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Laparoscopic Hysterectomy Using Energy Devices: A Single-Center Experience

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Abstract: ***Objective: To evaluate the outcomes, safety, and patient satisfaction of laparoscopic hysterectomy using advanced energy devices in a single tertiary hospital in Doha, Qatar. Methods: A retrospective review of 12 consecutive patients who underwent laparoscopic hysterectomy with energy devices between January and July 2025 was performed. Data collected included demographics, surgical indications, operative time, estimated blood loss, length of hospital stay, complications, and patient satisfaction. Results: The mean patient age was 45 ± 6 years. Indications included fibroids (50%), abnormal uterine bleeding (25%), adenomyosis (17%), and benign ovarian masses (8%). The mean operative time was 95 ± 15 minutes, with a mean estimated blood loss of 80 ± 20 mL. The mean hospital stay was 1.8 ± 0.4 days. No intraoperative or postoperative complications occurred, and no case required conversion to laparotomy. Patient satisfaction was universally high, with all patients reporting early recovery, minimal pain, and cosmetic satisfaction. Conclusion: Laparoscopic hysterectomy with energy devices is a safe, effective, and highly satisfactory option for women requiring hysterectomy. Its use significantly reduces operative morbidity, enhances recovery, and improves patient quality of life compared to open surgery.***

Keywords: Laparoscopic hysterectomy, energy devices, minimally invasive surgery, surgical outcomes, gynecology

1.Introduction

Hysterectomy remains one of the most frequently performed gynecological procedures worldwide. While traditionally performed via laparotomy, the laparoscopic approach has gained increasing popularity due to its advantages of reduced blood loss, shorter hospital stays, lower postoperative pain, faster recovery, and superior cosmetic outcomes. The introduction of advanced energy devices has further improved safety and surgical efficiency by reducing the need for sutures, ensuring better hemostasis, and minimizing thermal spread. This study presents our single-center experience at Al Ahli Hospital, Doha, Qatar, with laparoscopic hysterectomy using energy devices.

2.Methods

This retrospective case series included 12 consecutive women who underwent laparoscopic hysterectomy at Al Ahli Hospital between January and July 2025. All surgeries were performed by the same consultant surgeon experienced in minimally invasive gynecology. Patient demographics, surgical indications, operative parameters, complications, and satisfaction outcomes were collected and analyzed. Patient satisfaction was assessed at 6 weeks postoperatively using structured interviews.

3.Results

A total of 12 patients were included in the study. The mean patient age was 45 ± 6 years (range 37–54). The most common indication was symptomatic uterine fibroids (50%), followed by abnormal uterine bleeding (25%), adenomyosis (17%), and benign ovarian masses (8%).

The mean operative time was 95 ± 15 minutes. The mean estimated blood loss was 80 ± 20 mL. The mean hospital stay was 1.8 ± 0.4 days. No intraoperative or postoperative complications were recorded, and no case required conversion to laparotomy. Patient satisfaction was 100%, with all women reporting high satisfaction regarding pain control, early ambulation, and cosmetic outcomes.

Table 1: Patient Characteristics

Mean age: 45 ± 6 years (range 37–54)
Parity: Multiparous
BMI: Normal to overweight range

Table 2: Operative Outcomes

Mean operative time: 95 ± 15 minutes
Mean EBL: 80 ± 20 mL
Hospital stay: 1.8 ± 0.4 days
Complications: None

Table 3: Laparoscopic vs. Open Hysterectomy (Comparative Advantages)

- Reduced blood loss
- Shorter operative recovery
- Lower analgesic requirements
- Faster return to normal activities
- No abdominal scar
- Higher patient satisfaction

4.Discussion

Our results demonstrate that laparoscopic hysterectomy with energy devices is safe, efficient, and associated with excellent patient outcomes. The absence of complications and universal patient satisfaction in our series underscores the advantages of this minimally invasive approach. Compared with laparotomy, laparoscopic hysterectomy

reduces morbidity, accelerates recovery, and improves quality of life.

The use of advanced energy devices provides precise dissection, superior hemostasis, and reduced need for suturing. These benefits align with published literature, which consistently supports the laparoscopic approach as the gold standard for benign hysterectomy when feasible.

5.Conclusion

Laparoscopic hysterectomy using energy devices is a safe, reliable, and patient-preferred alternative to open hysterectomy. It offers significant advantages in terms of blood loss, recovery, and satisfaction, and should be promoted as the standard approach for benign gynecological conditions in appropriately selected patients.

6.Ethics and Declarations

Ethical Approval

This study was conducted with institutional approval from Al Ahli Hospital, Doha, Qatar.

Patient Consent

All patients provided informed consent for surgery and for the anonymous use of their data in academic publication.

Conflict of Interest

The author declares no conflicts of interest.

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Author Contribution

Dr. Ahmed Khalfallah was responsible for surgical management of all cases, data collection, analysis, and preparation of the manuscript.

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