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Original Research Article

Total vaginal hysterectomy: outcome analysis of 108 cases at a tertiary centre

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ABSTRACT

Background: The aim of this study is to evaluate, analyze the indications of surgery, patients profile with respect to age group, parity, and comorbidities, intraoperative techniques, intra and post-operative complications and post-operative recovery.

Methods: A hospital based cross sectional descriptive study of 108 cases was conducted in the department of Obstetrics and Gynecology in a tertiary hospital over a period of one year. All patients admitted with benign gynecological conditions of the uterus were included in study. The patients with uterine prolapse, uterine size >16wks and more than one previous sections were excluded from the study.

Results: Among all the indications of TVH, abnormal uterine bleeding was the most common. Mean age group was 44.89 years and the mean parity was 2. Majority of the patients had no intra and post-operative complications. Postoperative recovery was good with shorter hospital stay.

Conclusions: TVH should be promoted as the route of choice for all benign gynaecological conditions. It is safe to do TVH in patients who are at poor general anaesthesia risk. In a state like Uttarakhand where medical facilities are hard to avail due to difficult geographic terrain, TVH has a special role. In lack of endoscopic facility, trained medical and paramedical staff and lack of postoperative monitoring instead of; there is a need to promote TVH. To top it all, TVH is the most cost effective route of hysterectomy. It is truly the natural orifice scarless surgery.

Keywords: Total vaginal hysterectomy (TVH), Hysterectomy, Debulking

INTRODUCTION

Hysterectomy can be done by many routes such as abdominal, vaginal, laparoscopic and robotic assisted surgery. Conrad Langenbeck in 1813 performed the first total modern vaginal hysterectomy.¹ Robert Kovac in 1970 showed that more than 80% of the hysterectomies could be done safely as TVH.² Yet, even today, 2/3rd of the hysterectomies are still done by abdominal route. Of the rest, about half are done vaginally and half are done endoscopically.³ There is no absolute contraindication to vaginal hysterectomy.⁴ Victor Bonney in 1918 truly said that the more one performs vaginal hysterectomies, the less contraindication one encounters. LAVH enjoyed its place in last decade, when it became fashionable to

perform a hysterectomy with a technically superior laparoscope. Many gynaecologists condemn LAVH as a dangerous and unnecessary operation that is substituted for vaginal hysterectomy.⁵

Abdominal route is inferior to both vaginal and laparoscopic route in terms of patient recovery and satisfaction. Vaginal approach for hysterectomy is desirable in our state since the health resources are limited. TVH is performed in selected centres, majority of the clinicians not offering it routinely. Uncertainty about its feasibility and safety accounts for the reluctance by many to offer it.

Thus, research data confirming the safety and feasibility of this procedure in local setting would be helpful to both the clinician and the patients to consider a natural orifice approach for hysterectomy. Therefore, we undertook this study in a tertiary care hospital in Uttarakhand which caters to the remotest area of the hilly terrain.

METHODS

The patients admitted for hysterectomy with benign gynaecological conditions excluding uterine prolapse who underwent TVH from July 2015 to July 2016 were included in the study. Patients who needed additional surgery like adenectomy were also included in the study. Patients with history of more than 1 previous section, uterine size >16 weeks, and adenexal pathology were excluded from the study. These patients were subjected to thorough physical and general examination. All necessary preoperative investigations were carried out. The age, parity, body mass index and indication of surgery were noted. Patients were assessed under regional anaesthesia either spinal or epidural for the mobility of the uterus and accessibility of uterosacrals from the vaginal route.

The operative technique was circumferential incision around cervix, followed by cutting of pubovesicocervical ligament and mobilization of urinary bladder. The anterior and posterior pouches were opened. Uterosacrals and cardinal ligament were clamped, cut and transfixed followed by cutting and ligation of uterine vessels. Bigger sized uteri needed debulking techniques like bisection, coring, enucleation and myomectomy. This was followed by clamping of bilateral fundal structures and delivery of the uterus. Vaginal drain and foley's catheter was put.

The operative time, blood loss and intraoperative complications were noted in each case. In the postoperative period data was analyzed with respect to any complications and fit for discharge period.

RESULTS

Overall 108 women with benign gynaecological diseases admitted between July 2015 to July 2016 who underwent TVH were analyzed. The mean age of the patients was 44.89 years. Majority of the patients were in the age group of 41-45 years (36.1%) (Table 1).

Table 1: Age distribution.

| Age (yrs) | N (%) |
|-----------|-----------|
| <35 | 2 (1.9) |
| 36-40 | 22 (20.4) |
| 41-45 | 39 (36.1) |
| 46-50 | 29 (26.9) |
| >50 | 16 (14.8) |

Body mass index of 83 patients (76.9 %) was in the range of 26-30 kg/m². About fifteen patients (13.9 %) who were obese also successfully underwent TVH (Table 2).

Table 2: Body mass index.

| BMI | N (%) |
|-------|-----------|
| <25 | 10 (9.3) |
| 26-30 | 83 (76.9) |
| 31-35 | 12 (11.1) |
| >35 | 3 (2.8) |

42 (38.9%) women were of parity 2. It was possible to perform TVH in 3 (2.8%) nullipara women as depicted in Table 3.

Table 3: Parity.

| Parity | N (%) |
|------------------------|-----------|
| Nullipara | 3 (2.8) |
| P ₁ | 13 (12) |
| P ₂ | 42 (38.9) |
| P ₃ | 28 (25.9) |
| P ₄ or more | 22 (20.4) |

The most common indication for TVH was abnormal uterine bleeding in 43.5% followed by fibroid uterus in 27.8%, adenomyosis in 12%, PID in 8.3%, postmenopausal bleeding in 5.6% and cervical dysplasia in 2.8% patients as shown in Table 4.

Table 4: Indication of surgery.

| Indication of surgery | N (%) |
|-------------------------|-----------|
| PID | 9 (8.3) |
| AUB | 47 (43.5) |
| Fibroid | 30 (27.8) |
| Adenomyosis | 13 (12.0) |
| Postmenopausal bleeding | 6 (5.6) |
| Cervical dysplasia | 3 (2.8) |

Table 5: Size of uterus.

| Size of uterus (wks) | N (%) |
|----------------------|-----------|
| 8-10 | 40 (37) |
| 10-12 | 44 (40.7) |
| 12-14 | 10 (9.3) |
| 14-16 | 14 (13) |

Size of the uterus was in the range of 8-10 weeks in 40 patients and 10-12 weeks in 44 patients (Table 5). 14 patients had sizes more than 14 weeks. Bilateral salpingoopherectomy was done in 8 patients (7.4%). 7 (6.5%) patients had history previous of one cesarean section. 89.8% patients under went operation in spinal anaesthesia. Only 10.2% patients needed epidural anaesthesia.

Mean duration of surgery was 92.03 min as shown in Table 6. The mean blood loss was 87.04 ml as shown in Table 7. 60 (54.6%) patients needed debulking techniques like bisection in 37 (34.3%) patients and enucleation in 14 (13%) patients as depicted in Table 8.

Table 6: Duration of surgery.

| Duration of surgery (min.) | N (%) |
|----------------------------|-----------|
| <90 | 73 (67.6) |
| >90 | 35 (32.5) |

Mean duration of surgery= 92.03min; SD=15.687

Table 7: Blood loss.

| Blood loss (ml) | N (%) |
|-----------------|-----------|
| 50-100 | 87 (80.6) |
| 100-150 | 19 (17.6) |
| >150 | 2 (1.9) |

Mean blood loss = 87.04ml; SD=24.836

Table 8: Debulking techniques.

| Debulking techniques | N (%) |
|----------------------|-----------|
| Coring | 6 (5.6) |
| Bisection | 37 (34.3) |
| Enucleation | 14 (13.0) |
| Myomectomy | 2 (1.9) |
| Coring+Myomectomy | 1 (0.9) |
| None | 48 (44.4) |

Table 9: Intra and post-operative complications.

| Complications | N (%) |
|-------------------|-----------|
| Bladder injury | 3 (2.8) |
| Bowel injury | 1 (0.9) |
| Febrile morbidity | 8 (7.4) |
| Blood transfusion | 6 (5.6) |
| UTI | 7 (6.5) |
| None | 83 (76.9) |

Table 10: Fit for discharge period.

| Fit for discharge (hrs) | N (%) |
|-------------------------|-----------|
| 48-72 hrs | 42 (38.9) |
| 72- 96 | 48 (44.4) |
| >96 | 18 (16.7) |

The intra operative complications were bladder injury in three (2.8%) and bowel injury in one (0.9%) patient which were promptly identified and repaired during primary surgery. Post-operative complications like febrile morbidity and UTI was reported in 8 (7.4%) and 7 (6.5%) patients respectively. Six patients (5.6%) required blood transfusion either in per op and post op period as illustrated in Table 9. Most of the patients (83.3%) were fit for discharge by 3-4 days as shown in Table 10. Thus, we have noted less morbidity and no mortality in our study.

DISCUSSION

This observational study shows that TVH is a safe and feasible route in our hospital setting. It is a good option even for cases with enlarged uteri and the need for adenectomy. The usual contraindications for TVH are lack of descensus, nulliparity, no previous vaginal delivery, large uterus, obliterated posterior cul de sac, endometriosis, need for adenectomy, obesity and prior cesarean deliveries or abdominal surgeries. Many studies refute these contraindications with successful TVH being done in patients with above said complications.⁶⁻¹¹

About 108 patients underwent successful TVH in our centre. The mean age of the patients was 44.89 years and majority of the patients i.e. 39 patients were in the age group of 41-45 years. This is similar to study conducted by Bharatnur and Kumari S et al.^{12,13}

42 (38.9%) patients had parity 2 which is comparable to study by Patel et al.¹⁴ Agostini et al successfully operated on 50 (96.2%) nulliparous women. In our study, we performed successful TVH in 3 (2.8%) nulliparous women.⁶

Obesity is no more a contraindication to TVH. Isik-Akbay et al operated on 180 (48.8%) obese patients.¹¹ We had 15 (13.9 %) obese patients who had BMI more than 30 kg/m². Kumar N et al operated on 11 patients who had previous one cesarean section.¹⁵ In our study, 7 (6.5%) patients had previous one cesarean section.

The most common indication of surgery was abnormal uterine bleeding which is similar to study by Patel et al.¹⁴ 84 (13.9%) patients had sizes of the uterus below 12 weeks which matched the study conducted by Chaminda et al in Srilanka.¹⁶

Debulking techniques was used by different authors in different studies. In our study debulking technique was used in 55.6% of patients. Bisection (34.3 %) was the most common technique employed by us. Davies et al and Mazdisnian et al resorted to these techniques.^{10,17} Kumar and Antony successfully carried out vaginal hysterectomies in 95% patients and 75% of their patients needed morcellation or hemisection or myomectomy.¹⁸

Mean operating time was 92.03 min which is comparable to Magos A et al and Kovac et al which showed 84.3 and 94 minutes respectively.^{19,2}

Mean blood loss was 87.04 ml in our study. Blood loss ranged from 30 ml-160 ml in different studies.^{13,20}

Visceral injuries like bladder and bowel injuries were reported differently in different studies. Kumari S et al noted bladder injury in 0.78% patients whereas Shanthini et al noted bladder injury in one (1.9 %) patient.^{13,20} We noted bladder injury in three (2.8%) patients and bowel

injury in one (0.9%) patient which were recognized and promptly repaired during primary surgery.

Postoperative complications were minimal which included febrile morbidity and UTI in 7.4% and 6.5% respectively which were tackled successfully. Six patients (5.6%) received blood transfusion either in intraoperative or post-operative patients. The rate of blood transfusion in study conducted by Chaminda et al was 1.9%. We reported more blood loss as baseline hemoglobin was low in our patients.

The mean fit for discharge period was 3-4 days which is similar to as reported by Dorsey et al.²¹

CONCLUSION

The present study was undertaken to evaluate the safety of TVH in patients with non descent uteri with benign gynaecological conditions. We concluded that TVH is a safe and effective route of hysterectomy. Therefore, TVH should be promoted as the route of choice for benign gynaecological conditions with proper case selection.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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