mastered to benefit the needy patients.

REFERENCES-

1. Singh KC, Barman SD, Sengupta R. Choice of hysterectomy for benign disease, department of obstetrics and gynaecology, university college of medical sciences, Delhi. *J Obstet Gynecol*. 2004; 54:365-70
2. Kovac SR. guidelines to determine the route of hysterectomy. *Obstet. Gynecol*. 1995; 85:18-23
3. Purohit RK, Sharma JG, Singh S, Giri DK. Vaginal hysterectomy by electrosurgery for benign indications associated with previous caesarean section. *J Gynecol Surg*. 2013; 29(1):7-12
4. Quality assurance in obstetric and Gynaecology Washington DC, American college of obstetrics and gynaecology, 1989
5. Lafay Pillet MC, Leonard F, Chopin N. Incidence and risk factors of bladder injuries during laparoscopic hysterectomy indicated for benign uterine pathologies: a 14.5 year experience in a continuous series of 1501 procedures. *Hum Reprod*. 2009; 24:842
6. Novak's gynaecology 14th edition hysterectomy Thomas G. Stovall.
7. Chandana C, Venkatesh S, Shah TN. Non-descent vaginal hysterectomy for benign gynaecological disease - a prospective study. *J Evidence Based Med Healthcare*. 2014; 1(8):827-33
8. Saha R, Shrestha NS, Thapa M, Shrestha J, Bajracharya J, Padhye SM. Non-descent vaginal hysterectomy: safety and feasibility. *N J Obstet Gynecol*. 2012; 7(2):14-6
9. Dewan R, Agarwal S, Minocha B, Sen SK. Non-descent vaginal hysterectomy - an experience. *J Obstet Gynecol India*. 2004; 54(4):376-8
10. Shinde S *et al*. Non descent vaginal hysterectomy (NDVH): Our experience at a tertiary care centre: *Indian Journal of Basic and Applied Medical Research*. 2015; 5(1):132-137
11. Mehta S T *et al*. Role of non-descent vaginal hysterectomy in advancing Gynaecological practice NHL *Journal of Medical Sciences*. 2014; 3(1):55-58
12. Bharatnur S. Comparative study of abdominal versus vaginal hysterectomy in Non-Descent cases. *Internet J Gynaecol Obstet*. 2011; 15(2):1528-39
13. Bhadra B, Choudary AP, Tolassaria A, Nupur N. Non-descent vaginal hysterectomy (NDVH): personal experiences in 158 cases. *AL Ameen J Med Sci*. 2011; 4(1):23-7
14. Kumar N, Tayade S. Role of non-descent vaginal hysterectomy in previous caesarean section scar women. *Int J Reprod Contracept Obstet Gynecol*. 2015; 4:785-9
15. Sheth SS, Malpani AN. Vaginal hysterectomy following previous caesarean section. *Int J Gynaecol Obstet*. 1995; 50(2):165-9