



Total Laparoscopic Hysterectomy for Benign Conditions

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Abstract

Total hysterectomy is ordered as the second common procedure in gynecology after cesarean section. Historically, 3 main approaches to hysterectomy existed. These include abdominal hysterectomy, vaginal hysterectomy, and laparoscopic hysterectomy. There are a number of various surgical techniques available for hysterectomy, from minimally invasive to open surgeries. Vaginal hysterectomy, laparoscopic hysterectomy, robotic hysterectomy, laparo-endoscopic single-site laparoscopic hysterectomy, mini-laparoscopic hysterectomy, and natural orifice transluminal endoscopic surgery hysterectomy are all variations of these two minimally invasive hysterectomy techniques that fall under this category. The prospective randomized controlled study conducted on 200 patients. Patients were divided into two groups; Group I subjected to total abdominal hysterectomy [TAH] and Group II subjected to total laparoscopic hysterectomy [TLH]. And assessed at senior level before being selected for this procedure. They were subjected to history taking, clinical examination, transvaginal ultrasound evaluation, routine laboratory testing, endometrial biopsy and risk assessment. Malignant conditions were excluded. The current study reported that patients underwent LH procedure experienced a significantly less postoperative pain with less need for analgesia & less postoperative hospital stay. This was also reflected on patient satisfaction. There was no statistically significant difference in preoperative hemoglobin levels between the two groups. Endometrial hyperplasia was the most prevalent endometrial pathology. The two most frequent reasons for hysterectomy were endometrial hyperplasia and AUB. In terms of operating time and intraoperative complications risk, the two groups were similar. There was a statistically significant difference between the two groups in terms of predicted blood loss, requirement for blood transfusion, and usage of drains. Because laparoscopic hysterectomy reduces intraoperative blood loss, shortens hospital stays, lowers the risk of wound complications, speeds up recovery, and increases patient satisfaction, it is recommended over standard abdominal hysterectomy.

Keywords: Laparoscopic hysterectomy, vaginal hysterectomy, benign disease.

Short Communication

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1. Introduction

Soranus have reported hysterectomies as early as 50 BC by Themison and 120 AD, but it was not until 1813 that Conrad Langenbeck performed the first planned VH in modern times. Charles Clay is credited with performing the first abdominal hysterectomy in Manchester, England in 1839. Thomas Keith started to incorporate aseptic techniques with the procedure and by 1910 had decreased the mortality of hysterectomy down to 2.5 % [1]. Vaginal hysterectomy is shown to have fewer complications than the laparoscopic approach but its access is limited in many procedures [2]. Vaginal hysterectomy is more difficult to be performed in women especially when the procedure involves adnexal surgery because pelvic access is difficult using the vaginal approach in these patients, therefore, TLH has now become the preferred approach for benign conditions [3]. TLH is a minimally invasive route that allows for expanded treatment of pelvic disorders; laparoscopy can clarify adnexal surgery while reducing blood loss and patient recovery times associated with surgery [4]. The surgical

approach to hysterectomy depends on the clinical indication, the technical experience of the surgeon, the resources available, the general health condition of the patient, and patient preference. Today, abdominal, vaginal, laparoscopic, robot-assisted, and a combination of vaginal and laparoscopic techniques are utilized for hysterectomy [5]. In 1911 first laparoscopy at Johns Hopkins by Bertram Bergheim. In 1920, Zollkofer discovered the benefit of CO₂ gas for insufflation. In 1938, Janos Veress developed a spring-loaded needle for the induction of pneumoperitoneum. Since 1989, Harry Reich in Kingston, Pennsylvania described LH, LAVH had spread first in the medical centers. •In 2002, Diaz-arrastia reported the first series of successful robotic laparoscopic hysterectomies [5]. Although MIS is still evolving & the introduction of even less invasive techniques such as single port or natural orifice surgery, but it has even been described as the most important revolution in surgery of the last century [6].

2. Materials and methods

This prospective randomized controlled study was conducted in Minia university hospital after being approved by the local ethical committee. Two hundred patient's candidate for hysterectomy for benign gynecological diseases during this study period were recruited into this study. Patients were assessed at senior level before being selected for this procedure. They were subjected to history taking, clinical examination, transvaginal ultrasound evaluation, routine laboratory testing, endometrial biopsy and risk assessment.

Patients with the following criteria were excluded from the study:

1. Evidence of any gynecological malignancy
2. If laparoscopy is contraindicated or declined by the patient.

Recruited patients were randomly allocated into two equal groups using sealed envelopes:

Group I [100 patients]: those subjected to total abdominal hysterectomy [TAH]

Group II [100 patients]: those subjected to total laparoscopic hysterectomy [TLH]

Recruited patients were counselled and a written informed consent will be obtained from each patient prior to participating in this study.

Feasibility and challenges for this procedure were recorded. The following intraoperative outcome measures were observed:

- Operative time
- Intraoperative complications:
 - Injury to surrounding structure
 - Anesthetic complications
- Conversion to laparotomy in case of TLH
- Level of surgeon
- Estimated blood loss
- Need for blood transfusion

The following postoperative outcome measures were observed

- Hospital stay
- Use of analgesia
- Postoperative complications
 - Venous thromboembolism
 - Infection
 - Ileus
 - Vault hematoma
- Need for relaparotomy for any reason and Patient satisfaction.
- Financial cost.
- Return to normal activity

3. Results and discussion

Numerous aspects are taken in attention while conducting this study as uterine size, the movement of the

uterus, the patient's body mass index (BMI), a previous abdominal surgery, nulliparity, age and a past history of a compound disease with [7]. Numerous studies have demonstrated that vaginal and laparoscopic methods should be preferred over the abdominal one [8]. The goal of the current study was to evaluate the surgical results and viability of laparoscopic hysterectomy vs Abdominal hysterectomy performed for various benign gynecological reasons at MUMCH. Two hundred patients were divided into two equal groups at random and given either an abdominal hysterectomy or laparoscopic hysterectomy. Comparable patient demographic and clinical data were found between the two groups [9]. Abnormal uterine bleeding and persistent pelvic pain were the most common indications for hysterectomies in both groups. The clinical presentations aligned with the findings published by Wattiez et al. (2002) [10]. One well-known factor influencing surgical morbidity and mortality is operating time. This study's objectives included introducing the LH service and enhancing operative time. The two groups' surgical times did not differ in a way that was statistically significant, though. This was consistent with the findings published by Walters et al., (2021) [8]. The current investigation, intra-operative blood loss was another important element that determined the rate and track of post-operative recovery; there was a statistically significant difference in estimated blood loss between the two groups, with LH having the preference. This may be attributed to different causes as the smaller cut size, the limited separation of the abdominal wall, the advanced vision, the greater clarity of the smaller vessel. This result was consistent with Woelk's et al. (2014) earlier conclusion. [11]. It is to be well-known that out of 100 patients underwent LH, 20% of patients underwent uterine manipulators, whereas 60 % of patients underwent myoma screws while other 20% underwent both of them for uterine manipulation. The decision was made based on the surgeon's preference as well as their availability. In 70% of individuals, the vaginal cuff was closed during LH. This was predicated on the idea that the cuff would close easily and quickly with tissue and fibrosis approximations. This was contrary to earlier research by Blikkendaal et al., 2012 and Einarsson et al., 2012. [12], [13]. 20 % of cases who had abdominal hysterectomy complicated by wound infections, There have been no reports of wound infections in LH patients reported. This was consistent with the findings of Netter A et al., 2020 [14].

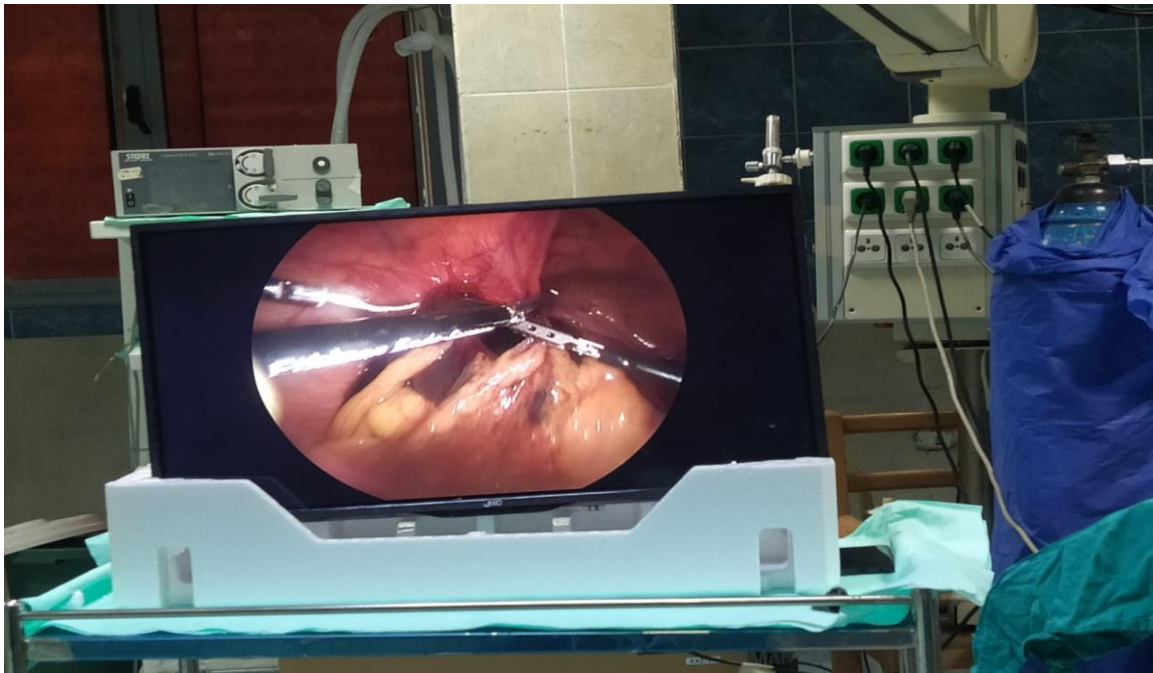


Figure 1. Intraoperative adhesionolysis

4. Conclusions

Minimally Invasive Surgery (MIS) has been widely adopted, and it has become the standard procedure in gynecologic diseases. Considerable evidence indicates that owing to the non-requirement of a large abdominal incision, laparoscopic surgery offers more advantages over open surgery, including less postoperative pain, shorter hospital stays, faster postoperative recovery, improved cosmetic outcomes, and fewer wound-related complications.

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