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S Shanthi

MD DGO, Associate Professor,
Government Medical College &
ESI Hospital, Coimbatore,
Tamil Nadu, India

S Usha Rani

MD DGO, Professor, Institute of
Obstetrics & Gynaecology,
Egmore, Chennai, Tamil Nadu,
India

J Arumaikannu

MD DGO, Assistant Professor,
Institute of Obstetrics &
Gynaecology, Egmore, Chennai,
Tamil Nadu, India

Feasibility of non-descent vaginal hysterectomy (NDVH) in women with scarred uterus-our experience

S Shanthi, S Usha Rani and J Arumaikannu

Abstract

Aims and objectives: To assess feasibility and safety of NDVH in patients with scarred uterus undergoing hysterectomy for benign conditions.

Methods: Prospective study conducted at department of Obstetrics and Gynecology at IOG, Chennai. Vaginal hysterectomy was attempted in women with benign conditions in absence of uterine prolapse with history of cesarean section. Information regarding age, parity, uterine size, co-morbid conditions, blood loss, duration of operation, intra-operative, post-operative complications, hospital stay were recorded.

Results: All the 25 cases selected for NDVH successfully underwent NDVH. None had bladder injury. Commonest indication was leiomyoma. 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. Hospital stay was 4-5 days.

Conclusion: Vaginal hysterectomy is feasible, safe and cost effective with fewer complications.

Keywords: Cesarean, NDVH, de-bulking procedures, bladder

Introduction

Hysterectomy is the most common operation performed by gynaecologist, next to cesarean section^[1]. NDVH is removal of uterus through vagina in absence of uterine descent. Vaginal route is preferred for removing uterus as it gives natural route, scarless, safer results than abdominal route^[2]. Because of increased cesarean sections, women undergoing hysterectomies with cesarean sections are increasing^[3]. Earlier previous cesarean section was a relative contraindication to vaginal hysterectomy due to uterovesical adhesions and risk for unintended cystostomy^[4]. Abdominal hysterectomy is always comparatively a major surgery than vaginal hysterectomy and the significant complications like paralytic ileus, incisional hernia, infection etc. are significantly less with vaginal route^[5]. 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 cost^[6]. Patient preference, skill and expertise of the surgeon and training is important in determining the route of surgery^[7]. This study will help in assessing safety, feasibility of NDVH in women with previous cesarean section in absence of uterine prolapse.

Materials: This prospective observational study was conducted at the Department of Obstetrics & Gynaecology, IOG, Madras Medical College, Chennai.

Inclusion Criteria

1. H/o LSCS
2. Benign uterine pathology
3. Uterine size < 16 weeks
4. Mobile uterus

Exclusion Criteria

1. Uterine size more than 16 weeks.
2. Complex adnexal cyst (or > 8cm).
3. Prolapsed uterus.
4. Restricted mobility of uterus.
5. Suspicion of genital malignancy.

Correspondence

S Shanthi

MD DGO, Associate Professor,
Government Medical College &
ESI Hospital, Coimbatore,
Tamil Nadu, India

Methods: 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 whole abdomen and pelvis was done. A proper 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 also taken.

Procedure: All cases were done under spinal or epidural anesthesia. In all cases per vaginal examination was done under anesthesia before starting the surgery to have an idea about size, mobility of uterus and any adnexal mass. With aseptic measures the patients were cleaned and draped. The anterior lip of cervix was held with volsellum and posterior lip with long Allie's forceps. Circular incision was made around the cervix, pubo-vesico-cervical ligament was cut and bladder mobilized upwards. At the site of previous scar bladder was sharply dissected out and then carefully mobilized upwards by speculum, till the anterior peritoneum covering the uterus is visible as glistening white. In cases of difficulty in separating the bladder the lateral window technique was done.

The anterior peritoneum is opened carefully by applying two artery forceps and cutting in between. Posterior pouch was opened subsequently. Uterosacral and cardinal ligaments were clamped, cut and ligated. Bilateral clamping of uterine vessels was done. After clamping and ligating uterine arteries on both sides, if the size of uterus was big then debulking 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 bilateral cornual clamps, cutting and ligating it properly. All the pedicles were rechecked for any bleeding or oozing and vault closed meticulously. Figure1 shows the site of uterine scar and the UV fold of peritoneum. Figure 2&3 shows myomectomy for debulking and uterus with cervix with fibroids removed by myomectomy after completion of NDVH respectively. 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 packing of vagina. 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 one dose preoperatively and postoperatively for 48 hours. On post-operative day 2, hemoglobin estimation was done in all patients. Any post-operative complications, if present were noted. All patients were asked to come for follow up after 15 days and 6 weeks of discharge. Information regarding age, parity, size of uterine, amount of blood loss, duration of operation, complications and hospital stay were recorded.



Fig 1: Uterine scar & UVfold of peritoneum



Fig 2: myomectomy (after coring) for de-bulking



Fig 3: uterus with fibroid after hysterectomy

Table 1: Age wise distribution

| Age (Years) | No. of Women | Percentage of Women |
|-------------|--------------|---------------------|
| <40 | 1 | 4% |
| 41-45 | 11 | 44% |
| 46-50 | 12 | 48% |
| >50 | 1 | 4% |

Table 2: Parity wise distribution

| Parity | No. of Women | Percentage of Women |
|--------|--------------|---------------------|
| Para 1 | 2 | 8% |
| Para 2 | 17 | 68% |
| Para 3 | 6 | 24% |

Table 3: Number of cesarean scars

| No. of Previous cesarean | No. of Women | Percentage of Women |
|--------------------------|--------------|---------------------|
| 1 | 10 | 40% |
| 2 | 14 | 56% |
| 3 | 1 | 4% |

Table 4: Clinical presentation

| Presenting complaint | No. of Women | Percentage of Women |
|---------------------------|--------------|---------------------|
| Menorrhagia | 9 | 36% |
| Dysmenorhea | 2 | 8% |
| Menorrhagia & dysmenorhea | 10 | 40% |
| Pain | 2 | 8% |
| Mass | 1 | 4% |
| Post-menopausal bleeding | 1 | 4% |

Table 5: Indication for NDVH

| Indication | No. of Women | Percentage of Women |
|------------|--------------|---------------------|
| AUB (L) | 13 | 52% |
| AUB(A) | 7 | 28% |
| AUB(E) | 5 | 20% |

Table 6: Uterine size

| Uterine size | No. of Women | Percentage of Women |
|--------------|--------------|---------------------|
| < 10 wks | 17 | 68% |
| 10- 12 wks | 3 | 12% |
| 12-14 wks | 2 | 8% |
| 14 - 16 wks | 3 | 12% |

Table 7: De-bulking techniques

| Technique | No. of cases |
|-----------------------|--------------|
| Bisection | 11 |
| Myomectomy | 1 |
| Coring | 5 |
| Coring and Myomectomy | 4 |

Table 8: Co-morbid conditions

| Co-morbid conditions | No. of cases |
|----------------------|--------------|
| Hypertension | 2 |
| Diabetes mellitus | 3 |
| HT & DM | 6 |
| Hypothyroid | 2 |
| Anemia | 3 |
| DM & anemia | 1 |
| Bronchial Asthma | 1 |

Table 9: Clinical outcome

| | | |
|---|---------------------|-------------|
| 1 | Mean operating time | 60 ± 15 min |
| 2 | Mean blood loss | 150 ± 20 ml |
| 3 | Mean hospital stay | 4-5 days |

Table 10: Post Op Morbidity

| S. No. | Post Op Morbidity | No. of cases |
|--------|--------------------|--------------|
| 1 | Fever | 2 |
| 2 | UTI | 2 |
| 3 | Retention of urine | 1 |

Results: All the 25 women in our study group had successful NDVH without any major complications. Majority of the women belonged to age group of 40-50 years. Only 1 woman was below 40 years (Table-1). Majority of the women were para 2 & above. (Table-2). About 10 women had one previous cesarean, 14 had previous two cesareans and one had previous three cesareans. (Table-3). Most common presenting complaint was menorrhagia (76%). One patient presented with post-menopausal bleeding. (Table-4). The common indication for hysterectomy was fibroid uterus (13) followed by adenomyosis. (Table-5). Majority of the patients (17) had uterine size < 10 weeks. 3 women had uterine size 14- 16 weeks. (Table-6). Different de-bulking procedures like bisection, myomectomy, coring or combination of these techniques were used to remove the bigger size uterus. About 10 women needed de-bulking (Table-7). Most of these women had co- morbidity like hypertension (2), diabetes (3), hypertension & diabetes (6). 4 women had anemia requiring pre-operative blood transfusion. (Table-8). The mean operating time in our study was 60 ± 15 min. Mean blood loss was 150 ± 20 ml. The hospital stay was 4-5 days. (Table-9). Post-operative period was uneventful in most of these women. Only 2 of them had fever, 2 had UTI & 1 had retention of urine requiring bladder catheterization for 3 days (Table-10).

Discussion: In our study all the 25 women selected for NDVH underwent the procedure successfully. The main reason for avoiding NDVH in women with uterine scar is for fear of

bladder injury due to dense adhesions. But there was no bladder injury in our study. A major factor in determining the route of hysterectomy is transvaginal accessibility of the uterus [8]. Two factors limit accessibility, an undescended, 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* [9]. The commonest indication was fibroid uterus (40%). Fibroid uterus was also the commonest indication reported by Dewan R. *et al* [10]. On the contrary DUB (52%) was the commonest indication followed by fibroid (22%) as reported by Suhas Shinde *et al* [11]. and Shital T Metha *et al* [12]. 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* [13]. 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* [14] (55 min), and N.Kumar *et al* [15] (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 no bladder injury. A very low incidence of bladder injury 7/5655 (0.1%) was also reported by Sheth SS *et al* [16]. Post-operative complications were minimal. Mean hospital stay was 4-5 days.

Conclusion: Vaginal hysterectomy appears to be feasible, safe and cost effective alternative to abdominal hysterectomy and laparoscopic hysterectomy in women with previous cesarean 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.

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethical committee

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