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Original Research Article

Feasibility of bilateral salpingo-oophorectomy during vaginal hystertectomy for benign uterine diseases

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ABSTRACT

Background: Prophylactic bilateral salpingo-oophorectomy (BSO) remains the best measure in the prevention of ovarian cancer as it lacks an effective screening tool. The need to perform prophylactic BSO shouldn't dictate the route of surgery. To assess the feasibility of prophylactic BSO during vaginal hysterectomy. To analyze the safety of the vaginal BSO.
Methods: This was a retrospective study conducted in the Department of Obstetrics and Gynaecology at Velammal Medical College, Madurai, Tamilnadu, India from June 2016 to June 2018 over a period of 3 years. 54 women who underwent hysterectomy for benign uterine disease in whom concomitant prophylactic BSO was attempted were included in the study. Preoperative data like age, parity, menopausal status, BMI, previous pelvic surgeries were noted from the admission record. Intraoperative details like indication for surgery, surgical procedure, duration of surgery and complications like hemorrhage, bladder, ureter and bowel injury were collected from the operative record. Postoperative recovery details were also noted down from the case sheet. The collected data were then analyzed.
Results: Of the 54 women included in the study, transvaginal BSO was successful in 53 (98.1%) women. There was one case of primary haemorrhage due to slippage of ovarian pedicle, another patient required laparotomy for completing BSO. None had bladder, ureter or bowel injury.
Conclusions: Prophylactic BSO is both feasible and safe in almost all patients undergoing vaginal hysterectomy. Developing the skill to perform transvaginal BSO can inspire gynaecologists to move a step forward and deal with benign adnexal pathology concomitantly at vaginal hysterectomy. The risk of remnant ovarian syndrome post vaginal oophorectomy is unknown.

Keywords: Vaginal salpingo-oophorectomy, Vaginal hysterectomy

INTRODUCTION

During hysterectomy, many a time patient opts for prophylactic BSO after understanding the risk of surgical menopause and the benefit of prevention of ovarian cancer and repeat surgery for adnexal pathology. Though this concern has been addressed enthusiastically by the gynaecologist during abdominal and laparoscopic hysterectomy by performing concomitant BSO, they hesitate to do so during vaginal hysterectomy. Bilateral salphingo- oophorectomy by vaginal route is technically quite challenging. Limited visibility and restricted access

to vascular pedicles has been laid as the explanation for this technical difficulty. This along with fear of complication has refrained gynaecologist from attempting concomitant BSO during vaginal hysterectomy.

The need to perform BSO should not dictate the route of hysterectomy. At the same time route of surgery should not prevent concomitant prophylactic BSO (as in the case of prolapse uterus).

Present study aimed to assess the feasibility of prophylactic bilateral transvaginal BSO during vaginal hysterectomy and also to analyse the safety of vaginal BSO.

METHODS

This is a retrospective study conducted in the Department of Obstetrics And Gynaecology at Velammal Medical College, Madurai, Tamilnadu, India from June 2016 to June 2018 over a period of 3 years.

Inclusion criteria

- All patients who underwent vaginal hysterectomy for benign uterine disease,
- Age ≥45 years,
- Informed consent for prophylactic BSO.

Exclusion criteria

- Patients with benign ovarian disease,
- Patients with cervical, endometrial and ovarian malignancies.

Total 54 women who underwent hysterectomy for benign uterine disease wherein concomitant prophylactic BSO was attempted were included in the study. Preoperative data like age, parity, menopausal status, body mass index (BMI), previous pelvic surgeries were noted from the admission record. Per-operative details like indication for surgery, surgical procedure, duration of surgery and complications like haemorrhage, bladder, ureter and bowel injury were collected from the operative record. Postoperative recovery details were also noted down from the case sheet. The collected data were then analysed.

RESULTS

During the study period vaginal BSO was attempted in 54 women who underwent vaginal hysterectomy for benign causes.

Patient characteristics are shown in Table 1. In this study, median age of women was 49.5 years. Of the 54 women, 30 were post-menopausal and 24 were perimenopausal women. Median parity was 2 and among the 54 patients, 2 were nulliparous. Mean BMI was 25.5 kg/m^2. Commonest indication for hysterectomy was fibroid uterus followed by prolapse uterus. 40 women underwent non descent vaginal hysterectomy and 14 were performed for prolapse uterus. Of 54 patients, 13 had previous uterine surgeries.

Table 1: Patient characteristics (n=54).

Demographic characteristics and indications for surgery	
Age (years)[a]	49.5 (45-76)
Menopause[b]	30 (55.55%)
Parity[a]	2 (0-4)
Number of patients in relation to parity[b]	
0	2 (3.7%)
1	4 (7.4%)
2	28 (51.8%)
>2	20 (37%)
Body mass index (kg/m^2)[C]	25.5±2.77
Primary diagnosis[c]	
Fibroid	18 (33.3%)
Prolapse	14 (25.9%)
Dysfunctional uterine bleeding	9 (16.6%)
Others	13 (24%)
Previous pelvic surgeries[b]	14 (25.9%)

a-Median (range), b-Number of patients, percentage, c-Mean, standard deviation.

Surgical finding is shown in Table 2. Transvaginal BSO was successful in 53 patients (98.1%). One patient had primary haemorrhage which was controlled vaginally, another patient needed conversion to laparotomy for completing the procedure. None had bladder, ureter or bowel injury. Median duration of total surgery was 65 minutes and median duration of vaginal BSO was 25 mins. Median blood loss was 112.5 ml and median hospital stay was 4 days.

Table 2: Surgical findings.

Intra-operative and post-operative findings	
Total operative time (min)	65 (40-150)
Operative time for BSO (min)[b]	25 (20-45)
Blood loss[b] (ml)	112.5 (50-350)
Operative complication[a]	
Primary haemorrhage	1 (1.8%)
Secondary haemorrhage	0
Ureteral injury	0
Bladder injury	0
Bowel injury	0
Conversion to laparotomy[a]	1 (1.8%)
Discharge (days)[b]	4 (3-11)

a-Number of patients, percentage, b-Median (range).

DISCUSSION

Feasibility and safety of prophylactic salpingo-oophorectomy during vaginal hysterectomy for benign

uterine disease has been studied time to time. In this study, transvaginal BSO was feasible in 98.1% patients and in one patient in whom it was not successful was a post-menopausal woman with third degree uterovaginal prolapse because of the highly placed ovaries. Pre-operatively, author cannot assure all patients vaginal BSO, so author have to take appropriate consent for other methods like laparoscopy or laparotomy to complete BSO and also the option of leaving the ovary behind. Transvaginal BSO was successful in 126 (99.2%) patients, adverse events occurred among nine (7.1%) patients, including a single occurrence of ureteric injury that was detected and repaired intraoperatively in a study by Sewell T et al.[1] 97.5% of prophylactic oophorectomies were completed vaginally in a study by Davies A et al.[2]

Preoperative accurate prediction of successful vaginal BSO is not always possible. Limiting factors for vaginal BSO are advanced age, high BMI, cervical length greater than 7 cm, uterine prolapse, anterior vaginal prolapse.[3,4] Mothes AR et al, observed that non-performance of intended salpingo-oophorectomy in women with prolapse uterus during vaginal hysterectomy was very high (36%).[4] Dain et al, in their study of factors affecting the feasibility of bilateral salpingo-oophorectomy during vaginal hysterectomy for uterine prolapse concluded that in women with prolapse uterus in whom BSO was feasible were younger and had a higher prevalence of advanced prolapse including stage IV cystocele, stage III-IV rectocele and stage IV uterine prolapse.[5] Contrary to the belief, the presence of endometriosis, uterine weight, need for uterine morcellation, prior caesarean section, prior laparoscopy, and prior open abdominal/pelvic surgery did not have any impact on success of performing transvaginal BSO.[4]

Fear of restricted access to the ovaries and inadequate visibility of the adnexa at vaginal hysterectomy are the important reasons for avoidance of concomitant oophorectomy during vaginal hysterectomy. High ovarian location was the most commonly cited reason for the inability to perform a planned unilateral/bilateral oophorectomy.[6] Baden and Walkers grading of the degrees of ovarian descent after vaginal hysterectomy can be used intra operatively to assess the feasibility of vaginal removal of ovaries. Any ovary that is grade I or higher by this classification should be visible and accessible for transvaginal removal.[7]

Commonly encountered complication while performing transvaginal BSO are bleeding, ureteral injury and bowel injury.

Operating time, estimated blood loss, length of hospital stays, and rates of intraoperative complications and postoperative morbidity did not differ significantly in the bilateral salpingo-oophorectomy and ovarian conservation groups.[8]

Attempting oophorectomy vaginally was associated with an increased duration of surgery by 7.3 minutes.[2]

Tips and tricks to enhance the feasibility and ensure the safety of prophylactic BSO during vaginal hysterectomy are described as follows. Adequate anaesthesia, proper lithotomy position, self-retaining vaginal retractors or deavers retractor, packing the bowel and use of a fiberoptic light source to improve visibility in a narrow operating field aids in optimal exposure of ovarian pedicle. Purohit R et al, in his study concluded that most adnexectomies during vaginal hysterectomy for benign indications can be completed, using bipolar hemostasis and transvaginal mobilization of adhered adnexa in the pelvis.[9] To gain the access and to secure the ovarian pedicle different techniques can be employed. Conventional clamping, cutting and ligating using adnexal clamp itself is enough in most situations and minimize the pedicle slippage. Looped suture with knot is economical and avoids pedicle slippage. Bipolar vessel sealing device is indeed convenient especially in restricted space but expensive and care should be taken to avoid bowel injury. Stapling devices are other options available.

Preoperative informed consent should also include the rare possibility of failed attempt at vaginal removal of ovaries and whether further attempt to remove ovaries by abdominal route by laparotomy or laparoscopy has to be undertaken or not. In the preoperative evaluation, enough consideration must be given to exclude ovarian pathology. Vaginal BSO just takes an additional step, therefore it is a continuum of vaginal hysterectomy and not a discrete surgical procedure and can be mastered in a reasonable time frame.

CONCLUSION

Prophylactic BSO is both feasible and safe in almost all patients undergoing vaginal hysterectomy. Developing the skill to perform transvaginal BSO can inspire gynaecologists to move a step forward and deal with benign adnexal pathology concomitantly at vaginal hysterectomy. The risk of remnant ovarian syndrome post vaginal oophorectomy is unknown.

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