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Original Research Article

Non-descent vaginal hysterectomy in previous cesarean section: a retrospective study of 30 cases

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ABSTRACT

Background: Non-Descent Vaginal Hysterectomy (NDVH) is removal of uterus through vagina in non-prolapsed uterus. Objective of present study was to assess safety, feasibility of NDVH in patients with previous cesarean section.
Methods: Retrospective study was conducted in department of Obstetrics and Gynecology of Shree Dharmasthala Manjunatheshwara (SDM) College of Medical Sciences, Dharwad, India from April 2008 to June 2016. Effort was made to perform hysterectomies vaginally in women with benign conditions with history of one, two or three caesarean sections. Information regarding age, parity, number of previous LSCS, uterine size, blood loss, duration of operation, difficulties in separating bladder, intra -operative, post-operative complications were recorded.
Results: Total thirty cases were selected for NDVH with history of one, two and three cesarean sections. All successfully underwent NDVH, except one in which bladder injury occurred which was repaired at same time vaginally. Thirteen patients had previous one Lower Segment Cesarean Section (LSCS), sixteen had two LSCS and one had three LSCS. Commonest indication was abnormal uterine bleeding followed by leiomyoma of uterus. Mean duration of surgery was 97 min. Mean blood loss was 150 ml. Post-operative complications were minimal. Patient mobility, resumption of daily activities was fast. Mean hospital stay was 4-5 days.
Conclusions: Vaginal hysterectomy is safe, cost effective method of hysterectomy in women with previous cesarean section scar requiring hysterectomy for benign conditions with fewer complications, shorter hospital stay and less morbidity.

Keywords: Bladder, Cesarean section, Hydrodissection method, Hysterectomy, Lateral window approach, Non-descent vaginal hysterectomy

INTRODUCTION

Hysterectomy is a commonly performed gynecological procedure.[1] Nondescent vaginal hysterectomy (NDVH) is removal of uterus through vagina in absence of descent. Vaginal route is preferred for removing uteri, as it is natural route, scarless, gives safer and better results than abdominal route.[2] Because of increased cesarean sections, women undergoing hysterectomies with cesarean sections are increasing.[3] Earlier previous cesarean section was relative contraindication to vaginal hysterectomy due to uterovesical adhesions and risk for unintended cystostomy.[4-5]

Skill, experience of surgeon is important in determining the route. This study will help in assessing safety, feasibility of NDVH in women with previous one, two and three cesarean section in absence of uterine prolapse.

METHODS

Retrospective study was conducted in department of Obstetrics and Gynecology of Shree Dharmasthala Manjunatheshwara (SDM) College of Medical Sciences, Dharwad, India from April 2008 to June 2016. Women with previous one, two or three LSCS were recruited in the study as shown in Figure 1 and Figure 2.

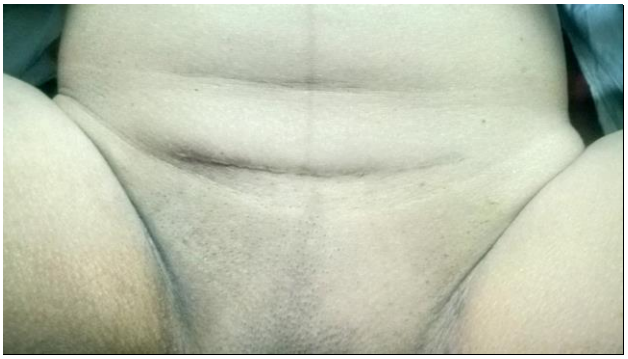

Figure 1: Preoperative picture of transverse scar of caesarean section.

Figure 2: Preoperative picture of vertical scar of caesarean section and appendicectomy scar.

A written informed consent was taken from all patients after explaining the procedure and special consent for conversion to abdominal hysterectomy if needed and chances of bladder injury was taken. Pre-operative investigations including complete blood count, urine examination, blood grouping, fasting and post prandial blood sugar, serum creatinine, blood urea, endometrial biopsy, ECG, chest X-ray, USG abdomen and pelvis was done. All cases were done under spinal anesthesia. In all cases a per vaginum examination was done under anesthesia before starting the surgery to assess size, mobility of uterus, location of fibroids and adnexal pathology. The anterior lip and posterior lip of cervix were held with long Allis forceps. Saline adrenaline infiltration (1:200000) was done. Circular incision was made around the cervix, posterior pouch was opened by sharp dissection. The pubo-vesico-cervical ligament was cut and bladder mobilized upwards. At the site of previous scar bladder was sharply dissected by lateral window approach as shown in Figure 3 or hydrodissection as shown in Figure 4.

Figure 3: Lateral window approach.

Figure 4: Hydrodissection method.

The technique of hydrodissection involves infiltrating 10-20 ml of normal saline between bladder peritoneum and uterus. This provides a good surgical plane for dissection of bladder with minimal blood loss. The uterovesical adhesions can also be released by sharp dissection after hydrodissection technique.

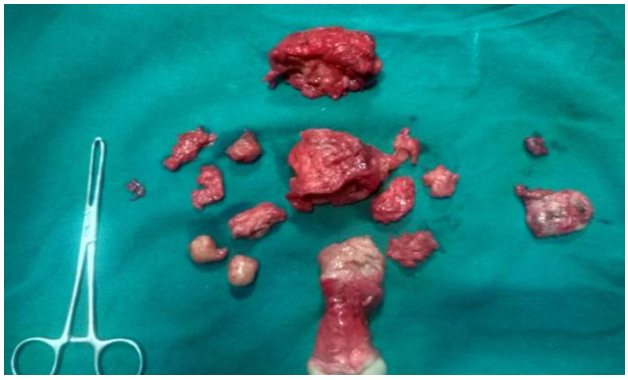

Figure 5: Debulking of uterus using cervical amputation, coring and wedge resection.

The bladder is then carefully mobilized upwards till the anterior peritoneum covering the uterus is visible as glistening white structure. The anterior peritoneum is

opened carefully by using artery forceps to lift the peritoneum and cut. Uterosacral and cardinal ligaments were clamped, cut and transfixed. Bilateral clamping of uterine vessels was done. After clamping and ligating uterine vessels on both sides, if the size of uterus was big then debulking techniques like bisection, coring, cervical amputation, wedge resection or a combination of these methods were done to facilitate delivery of uterus as shown in Figure 5.

Figure 6: Post-operative specimen of uterus with left tube.

After delivering the uterus in the vagina, hysterectomy was completed by applying bilateral cornual clamps, cutting and transfixing as shown in Figure 6.

Figure 7: Post-operative picture - specimen of uterus with bilateral tubes and ovaries.

Bilateral salpingectomy was done in all the cases. Ovarian removal was done in required cases by clamping infundibulopelvic ligament as shown in Figure 7.

All the pedicles were rechecked for any bleeding. Integrity of bladder was confirmed by methylene blue dye test in all cases and vaginal vault closed by continuous interlocking sutures. Operating time was calculated. 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 and all were given injectable antibiotics postoperatively for 48 hours. On post-operative day 2, hemoglobin estimation was done in all patients. Any post-operative complications like pain, fever etc. if present were noted.

RESULTS

Among 30 women included in the study all 30 women successfully underwent non-descent vaginal hysterectomy.

Table 1: Age wise distribution of cases.

Age (years)	No. of cases	%
30-35	1	3.33
35-40	6	20.00
40-45	16	53.33
45-50	5	16.66
50-55	1	3.33
>55	1	3.33

Table 2: Distribution according to parity.

Parity	Cases	%
1	13	43.33
2	16	53.33
3	1	3.33

Table 1 depicts the age wise distribution of women. More than 50% are 40-45years old. Parity wise chart is given in Table 2 Majority of women were para 2 and more. 13 women had previous one LSCS, 16 had previous two LSCS and one had previous three LSCS. Number of cesarean section wise distribution of patients is given in Table 3.

Table 3: Number of previous caesarean sections.

No. of prev lscs	Total	%
1	13	43.33
2	16	53.33
3	1	3.33

The commonest indication for hysterectomy was Abnormal Uterine Bleeding (AUB) 15/30 (50%) followed by fibroid uterus in 11/30 (33%), Adenomyosis in 3/10 (10%) and postmenopausal bleeding in 1/10 (7%). Table 4 depicts the distribution of women according to indication for surgery.

Table 4: Indications for hysterectomy.

Indication	No. of cases	%
AUB	15	50.00
Leiomyoma	11	36.66
Adenomyosis	3	10.00
Post-menopausal bleeding	1	3.33

Distribution of uterine sizes is as depicted in Table 5. Majority (63%) were bulky uterus (6-8 weeks size).

Table 5: Distribution according to uterine size.

Uterine size	No. of cases	%
Bulky	19	63.33
8-10 wks	4	13.33
10-12 wks	4	13.33
>12 wks	3	10.00

Different debulking techniques like coring, cervical amputation, bisection, myomectomy and wedge resection were used during the surgery to remove bigger sized uterus. Debulking techniques were done in 11/30 patients, as depicted in Table 6.

Table 6: Debulking techniques for reducing the size of uterus.

Debulking techniques	No. of cases	%
Coring	5	16.66
Bisection	0	nil
Myomectomy	3	10.00
Wedge resection	1	3.33
Combination of techniques	7	23.33

In the present study, the mean operating time was 97 minutes. Mean blood loss was 150 ml. Blood transfusion was not needed in any patients. There was bladder injury in one patient intra-operatively who had previous 2 LSCS which was repaired vaginally, foley's catheter was kept for 8 days in this patient. The patient made an uneventful recovery. Mean hospital stay was 4-5 days. Post-operative period was uneventful in all patients except for one which had bladder injury who stayed in the hospital for 8 days.

Table 7: Duration of the procedure.

Operative time (in minutes)	No. of cases	%
<60	5	16.66
60-90	15	50.00
90-120	9	30.00
>120	1	3.33

Table 8: Intraoperative blood loss.

Blood loss (in ml)	No. of cases	%
100-150	27	90.0
150-200	2	6.66
>200	1	3.33

DISCUSSION

Hysterectomy is the second most common operation in obstetrics and gynecology after Cesarean section. Vaginal hysterectomy is associated with lower complication rates, shorter procedure duration, and more rapid recovery than abdominal hysterectomy and is therefore the preferred technique.[6] With adequate vaginal assess and good mobility, vaginal hysterectomy can be performed in patients with previous one, two or three LSCS.

In the present study of 30 cases all cases were successfully done vaginally. There were 13 cases with previous one LSCS, 16 with previous 2 LSCS and 1 with previous three LSCS. Majority of cases were in the age group of 40 to 45 yrs as noted in other studies.[7-11] The most common indication being abnormal uterine bleeding which constituted 50% of cases followed by fibroid uterus 33%, Adenomyosis 10% and post-menopausal bleeding 7%. Uterine size was bulky in 19 cases, followed by 8 to 10 weeks size which accounted 4 cases and 10 to 12 weeks size 4 cases and 3 cases of more than 12 weeks size. Bladder dissection was done by lateral window approach and hydrodissection methods.[11] Combination of debulking techniques like coring, cervical amputation, bisection, myomectomy, wedge resection was used. There was one case of bladder injury which was repaired vaginally. Bladder injury during vaginal hysterectomy is variously reported between 0.5 to 1.6%.[12] Another study reported very low incidence in vaginal hysterectomy (0.1%).[13-14] Mean operation time was 97 minutes and average blood loss was 150 ml. Postoperative complications like fever, urinary tract infection was minimal. Patients were discharged on postoperative day 4.

CONCLUSION

Present study concludes that non-descent vaginal hysterectomy can be performed in patients with previous one, two or three LSCS with lesser complications without much difficulties. With experience the operative time, blood loss and complications can be reduced considerably. Thus, vaginal approach in cases of previous cesarean section is having definite advantage and should be considered as a preferred route of hysterectomy. There is also the need of time for the modern gynecologist to master this technique in this age of minimally invasive surgery.

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