Postlaparoscopic Hysterectomy Discharge within 24 h in Hospital Putrajaya: A Feasibility Study

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Abstract

Objective: The study objective was to determine the feasibility and selection criteria for discharge within 24 h posttotal laparoscopic hysterectomy with or without bilateral salpingo-oophorectomy (TLH with or without BSO) in Hospital Putrajaya.

Materials and Methods: A total of thirty patients among all gynecology inpatients who were planned for TLH with or without BSO with controlled medical diseases, normal preoperative investigations, and uncomplicated surgery were recruited from January 2014 to December 2016. Data were collected from electronic medical records. Postoperatively, patients who fulfilled the selection criteria were discharged within 24 h and were followed up at 6 weeks and 3 months postsurgery. The results were presented as frequency with percentage and mean standard deviation.

Results: All patients who had uncomplicated surgery and blood loss <1 l with no early postoperative complications were discharged within 24 h. They had a pain score of < 3 and were able to ambulate and tolerated orally well. None of these patients who were discharged 24 h postsurgery required readmissions. During follow-up, there were no reported complications such as persistent pain, wound infection, or herniation.

Conclusion: Twenty-four hours’ discharge post-TLH with or without BSO is feasible and safe if the selection process is adhered to.

Keywords: Discharge, hysterectomy, laparoscopy

Introduction

Hysterectomy is the most frequently performed operation in women, with a lifetime risk between 1 in 5 and 1 in 2 women. The most common medical reasons for performing hysterectomies include uterine fibroid, endometriosis, genital prolapse, chronic pelvic pain, and when irregular or heavy bleeding affects the women’s quality of life.[1]

Total laparoscopic hysterectomy (TLH) has been proposed as an alternative to total abdominal hysterectomy (TAH). Randomized trials have shown advantages of laparoscopy versus laparotomy, including reduced postoperative pain, shorter hospitalization, rapid recovery, and substantial financial benefits to the society.[2] Laparoscopic approach is also more superior in terms of better surgical field visualization and lesser intraoperative blood loss.[3] This approach clearly associated with fast speedier return to normal activities and fewer abdominal wall infections when compared with abdominal hysterectomy.[4] It has been demonstrated that there is no evidence for benefit of TLH over TAH in terms of major surgical complications, but TLH provides shorter hospital stay with quicker resumption of daily activities compared to laparotomy where patients are usually discharged after at least 2 days postoperatively and the recovery from surgical ordeal will usually take about 4–6 weeks.[5]

Malaysia is making ways toward providing minimally invasive surgery to our patients. In this study, we would like...
to look into the feasibility of discharging patients within 24 h post-TLH with or without BSO, and to determine the selection criteria to fulfill this goal. There are no similar studies done locally so far.

**Methodology**

**Study design**

This is a retrospective cross-sectional study carried out in the Obstetrics and Gynecology Department in Putrajaya Hospital from January 2014 to December 2016.

**Study population**

Thirty participants who fulfilled the inclusion criteria were recruited in this study. The data from year 2014 until 2016 were collected from electronic medical records and subjected to analysis. The inclusion criteria included controlled medical illness with or without medication, normal preoperative blood investigation, and uncomplicated surgery (no bowel, bladder, and ureteric injuries and not converted to open surgery).

**Study conduct**

All patients scheduled for TLH with or without BSO who fulfilled the inclusion criteria were given information regarding the procedure; possible complications; and details of preoperative, intraoperative, and postoperative care. Each patient was seen by an anesthetist prior to surgery and was assigned a physical status score grade. Patients were admitted 1–2 days prior to surgery for another preoperative assessment to note any changes in their physical status or blood investigations. After the surgery, patients were monitored in the ward for early postoperative complications, the use and type of analgesia, pain score, and the ability to ambulate and tolerate orally. Pain score was assessed with a 0–10 visual analog scale (VAS): 0–4 (mild pain), 5–7 (moderate), and 8–10 (severe pain) (Vaughan, Gurusamy, and Davidson, 2013). The patients scored their pain hourly until 6 h and at 24 h postsurgery.

Patients who fulfilled the following criteria were discharged within 24 h postoperation:

1. Uncomplicated surgery (no bowel, bladder, and ureteric injuries, not converted to open)
2. Blood loss <1 l with acceptable hemoglobin and no symptoms of anemia
3. Did not develop early postoperative complications
4. Controlled medical illness with or without medication
5. Pain score <3 up till 24 h postsurgery
6. Able to ambulate
7. Tolerated orally well

Patients were assessed in the ward by a surgeon and an anesthetist before the decision for discharge was made. Oral analgesics were supplied on discharge accordingly. The patients were followed up in the outpatient clinic 6 weeks and 3 months post operation to monitor the well-being and the progress of recovery. Data obtained were entered into Statistical Package for the Social Sciences (SPSS) version 15 for Windows and were analyzed descriptively.

**Details of ethics approval**

The process of obtaining informed patient consent was waived off by obtaining approval from the Malaysian Medical Research and Ethics Committee on July 7, 2015, with approval number NMRR-14-1727-21490 due to the retrospective nature.

**Results**

A total of 150 patients underwent hysterectomy for various indications from January 2014 until December 2016, of which 120 (80%) cases were done laparoscopically. Twenty-five percent of these patients (thirty cases) were discharged within 24 h postoperation. The mean age of the study population was 49.9 years. This study included patients with or without underlying medical diseases [Table 1]. All the recruited patients have mass size per abdomen of <24 weeks.

The indication for hysterectomy was dysfunctional uterine bleeding (43.3%) followed by fibroid (36.7%) and ovarian cyst (20%) [Table 2]. Nineteen cases were performed by consultants and the rest (11 cases) were performed by specialists. Seven cases had adhesions intraoperatively with successful adhesiolysis done. All surgeries had an estimated blood loss (EBL) of <1 l, and the mean EBL was

| Table 1: Demographic data (n=30) |
|---------------------|---------|
| Characteristics     | n (%)   |
| Age (years), mean±SD| 49.9±8.4|
| Minimum age         | 37      |
| Maximum age         | 78      |
| Ethnic              |         |
| Malay               | 22 (73.3)|
| Chinese             | 4 (13.3) |
| Indian              | 4 (13.3) |
| Parity              |         |
| 0                   | 5 (16.6) |
| 1                   | 5 (16.6) |
| 2                   | 10 (33.3)|
| >3                  | 10 (33.3)|
| BMI                 |         |
| Normal              | 10 (33.3)|
| Overweight          | 14 (46.7)|
| Obese               | 6 (20.0) |
| Comorbidities       |         |
| No                  | 17 (56.7)|
| Yes                 | 13 (43.3)|

BMI: Body mass index, SD: Standard deviation.
can ambulate faster and also able to achieve good pain control with varied choices of medication.

Intraoperatively, there were no major complications reported such as massive bleeding, visceral injury, or conversion to open. Adhesiolysis requiring manipulation is a recognized risk for visceral injury and paralytic ileus that may require extra treatments, increased pain score, prolonged recovery time, and delayed patients’ discharge, leading to increased hospital cost. Although seven (23%) patients had adhesiolysis done, this did not affect their postsurgery pain score and recovery.

Intraoperative blood loss was <1 l in all patients and no blood transfusion was required. This eliminated the risk of transfusion reaction, which could contribute to prolonged hospitalization. The surgeons involved in this study included three consultants with more than 10 years’ experience and four specialists with 2 to 8 years’ experience in laparoscopic surgery.

After discharge, patients were followed up at 6 weeks and 3 months. None of the patients reported chronic pain associated with the surgery (pain score 0). There were no late complications such as wound infection or hernia, and no readmission associated with the surgery reported. All these factors indicate the safety and feasibility of discharge within 24 h post-TLH with or without BSO.

**Discussion**

This study demonstrated the safety and feasibility of 24 h discharge post-TLH with or without BSO. Clear preoperative patient selection, vigilant postoperative care, and adherence to discharge criteria are essential to this.

Pain scores were recorded hourly from the 1st h until 6 h and 24 h postoperatively. The visual pain score (VAS) increased initially due to the weaning effect of general anesthesia. Nevertheless, there was a steady reducing trend in the mean pain score with oral analgesics to <3 at 24 h postoperatively for all women in this study. The choices of analgesics may be limited to the underlying comorbidity and allergy status. Patients with none or stable comorbidity without allergy history

**Strengths and limitations**

The strength of this study includes the detailed documentation of the immediate postoperative period monitoring and involvement of both the surgeon and anesthetist in determining the discharge of patients.

The limitation of this study is the small sample size. Future recommendations for this study would be to increase the number of sample size and to have a control group who was not discharged within 24 h post-TLH with or without BSO. This study did not include patients’ body mass index as the study sample was too small for analysis. Family support was not studied, however it should be taken into considerations as this is one of the key factors in aiding patients’ recovery.

| Table 2: Indication of hysterectomy and histopathological examination report |
|-----------------------------------------------|
| **Indication** | **n (%)** |
| Fibroid | 11 (36.7) |
| DUB | 13 (43.3) |
| Ovarian cyst | 6 (20) |
| HPE report |  |
| Leiomyomata | 10 (63.3) |
| Adenomyosis | 5 (16.7) |
| Others** | 6 (20.0) |

**Endometriotic cyst, simple cyst. DUB: Dysfunctional uterine bleeding, HPE: Histopathological examination**

| Table 3: Intraoperative findings |
|----------------------------------|
| **Findings** | **n (%)** |
| Adhesions |  |
| No | 23 (76.7) |
| Yes | 7 (23.3) |
| EBL (mean±SD) | 185 (±148 cc) |
| Duration of surgery (mean±SD) | 126.6 (±46.4 min) |

SD: Standard deviation, EBL: Estimated blood loss

185 ± 148 mL [Table 3]. No blood transfusion was needed in view of acceptable hemoglobin and no symptoms of anemia.

During the postoperative period in the ward, we evaluated the pain score using VAS score hourly until 6 h and at 24 h post operation [Table 4]. Within this period, all patients were able to ambulate, tolerated orally, and did not develop early postoperative complication such as emphysema. All patients who were recruited in this study fulfilled the discharge criteria and were discharged accordingly. During subsequent follow-ups as outpatient after 3 months, none of the patients developed late postoperative complications such as herniation or wound infection. Histopathological examination result in this study population showed benign findings including leiomyoma, endometriosis, adenomyosis, endometriotic cyst, and simple cyst [Table 2].

| Table 4: Pain score table – visual analog score |
|-----------------------------------------------|
| **Duration from postoperative period** | **Pain score** | **SD** |
| 1 h | 2.7 | 0.915 |
| 2 h | 2.57 | 0.817 |
| 3 h | 0.27 | 0.907 |
| 4 h | 1.03 | 0.964 |
| 5 h | 0.5 | 1 |
| 6 h | 0.3 | 1.9 |
| 24 h | 0 | 0 |
| 6 weeks | 0 | 0 |
| 3 months | 0 | 0 |

SD: Standard deviation
Korsholm et al. have also demonstrated favorable outcomes in a systemic review where patients were routinely offered same-day discharge postlaparoscopic hysterectomy. The study also suggested that reassurances regarding family support at home on the first postoperative night could be very beneficial in attempting same-day discharge following minimally invasive hysterectomy.[7]

**Conclusion**

Twenty-four hours discharge post-TLH with or without BSO is both safe and feasible, provided patients were stable preoperatively with uncomplicated intraoperative procedure. The following criteria should be adhered to ensure a satisfactory outcome:

1. EBL <1 l with acceptable hemoglobin (no symptoms of anemia)
2. Uncomplicated surgery
3. Controlled medical illness with or without medication
4. Pain score <3 until 24 h postoperatively
5. No early postoperative complications
6. Ambulating well
7. Taking orally well

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**Conflicts of interest**

There are no conflicts of interest.

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